5.11.10 Noting that the catchment is large, and that the site is located close to the discharge point of the catchment (i.e. near the sea), the site will receive rainfall associated with any given storm event ahead of peak flows in the rivers – i.e. stormwater detention facilities would exceed capacity and discharge from the site when peak flows arrive at this point in the catchment, possibly extenuating flood levels, and offering no attenuation flood benefit. On-site attenuation to prevent flooding is therefore inappropriate at this site.

5.11.11 This is not against the principles of Water Sensitive Urban Design which calls for a holistic approach to the planning and management of watersheds and catchments. It is worth noting that this only applies to the >10yr Return Interval (RI) events where the purpose of attenuation is to mitigate flooding. For frequent events e.g. <2yr RI where the focus is water quality, attenuation of the 0.5-year RI event will be required on site in order to achieve the water quality targets.

5.11.12 The above interpretation has been endorsed by the City of Cape Town's Catchment and Stormwater Management Branch. Furthermore, it has been agreed that the River Club Development is not required to attenuate large storm events; however, it should attenuate the 0.5yr RI event for the purposes of treating stormwater and which must be undertaken above the 1-year RI flood line.

5.11.13 There are also opportunities to build synergy – e.g. provide habitat – through the application of Water Sensitive Urban Design principles which would be in line with City of Cape Town policy, principles, and practise on other sites around the City.

5.11.14 The Stormwater management system is being designed in accordance with best practice and council requirements, and the consultants are liaising closely with the City of Cape Town in this regard.

5.11.15 An updated (draft) stormwater management plan is provided as Appendix K4b to the final BAR.

5.11.16 The guidelines need to be applied in the context of the site-specific conditions.

5.11.17 The final BAR has been updated to include the following documents which describe how drainage systems will be integrated with natural water processes:

5.11.17.1 Stormwater Management Strategy – Appendix K4b to the final BAR; and

5.11.17.2 Landscape Master Plan – Figure 32 to the BAR.

5.11.18 In terms of sustainable urban drainage systems, it must be referred to Section A2 (Stormwater Infrastructure) and Section F3 in the BAR.

5.11.19 The surface water engineers confirmed that:

5.11.19.1 The 'old Liesbeek' is polluted and acts as a retention pond collecting years of pollutants and requires extensive management interventions from the City.

5.11.19.2 The 'old Liesbeek as it is referred to is in itself an artificial artefact of human manipulation. The piece of the 'old Liesbeek' over which there is concern was historically part of an extensive wetland. The current proposal merely re-establishes this with an 'engineered' bio-swale. This is closer to the original state of the area than the current status quo.

5.12 On 18 September 2020, the City of Cape Town's Municipal Planning Tribunal (MPT) approved the application for the rezoning and deviations from City policies in terms of section 98(b) of the City of Cape Town Municipal Planning By-law 2015. The approved deviations include:

5.12.1 The deviation from the Table Bay District Plan.

5.12.2 The deviation from the Floodplain and River Corridor Management Policy (2009) seeking permission to:

5.12.2.1 Develop/ obstruct the free flow of water within the 2-year and 50-year floodplain and to seek the in-filling below the 1:50-year floodplain.

5.12.3 The deviation from the Management of Urban Stormwater Impacts Policy (2009) seeking permission to:

5.12.3.1 Deviate from the annexure table requiring 24-hour extended detention of the 1-year Recurrence Interval, 24-hour storm event in a greenfield development greater than 50,000m^2;

5.12.3.2 Deviate from the annexure table requiring up to 10-year recurrence interval peak flow to be reduced to pre-development level in a greenfield development greater than 50,000m^2.

5.12.3.3 Deviate from the annexure table requiring up to 50-year recurrence interval peak flow to be reduced to existing development levels in a greenfield development greater than 50,000m^2.

The reasons for the MPT's rezoning and deviations approval *inter alia* include the following:

5.12.3.4 The applications are consistent with the requirements of the Municipal Spatial Development Framework (2018) as the property is located within the urban inner core and integration zone where development of this nature is encouraged. To this extent, the deviation from the Table Bay District Plan is warranted.

5.12.3.5 The proposal will result in intensification and densification of the land, which is supported by the City policy.

5.12.3.6 A diverse range of land uses will be accommodated on the property.

5.12.3.7 Densification and intensification of the land contributes toward the spatial restructuring of the City and ensures better utilisation of the service infrastructure.

5.12.3.8 Short- and long-term employment opportunities will be created.

5.12.3.9 The mixed-use development is suitably located, being surrounded by residential, business and industrial uses.

5.12.3.10 The property provides access to opportunities being located close to and providing access to places of employment and various services and amenities.

5.12.3.11 The development will result in road improvements that will offer wider connections to various parts of the City.

5.12.3.12 There will be no adverse impact on the service infrastructure as either sufficient capacity exists or improvements to the services infrastructure will be implemented to accommodate the proposal. In some instances, on-site provision of will be made to accommodate services.

5.12.3.13 Heritage impacts have been carefully considered and heritage components will be incorporated into the development.

5.12.3.14 Specialist studies sufficiently demonstrate that measures proposed will mitigate against the impact of the development within the floodplain. This is agreed to by the Competent Authority.

5.13 Considering the above, this ground of appeal has been addressed.

Appeal ground 3: Need and desirability aspects and open spaces

5.14 On 7 June 2007, the Constitutional Court judgment of the Fuel Retailers Association of Southern Africa vs Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province and Others cautioned/ stated that environmental authorities must not unlawfully discharge their duty of considering the need and desirability to local authorities.

5.15 Regulation 18 of the current EIA Regulations (2014) requires the Competent Authority to consider the need and desirability aspects of the proposed activity when an application for EA is submitted for consideration.

5.16 The Guideline on need and desirability states that:

5.16.1 The need and desirability of development must therefore be measured against the abovementioned contents of the credible Integrated Development Plan ("IDP"), SDF and EMF for the area, and the sustainable development vision, goals and objectives formulated in, and the desired spatial form and pattern of land use reflected in the area's IDP and SDF.

5.16.2 While the concept of need and desirability relates to the type of development being proposed, essentially, the concept of need and desirability can be explained in terms of the general meaning of its two components in which need refers to time and desirability to place – i.e. is this the right time and is it the right place for locating the type of land-use/activity being proposed? Need and desirability can be equated to wise use of land – i.e. the question of what is the most sustainable use of land?

5.17 The need and desirability aspects of the proposed activities are detailed on pages 140 to 151 of the Final BAR.

5.18 These aspects are considered as follows:

5.18.1 While the development is in line with a number of policies contained in the Provincial Spatial Development Framework ("PSDF") such as opening-up opportunities in the urban space-economy, improving accessibility, the promotion of a mixed-use development, and the promotion of densification, it is in conflict with others that relate to the protection of cultural assets.

5.18.2 The development will aim to be consistent with the policies and guidelines contained in the PSDF. However, there is a certain minimum level of leasable floor space area required in order to make the development financially viable, and there will need to be a trade-off between e.g. ecological rehabilitation and protection, cultural and visual impacts and economic viability.

5.18.3 The property falls within the urban edge.

5.18.4 In terms of the City of Cape Town's IDP the proposed development will attract investment into a strategically located site within the City (Planning Partners, 2018). Investment into the site at the scale proposed has potential to benefit both the local economy and the economy of Cape Town as a whole, including the creation of a substantial number of jobs thereby creating and economically enabling environment in which investment can grow and jobs can be created. In this way, the development will create opportunities and be in line with the IDP.

5.18.5 A development such as the one proposed at the River Club will promote extended surveillance and increase feet-on-the ground, thereby increasing the safety of the area in line with the City of Cape Town's IDP. Furthermore, the River Club development will be mixed use and will have opportunities to live, work and play; and this mix of uses, whether they be residential, commercial or recreational, will mean that the River Club is attractive to a wide spectrum of people. Furthermore, the site will be publicly accessible, allowing access of the community to rehabilitated river courses and the associated public amenities.

5.18.6 The MSDF (2018) identifies areas suitable for urban development and catalytic interventions to achieve spatial transformation; areas where the impact of development must be managed, and areas not suited for urban development.

5.18.7 It guides decision-making on the nature, form, scale and location of urban development, land use, the maintenance and development of infrastructure, and the protection of environmental resources. To this end, it is underpinned

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by conceptual land use designations. The subject site is categorized as "urban inner core", where private sector development is incentivized.

5.18.8 The Table Bay District Plan categorises the land on which the proposed development is located as a mixture of "open space" and "buffer 1". Notwithstanding, the District Plan is only a guide in this respect and does not convey or take away rights of property owners.

5.18.9 As well as the impact of a change in the open space function of the site, the Basic Assessment has considered ecological and cultural impacts, and potential benefits of the development to inform a decision by environmental authorities about the environmental acceptability of the development. The Basic Assessment process has found that ecological, visual and cultural impacts are generally acceptable, and that the benefits of the development (in terms of financial contribution and ecological rehabilitation) are significant. Furthermore, the 2018 Municipal Spatial Development Framework states that specific and immediate implementation actions that the City must undertake include "reviewing district plans to interpret the reviewed MSDF" (pages xv and 90 of the MSDF).

5.18.10 According to the "Consistency principles and post-2012 amendments, as contained in Technical Supplement D of the 2018 MSDF, lower order spatial plans and policies must be consistent with higher order spatial plans and policies. The MSDF identifies the land as "urban inner core" and therefore the lower order Table Bay District Plan is inconsistent with the higher order MSDF (and must be updated by the City in any event).

5.18.11 The EMF is a key component of the District Plan as it informs the spatial proposals contained therein. In this regard, the District Plan indicates the site to fall within or adjacent to:

- 5.18.11.1 An area subject to flooding / a coastal risk area - recent detailed surface water hydrology assessment of the catchment indicates that development can occur at the site without significant impacts on the structural integrity of other properties and on public safety.
- 5.18.11.2 An "other natural area" at the Berkley Road Extension and the PRASA owned land to the north of the site – studies have concluded that there is almost no natural vegetation remaining in this area.
- 5.18.11.3 Protected areas at the "unlined course" of the Liesbeek River, Raapenberg Wetland, Liesbeek Canal and Black River – while impacts on well represented wetlands are anticipated, a net ecological improvement of aquatic habitat quality is anticipated (see Appendix J to the BAR).

5.18.12 The EIA has considered ecological and cultural impacts, and potential benefits of the development to inform a decision by environmental authorities about the environmental and social acceptability of the development. The proponents project motivation as well as potential benefits (ecological, heritage, and socio-economic) of the development form the basis of the planning application for deviation from the District Plan.

5.18.13 In terms of the Cape Town Densification Policy, Planning Partners (2018) believe that the proposed development at the River Club is compliant with the policies and objectives of the Densification Policy because:

- 5.18.13.1 It is believed that the Two Rivers local area, and the River Club in particular, represents an ideal spatial location for densification to occur;
- 5.18.13.2 The development will contribute towards the City achieving its base density target;
- 5.18.13.3 The development can help to contribute to the density thresholds required in order to make activity routes function optimally;

5.18.13.4 The development can help to contribute to the density thresholds required in order to make public transport function optimally;
5.18.13.5 The precinct will promote a 'live, work, play' lifestyle;
5.18.13.6 Buildings and development layout can be designed to have a low impact on view lines to both the mountain and the sea; and
5.18.13.7 The development will improve surveillance and security.

5.18.14 The focus of the City of Cape Town Climate Change Policy (2017) is on preparing for change at the local level to reduce risks and build adaptive capacity to projected climate change impacts, and contributing to global efforts to reduce Greenhouse Gas (greenhouse gases) emissions, and in so doing improve resource security (food, water, energy), reduce costs through reduced resource use, improve air quality, improve quality of life, create sustainable economic and social development, propose long-term fiscal efficiency, and protect lives, livelihoods, the economy, ecosystems and investments. In this regard:

5.18.14.1 The surface water hydrology assessment (Appendix G3 to the BAR – which considered Sea Level Rise and increased rainfall intensity) found that only a marginal change in flood levels and extent is anticipated (and is mitigable) and that a significant increase in flood risk / hazard is not anticipated as a result of the development;
5.18.14.2 Section 4.5 (pg. 62) of Aurecon's Hydrology Report (Appendix G3 to the BAR) focuses on the opportunity cost of not utilising the River Club as an attenuation facility and concludes that "the potential benefits of using the site for flood attenuation purposes would be negligible";
5.18.14.3 The development will promote a reduction in resource use by:
5.18.14.3.1 Incentivising the use of public transport by applying low parking rations and being located close to public transport nodes; and
5.18.14.3.2 Achieving ~ 50 Watts/m2 power consumption density – i.e. 50% of the industry standard in South Africa.
5.18.14.4 Emissions may reduce through a reduced reliance on public transport by employees and residents at the site, and no noxious or industrial activities are proposed;
5.18.14.5 In terms of groundwater recharge / water use:
5.18.14.5.1 Hardened portions of the site equate to less than 0.05% of the catchment, which is considered to be insignificant from a groundwater recharge perspective; and
5.18.14.5.2 The developers aim to reduce residential water demand by 20% and commercial demand by 50% of the guidelines prescribed by the City of Cape Town;
5.18.14.6 The site does not have high agricultural potential;
5.18.14.7 The socio-economic impact assessment concludes that the development does not include incompatible activities (such as industrial activities) that would definitely lower quality of life in the area. Rather, the project will increase 'busy-ness' and activity in the area, create a (vibrant) urban node and accessible higher-quality open space system. The net impact of the above elements on the quality of life in the area, and whether this is perceived as positive or negative, will depend on personal values and preferences;
5.18.14.8 The proposal is for a sustainable economic and social development, which will create jobs and increase investment; and

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5.18.14.9 The development is assessed by the ecologists to lead to a net ecological benefit.

5.18.15 The proposed development therefore largely aligns with this policy.

5.18.16 The approach of the Western Cape Climate Change Response Strategy (2014) is as follows:

5.18.16.1 Adaptation: To reduce the climate vulnerability, and develop the adaptive capacity of the Western Cape's economy, its people, its ecosystems and its critical infrastructure in a manner that simultaneously addresses the province's socio-economic and environmental goals; and

5.18.16.2 Mitigation: To contribute to national and global efforts to significantly reduce greenhouse gases and build a sustainable low carbon economy which simultaneously addresses the need for economic growth, job creation and improving socio-economic conditions.

5.18.17 The MSDF (2018) identifies the subject site as falling within the "urban inner core", where private sector development is incentivized.

5.18.18 In terms of the City of Cape Town IDP the proposed development will attract investment into a strategically located site within the City. Investment into the site at the scale proposed has potential to benefit both the local economy and the economy of Cape Town as a whole, including the creation of a substantial number of jobs thereby creating an economically enabling environment in which investment can grow and jobs can be created. In this way, the development will create opportunities and be in line with the IDP.

5.18.19 The Table Bay District Plan categorises the land on which the proposed development is located as a mixture of "open space" and "buffer 1". Notwithstanding the fact that the District Plan is only a guide in this respect, it does not convey or take away rights of property owners.

5.18.20 The River Club falls within the Two Rivers local area, which is an area of the city that has been identified by both the Western Cape Government and the City of Cape Town for more intensive development in the short – medium term. Furthermore, a property market analysis produced by Rhode has demonstrated that there will be sufficient demand to sustain the development, at this location, at this point in time, and that in this sense the development is desirable. Furthermore, initial market interest has demonstrated significant demand for commercial space at the development.

5.18.21 Although the development does not spatially align with the District Plan, it is largely aligned with the infrastructural support that the plan identifies is needed to sustain economic growth and realise a more inclusive city (i.e. key societal needs), including:

5.18.21.1 Improve the efficiency of the public transport system by developing a system of routes that support higher speed mobility as well as a feeder circulation as part of MyCiti.

5.18.21.2 Support commercial development and residential intensification, with a particular focus along the Voortrekker Road Corridor.

5.18.21.3 Promote mixed use development in the Foreshore, the Fringe, Langa and along the southern Main Road corridor.

5.18.21.4 Protect river corridors and mountain-to-sea linkages which provide habitat protection and recreational opportunities, while ensuring visual and physical access to the water's edge.

5.18.21.5 Support the creation of a high-quality, multifunctional recreational area that forms part of an ecological system stretching from Table

Bay to False Bay and facilitate the establishment of the Two Rivers Urban Metropolitan Park.

5.18.21.6 Promote social integration and a diversity of housing types in the area.

5.18.22 The following services are available:

5.18.22.1 Electricity: Sufficient capacity is available to service the development, provided that a Main Step-Down Substation is provided on the site.

5.18.22.2 Sewerage: Although sufficient treatment capacity exists, due to capacity constraints, a Peak Dry Weather Flow ("PDWF") of 16 l/s only can be accommodated by the current network, and the full Peak Dry Weather Flow can only be accommodated once the gravity mains have been upgraded. Sewerage infrastructure would be upgraded as required with service contributions from the development, ensured by an engineering services agreement.

5.18.22.3 Potable water: Sufficient unallocated capacity exists to service the development.

5.18.22.4 Waste: The City of Cape Town has confirmed their capacity to collect and manage waste generated during the construction and operation of the development.

5.18.23 Apart from road infrastructure, minimal bulk infrastructure expansions are required on behalf of the municipality to service the proposed River Club redevelopment. There is also a significant development contribution which shall be payable by the proponent which shall contribute to the funding of bulk infrastructure (including the partial extension of Berkley Road and the upgrade of the City's sewage reticulation network).

5.18.24 The development will draw on municipal services (water supply, electrical supply, sewerage and waste management). The developer (and tenants) will pay rates and also pay for these services.

5.18.25 If municipal services allocated to the River Club development are in short supply (as may well be the case - water, electricity and sewerage supply capacity is constrained in this part of the City), this may constrain other developments, until such services are available. However, this is not necessarily an opportunity cost, since there is no *prima facie* reason why other developments should be preferred.

5.18.26 According to Planning Partners and the Applicant, the following pertinent aspects may merit the investigation of more intense development at the site:

5.18.26.1 Spatial planning policy for this area has historically identified limited development to occur on the River Club site primarily due to its location in a floodplain. However, recent detailed surface water hydrology assessments of the catchment indicates that development can occur at the site without significant impacts on the structural integrity of other properties and on public safety.

5.18.26.2 The policy objective of the authorities for the Two Rivers local area is to become a mixed use and mixed tenure environment.

5.18.26.3 The vision for the development is to be a special place for the community – a vibrant destination that provides people with quality, public spaces and the chance to interact with the river edges in a meaningful way.

5.18.26.4 Specialist ecological investigations have demonstrated that the site and adjacent watercourses are degraded but retain certain ecological functions; and that development at the site provides an opportunity to improve the ecological condition of the site and

adjacent watercourses without leading to significant ecological impacts.

5.18.26.5 Set-backs will be retained at the interfaces between the site and adjacent rivers to restore ecological function in these areas and attenuate stormwater. Moreover, these buffer areas will be designed and landscaped to accommodate pedestrians, thus encouraging more interaction between the public and the river edges here.

5.18.26.6 A property market analysis conducted by Rode for the Applicant concludes that there is sufficient demand to sustain the development, at this location, at this point in time.

5.18.26.7 The River Club is regarded as a "gateway site" to the Two Rivers local area. Indeed, it has been identified by the City of Cape Town's Spatial Planning & Urban Design Department as "the Western Gateway into the TRUP" and should, by implication, "accommodate a high-density mixed-use agglomeration of uses which support the Policy of 'Live, Work. Play'". Furthermore, the River Club is also considered by the City of Cape Town's Spatial Planning & Urban Design Department as a "catalyst project that is to be used to implement the Local Authority SDF Concept Plan for the greater TRUP.

5.18.26.8 The location of the site at the knuckle of the Main Road corridor, the Voortrekker Road corridor and the Klipfontein Road corridor means that it can be a generator of people and economic activity that may support and reinforce these corridors with higher densities and supplementary mixed-use development (in particular the Voortrekker Road corridor).

5.18.26.9 The site falls within the sphere of influence of the Voortrekker Road Integration Zone and is identified as an "area-based intervention opportunity" in relation to this Integration Zone.

5.18.26.10 The development will densify the area, provide housing, employment and public amenities and both Observatory rail station (to the south-west) and Koeberg rail station (to the north-east) fall within a 500m radius of the site, thus making the development compliant with the City of Cape Town's Transport Orientated Development Strategy (whereby land use intensification is encouraged to occur within 500m of public transport stations).

5.18.26.11 The site is well located in respect to the public transport network: both Observatory rail station (to the south-west) and Koeberg rail station (to the north-east) fall within a 500m radius of the site, while the Voortrekker Road corridor and Main Road corridor – both of which carry bus and mini-bus taxi routes – are located within 1 km of the site. The development can therefore further the principles and strategies identified in the City of Cape Town Transit Oriented Development Strategic Framework (2016).

5.18.26.12 The project provides an opportunity for the City of Cape Town to generate sufficient funds to implement critical (socially beneficial), long-planned infrastructure at this location (e.g. the extension of Berkley Road and the widening of Liesbeek Parkway), thereby reducing existing movement barriers between the west (e.g. Salt River, Observatory and Mowbray) and the east (e.g. Maitland, Ndabeni and Pinelands).

5.18.26.13 Implementation of Berkley Road extension, in particular, will improve permeability between the Voortrekker and Main Road

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corridors, including to train stations and public facilities. More foot traffic between these corridors may lead to upliftment of these areas. Further, bicycle paths on the site will integrate with the newly implemented bicycle lanes along Albert Road in Salt River.

5.18.26.14 The Berkley Road extension will change the existing character of the site and will provide enhanced access opportunities onto the site and will make the site more accessible than is currently the case.

5.18.26.15 Currently the only vehicular access to the property is off Observatory Road, via Liesbeek Parkway. However, the City's Transport Planning Branch has made provision for an extension of Berkley Road through the northern portion of the River Club site on the latest City of Cape Town Road Network Plan (August 2013). This road extension would be a key intervention as Berkley Road has strong connections to the M5 motorway and Voortrekker Road (to the east) and Liesbeek Parkway and Albert Road (to the west). This will change the character of the site, transform transport linkages onto the site and open up new economic opportunities.

5.18.26.16 The site is privately owned (by the proponent) and is strategically located close to the CBD with good access to major road and rail transport routes. According to the proponent, few (if any) other opportunities exist this close to the CBD for a mixed-use development such as the one proposed.

5.18.26.17 The Hydrologist on the project team has conducted detailed modelling of floodwater conditions in the local area.

5.18.26.18 The study has established that the most achievable mitigation measure to prevent flooding of the site is to raise the ground surface at the River Club to an elevation slightly above the 100-year flood elevation, and importantly that this measure would have limited detrimental effects on neighboring properties (following specific mitigation), which is a key criterion for determining whether or not the raising of the site is a viable proposal.

5.18.27 Both the Liesbeek and Black Rivers can be described as modified and stressed ecosystems. These have been identified and characterized in the Biodiversity Assessment. Rehabilitation of interfaces of the site with these waterbodies is proposed. This activity is likely to enhance the ecological value of these interfaces.

5.18.28 A number of CBAs and ESAs are located adjacent to the site (e.g. in the channel of the unlined channel of the Liesbeek River). ESAs in the unlined channel of the Liesbeek River would be infilled if the preferred alternative is selected) and reedbed wetlands will be lost from the construction of the Berkley Road Bridge over the Black River. However, this area would be rehabilitated to provide ecological function, and the canalised channel of the Liesbeek River to the east of the site will be rehabilitated as a natural watercourse, vastly increasing the ecological function of this portion of the channel, and improving ecological connectivity between the Liesbeek and Black Rivers.

5.18.29 Ecological services provided by the section of the "unlined course" of the Liesbeek River are in fact mainly stormwater conveyance, with some water quality amelioration through passage through vegetation. These functions would be provided in a more managed and efficient manner for runoff from the site – stormwater from the surrounding urban area would be passed into the downstream portion of the "unlined course" through the swale, and would experience slightly improved water quality amelioration - but the effects of

this would be marginal, given that the system is backed up by the Black River, which is of really poor water quality.

5.18.30 The loss of wetland habitat by the "unlined course" would be mitigated / offset by the proposed inclusion of standing water ponds along the "swale area", and these would retain stormwater into the early summer, thus supporting Western Leopard Toad breeding cycles, without exposing them to predation from carp, as per the existing backwater system, that links to the Black River.

5.18.31 By far the most sensitive ecological feature in close proximity to the River Club site is the Raapenberg Wetland. Provided that construction phase mitigation is applied, no significant impacts on this feature are anticipated as a result of the development.

5.18.32 Although the development will reinforce the Liesbeek River corridor as a highly significant and public heritage resource (as well as provide public access to this area) and articulate and celebrate the narrative of the First Nations history of the area, the development is expected to detract from the heritage value of the site as part of a broader site of conflict and of agrarian history, and may partly detract from the heritage value of the South African Astronomical Observatory ("SAAO:).

5.18.33 This is an urban development in an urban area, and it is extremely unlikely that health, safety and social ill (impacts) will arise. However, nuisance impacts are anticipated from noise and dust during construction.

5.18.34 Culturally, the Applicant's heritage practitioners have assessed that the Two Rivers local area landscape has high significance due to its historical, social, aesthetic, architectural, scientific and environmental values and it possesses a strong sense of place. There are a number of features within the Two Rivers local area that are of particular heritage significance. They include the Valkenberg farmstead, the Valkenberg hospital complex, the Observatory Complex, the Alexandra Hospital, Maitland Garden Village and the Oude Molen complex. However, it is the opinion of the heritage practitioners who compiled the HIA (and others) that the Two River local area is comprised of a variety of precincts of very different topographies, histories of use, of development-type, each with its own qualities and a variety of potential heritage significances. In this context, the HIA finds that, apart from the Liesbeek River, the site itself has little obvious heritage significance, noting that:

- 5.18.34.1 The site is either entirely or mostly an infill site;
- 5.18.34.2 Much of the history that derives the cultural significance of the Two Rivers local area extends over a far broader spatial scale;
- 5.18.34.3 The valley (or floodplain) in which the site is located, although an important component of the Liesbeek River as a landscape, has been transformed by urban development upstream and downstream of the site;
- 5.18.34.4 No tangible heritage relics or resources occur on the site; and
- 5.18.34.5 No historic events are attributed to have occurred at the site.

5.18.35 Therefore, while the HIA acknowledges the role that the 'openness' of the site plays in determining the current sense of place, as well as the importance of views from within and across the floodplain (which are comprehensively assessed in the VIA), the heritage specialists maintain that this openness and these views are of low heritage significance, and that by developing the site, its history will not be lost: "whether the site is developed or otherwise, it will always have a history which does not manifest on the ground and cannot be destroyed by physical changes", and that there is a heritage opportunity to restore the Liesbeek River canal fronting the site as a heritage and public amenity corridor and to celebrate the heritage of the area to the First nations people.

5.18.36 Regarding the visual and sense of place impacts of the development, the visual quality of the area is largely determined by a built-up urban environment with an island of green open space, with rivers and Devils Peak providing interest in the landscape, and contributing to the visual quality; but that there are elements that detract from visual quality in the study area, notably the derelict and industrial land to the north, and the M5 freeway to the east. An area will have a stronger sense of place if it can easily be identified or is distinct from other places, and this is not necessarily linked to visual quality.

5.18.37 Although the site itself does not necessarily have an immediately recognisable sense of place, the sense of place of the surrounding area is strongly influenced by the rivers, and an "island" of green open space in a highly developed and evolving urban environment of mixed land use, and people are conservatively assumed to derive a positive (cognitive or narrative) sense of place from the site and surrounding area. However, it is acknowledged that the current state of the site may appear harsh and degraded to certain receptors.

5.18.38 The development will change the character of the site, and also change (but not transform) views from viewpoints around that site. Furthermore, because of financial viability considerations, it is not possible to further reduce the floor space (or bulk) of the development (i.e. it is not possible to mitigate this impact further through onsite mitigation), noting that a development with less bulk would not avoid open space and visual impacts altogether.

5.18.39 Therefore, and although the site is surrounded by urban development, due to its size, its location at the confluence of the Liesbeek River and Black River, and long-term status of the site as a green open space, the change in character may be experienced as a strong visual contrast for surrounding (urban) receptors, and that the (negative) impact of a change in sense of place will be significant. Nevertheless, receptor perceptions are important: for some, the retention of the open space might be critical to retaining the sense of place. However, for others, urban development, especially if celebrated by iconic structures and associated with quality green open spaces, may be valued.

5.18.40 Possible impacts on the visual, cultural and heritage value of the site and surrounds are as follows:

- 5.18.40.1 Loss or damage to paleontological and archaeological resources;
- 5.18.40.2 Loss of structures on the site with heritage value;
- 5.18.40.3 Change in heritage value of the site;
- 5.18.40.4 Changes in historical setting of the SAAO;
- 5.18.40.5 Altered sense of place; and
- 5.18.40.6 Visual intrusion.

5.18.41 Heritage informants, and the urban design framework, are important and the design and layout has taken account of these and attempted to minimise adverse impacts, as far as possible. Heritage indicators have been developed to guide the development, and in response the design has evolved considerably – most notably by setting back from the SAAO complex (as opposed to setting back from the unlined course of the Liesbeek River), rehabilitating the Liesbeek River canal to extend the Liesbeek River corridor from the south to the confluence with the Black River, and incorporating symbols important to the history of First Nations people into the design of the development.

5.18.42 While two feasible layout alternatives are being considered, due to the nature of the development proposed it is not possible to avoid cultural and visual

impacts completely. Residual cultural and ecological impacts are therefore anticipated.

5.18.43 In order to mitigate potential cultural impacts of the development, and in addition to the proposals for the "naturalisation" of the Liesbeek Canal fronting the site, the proponents commit to articulating and celebrating the significance of the place and of its historical associations to First Nations groups by:

- 5.18.43.1 Establishing an Indigenous Garden for medicinal plants used by the First Nations at the site;
- 5.18.43.2 Establishing a Cultural, Heritage and Media Centre at the location of the Heritage information hub at the site;
- 5.18.43.3 Establishing a Heritage-Eco trail that goes around the site;
- 5.18.43.4 Establishing an Amphitheatre at the site for use and cultural performances by both the First Nations and the general public;
- 5.18.43.5 Commemorating the history of the First Nations in the area, by:
  - 5.18.43.5.1 Establishing a Gateway Feature inspired by symbols central to the First Nations narrative at the road crossing the eco-corridor;
  - 5.18.43.5.2 Incorporating symbols central to the First Nations narrative in detailed design of buildings (e.g. pillars / supports, facades, building names, etc.); and
  - 5.18.43.5.3 Naming internal roads inspired by people or symbols central to the First Nations narrative.

5.18.44 By developing the site predominantly for residential, commercial and retail uses, other development alternatives will be foregone. However, while the proponent has considered the viability of reasonable alternatives that are identified (see Appendix K2 of the BAR), as the site is privately owned by the Applicant, zoned for private use, and currently operated as a commercial operation, it is reasonable that the Applicant only selects development alternatives that are financially viable (including the No-Go Alternative – in this case the continued operation of the site as a viable golf and conference facility). In this sense, there are no "opportunities" for the development of alternatives that are not feasible to the Applicant.

5.18.45 The opportunity costs of a) feasible development alternatives, and b) the No-Go Alternative (as compared to feasible development alternatives) have been considered in the Impact Assessment.

5.18.46 The following cumulative impacts have been identified and assessed (see Appendix J of the BAR):

- 5.18.46.1 Changes in flood elevations;
- 5.18.46.2 Changes in freshwater habitat quality;
- 5.18.46.3 Western Leopard Toad habitat loss and Western Leopard Toad mortalities;
- 5.18.46.4 Traffic congestion and delays to road users;
- 5.18.46.5 Gentrification; and
- 5.18.46.6 Change in sense of place.

5.18.47 The development may also act as catalyst for economic growth and regeneration in the wider area, delivering a range of socio-economic benefits.

5.18.48 The best practicable environmental option is the option that can be achieved and provides the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long-term as well as in the short-term.

5.18.49 The proponent has calculated that a minimum floor area is required to make the development financially viable and has selected two viable layouts

designed to mitigate the anticipated visual and cultural impacts as far as possible (and to enhance ecological benefits). Layouts were selected in consultation with the specialists on the project team. Nevertheless, the development will alter the sense of place (see Impact V2 in Appendix J of the BAR), reduce the heritage value of the site (Impact H3) and impact on the historical setting of the SAAO (Impact H5). The project will also entail significant socio-economic and ecological benefits. Therefore, should the development be authorised, trade-offs will be necessary.

5.18.50 Negative impacts can be mitigated to acceptable levels if the Riverine Concept Alternative is selected and a significant heritage benefit is anticipated from restoring the Liesbeek River Corridor at the site (Impact H4) and celebrating the narrative of the First Nations People. This alternative has therefore been selected as the preferred development alternative by the proponent. The site is privately owned and has been the subject of unsuccessful revitalisation initiatives for over a quarter of a century, and it is therefore reasonable to assume that should the development not be approved the site will continue to be inaccessible to the public and used as a commercial recreational and conferencing facility. The benefits (and impacts) of the development would be forgone at a site that is considered by the City, Provincial Government of the Western Cape and Applicant as a site that is suitable for development.

5.18.51 In the sense that at present, the two realistic and viable outcomes for the future of the site are either a) the preferred development alternative which re-envisions the site, and b) the No-Go Alternative, the preferred development alternative which provides more benefits at a tolerable cost to society and is therefore considered an acceptable option for the site.

5.18.52 As well as the non-use value that society will gain from the improvement of ecological resources at the site, the following socio-economic benefits have been identified:

- 5.18.52.1 Wealth creation through investment;
- 5.18.52.2 Increased employment, income and skills development;
- 5.18.52.3 Increased government revenue;
- 5.18.52.4 Increase in centrally located housing, including affordable housing;
- 5.18.52.5 Densification facilitating improved connectivity, transport systems and the Two Rivers local area implementation;
- 5.18.52.6 Change in public amenity value of the site; and
- 5.18.52.7 Increase in property values in surrounding areas.

5.18.53 The site has been the subject of revitalisation initiatives for over a quarter of a century but none have been financially viable, leading to the persistent under –utilisation of the site. The Applicant motivates that the current development proposal seeks to unlock the commercial potential of underutilised land that is strategically located in close proximity to the CBD and major road and rail transport infrastructure.

5.18.54 The extension of Berkley Road transforms the context of the site as a largely undeveloped tranche of land within the floodplain of the Liesbeek and Black Rivers. Furthermore, the site is located in a highly transformed urban environment. The proponents therefore maintain that the site is suitable for high density development.

5.18.55 New site access points at the Berkley Road extension and at Link Road would not only make the site more accessible to private motor vehicles and public transport, but to pedestrians and cyclists too, and the implementation of the Berkley Road extension in particular will improve permeability between the Voortrekker and Main Road corridors, including the associated train stations and public facilities. Furthermore, densification at the site is expected to

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contribute to the generation of thresholds to support public transport and retail uses within the Two Rivers local area, and the nearby Main Road and Voortrekker Road corridors.

5.18.56 Planning Partners point out that the River Club development can complement five important structuring elements in the surrounding area:

5.18.56.1 The Two Rivers local area: the proposed development may assist in providing work opportunities, shopping space and residential accommodation to the broader Two Rivers local area community. A successful, well-maintained development will also improve the perception and utility of the Two Rivers local area. The development could therefore act as catalyst to the Two Rivers local area's future development as it could become a desirable destination in which to live and work.

5.18.56.2 Development corridors: the site is located at the knuckle between two development corridors, namely Voortrekker Road and Main Road, both of which accommodate intense mixed-use development and functioning public transport routes. Once Berkley road is extended, the development can become an integrating site between development corridors and reinforce these corridors with higher densities and supplementary mixed-use development.

5.18.56.3 Public transport: the site is well located in relation to a variety of train stations, both on the western edge of Black River (e.g. Observatory, Mowbray, Salt River) and eastern edge (e.g. Koeberg, Ndabeni, Maitland). The proximity to these stations means that more intense development, particularly residential densification, on the River Club site should be considered. Higher density thresholds in this area will assist in making public transport function optimally (including any future MyCiti bus routes planned for the area).

5.18.56.4 Non-motorised transport: The development will integrate with the Liesbeek Parkway Cycle path along the Liesbeek River, the Malta Road Cycle path running into Salt River and bicycle lanes along Albert Road in Salt River.

5.18.56.5 River edges: the river edges surrounding the site will be rehabilitated so as to enhance ecological function. Moreover, these buffer areas can be designed and landscaped to accommodate pedestrians, thus encouraging more interaction between the public and the river edges and celebrating the historical value of the Liesbeek River course.

5.18.57 The objectives are considered in the Basic Assessment process. Potential impacts have been identified, measures for mitigation are presented and a public participation process conducted as part of the Basic assessment process. The findings are presented in this BAR and are compliant with the objectives as set out in Section 23 of NEMA.

5.18.58 Environmental and socio-economic factors are considered and weighed up, to ensure that the development is sustainable.

5.18.59 The potential impacts of the development are identified, assessed and evaluated using the EAP's standard impact assessment methodology in order to determine the significance of each positive and negative impact.

5.18.60 Mitigation measures are recommended in the BAR to prevent, minimise impacts (and optimise benefits) and to secure stakeholders' environmental rights. An EMPr has been drafted and will be implemented to ensure that potential environmental pollution and degradation can be minimised, if not prevented.

5.18.61 The needs and interests of stakeholders are considered through a thorough public participation process, providing adequate opportunities for participation by all stakeholders in the basic assessment process.

5.19 I concur with the Second Respondent's Responding Statement that:

5.19.1 Issues relating to open space, including allocations on the River Club property and the broader site, are addressed in detail in the BAR and in the Issues and Responses Reports.

5.19.2 Open space areas at the River Club property, although reduced through the development by approximately 36%, will be far enhanced by the development proposal – the current access-restricted golf club will be transformed into a publicly accessible open space, lawned areas will be replaced by buildings (23% of the of the River Club property), roads (10%), hard and soft landscaping (24%) and other space areas of much enhanced ecological function and public amenity (40%).

5.19.3 The City of Cape Town in its appeal fails to acknowledge the positive intervention of naturalizing the canal and the existing Liesbeek River flow-path at the site and enhancing public access and amenity here, as well as the enhancement of the amenity value and access to the unlined course of the Liesbeek River west of the site as a seasonal swale.

5.19.4 The BAR acknowledges the role of the site as part of the open-space system and contextualises the role of the access-controlled site in the open space system, as well as the potential role of the development.

5.19.5 Impacts on views, the sense of place and historical character of the site have been assessed in the BAR and have been found by experienced specialists to be significant even after mitigation. These impacts were factored into the decision-making process and the City of Cape Town Municipal Planning Tribunal has indicated that the Spatial Development Plan for the development "shall be informed by the HIA/EIA and principles established in the Urban Design Study, Visual Impact Assessment, Hydrology Study".

The development is in conflict with the attribute layers of the MSDF

5.19.6 Spatial consolidation, agricultural, biodiversity and precautionary areas maps in the MSDF relate to the site and do not preclude development.

5.19.7 The heritage resources map contained in the MSDF identifies the site as falling within a "proposed heritage area". However, according to Planning Partners, this does not supersede the MSDF designation as urban inner core, where development is incentivised.

5.19.8 A small portion of the site (but notably not the River Club property) also falls within an area classified as "Critical Natural Assets Spatial Transformation Area" in the MSDF. This notwithstanding, "Most (maps) are not precisely geographically defined (or exclusive) areas and have been identified at a broad metropolitan scale" and "Map 5.1d cannot define STA designation at a property scale without reference to the additional spatial informants in Maps 5.1 a-c".

5.19.9 An extract of Map 5.1b: Biodiversity network and Marine Protected Areas that zooms in on the local area of the River Club site shows that no land on Erf 151832 Cape Town (the River Club property) is identified as "Critical Natural Areas".

5.19.10 Therefore, while it is recognised that there are local features which apply to a particular site that have influenced design, a net ecological benefit is anticipated from the development and property inside the Urban Inner Core is a priority investment and development area.

5.19.11 Notably, the City's planning approval for the development has subsequently been granted on 18 September 2020. At the Municipal Planning Tribunal that considered the application it was confirmed that the development is in line with the MSDF.

The development conflicts with the Table Bay District Plan

5.19.12 This issue was addressed.
5.19.13 It is not irregular to deviate from a District Plan, provided that there is substantively good reason to do so.
5.19.14 According to the "Consistency principles" and post-2012 amendments, lower order spatial plans and policies must be consistent with higher order spatial plans and policies. The MSDF identifies the land as "urban inner core" and therefore the lower order Table Bay District Plan is inconsistent with the higher order MSDF.
5.19.15 MSDF states that specific and immediate implementation actions that the City of Cape Town must undertake include "reviewing district plans to interpret the reviewed MSDF".
5.19.16 It is also noteworthy that the latest (most recent) spatial policy plan relating to the site is the Draft Two Rivers Local Spatial Development Framework. This Draft Framework is both the City of Cape Town's and the Western Cape Provincial Government local spatial planning initiative / proposal. It is pertinent that the development is largely in line with this framework.

The EMF (as contained in the Table Bay District Plan) was not considered by the decision-maker

5.19.17 This issue has been adequately addressed.
5.19.18 The Table Bay District Plan indicates the site to fall within or adjacent to:
- 5.19.18.1 An area subject to flooding / a coastal risk area - recent detailed surface water hydrology assessment of the catchment indicates that development can occur at the site without significant impacts on the structural integrity of other properties and on public safety.
- 5.19.18.2 An "other natural area" at the Berkley Road Extension and the PRASA owned land to the north of the site - studies have concluded that there is almost no natural vegetation remaining in this area.
- 5.19.18.3 Protected areas at the "unlined course" of the Liesbeek River, Raapenberg Wetland, Liesbeek Canal and Black River – while impacts on well represented wetlands are anticipated, an overall net ecological improvement of aquatic habitat quality is anticipated.
- 5.19.18.4 As part of the "*Coast to Coast Greenway*" and in an area of structuring open space access through the site, and ecological connectivity will be enhanced through the development (Open Space issues dealt with elsewhere).

5.19.19 According to the "Consistency principles" and post-2012 amendments, lower order spatial plans and policies must be consistent with higher order spatial plans and policies. The MSDF identifies the land as "urban inner core" and therefore the lower order Table Bay District Plan is inconsistent with the City's revised higher order MSDF 2018.

The development conflicts with the River Club property's zoning

5.19.20 This issue has been addressed.

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5.19.21 The proposed development represents an alternative way in which sustainable development of the site is imagined, considered, assessed, and then decided upon, based on recent and detailed technical studies. The current zoning is based on the previous understanding of the site and its limitations. The process of rezoning is a regular practice of town planning and urban development and rezoning of land is not unusual in municipal planning and land use management.

5.19.22 An application to rezone the River Club property from Open Space 3: Special Open Space to Subdivisional Area was approved unanimously by the City of Cape Town's Municipal Planning Tribunal on 18 September 2020.

5.19.23 The Rezoning Decision of the City of Cape Town's Municipal Planning Tribunal, dated 30 September 2020, states that:

5.19.23.1 Portion 3 of the subdivision shall be zoned for Open Space Zoning 3: Special Open Space purposes and shall be a minimum of 49,835m² in extent.

5.19.23.2 Portion 3 shall comprise servitude rights of way registered in favour of the general public and shall be to the satisfaction of the authorized official (Development Management).

5.19.24 The Appellants do not indicate how the regional and strategic context of the site is overlooked in the BAR and the EA, other than to cite hydrological and ecological impacts (which the Appellants have assessed without specialist input) and alleged non-compliance with City of Cape Town policy.

5.19.25 The record of the Municipal Planning Tribunal's decision of 18 September 2020 is instructive in this regard.

5.19.26 The BAR interrogates the regional and strategic context of the site in great detail.

5.20 Considering the above, the need and desirability aspects have been adequately addressed.

Appeal ground 4: Insufficient consideration was given to heritage informants and the relevant heritage resources authority's comments and there was non-compliance with section 38(8) and section 38(3) of the NHRA

Introduction

5.21 In terms of section 24(2) the NEMA, certain activities have been identified which may not commence without EA from the environmental authority and which must be subjected to EIA.

5.22 Section 38 of the NHRA lists certain development activities and requires that any person who intends to undertake such development activities must first give notice to the heritage resources authority to determine if a HIA will be required. If a heritage assessment is required, then the person may only proceed once the approval of the heritage authority has been obtained.

5.23 In order to avoid duplication and allow for coordination in terms of the requirements in terms of NEMA and the NHRA, section 38(8) of the NHRA states that if the development activities listed in Section 38(1) must be subjected to EIA in terms of NEMA, then a separate HIA and approval from the heritage resources authority are not required, provided that the environmental authority must: ensure that if the relevant heritage resources authority requires an HIA it fulfils the requirements of the heritage resources authority and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the environmental authority's consent.

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5.24 As such, if a NEMA EIA is required for the development activities listed in terms of section 38 of the NHRA, then it is not permissible for a separate HIA and EIA process to be followed and separate decisions to be followed. An EIA process will be followed and if the heritage resources authority requires a HIA, then the HIA will be undertaken as one of the EIA specialist studies, but the environmental authority must ensure that the heritage resources authority's requirements in terms of the assessment are met. In such instances, it is also not permissible for a separate heritage approval to be issued, but the environmental authority must take into account the comments and recommendation of the heritage resources authority prior to granting or refusing EA.

5.25 To comply with the applicable requirements of the NEMA and the NHRA, the following were undertaken/ considered:

- 5.25.1 A Basic Assessment process which culminated into a BAR.
- 5.25.2 The following specialist studies (amongst others):
  - 5.25.2.1 Visual impact assessment
  - 5.25.2.2 HIA and a Supplementary HIA
  - 5.25.2.3 Biodiversity impact assessment
  - 5.25.2.4 Traffic impact assessment
  - 5.25.2.5 Services report
  - 5.25.2.6 Socio-economic impact assessment
- 5.25.3 A public participation process was conducted in terms of section 24O of the NEMA and the 2014 EIA Regulations.
- 5.25.4 All relevant factors were taken into account, which include—
  - 5.25.4.1 Any pollution, environmental impacts or environmental degradation likely to be caused if the application is approved or refused.
  - 5.25.4.2 Measures that must be taken—
    - 5.25.4.2.1 To protect the environment from harm as a result of the activity which is the subject of the application.
    - 5.25.4.2.2 To prevent, control, abate or mitigate any pollution, substantially detrimental environmental impacts or environmental degradation.
  - 5.25.4.3 Where appropriate, any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment.
  - 5.25.4.4 Any information and maps compiled in terms of section 24(3), including any prescribed environmental management frameworks, to the extent that such information, maps and frameworks are relevant to the application.
  - 5.25.4.5 Information contained in the application form, reports, comments, representations and other documents submitted in connection with the application.
  - 5.25.4.6 Any comments received from organs of state that have jurisdiction over any aspect of the activity which is the subject of the application.
  - 5.25.4.7 Any guidelines, departmental policies, and environmental management instruments that have been adopted in the prescribed manner and any other information in the possession of the competent authority that are relevant to the application.
  - 5.25.4.8 The comments of any organ of state charged with the administration of any law which relates to the activity in question.

5.26 The HIA conducted by Mr Timothy JG Hart and Dr Stephen Townsend, which was submitted to inform the BAR, stated *inter alia* the following:

Introduction

5.26.1 The HIA, dated 2 July 2019, was conducted to satisfy section 38(8) of the NHRA in conjunction with a Basic Assessment process conducted under the NEMA for the redevelopment of the River Club site, Erf 151832, and its bounding riverine banks, the construction of the abutting long-planned arterial Berkley Road Extension on Erf 15326, the widening of Liesbeek Parkway, and of the road intersections giving access to Erf No. 151832, Observatory, Cape Town. Although the use of the site has been gradually intensified over the years, Liesbeek Leisure Properties Trust have explored the possibility of developing the site as the land is underutilised in this urban context close to central Cape Town where land for urban densification is needed and desired.

5.26.2 The size of the property and its proximity to protected riverine and wetland systems have triggered both an impact assessment report in terms of the NHRA and a Basic Assessment in terms of the NEMA.

5.26.3 This HIA includes studies and information required by the provincial heritage resources authority, HWC and HWC's final comments must be taken into account by the NEMA authority, the Provincial DEA&DP.

5.26.4 It was noted that an earlier report (described as a "phase one HIA") was compiled on behalf of Liesbeek Leisure Properties Trust and submitted to HWC in early 2017. This report was, however, withdrawn before being considered by HWC as a consequence of two related factors: first, when considering the related Two Rivers Urban Park "base line studies" submitted at roughly the same time in early 2017 on behalf of the WC Provincial Government, HWC's Impact Assessment Review Committee ("IACom") was critical of what its members perceived as un-argued assumptions about the potential scale of development in the TRUP-area; and second similar assumptions to those just referred to had been included in O'Donoghue's "phase one HIA". Following the IACom comments on these baseline studies, it was recognised by the owners that the development of Erf 151832, the study site of this report, provided an opportunity for a radically different alternative which could transform the Liesbeek River, a concrete-lined canal, into a restored ecological element and a historically numinous and iconic section of the Liesbeek River. As a consequence, a rather differently argued Draft HIA (which rebuts some assumptions of the "phase one HIA") by Townsend and Hart, was circulated for public and interested party comment in January-March of 2018. That draft report, while recognising the research carried out for the "phase one HIA", also took account of the previous consultative steps under both the NEMA and the NHRA but dealt with a rather different preferred alternative to that presumed in the "phase one HIA".

5.26.5 It was also noted that in late-March 2018 (immediately after the end of the period in which the Draft HIA for Public Consultation dated 18 January 2018 had been advertised for comment) HWC provisionally proclaimed the River Club property to be a provincial heritage site in terms of section 29 of the NHRA. This led to appeals against this decision by four parties including the Applicant (described in more detail in the following section on the Legal and Procedural Framework). This process interrupted the compilation of the HIA and, as a consequence, it was not possible to continue with the process until the interim ruling of the HWC's appeal authority. This was released on 5 February 2019 and enabled the integrated NEMA and NHRA processes under section 38(8) to continue. However, given the time since the consultation period last January-March 2018 and given the engagement of the First Peoples groups in the provisional proclamation process, a second Draft HIA was readvertised for stakeholder, interested party and public engagement during the period, 22 March to 2 May 2019. This final HIA was submitted to HWC

for its comments; and it was also to accompany and inform a BAR circulated for pre-application stakeholder engagement in terms of regulation 19(1)(a) of the NEMA EIA Regulations of 2014.

NHRA and NEMA

5.26.6 Section 38(1) of the NHRA requires that *"any person who intends to undertake", inter alia, "any development... which will change the character of a site... exceeding 5000m² in extent"* must "notify the responsible heritage resources authority and furnish it with the details... of the proposed development". Section 38(2) requires that "if there is reason to believe that heritage resources will be affected by such development" the developer shall be required to submit "an impact assessment report" (HIA) compiled by a person approved by the responsible heritage resources authority.

5.26.7 The development proposed in this case will change the character of this site which exceeds 5 000m². As a consequence, Heritage Western Cape was formally notified of the intended development in December 2015; and Heritage Western Cape confirmed that an HIA is required (letter dated 7 January 2016) which includes:

5.26.7.1 *"an archaeological study".*

5.26.7.2 *The urban design framework of the proposed development".*

5.26.8 It is noted that comments and arguments submitted to the MEC for Cultural Affairs and Sport's Heritage Tribunal during its hearings in October, November and December 2018 regarding the appeals against HWC's decision to provisionally proclaim the River Club site as a Provincial Heritage Site are also addressed, in the main, in the HIA report.

5.26.9 This HIA was submitted to accompany a BAR circulated for preapplication stakeholder engagement in terms of Regulation 19(1)(a) of the NEMA EIA Regulations, 2014 dated July 2018 as a component of the integrated NHRA and NEMA process.

5.26.10 It was also submitted to HWC for its "final comment" which the decision-maker, the provincial DEA&DP was required to consider when deciding on the matter (and, thus, satisfy section 38(8) of the NHRA).

5.26.11 The process is designed to satisfy both the NHRA and the NEMA and its regulations: that is, sections 24 and 44 of NEMA which make provision for the promulgation of regulations, and the 2014 EIA Regulations which identify activities ("NEMA listed activities") that may not commence without an EA issued by the competent authority (DEA&DP). The proposed project includes activities that are listed in terms of these EIA Regulations, as confirmed by DEA&DP on 22 April 2016. At that date, the project triggered a listed activity that required a Scoping and Environmental Impact Reporting ("S&EIR") process in order to inform an application for EA, and in this regard, the following notices and reports were prepared and released for public comment:

5.26.11.1 Initial notification of identified stakeholders, including release Draft Scoping Report –released on 4 August 2016.

5.26.11.2 A Revised Draft Scoping Report - released on 11 January 2017.

Interested Party Consultation

5.26.12 Numerous interested parties and the public more generally have shown considerable interest in the 'base-line studies' for the TRUP and River Club projects and the drafts of this HIA that have been circulated for public and

I&APs' comments in the past few years. While crucial to their evaluations of several aspects, they do not include every detail of the comments made in all of the opportunities that there have been for commenting although they recognise this as a demonstration of the considerable interest shown in the TRUP as a whole and the River Club site as a significant site inside the TRUP area. They have attempted to describe and address more directly the comments of the parties received during the consultative periods advertised specifically as a part of this HIA process (25 January to 6 March 2018 and 22 March to 2 May 2019) and those received by the MEC's Tribunal during the appeal against HWC's decision to provisionally proclaim the site in question as a provincial heritage site (during October, November and December 2018) in Section 5, Consultation of Interested Parties; and they include the comments and criticisms of the proposal itself in section 9. The Proposed Development.

Conclusion regarding Commentary on the Floodplain as Heritage Resource

5.26.13 The site, as a component of the floodplain, is a significant heritage resource of ecological, historical and socio-political importance despite the general recognition that, in words of the ecology-specialist, "*both terrestrial and natural ecosystems are considered degraded, having suffered a long history of manipulation, including (in the case of aquatic ecosystems) variously, diversion, channelization, fragmentation and canalisation*".

5.26.14 The site is a component of a neglected and much-transformed landscape with ecological and heritage significances that are potential rather than actual but which can be recovered.

5.26.15 The proposed development of this degraded, under-used and under-valued site presents an opportunity for ecological, environmental, and heritage recovery and for the transformation and enhancement of the Liesbeek Canal as a riverine corridor.

Commentary on Heritage Resources on or near the Site

5.26.16 Several commentators have commented on heritage resources on the site and nearby:

The River Club Building on the Site

5.26.17 Several Appelants have questioned their dismissal of the significance of the River Club building built in 1939, implying that they think that the building is significant as a heritage resource. Put simply, they do not think that it is significant at all: it is a straight-forward building of the late-1930s with little architectural pretension, its history as a sports club for employees of the SAR&H is incidental, and it fails to meet the criteria for conservation or protection.

The South African Observatory

5.26.18 The SAAO, as a Grade I site and declared as a National Heritage Site in December 2018, is certainly the most (and only) significant heritage site near enough to the River Club to be affected by the development; and therefore, requires deeper consideration.

5.26.19 The SAAO is a very significant site; and this significance relies on its location on the low spur or ridge between the Liesbeek and Black Rivers, its wooded

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setting, its architectural interest and, most importantly, on its historical scientific *raison d'etre*:
"The South African Astronomical Observatory in Cape Town has played a highly significant scientific role over time as the oldest permanent observatory in the Southern Hemisphere. The site offers an overview of the history of astronomy both locally and internationally. It is a "living site" with almost 200 years of history while still retaining its prominence in the international astronomical community.

Contributions to astronomy from the site range from some of the first accurate measurements of the distance to a star(Alpha Centauri), first catalogues of the principal southern stars, the first photographic survey of the sky, accurate measurements of the distance to the Sun (a value that became the benchmark to measure all other cosmic distance and represented a paradigm shift in astronomy), development of spectroscopy, remeasurement of

Lacaille's Arc of Meridian, establishment of the true shape of the Earth in the Southern hemisphere and the first accurate geodetic surveys of southern Africa.

Architecturally, there are several buildings of historical value which not only reflect the changing architectural styles over the nineteenth century but also have a considerable scientific value due to their contributions to the field of astronomy. Some examples are: the Main Building (a Georgian Building) – designed by the British naval architect, John Rennie, and completed in 1828;

the heliograph – the oldest dome on the site and which runs on cannon balls;

and the McClean Telescope Building – designed by Herbert Baker."

5.26.20 However, the comments on the SAAO notwithstanding, as pointed out by Winter, the campus is well screened by the fairly dense collection of trees surrounding the campus, on its western side facing the River Club in particular. These trees and their screening of both the River Club and the west more generally, demonstrate the insignificance of the views to the west even if the very choice of this site depended on a view to the Castle (long hidden by taller buildings between the Castle and the Observatory) and Signal Hill (which will still be visible from the Observatory). They have argued this point in a little more detail in the section on Significances. It also noted that the campus of the main Observatory buildings is a considerable distance, approximately 155m, from the nearest buildings included in the proposal; and the taller buildings in the northern end of Precinct 1 and in Precinct 2 are approximately 300m from the old Royal Observatory building and its campus.

Other Nearby Heritage Resources

5.26.21 A number of other relatively nearby heritage sites and resources are referred to by some commentators, but these are, notwithstanding the very considerable significance of some of them, out of sight and will not be affected by the development. These include several sites of early homesteads all but one are 'buried' within the urban townscape of Observatory. The exception, the Valkenberg homestead, is too distant from the site to regard it

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as 'affected' by the proposed development although it is regarded as significant to be improved by restoring the riverine corridor.

The River Club Site as a Heritage Resource

5.26.22 While the area in which the River Club is situated is historically important for the role it played in the past, no tangible heritage relics or resources have survived on the site. The only element on or immediately abutting the site that has been a constant through both pre-colonial and colonial periods is the Liesbeek River itself.

5.26.23 However, although its alignment and function has been altered to the point that not much of the original course survives, the main elements and a confluence exist today. But the river is a strong symbol of past events, even if with intangible and imprecise associations; and it gives a sense of deep-time reflecting the history and significance of the area. The Liesbeek River is therefore identified as the surviving physical heritage resource that deserves significant celebration.

5.26.24 In the "phase one HIA" of the River Club, O'Donoghue (2017) regarded the River Club as part of the TRUP and argued that the heritage indicators for the River Club should be synchronised with those determined in the TRUP process. Importantly, she also argued that the site's "island character" should be retained. Baumann (2016), in his review of O'Donoghue's "draft phase one report", pointed out that the TRUP is comprised of a variety of precincts of very different topographies, histories of use, of development-type, each with its own qualities and a variety of potential heritage significances; and he questioned the "island character" idea of the development.

5.26.25 The River Club is a privately-owned conference facility, sports club, golf driving range and nine-hole golf course. The site itself has very little obvious heritage significance of which the only apparently significant qualities are the architecture of the unremarkable Grade IIIc structures (which they dismiss) and its sense of place as a part of the Liesbeek floodplain (which, although much transformed, damaged and degraded, they regard as potentially significant). They argue that the Liesbeek River is the common thread and the significant heritage resource that links the River Club, the TRUP and the environs more generally; and they argue that the potential significance of the flood plain can only be realised by restoring the riverine corridor.

5.26.26 The archaeological survey by Kaplan (in O'Donoghue 2017) shows that much of the land that makes up the site has been subject to considerable disturbance and has very little archaeological potential which they confirm. While it can be argued that the golf-course contributes to the sense of open space, it is a man-made and spoiled landscape that contributes little to the natural qualities of the confluence. The heritage practioners, therefore, insist that the river is the primary physical and symbolic heritage resource in proximity to the site. It is this that needs to be celebrated and enhanced. Provided this is done adequately, and the Raapenberg wetlands conserved, development of the site is justifiable.

5.26.27 The difficulty in articulating the heritage-sensitivity of the River Club site is that although the site is historically important in terms of the role this area played in the history of the Cape, there is no or very little physical heritage on the site – it has been transformed and reclaimed from estuary mud; and the course and nature of the Liesbeek has been dramatically altered.

5.26.28 While the entire Liesbeek River valley has not been surveyed, many parts of the Observatory section have been examined. The River Cub itself was previously surveyed by Kaplan, while Hart has checked excavations for new

structures on the neighboring SAAO site. Comprehensive trial excavations have taken place at Valkenberg, Varsche River as well as checking of excavations for renovation of the Hospital. The archaeological material that has been found to date relates entirely to the VOC period and thereafter. Despite the major works that have involved canalization of the river, no graves or human remains have been reported or are lodged according to the skeleton register at either Iziko Museum or the UCT medical school which have been the official repositories of such finds since both institutions were established. The nearest recorded remains of pre-colonial people and archaeological sites are from close to the Salt River estuary in Milnerton. Cremation among Khoikhoi people has not been described in any known historical ethnography. However, burial methods are described and are archaeologically well documented. The emailed assertion by Hromnick (who believes that the Khoikoi people were migrants from India) is disputed.

5.26.29 The records from the register are as follows:

5.26.29.1 SAM 6019 - found in Salt River by the SAPS in 1972; from the excavation for a building - a cranium and mandible.

5.26.29.2 SAM 6070 - found at Site B in Alfred Road in 1983 - a complete cranium, mandible and other minor human remains.

5.26.29.3 UCT 263 - found beside the old Cape Town infirmary in a street excavation at the site of an old graveyard - 2 crania.

5.26.29.4 UCT 145 - Hiddingh Estate in Newlands - a colonial coffin burial, complete skeleton.

5.26.30 Contrasting with the above observations, the archaeological signature of pre-colonial people is strong on the Cape Peninsula – the sites of numerous middens are well-known, particularly in Hout Bay, the western shore and the greater Peninsula, which are a clear indicator of where people were living. Shell middens were plentiful all the way up the West Coast. However, what is noticeable is the high frequency of them on the Vredenberg Peninsula which is historically known to be a center of Khoikhoi stock-keeping. One site which was clearly of significance for Khoikhoi was the rocky massif known as Kasteelberg which has been extensively studied and radiocarbon dated. The massive shell middens around the Kasteelberg massif contain layers of human occupation including bone from indigenous domesticated sheep and early domesticated cattle as well as grinding groves in the granite.51 Radiocarbon dates confirm an occupation sequence that goes back almost 2000 years since the first advent of herding people in South Africa. It must be noted that many of the archaeological sites on the Vredenberg Peninsula have been ploughed over many times, yet the archaeology of the area remains visible.

5.26.31 The Liesbeek valley has no sequences of human occupation such as described above. In fact, to date no San or Khoikhoi archaeological sites have been identified. This does not mean that people were not living here as stock-keeping people were very mobile following available grazing. It does, however, mean that there was no focus in the project area that attracted repeated visits or long-term occupation of any kind, as would be the case with sacred places and capital settlements.

5.26.32 The historic records the heritage practitioners have used in this assessment refer extensively to the vast encampments of the Khoikhoi on the other side of the Salt River – that is Milnerton, Ysterplaat-Wingfield. These large tracts of landscape which contained extensive wetlands were accepted as the common grazing lands outside Cape Town, which represented the end of the cattle trading route from the interior. In the 1800s they were designated as common or outspan land in continuation of a long tradition of cattle herding which dates back to precolonial times. In the early 20th century this land

which was owned by no-one was appropriated by the government for the construction of military facilities and have retained this status to this day.

5.26.33 Archaeological evidence has been used several times to corroborate oral history in court of law. The matter of the Salem Commonage (20kms south of Grahamstown) has contributed to legal precedent in terms of the way in which oral history is considered, particularly in the context of land claims. The judgment in this case took into account the oral history of the claimants, evidence provided by expert witnesses and, importantly, sort the verification of oral history through the employment of archaeologists to verify the physical evidence of previous settlement through material remains. This means that although oral history was considered in the judgment, physical evidence played a decisive role.

5.26.34 However, returning to the case at hand, while First People's representatives have made claims about burials in the environs, there is no physical evidence in this regard.

5.26.35 The heritage resources on the site are summarised thus:

5.26.35.1 The Liesbeek River and the confluence are important as a place in the landscape (its 'physicality' is too transformed, however, to be argued to be anything like it may have been during its historically important moments) and the historical and symbolic significance of the river is very high.

5.26.35.2 River Club land was possibly the site of an early crossing point where an informal route passed along and over the confluence to a point to the west (near where the bird hide is today) before continuing into the hinterland.

5.26.36 Although this spot may be at the northern boundary of the property where the Berkley Road Extension is planned, it is also possible it may have been where the current Station Road axis crosses the Liesbeek. There is no evidence of this crossing today.

5.26.37 Although the River Club site is effectively a recreational area and a golf course and has a green open-space quality which is shared with the reaches of the Liesbeek corridor immediately upstream of the site, this belies its degeneration and impairment as a heritage resource.

5.26.38 The current landscape qualities of the site are a consequence of the history and context as summarised above. The context is historic and symbolic. The site has several significant heritage sites relatively nearby, but the physical properties of the site, with its club house and sports-related facilities, its managed, landfilled and bland landscape for sporting activity, are of low significance; and it contains very little else which we argue can be accepted as significant.

5.26.39 In other words, the Liesbeek River (both the pre-1952 and the post-1952 canalised channels), the confluence, the banks, and the riverine corridor generally comprise the significant heritage resource associated with the site.

Heritage resources in the surrounding area

5.26.40 The most significant heritage resource close to the project area is the SAAO, confirmed as a National Heritage Site in December 2018 and which is situated on a rise, what they have called the 'spine' or 'spur' between or at the confluence of the Liesbeek and Black Rivers. It is to the east of the project site across the canalised course of the Liesbeek River. The core historic structure (built in 1820) is centrally situated with a 'campus' of significant structures to its immediate south. To the north and surrounding the 'campus' the complex is, however, extended by a plethora of structures of various ages – these range

from 19th century staff buildings as well as some recent late-20th century structures. The area is well-treed, and most structures are obscured from view by a combination of oak, eucalyptus and pine trees. In other words, the old Royal Observatory and the SAAO campus is barely visible from its surrounds, including from the River Club itself, due to the dense tree cover.

5.26.41 As Sarah Winter has stated: *"(l)ocated at the centre of TRUP, the wooded setting of the SAAO provides a protective tree canopy and visual screening element from the Black River Parkway", it has "very high historical significance as a scientific institute dating to the early 19th century and the first permanent observatory in the southern hemisphere", its association "with a number of astronomical advances of international significance from the 1830s", housing "a range of objects and instruments associated with major advances in astronomy during the 19th and 20th centuries", and with "a number of astronomers who were pre-eminent in the field during the 19th and 20th centuries. It has considerable aesthetic significance in terms of the dispersion of a number of architecturally significant buildings and a distinctive dome typology set within a wooded landscape, between the Liesbeek and the Black Rivers, and at the centre of TRUP" and that, as "a centre of excellence, the site continues to have associational significance as one of the country's most internationally acclaimed scientific institutions".*

5.26.42 The Observatory was built on this raised spine of land that was visible from the Castle (where the 12 o'clock signal gun was/is located) as well as from Table Bay where mariners could observe the fall of the time-ball for chronometer setting. These views from the Observatory to the Castle and Table Bay, which were but no longer are central to the functioning of the Observatory, are now obscured by development. Lions Head, Signal Hill and Devils Peak remain visible, but the view has to be sought from vantage points below the trees and is clearly not of any importance in the day-to-day life of the SAAO. Furthermore, and these vistas have not been of importance since the beginning of the 20th century. The line of sight between the SAAO and Signal Hill is of no current relevance although it is historically interesting since the noon-day gun (previously at the Castle) at the Lion Battery on Signal Hill has been electronically triggered for most of the 20th century.

5.26.43 It is noted that Attwell and Jacobs, in their baseline study of the TRUP as an entity, argue that the view from the 1820 Observatory building to Signal Hill is still important and, by implication, is a heritage resource that should be protected. Given that the SAAO itself has not needed or attempted to sustain or recapture that view, they regard this view/axis as interesting but not demanding a response in design.

5.27 When HWC stated that it *"is of the view that this requirement (to identify and map all heritage resources in the area affected) has only been partly complied with"*, The Supplement to a HIA, dated 4 December 2019, stated *inter alia* that:

5.27.1 A lengthy section of the HIA describes the heritage resources on the site and in the area (section 6. Identification of Heritage Resources, pp70-80).

5.27.2 First, they provided a copy of the City Council's grading map which serves as "identification and mapping of the heritage resources in the area affected". However, this diagram was not included in the HIA because several of the gradings near to the site are wrong or outdated, for example, the Black River Office Park site is shown as a sports ground and the SAAO site, a grade I and declared national heritage site, is shown to be ungraded and, the River Club buildings apart, the River Club site itself is ungraded (although they concur that its grading should be a low one).

5.27.3 Second, they copied Attwell and Jacobs' "composite diagram of heritage areas, potentially sensitive sites and heritage resources" which implies a rather

different set of criteria. This diagram was not included or referred to in the HIA because they thought that the diagram does not identify or capture the significances of the heritage resources in the area.

5.27.4 Third, they provided a copy of Cindy Postlethwayt's composite diagram of "tangible and some intangible heritage resources".

5.27.5 As Postlethwayt's study dates from September 2019, it is self-evident that its findings could not be included in the heritage practitioners' HIA of 2 July 2019. However, they note that, the addition of some "viewlines and corridor sightlines" and the large amorphous area covering parts of the floodplains of the Liesbeek and Black Rivers and described as "notional river corridor as area to acknowledge and integrate First Nations" apart, this diagram follows Attwell and Jacobs' diagram closely. However, they disagree in the discussion on significances.

Assessment of the significance of such resources in terms of the heritage assessment criteria set out in section '(2) or prescribed under section 7 of the NHRA

5.28 As detailed above, section 3(3) of the NHRA outlines the criteria for the determination of the significance of a heritage resource. However, the 2014 EIA Regulations state that the potential impacts must be assessed and rated based on the methodology and rating criteria including the nature, significance consequences, extent, duration and probability of potential environmental impacts and risks associated with the proposed development and alternatives. Regulation 19(8) of the 2014 EIA Regulations states that: *"A specialist report must contain all information set out in Appendix 6 to these Regulations or comply with a protocol or minimum information requirement relevant to the application as identified and gazetted by the Minister in a government notice."*

5.29 Regulation 3(1) of the 2014 EIA Regulations further states that:
"A basic assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include—...

(v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts—

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and

(cc) can be avoided, managed or mitigated;

(vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;

(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;

(viii) the possible mitigation measures that could be applied and level of residual risk;

(ix) the outcome of the site selection matrix;

(x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and

(xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;

(i) a full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including—

(i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and

(ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;"

Assessment of Impacts: Construction Phase

5.30 Two potential direct construction phase impacts on heritage resources were identified:
- 5.30.1 H1: Loss or damage to paleontological and archaeological resources.
- 5.30.2 H2: Loss of structures on the site with heritage value.

Potential Impact H1: Loss or Damage to Palaeontological or Archaeological Resources

5.31 While the entire Liesbeek River valley has not been surveyed for archaeological material, many parts of the Observatory section have been examined. The River Cub itself was previously surveyed by the ACO, who have also observed excavations for new structures on the neighboring SAAO site. Furthermore, comprehensive trial excavations have taken place at Valkenberg and at the Varsche River, and excavations for renovation of the Hospital were monitored.

5.32 The archaeological material that has been found during these excavations relates entirely to the VOC period and thereafter.

5.33 Despite the major works near the site (including canalisation of the river), no graves or human remains have been reported or are lodged according to the skeleton register at either Iziko Museum or the UCT medical school which have been the official repositories of such finds since both institutions were established. The nearest recorded remains of pre-colonial people and archaeological sites are from close to the Salt River estuary in Milnerton. The First Nations Collective have confirmed that:
- 5.33.1 No cross-cutting, narrative-defining event for any of the strands of the indigenous narrative can be attributed specifically to the River Club site.
- 5.33.2 No tangible or intangible reference has been made to the Gorinhaiqua having settled specifically on the River Club site.
- 5.33.3 No specific act of resistance, battle or encounter, whether tangibly manifested or intangibly articulated, have been attributed specifically to the River Club site.
- 5.33.4 The site is not a burial ground.
- 5.33.5 The site was not used as a pre-colonial river crossing.

5.34 Furthermore, Khoikhoi people burial methods are described and are archaeologically well documented. Therefore, if the site and surrounding area were once used as a burial ground (as is claimed by certain stakeholders) it is likely that remains would have already been discovered during previous excavations in the area.

5.35 The site has undergone extensive surface disturbances (e.g. it has been infilled), and was previously either mostly, or entirely, a wetland.

5.36 It is therefore very unlikely that any significant archaeological or paleontological resources will be uncovered during construction. It is however possible, although still

unlikely, that during excavation of the western wall of the Liesbeek Canal (Riverine Concept Alternative only) and foundations of the Berkley Road bridge archaeological or paleontological resources may be uncovered – but the discovery of human remains is extremely unlikely.

The Riverine Corridor Alternative

5.37 The impact is assessed to be of ***very low*** significance with and without the implementation of mitigation. This impact can be managed to a *high* degree and is *irreversible*.

The Island Concept Alternative

5.38 The impact is assessed to be **insignificant** and no mitigation is necessary. This impact does not require management and is *irreversible*.

No-Go Alternative

5.39 In the case of the No-Go Alternative, excavation of the western bank of the Liesbeek Canal would not take place, and low probability, low intensity impacts associated with the loss of or damage to paleontological and archaeological artefacts would not arise.

Potential Impact H2: Loss of Structures at the Site with Potential Heritage Value

The Riverine Corridor Alternative and the Island Concept Alternative

5.40 Although the main River Club building and approach to it play an important part in the overall setting of the site, it has been added to and changed considerably, and is of low heritage significance.

5.41 Buildings at the site are assigned Heritage Grade IIIC – buildings and/or sites whose significance contributes to the character or significance of the environs that should only be protected if the significance of the environs is sufficient to warrant protective measures. The heritage consultants do not believe that the site, or buildings at the site, warrant protective measures.

5.42 The impact is assessed to be of low significance with and without the implementation of mitigation. Although the main River Club building and approach to it play an important part in the overall setting of the site, it has been added to and changed considerably, and is of low heritage significance.

5.43 Buildings at the site are assigned Heritage Grade IIIC – buildings and/or sites whose significance contributes to the character or significance of the environs that should only be protected if the significance of the environs is sufficient to warrant protective measures. The heritage consultants do not believe that the site, or buildings at the site, warrant protective measures.

5.44 The impact is assessed to be of low significance with and without the implementation of mitigation. This impact cannot be managed and is *irreversible*.

No-Go Alternative

5.45 In the case of the No-Go Alternative, the site will continue to be used as a commercial recreational and conference facility, and buildings at the site will be retained.

Assessment of Impacts: Operational Phase

5.46 Three potential direct operational phase impacts on heritage resources were identified:

Change in historical character of the site.

5.46.1 With regard to the broader area, the following is of historical significance:

5.46.1.1 The Two Rivers local area (and beyond) is the historic landscape of the indigenous First Nations;

5.46.1.2 The Liesbeek River was a partially fortified early frontier;

5.46.1.3 An important pre-colonial river crossing (the Vaarsche Drift) was located close to the site, but downstream of the confluence of the Liesbeek and Black Rivers;

5.46.1.4 The confluence with the Black River is thought to be the site of early confrontations that signaled the eventual fragmentation of the Khoikhoi nation; and

5.46.1.5 Although the site was entirely or mostly a wetland area, the broader floodplain was a key site in early farming.

5.46.2 The area, including the site, is therefore historically significant, but is comprised of a variety of precincts of very different topographies, histories of use, of development-type, each with its own qualities and a variety of potential heritage significances. The extent to which each site or precinct bears testimony to the cultural heritage of the broader area is determined by the amount of indigenous cultural capital assigned to each site. In this this context, with regard to the River Club property itself, the First Nations Collective has indicated (refer to Section B10 of the BAR):

5.46.2.1 No cross-cutting, narrative-defining event for any of the strands of the indigenous narrative; be it, the dominion of the Gorinhaiqua, Battle of Gorinhaiqua, Colonial-settler 'grilagem', or resistance to 'grilagem', can be attributed specifically to the River Club site;

5.46.2.2 No tangible or intangible reference has been made to any First Nations groups having settled specifically on the River Club site;

5.46.2.3 No specific act of resistance, battle or encounter, whether tangibly manifested or intangibly articulated, have been attributed specifically to the River Club site;

5.46.2.4 Although mostly a wetland and therefore of low functional use value, the River Club site was most likely part of an early precolonial landscape from which the Indigene was displaced and/or barred;

5.46.2.5 The site is not a burial ground;

5.46.2.6 The site was not used as a pre-colonial river crossing; and

5.46.2.7 The Liesbeek River is an important heritage resource in the broader landscape, and its rehabilitation / naturalisation is supported by the First Nations Collective / would be a cultural benefit.

5.46.3 Nevertheless, the floodplain, Liesbeek and Black Rivers, their confluence and the remnants of the Salt River estuary still exist today: Topographically, the current sense of place at and along the section of the Liesbeek River at the site is that of a wide flat floodplain, greatly transformed by the frequent changes in land-use. Wetlands have been transformed to farmland, then to various institutional uses and to modern suburbia.

5.46.4 Locally the floodplain between the spine to the east of the site (the SAAO) and the foot-slopes of Devils Peak can be divided into three parallel strips:

5.46.4.1 To the far west (of the site), a strip of sports fields interrupted by roadways, major sports facilities/structures, avenues of trees and vehicular bridges;

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5.46.4.2 The wide Liesbeek Parkway running through the middle of the floodplain; and

5.46.4.3 The Liesbeek River floodplain that widens and splits into a (now defunct) natural channel, and an artificial canalised reach to create the River Club site.

5.46.5 Although no tangible remnants of the actual places of conflict, forts, outposts or graves survive, the Liesbeek River and floodplain are of ecological importance, and the topography of the area remains. People experience *utility* from the character, ecology, history, and awareness of the historical import of the floodplain and Liesbeek River.

The Riverine Corridor Alternative and the Island Concept Alternative

5.46.6 The site, although transformed, is one of the last open remnants of the floodplain. The character of the site will be transformed by the development. This transformation is seen by the heritage consultants as predominantly a visual impact, and of low intensity from a heritage perspective in the context of:

5.46.6.1 The absence of any cross-cutting or narrative-defining event having taken place (or attributed to have taken place) at the River Club site;

5.46.6.2 The absence of any tangible heritage resources located at the site;

5.46.6.3 The already significantly transformed floodplain;

5.46.6.4 The degraded nature of the site; and

5.46.6.5 The future development of the Berkley Road extension, which will radically affect the reading and character of the site regardless of the proposed development.

5.46.7 The impact is therefore assessed to be of low significance with or without the implementation of essential mitigation.

5.46.8 This impact cannot be managed and is *irreversible*.

No-Go Alternative

5.46.9 In the case of the No-Go Alternative, the rehabilitation of the canalised portion of the Liesbeek River would not take place, and the heritage value of the site would not be affected.

Change in heritage value Liesbeek River floodplain at the site.

5.46.10 South of the site, the Liesbeek River floodplain is relatively narrow, but has both ecological value and public amenity value as a more natural and publicly accessible corridor. Immediately south of the site the river has been diverted into an ecologically sterile canalised reach that flows to the east of the site. The public movement corridor along the river also terminates here. The artificial channel merges with the Black River immediately northeast of the site. The original course of the river is located to the west of the site, was infilled (~1952), dredged (~1990), and is now fed by backwaters of the Black River and stormwater, and is ecologically degraded. The site forms an artificial island between the old and new reaches of the Liesbeek River in a transformed landscape.

The Riverine Corridor Alternative

5.46.11 By rehabilitating the canalised reach of the Liesbeek River to the east of the site, providing an ecologically viable floodplain, and extending the public

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movement corridor along the river through the site, the riverine corridor as a historical, topographical and ecological determinant of the current urban townscape is extended and reinforced. Furthermore, the public amenity derived from the river is enhanced.

5.46.12 Although the sense of place of the site will be transformed, by extending the riverine corridor to the south of the site the heritage value of the site (and corridor itself) will be enhanced in a number of ways:

5.46.12.1 The historical significance of the river would be restored by defining and enhancing it's (albeit "new") course.

5.46.12.2 The ecological functioning of the river would be improved.

5.46.12.3 The public amenity value of the river course would be extended and enhanced, and the public would be exposed to the SAAO.

5.46.12.4 The impact is assessed to be of medium (+ve) significance and no further mitigation is necessary.

5.46.13 This impact cannot be managed and is *irreversible*.

The Island Concept Alternative

5.46.14 For the Island Concept Alternative, the ecological and cultural benefits of defining and enhancing the Liesbeek River Corridor will be foregone.

5.46.15 The impact is therefore assessed to be ***not significant***.

No-Go Alternative

5.46.16 In the case of the No-Go Alternative, the rehabilitation of the canalised portion of the Liesbeek River would not take place, and the heritage value of the riverine corridor would not be enhanced (Riverine Corridor Alternative only).

Changes in historical setting of the SAAO.

5.46.17 The most significant heritage resource close to the site is the SAAO, which has Grade I heritage status due to its scientific history. The core historic structure at the SAAO (built 1822) is centrally situated on the site and is surrounded by a number of structures of ages ranging from 19th century staff buildings, telescope domes, to late 20th century structures.

5.46.18 The SAAO was built on this raised spine of land (east of the site) so that it could visually signal midday to the Castle of Good Hope (where the 12 O'clock signal gun was located before 1900) and Table Bay where mariners could observe the fall of the time ball in order to set their chronometers. After 1900 when the signal gun was relocated to Signal Hill, this view-line also became functionally important. Views from the SAAO to the Castle and Table Bay, which were central to the functioning of the Observatory, are now obscured by development. Signal Hill remains visible from certain vantage points at the SAAO, though have not been of any functional importance to the operation of the SAAO since the beginning of the 20th century. The line of sight between the SAAO and Signal Hill is therefore of no current functional value, although it is historically interesting.

5.46.19 Although the SAAO's heritage significance derives mainly from its scientific history, and most structures at the SAAO are obscured from the River Club by trees (the best views of the SAAO complex are from across the Black River further to the east) the boundary of the SAAO with the site, as well the historic

landscape within which the SAAO is located, is considered to be sensitive to development.

The Riverine Corridor Alternative

5.46.20 The setback of the development from the SAAO boundary was one of the key informants of the alternative evolution of the Riverine Corridor Alternative. This alternative mitigates impacts on the SAAO as far as practically possible by stepping back development by ~40m from the existing canal and rehabilitating (and therefore softening) the river course, while ensuring the financial viability of the development (i.e. developing the minimum amount of floor area, or bulk required). Nevertheless, substantial development at the River Club site will detract from the historic landscape of this site.

5.46.21 In the long-term, the activation of the western bank of the Liesbeek canal and the creation of the movement corridor here may create opportunities for the SAAO to further rehabilitate the river course and the public at the River Club development, with the potential to celebrate the heritage of this historically significant complex.

5.46.22 Although the heritage specialists assess a positive impact on the historical setting of the SAAO due to the activation and rehabilitation of the Liesbeek Canal, SRK has conservatively assessed that the development may, on balance, lead to a low intensity negative impact on the SAAO. Therefore, as the site is of national heritage significance the impact is assessed here to be of high (negative) significance.

5.46.23 This impact cannot be managed and is irreversible.

The Island Concept Alternative

5.46.24 This alternative allows for the rehabilitation of the eastern bank of the original course of the Liesbeek River, which has inherent, although much diminished, ecological value. In order to setback from this boundary and to remain financially viable, the River Club development would encroach on and dominate the SAAO to a far greater extent than is the case for the Riverine Corridor Alternative. Furthermore, the comprehensive rehabilitation of the river corridor on the SAAO boundary would not take place, and this would largely forgo possible future integration between these two sites.

5.46.25 Although the heritage specialists assess that the intensity of the impact on the historical setting of the SAAO is medium, as the site is of national heritage significance the impact is assessed to be of very high significance.

5.46.26 This impact cannot be managed and is irreversible.

No-Go Alternative

5.46.27 In the case of the No-Go Alternative, further transformation of the historic landscape of the SAAO would not take place, but activation of the river edge on the boundary of the SAAO, and opportunities for integration staff and public at the River Club development would be foregone.

5.46.28 The impact is assessed to be of very low significance.

5.47 The following are the proposed mitigation measures (which are included in the conditions of the EA and the EMPr) in terms of the potential **heritage impacts:**

Design phase

5.47.1 Commemorate or memorialise the Vaarsche Drift.

Construction phase

5.47.2 Photograph all structures on site for archive creation.
5.47.3 Implement monitoring and chance-find procedures for archaeological and paleontological material during excavations of the western bank of the Liesbeek Canal as it fronts the site (as specified in the EMPr).
5.47.4 Establish an Indigenous Garden for medicinal plants used by the First Nations;
5.47.5 Establish a Cultural, Heritage and Media centre.
5.47.6 Establish a Heritage-Eco trail that goes around the site and educate tenants and the public accessing the site of the historical significance of the surrounding area (e.g. by erecting information boards at various locations).
5.47.7 Establish an Amphitheatre for use and cultural performances by both the First Nations and the general public.
5.47.8 Commemorate the history of the First Nations in the area; and Encourage integration of the future development with the SAAO and facilitate opportunities to commemorate this historic facility.

Potential Visual Impacts

Assessment of Impacts: Construction Phase

5.48 This assessment is based on the Visual Impact Assessment undertaken by Scott Masson of SRK Consulting. The purpose of the study was to assess the potential impacts of the project on visual resources and recommend practicable mitigation measures to minimise potential impacts and maximise potential benefits.
5.49 One potential direct construction phase impacts on visual resources was identified i.e. Altered sense of place which was assessed as follows:

The Riverine Corridor Alternative and the Island Concept Alternative

5.49.1 Visual impacts will be generated by construction activities such as vegetation stripping and earthworks (which can cause scarring), and from construction infrastructure, plant and materials on site (e.g. site camp, cranes and stockpiles). The high number of trucks transporting fill material and other construction material to the site will also contribute to an altered sense of place (increased visual clutter, noise). Dust generated at the site will be visually unappealing and may further detract from the visual quality of the area.
5.49.2 Such impacts are typically limited to the immediate area surrounding the construction site and the construction period.
5.49.3 Loss of sense of place is expected during construction, especially in the foreground i.e. closer to Liesbeek Parkway and the M5, since construction and the change in the state of the site (scarring, construction equipment, construction traffic and dust generation) is incongruent with the current nature of the site viz. green open space and use of the site viz. recreation.
5.49.4 Construction will be undertaken in phases, commencing from the south of the site and advancing north. Construction activities will reduce the sense of place over the medium-term due to the duration of construction activities.
5.49.5 The impact is assessed to be of low significance with and without the implementation of mitigation.
5.49.6 This impact can be managed to a limited degree and is reversible.

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No-Go Alternative

5.49.7 In the case of the No-Go Alternative, the site will continue to be used as a commercial recreational and conference facility, and no visual impacts are anticipated.

Assessment of Impacts: Operational Phase

5.50 Three potential direct operational phase impacts on visual resources were identified:

5.50.1 Altered sense of place caused by the change in character of the site

The Riverine Corridor Alternative and the Island Concept Alternative

5.50.2 An area will have a stronger sense of place if it can easily be identified, that is to say if it is unique and distinct from other places. Tourism can sometimes serve as an indicator of sense of place insofar as it is often the uniqueness (and accessibility) of a space/place which attracts tourists.

5.50.3 It is often the case that sense of place is linked directly to visual quality and that areas/spaces with high visual quality have a strong sense of place. However, this is not an inviolate relationship and it is plausible that areas of low visual quality may have a strong sense of place.

5.50.4 The site itself does not necessarily have an immediately recognisable sense of place although the River Club building is a distinguishable landmark on the site.

5.50.5 The sense of place of the study area is strongly influenced by the rivers, and an "island" of green open space in a highly developed and evolving urban environment of mixed land use.

5.50.6 The dramatic views of Devils Peak and its dominant east-facing ridgeline also add to the sense of place of the study area.

5.50.7 The relationship of receptors in the study area to place is likely to be predominantly cognitive or narrative. For example, receptors in the area may have chosen to live or locate their business in the study area because they were enticed by the green open space or scenic characteristics of the area (rivers, mountain views, Raapenberg Sanctuary, Observatory hill) within a wholly transformed urban environment. Or, a person visiting the area may have a narrative connection to the area through the cultural/historic aspects of the landscape. Although these aspects are mostly intangible, the visitors may have learned of their significance through historical accounts or stories (e.g. the history of the Khoikhoi nation, or the Observatory).

5.50.8 It is plausible that many receptors may consider the study area to have a "negative" sense of place (e.g. receptors experience a sense of discomfort in a harsh, windy environment). However, for the purposes of this assessment and taking the precautionary principle into account, it is assumed that the study area has an overall "positive" sense of place to receptors, and that receptors derive significant value from the site as an open space area.

5.50.9 The development will change the character of the site to a highly developed site, with pockets of open space. Although the site is surrounded by urban development, due to its size, location at the confluence of the Liesbeek River and Black River, and long-term status as a green open space, the change in character may be experienced as a strong visual contrast for surrounding (urban) receptors and frequent visitors to the area.

5.50.10 The impact is assessed to be of high significance and with the implementation of mitigation is reduced to medium.

5.50.11 This impact cannot be managed and is irreversible.

No-Go Alternative

5.50.12 In the case of the No-Go Alternative, the site will continue to be used as a commercial recreational and conference facility, and no visual impacts are anticipated.

Visual Intrusion

The Riverine Corridor Alternative and the Island Concept Alternative

5.50.13 Structures at the site will be visually intrusive and, in some cases, obtrude receptors' views of visual resources from surrounding vantage points. Visual resources are features which are aesthetically pleasing and enhance the visual landscape of an area. Visual resources also provide visual / scenic value to receptors.

5.50.14 The following visual resources have been identified for the site and surrounds:
- 5.50.14.1 Liesbeek River, the Black/Salt River, and the banks of these rivers;
- 5.50.14.2 Raapenberg Bird Sanctuary;
- 5.50.14.3 Observatory hill and the Observatory complex;
- 5.50.14.4 Alexandra Mill;
- 5.50.14.5 Existing (large) trees, albeit exotic; and
- 5.50.14.6 Devils Peak.

5.50.15 Views of Devils Peak from the M5 freeway and immediately adjacent vantage points (e.g. M5 Park and Alexandra Institute) may be compromised by new large buildings introduced in the foreground. Similarly, views from Black River Park will likely change from that of an open green expanse across to the Black/Salt River, to large built structures in the foreground. The intrusion or obtrusion of receptor's views may reduce the scenic value of the site and its immediate surrounds to those receptors.

5.50.16 Unavoidably, the proposed development will significantly transform the site and very immediate surrounds. The visual impact may be lessened to the extent that the proposed development is congruent with surrounding land uses, mainly the commercial and industrial activities towards the north of the site rather than the more informal layout of the buildings to the south of the site.

5.50.17 The proposed development will be highly visible to receptors in the foreground (e.g. people in Black River Park, users of Liesbeek Parkway and the M5), but visibility will reduce substantially in the middle ground and background because of the effective visual screening provided by the buildings adjacent to the site.

5.50.18 The impact is assessed to be of high significance and with the implementation of mitigation is reduced to medium.

5.50.19 This impact cannot be managed and is irreversible.

No-Go Alternative

5.50.20 In the case of the No-Go Alternative, the site will continue to be used as a commercial recreational and conference facility, and no visual impacts are anticipated.

Altered sense of place and visual quality caused by light pollution at night

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5.50.21 It is assumed that lighting will be extensively used by the proposed development (e.g. street lighting, outdoor lighting etc.). Although existing ambient lighting levels in the area are high, the development will increase light pollution at night or skyglow in the area and may alter night-time sense of place. Skyglow is a form of light pollution and refers to the brightening of the sky above populated areas. Skyglow cannot always be avoided and is always more noticeable in a previously unlit area but is compounded by poor external lighting design and lighting fixtures that allow the upward spread of light into the atmosphere.

5.50.22 Lighting is not easily screened by vegetation, and receptors' experience of the impact is more intense.

5.50.23 The impact is assessed to be medium and with the implementation of mitigation is reduced to low.

5.50.24 This impact can be managed to a limited degree and is *reversible*.

No-Go Alternative

5.51 In the case of the No-Go Alternative, the site will continue to be used as a commercial recreational and conference facility, and no visual impacts are anticipated.

5.52 The following are the proposed mitigation measures (which have been included in the conditions of the EA and the EMPr) in terms of potential visual impacts:

Design phase

5.52.1.1 Investigate the material and tree planting palettes used for the landscaping along Liesbeek Parkway to extend the green movement corridor along Liesbeek Parkway adjacent to the site.

5.52.1.2 Utilise (westerly) views towards Devils Peak in building orientation.

5.52.1.3 Retain visual links to the Black River by reducing visual clutter.

5.52.1.4 Use large trees and vegetated berms to reduce the scale of new buildings on site.

5.52.1.5 Express each building unit individually where buildings are linked together (with architectural details – insets, overhangs, range of visually compatible materials).

5.52.1.6 Design access roads to be as narrow as possible.

5.52.1.7 Pave access roads with attractive materials.

5.52.1.8 Arrange above-ground parking bays (if required) in small groups rather than in large, unbroken lots,

5.52.1.9 Screen parking bays with buildings and vegetation as far as possible.

5.52.1.10 Avoid the use of glass or material with a high reflectivity in building designs.

5.52.1.11 Incorporate visually permeable green or black fencing (if required) into low walls.

Construction phase

5.52.1.12 Limit and phase vegetation clearance and the footprint of construction activities to what is absolutely essential.

5.52.1.13 Consolidate the footprint of the construction camp(s) to a functional minimum. Screen the construction site camp with materials that blend into the surrounding area.

5.52.1.14 Clearly demarcate construction areas and dedicated access points to minimize disturbance to surrounding receptors.

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5.52.1.15 Avoid excavation, handling and transport of materials which may generate dust under high wind conditions.
5.52.1.16 Keep construction sites tidy and confine all activities, material and machinery to as small an area as possible.

Operations phase

5.52.1.17 Use vegetation to break up large expanses of hard surface.
5.52.1.18 Plant trees to reduce the perceived heights of buildings.
5.52.1.19 Avoid visual clutter: o Minimise commercial signage;
5.52.1.20 Fix signs to walls or buildings rather than be free-standing;
5.52.1.21 Utilise low signs as they are less visually intrusive; and
5.52.1.22 Situate utilities (pipelines, cables) underground.

5.52.2 The following cumulative impacts in terms of the visual and heritage impacts were also identified and assessed:

Cumulative Visual Impacts

5.52.3 The area has experienced an increase in high-density development (commercial and residential) in recent years, owing to the proximity of the site to the CBD and good connectivity to a number of highways and major roads. Recent developments include the Black River Park and the redevelopment of the M5 Business Park.
5.52.4 Although some densification is expected to occur locally (e.g. TRUP), which will continue to alter the visual landscape, the relatively limited availability of developable areas this close to the CBD will limit the intensity of the impact in the long term.
5.52.5 The severity of cumulative visual impact in the area is rated as moderate and is assessed to be of a restricted extent.
5.52.6 The cumulative impact is thus assessed to be of low significance.

Cumulative Heritage Impacts

5.52.7 The floodplain of the Liesbeek River is recognised to have heritage significance because of its agricultural history and history of conflict. The sense of place of the floodplain between Kirstenbosch and the confluence with the Black River has been almost entirely transformed by the iterative changes of land-use. Wetlands have been transformed to farmland, then to various institutional uses and to modern suburbia, and the site, although of no known specific significance, is one of the last remnants of the wide-open floodplain.
5.52.8 Similar to cumulative visual impacts, some development is expected to occur locally (e.g. TRUP), which will continue to alter the (already transformed) heritage landscape, but the relatively limited availability of developable areas in the Liesbeek River floodplain and immediately surrounding areas will limit the intensity of the cumulative impact in the long term.
5.52.9 The severity of cumulative heritage impact in the area is rated as moderate and is assessed to be of a restricted extent.
5.52.10 The cumulative impact is thus assessed to be of low significance.

5.53 The BAR was informed by the HIA which stated *inter alia* that:
5.53.1 The significances of the River Club site and its context argued in earlier preliminary studies (a phase one HIA by O'Donoghue, a review of that study by Baumann, and Attwell and Jacobs' baseline study of the wider TRUP area)

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were argued in relatively broad terms and, although several commentators on our earlier Draft HIA Prepared for Interested Party Consultation referred to O'Donoghue's phase one report seem to prefer those opinions, they emphasize two major differences with those opinions:

5.53.1.1 Previously no recognition has been given to the possibility of transforming the Liesbeek canal into a riverine corridor as a potentially functional ecological system and, therefore, no recognition has been given to the potential of recovered heritage significance (those views apparently preferring a "historical" course much altered through the 20th century and effectively defunct as a river course since 1952).

5.53.1.2 Previously heritage indicators and development limitations that are not directly heritage-related were articulated (echoing preliminary views articulated in the TRUP land-use study).

5.53.2 The difficulty in assigning heritage-related significance to the subject site and its context demands rather more clarity; and they hope to be more precise or, at least, explicit, even if their view is one that contradicts the view held by most commentators.

5.53.3 That said, relying on the description of the topography, the account of the historical making and layering of the site and its context above, they articulate the cultural significances of the site.

Conclusions regarding significances

5.53.4 The River Club site and its surrounds to be of very high environmental/ topographical/ecological and historical significance both as the floodplain of the Liesbeek River and as a part of the place of early confrontations between indigenous peoples and settlers. Indeed, this significance, taken as a single complex of significance and symbolic meaning, is of the highest order in the current sociopolitical climate.

5.53.5 These significances, however, while both visual and bound/tied to this land and because of both the nature of these significances and because of the scales/ distances involved, can be protected and even enhanced by celebrating the riverine corridor and floodplain. Indeed, the nature of these significances does, in our minds, suggest obvious and direct protective/managerial measures that should be imposed in order to promote what we regard as a restorative imperative aimed at reshaping and revitalising the Liesbeek riverine corridor. In other words, the wide-open flood plain does not have a meaningful sense of place, but the narrower riverine corridor is of considerable conservation value.

5.53.6 There is, however, one likely, even certain, future intervention on land within the Liesbeek River floodplain and immediately abutting the River Club site that will transform the perception of the floodplain, the sense of place, and the significances that they have described: to the immediate north of the site is a long-planned arterial road connecting the Malta Road-Liesbeek Parkway junction across the floodplain, over the Salt River-Black River-Liesbeek River confluence and to Berkley Road in Maitland: this roadway must be built at a level approximately 2m above the current levels but rising to the levels of the Malta Road railway bridge and the necessary bridge over the Salt River establishing, in effect, a 30m-wide causeway of varying height across the entire width of the floodplain. This roadway will be a very considerable imposition on the floodplain and will have a marked impact on its reading and its sense of place.

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5.53.7 It is also true that the SAAO owns a piece of land abutting the River Club property which has been considered for development: to the immediate south of the site is the abutting SAAO-owned Remainder Erf 26423 which is bounded by the River itself, the Station Road extension leading to the Observatory complex and Valkenberg Hospital, Liesbeek Parkway, and the River Club site: the SAAO has previously proposed a bulky 8 300 m² building (of several storeys) for the Square Kilometer Array ("SKA") on this site; but this process has been terminated and it now seems improbable that the SKA building will be built on the SAAO site. However, it is possible that the Erf 26423 will be developed in due course; and any building in this position would have an impact on the floodplain and on its reading and sense of place.

5.53.8 However, the arterial road intervention must be taken into account because it will affect the reading and significance of the floodplain, of the surrounds and, in particular, the River Club site. All interventions on heritage resources should respect and even enhance the significance of those heritage resources rather than ignore or diminish the significance: in other words, we focus on the effects on significance rather than on the resource/object itself.

5.53.9 Second, given this, they argue that what are often described as "heritage-related design indicators" should be carefully devised to assist and even ensure that designers understand the significances (in kind and degree) and how those significances should be protected or enhanced. Such design advice must serve to outline criteria for decision-making by the responsible authorities. We also hope that this step-by-step methodology has assisted in the process of designing the "preferred alternative" and will serve the same purpose in the final steps of scrutiny and decision-making by the authorities.

5.53.10 Further, given that the cultural significances of the River Club site and its context are of the highest order but are ephemeral and without clear or obvious form or of form giving specificity, they argue that the heritage-related design indicators (or criteria for decision-making in respect of any proposed intervention on the River Club site) must first enable a 'concretising' of the articulated cultural significance and may not necessarily influence the shape/form of the development. It is also contended that, in this kind of case, it is inappropriate to invent non-heritage-related specifics.

Conclusions in respect of Design Indictors-Criteria for Decision-Making

5.53.10.1 The preliminary studies referred to earlier listed several 'design indicators' intending to guide the development of the River Club site in rather more prescriptive detail including heights, scale, density, retention of trees, etc. They do not think that such prescriptions follow from the heritage-related cultural significances of the site (as articulated above); and we think that such direction should flow out of the urban design framework articulated by the urban designer.

5.53.10.2 Also, as noted earlier, the factors determining the position of the then Royal Observatory included sightlines to the roadstead in Table Bay, to the Castle and to Signal Hill. The views to the sea and Castle are no longer extant; but there are potential views from the Observatory to Signal Hill and the gun emplacement.

5.53.10.3 However, these glimpses are only from the lower banks of the land spur which are not frequently accessed. Given this, we contend that it is unnecessary to attempt to preserve a view over the River Club site.

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5.53.10.4 They note also that, the view from the Observatory to Signal Hill apart, the criteria for approval/design indicators articulated here echo the "heritage-related design informants" for this site argued by Attwell/Jacobs in their 2016 baseline study of the TRUP.

5.53.10.5 They also reiterate an argument made earlier that many, even most commentators seem to recognise the necessity for some form of development to proceed; and we hope that those commentators will accept the design criteria articulated here as enabling and as heritage-protecting. On the other hand, they recognise that many commentators think that this site should be limited to the current uses and built-form and not be developed: while there are circumstances where development is or will be damaging to the significance of a place, we think that this development does provide an opportunity for the revitalisation or recovery of a heritage lost and hidden.

5.53.10.6 In conclusion, they regard these four design indicators to be sufficient, not only to ensure that the development of the River Club site does not damage any significant heritage resource, but to ensure that the very high significance of this place and of the Liesbeek River more generally is not just protected but enhanced.

5.53.10.7 In their view, heritage resource management should, whenever it can, be directed to enrich the making of our cities, recognising the significances of the places and, where applicable and possible, the necessity of shaping the place to articulate and make tangible lost or hidden cultural significance, in particular in those cases where the recognition of past iniquities can lead to symbolic restitution and healing. They argue that this is possible in this instance.

5.53.11 During the public participation process conducted as part of the HIA, several commentators have complained that this application and process conflicts with the now lengthy planning and consultative processes (since 1998) intended to lead to a vision for the Two Rivers Urban Park.

5.53.12 In their view, the Preferred Riverine Corridor Alternative with its focus on the restoration of the Liesbeek River does, for the first time since 1998, enable a positive and realistic step towards the realisation of several of the goals of the TRUP, in particular, the goals outlined in the ten-point TRU-Park Manifesto included in the 2017 TRUP co-designing workshop resource sketchbook. The recovery and restoration of the Liesbeek proposed on the River Club site does, for the first time, suggest that several of the TRUP goals could be achieved.

5.53.13 The River Club site is a relatively small, if important, site within the overall TRUP area. TRUP is approximately 300 ha in extent, whereas the River Club site measures 14.8 ha, or 5 % of the TRUP. The proposed development will not be compliant with all of the objectives of the TRUP initiative. However, it is believed that the development will add significant value to TRUP in that significant pieces of land will be more publicly accessible, including recreation spaces associated with the rehabilitated riverine edges and the approximately 70m x 220m 'eco-corridor', which in turn will connect into the wider TRUP; a portion of land is proposed as a place of remembrance/ celebration, where heritage on this land can be recognised and memorialised; and the site is the western gateway into TRUP and the development will assist to establish TRUP as a place of metropolitan significance.

5.53.14 The 'baseline studies' of Nisa Mammon and Melanie Attwell both deal with the TRUP as a whole but do also give commentary on the River Club site as a

component of the TRUP. The heritage practioners acknowledge and refer to these studies.

5.53.15 The Two Rivers Urban Park Association and its members ("TRUPA") refer to the TRUP as a "declared Park": however, they understand that there is no special declaration of TRUP in terms of any national, provincial or municipal legislation as a park or nature reserve. The term refers to a general area of land defined for the purpose of various planning studies. There was a Two Rivers Urban Park Contextual Framework and Phase 1 Environmental Management Plan prepared by the City of Cape Town in 2003. This was not formally approved in terms of planning law; but could be regarded as a form of local policy plan. There was subsequently an initiative by the Western Cape Provincial Government and the City of Cape Town to formulate a new plan, and many documents were produced, but none were officially released or approved.

5.53.16 The boundaries of TRUP have changed over time to include and exclude certain parcels of land; and it includes land with several different zonings, including Open Space 2, Community 1, Community 2, Transport 2, Residential and Industry (depending on which TRUP boundary is used). The Raapenberg Wetland and Bird Sanctuary has a proclaimed status as a Municipal Nature Reserve.

5.53.17 The City Council and Western Cape Government ("WCG"), both of whom own various properties within TRUP, have entered into a Memorandum of Cooperation to work together on the TRUP project, which is envisaged as a mixed-use, transit-oriented development within a connected landscape for sustainable living, together with areas for leisure, conservation and environmental management. An environmental, heritage and planning process was initiated by WCG and the City of Cape Town, which investigated opportunities, constraints and development options. The aim of the current TRUP process is to update the 2003 contextual framework and formulate a Local Spatial Development Framework in terms of section 12 of the MPB-L.

5.53.18 The land-use planning application referred to earlier notes that the current development proposal for the River Club would constitute a deviation from policy currently associated with the site, and motivation for this deviation is contained in that report. It is noted in the rezoning report that a TRUP Local Spatial Development Framework process is being run in tandem by the Western Cape Government and City of Cape Town and will result in new development initiatives and planning guidelines for the TRUP area. They understand that the LSDF will no longer make use of the term "urban park" due to public misunderstanding about this term.

5.54 When HWC stated in their comments that it *"is of the view that the assessment of significance is inadequate"*, the Supplement to the HIA disputed this for the following reasons:

5.54.1 Given that the authors discuss significance at great length in several lengthy sections, **Significances**, pp79-84, **8. Heritage-Significance Related Design Indicators – Criteria for Decision-Making**, pp85-106, and **10. Assessment of Impacts on Heritage**, pp109-117, totaling approximately 35 pages in the HIA, it is difficult to accept that the assessment of significance is *"inadequate"*: HWC can, of course, disagree with our articulations and conclusions regarding the significances, but in this instance it is difficult to understand how this could be described as *"inadequate"*;

5.54.2 It is clear that the writers of the HWC interim comment have not recognized (or they disagree with) the range of scales which they have taken into account in describing the range of significances of the site, the immediate

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environs, the wider environs, and of the whole length of the Liesbeek River as a heritage resource and/or resources;

5.54.3 It is clear too that HWC often elides the wider site (including both rivers and their floodplains) with the site in question;

5.54.4 It seems that HWC has not recognized (or they disagree with) the essential underpinning logic or argument of the HIA regarding or assigning relatively low current significances and/or value of the lower reaches of the Liesbeek floodplain (and of the site in particular) and the two river courses (stormwater ditch and canalized river) as place and/or as a (tangible) heritage resource despite the high historical significance of the immediate and wider environs;

5.54.5 In this last respect, the heritage practitioners note that it seems that HWC has an incomplete grasp of the relationship between "significance" and "authenticity" arguing that *"(t)he concept of significance is broadly underpinned by authenticity". This is a curious formulation of the relationships between the two concepts: indeed, their argument is precisely that significance has two 'dimensions', a dimension of quality or type30 and a dimension of quantity or extent, whereas authenticity (in respect of places like the case at hand) has a number of dimensions (or attributes) including form, substance, function, location/setting, traditions and practices; and, importantly, they argue that in the case of the River Club site significance and authenticity are considerably affected by its "integrity", a "measure of the wholeness and intactness of the natural and cultural heritage and its attributes".*

5.54.6 Briefly, the first part of the heritage practioners' argument is that the historical significance of the site is high but that the ecological, topographical, visual significances are (currently) low from a heritage perspective as a consequence of the loss of authenticity (location apart) and of a reduced integrity. The second part of the heritage practioners' argument has it that the recovered integrity of the Liesbeek River course as an ecologically functioning riverine-corridor is also (or would be) a recovery of several attributes of authenticity and, therefore, a recovery/restoration of several attributes of significance.

5.54.7 This has been argued at great length in the HIA; and, indeed, it seems that all parties are agreed that the River Club site is a part of a much larger highly significant cultural landscape. It is clear, however, that all parties do not agree about the implications of related questions about the authenticity and/or integrity of the (actual/ physical) place and its components and surrounds as it is today.

5.54.8 In this regard, the heritage practioners included an aerial photograph of 1934 which shows the following:

- 5.54.8.1 The Black River is canalised (presumably concrete-sided and floored) to a point more or less in line with an extension of Station Road;
- 5.54.8.2 The Liesbeek River-bed is a simple narrow and straight ditch or artificially created canal;
- 5.54.8.3 All of the land to the immediate west of the Liesbeek has already been filled and is being used for sporting activities;
- 5.54.8.4 All of the River Club site if filled is in part an island or promontory projecting into the water-filled wetland to the north and east 'protected by drainage canals;
- 5.54.8.5 The wetlands to the north and east have the marks of a drag-line excavator that has taken soil from the estuary to create the reclaimed land of the River Club site; and

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5.54.8.6 The only as yet (relatively) 'natural area' is the SAR&H land to the north which is be gradually reclaimed and encroached on by the railway sheds.

5.54.9 Given this, the heritage practioners argue that the pre-1952 river-course, which is claimed by some commentators (apparently concurred with by HWC) to be the "authentic" river course, is not authentic and has little integrity as such.

5.54.10 It is also pointed out that the lower reaches of rivers, especially where flowing very slowly through very flat floodplains, are inclined to change their course periodically through sudden flooding, thus establishing a series of 'authentic' river-beds over time. In other words, it is apparent that an 'authentic' course of the Liesbeek is uncertain, even labile and liable to displacement or change; and, given this, they argue that the current canalised bed of the Liesbeek is a legitimate and feasible course for the recovered riverine corridor, the ecological-, visual-, cultural-, amenity significance of which can be enhanced without damaging its historical or locational significance and authenticity.

5.54.11 The heritage practioners hesitate to complicate an already complex argument about significances but, given the range of opinions, this is unavoidable; and it is the range of opinions regarding what has been variously referred to as "landscape character" that they touch on in order to illustrate the differences of perception (and opinion):

5.54.11.1 Attwell and Jacobs have argued that there are nine distinct 'character-areas' in the TR-area as shown in their map, Landscape Character Areas.

5.54.11.2 However, their 'character-areas' do not identify the two rivers and their courses/ corridors/floodplains as 'character areas' implying a view of the rivers as dividers between 'character areas' rather than as the generators of character (which is how they see them).

5.54.11.3 Postlethwayt takes view similar to that of Attwell and Jacobs.

5.54.11.4 The authors of the LSDF, however, take a rather different view, recognising the two rivers as central 'character makers' of two of their eight separate precincts; and their diagram of "heritage related constraints and opportunities for redevelopment, repurposing, restoring, re-imagining" emphasises the rivers as the primary 'heritage informants'. This is much closer to their own view and, they argue, this is how most people see the area (indeed, the area has been known as the "Two Rivers urban park" or area for decades).

5.54.11.5 This is pointed out to emphasise the different experiences of the landscape and the consequences of these different experiences and the consequential heteroglossia of views, perceptions and assessments of the topography itself and its characters and of the significance(s) of the characters of the component parts.

5.55 The Visual Impact Assessment conducted by Mr. Scott Mason of SRK Consulting stated *inter alia* the following:

Findings and Recommendations

5.55.1 The VIA describes and interprets the visual context or affected environment in which the project is located: this provides a visual baseline or template and aims to ascertain the aesthetic uniqueness of the project area. To better understand the magnitude or intensity of visual and sense of place impacts,

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the capacity of the project area and receptors to accommodate, attenuate and absorb impacts was analysed in considerable detail. To assess impact significance, the River Club development was "introduced" into the baseline, taking account of the attenuating capacity of the project area.

5.55.2 The following findings are pertinent:

5.55.2.1 The Applicant is proposing to redevelop the River Club property for commercial, residential and institutional use.

5.55.2.2 The basis for the visual character of the area is provided by the topography, vegetation and land use of the area giving rise to a predominantly urban environment of mixed land use surrounding a large, isolated open space with low intensity activities, influenced by the rivers traversing the space and vehicular and rail routes delineating and confining the site.

5.55.2.3 The visual quality of the overall area is largely ascribable to the built-up urban environment with an island of green open space.

5.55.2.4 The rivers provide interest in the landscape thereby enhancing the visual quality. Views of Devils Peak and the Observatory complex contribute to the visual quality of the area.

5.55.2.5 The sense of place of the study area is strongly influenced by the rivers, and an "island" of open space in a highly developed and evolving urban environment of mixed land use. The dramatic views of Devils Peak and the dominant east-facing ridgeline also add to the sense of place of the study area, while surrounding industrial areas and transport corridors detract.

5.55.2.6 The visual exposure analysis indicates that buildings adjacent to the site will provide very effective visual screening of the development.

5.55.2.7 The VAC is increased by the built fabric of the surrounding areas particularly the PRASA rail yard to the north, the commercial buildings of Black River Park to the west, and the industrial buildings and M5 Park (on a raised platform) to the east, as well as local variations in topography.

5.55.2.8 Receptors include users travelling past the site on Liesbeek Parkway and the M5, residents of surrounding suburbs, employees of adjacent business parks and visitors to the Observatory complex, the Raapenberg Sanctuary and passive users of the open space.

5.55.2.9 Visibility of the development will be very high to receptors in the foreground, but visibility will reduce substantially in the middle ground and background because of screening provided by urban fabric.

5.55.2.10 Landscape integrity refers to the compatibility of the development with the existing landscape or cityscape. The proposed development is consistent with the existing land use of the surrounding area (commercial, industrial, institutional) although the scale and size of the development will be considerably larger than neighbouring developments.

5.55.2.11 During construction, loss of sense of place is expected, especially in the foreground i.e. closer to Liesbeek Parkway and the M5, since construction and the change in the state of the site (scarring, construction equipment, construction traffic and dust generation) is incongruent with the current nature of the site viz. green open space and use of the site viz. recreation.

5.55.2.12 During operations, Loss of sense of place is expected since the development and the change in the state of the site is mostly

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incongruent with the current nature of the site viz. green open space and use of the site viz. recreation.

5.55.2.13 New built structures will be visually intrusive and, in some cases, obtrude receptors' views of visual resources from surrounding vantage points. The visual impact may be lessened by the congruency of the proposed development with the surrounding land uses, mainly the commercial and industrial activities towards the north of the site rather than the more informal layout of the buildings to the south of the site.

5.55.2.14 Lighting will be extensively used to illuminate the proposed development which may drastically alter night-time sense of place.

Conclusion

5.55.3 Although the significance rating for both layout alternatives is the same, Alternative 1 is marginally preferred from a visual impact and sense of place perspective as greener (and landscaped) open space is accessible. During parts of the year, the original (western) channel of the Liesbeek River can be visually unappealing (when water levels are low the channel can appear polluted).

5.55.4 For Alternative 1, the shift of Precinct 1 towards the western channel unlocks more open space along the eastern channel, which has the potential to become a visual amenity to the public if rehabilitated correctly. The ecological corridor for Alternative 1 is marginally wider than for Alternative 2, thereby increasing the green visual corridor across the site. Though tools are available to more scientifically and dispassionately assess visual and sense of place impacts, VIAs require a large degree of professional, subjective judgment. This is more difficult for a project such as the River Club development, which is located in the midst of a wholly transformed urban environment on land very well located for development, but which has remained undeveloped and conferred a natural sense of place to surrounding (urban) receptors. In many respects, the visual impact is pronounced, but not inconsistent with a cityscape. However, the sense of place impact is more significant and difficult to mitigate. Receptor perceptions are also important: for some, retention of the open space might be critical to retaining the sense of place; for others, urban development, especially if celebrated by iconic structures, may be valued. The development could both alter sense of place and, at the same time, deliver a functional development with interesting structures with their own visual appeal.

Evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development

5.56 The balancing of environmental impacts in light of sustainable development is the heart of the EIA process. The NEMA principles state that *"[t]he social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment."* As such, a Basic Assessment process which culminated into the Final BAR which detailed various environmental impacts which included both positive and negative environmental impacts was undertaken by an independent EAP and informed by studies of also independent specialists.

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5.57 When the Interested and Affected Parties ("I&APs") were afforded opportunities to comment on the social, economic and environmental impacts of activities, the following responses were provided by the EAP:

5.57.1 The history of the broader area is comprehensively described in Section 4 of the HIA, and includes a history of:

5.57.1.1 Khoekhoe groups occupation and use of the area for grazing.

5.57.1.2 The importance of the rivers to the history of the area.

5.57.1.3 Conflict between Khoekhoe groups and Europeans settlers.

5.57.1.4 The defensive line established by the Dutch.

5.57.1.5 The agricultural use of the Liesbeek River catchment by the Dutch.

5.57.1.6 Residential, commercial, and industrial encroachment on the agricultural and riverine floodplain and landscape.

5.57.2 Remaining heritage resources in the broader landscape are also documented (see Section 6 of the HIA).

5.57.3 The HIA confirms that the cultural significance of the area is derived from *"the history of and concentration of historic elements in this landscape as well as the symbolic values of the Black and Liesbeek Rivers"*.

5.57.4 Although HWC's assessment of *"National or Provincial"* significance of the *"TRUP"* is noted, it should be borne in mind that this is a planning boundary, and with the exception of the river courses (which themselves are much changed), much of the history that derives the cultural significance of the site extends over a far broader area. In this regard, on 15 October 2019, the Draft Two Rivers Local Spatial Development Framework ("LSDF") was released for public comment. This report included a Phase 1 HIA and a "TRUP First Nations Report" (AFMAS Solutions, 2019). Following the TRUP First Nations Report, AFMAS Solutions were appointed to build on the "TRUP First Nations Report" (AFMAS Solutions, 2019) to:

5.57.4.1 Understand the significance of the River Club site to the First Nations by identifying indigenous intangible cultural heritage specific to the River Club.

5.57.4.2 Locate the River Club site within the indigenous narrative of the broader TRUP cultural landscape.

5.57.4.3 Identify First Nation aspirations with regard to Indigenous cultural heritage and the River Club site.

5.57.4.4 Make recommendations for the implementation of the key recommendation of the TRUP First Nations report, specifically: *"Acknowledge, embrace, protect and celebrate the indigenous narrative in design and planning"*.

5.57.5 Key findings of these studies, as they relate to the River Club, are as follows:

5.57.5.1 Given that the entire TRUP project area was part of the historic indigenous landscape, each of the precincts that make up TRUP has a measure of indigenous cultural heritage.

5.57.5.2 The River Club site is a small part of a much larger TRUP cultural landscape that extends to approximately 300 hectares.

5.57.5.3 The extent to which the site bears testimony to its indigenous cultural heritage, is determined by the amount of indigenous cultural capital assigned to the site.

5.57.5.4 First Nation informants concurred that the Two Rivers local area was the dominion of the Gorinhaiqua.

5.57.5.5 No cross-cutting, narrative-defining event for any of the strands of the indigenous narrative; be it, the dominion of the Gorinhaiqua, Battle of Gorinhaiqua, Colonial-settler 'grilagem', or resistance to 'grilagem', can be attributed specifically to the River Club site.

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5.57.5.6 No tangible or intangible reference has been made to the Gorinhaiqua having settled specifically on the River Club site.

5.57.5.7 No specific act of resistance, battle or encounter, whether tangibly manifested or intangibly articulated, have been attributed specifically to the River Club site.

5.57.5.8 Although mostly a wetland and therefore of low functional use value, the River Club site was most likely part of an early precolonial landscape from which the Indigene was displaced and/or precluded from having access to.

5.57.5.9 The site is not a burial ground.

5.57.5.10 The site was not used as a pre-colonial river crossing.

5.57.5.11 The Liesbeek River is an important heritage resource in the broader landscape, and its rehabilitation / naturalisation is supported by the First Nations Collective / would be a cultural benefit.

5.57.5.12 The First Nations narrative should be acknowledged, embraced and celebrated in design and planning for the River Club.

5.57.5.13 The heritage specialists on the project team therefore attest that the heritage resources identified in the HIA for the River Club site do include the broader area and are mirrored / confirmed by the First Nations historical account / narrative.

5.57.6 After reporting the history of the broader area, the HIA:

5.57.6.1 Confirms that "the area in which the River Club is situated is historically important for the role it played in the distant past"; and

5.57.6.2 Places the site "within the core of this early contested landscape" (see Section 4.5 of the HIA) and within an "associative cultural landscape" with definable/known historical associations of great socio-political import.

5.57.7 In addition, on 15 October 2019, the Draft Two Rivers Local Spatial Development Framework (LSDF) was released for public comment. This report included a Phase 1 HIA and a "TRUP First Nations Report" (AFMAS Solutions, 2019). Following TRUP First Nations Report, AFMAS Solutions were appointed to build on the "TRUP First Nations Report" (AFMAS Solutions, 2019) to:

5.57.7.1 Understand the significance of the River Club site to the First Nations by identifying indigenous intangible cultural heritage specific to the River Club.

5.57.7.2 Locate the River Club site within the indigenous narrative of the broader TRUP cultural landscape;

5.57.7.3 Identify First Nation aspirations with regard to Indigenous cultural heritage and the River Club site.

5.57.7.4 Make recommendations for the implementation of the key recommendation of the TRUP First Nations report, specifically: *"Acknowledge, embrace, protect and celebrate the indigenous narrative in design and planning"*.

5.57.8 Following these studies, the heritage specialists remain of the opinion that the Two River local area is comprised of a variety of precincts of very different topographies, histories of use, of development-type, each with its own qualities and a variety of potential heritage significances. In this context, the HIA finds that, apart from the Liesbeek River, the site itself has little obvious heritage significance, noting that:

5.57.8.1 The site is entirely an infill site; and certainly, reclaimed from wetlands before 1934 and iteratively reshaped since then.

5.57.8.2 The valley (or floodplain) in which the site is located, although an important component of the Liesbeek River as a landscape, has been transformed by urban development of various sorts.

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5.57.8.3 The site is relatively small, comprising only 5% of the Two River local area.

5.57.8.4 No tangible heritage relics or resources occur on the site.

5.57.8.5 No historic events are attributed the have occurred at the site.

5.57.9 The HIA found, however, that the Liesbeek River is a tangible heritage resource that remains in this transformed landscape, is a potentially strong symbol of past events, reflects the history and significance of the area, is a common thread and the significant heritage resource **that links the River Club, the Two River local area and the broader environs more generally**, and is worthy of heritage protection. The HIA recommends the restoration and memorialisation of the river course and confluence.

5.57.10 The HIA acknowledges stakeholders' views on the significance of the landscape as a heritage resource but argues that but this significance is associative and has no clear or defined place or locus, or even any physical characteristics other than being rooted here in this general location on the floodplain of the Liesbeek River, and that the heritage of the area cannot be destroyed. Rather, and in this context, the HIA suggests that the development of the River Club site is an opportunity for the articulation or making public, even celebration, of the significance of the place and of its historical associations. This opinion is shared by the First Nations Collective.

5.57.11 No tangible elements of the history of the broader area remain at the site, and the site is either entirely or almost entirely an infill site, it is therefore unlikely that the site could yield information about heritage.

5.57.12 Nevertheless, chance-find procedures would be implemented should construction proceed.

5.57.13 The HIA acknowledges that stakeholders value the 'openness' in the sense of place of the floodplain, as well as the views from within and across the floodplain, but noting that no cross-cutting, narrative defining event, battle or encounter is attributed to have taken place at the site, and that no intangible reference to such an event having taken place at the site is made, the authors of the HIA argue that while the development may lead to a significant visual impact, is of relatively low heritage significance: "whether the site is developed or otherwise, it will always have a history which not manifested on the ground and cannot be destroyed by physical changes".

5.57.14 The site is located in a significantly transformed floodplain between even more radically transformed land, is degraded and will be further affected by the future development of the Berkley Road extension. Nevertheless, the HIA acknowledges the role that the 'openness' of the site plays in determining the current sense of place, as well as the importance of views from within and across the floodplain, but argues that while this may be a significant visual impact, is of relatively low heritage significance: "whether the site is developed or otherwise, it will always have a history which not manifested on the ground and cannot be destroyed by physical changes".

5.57.15 The HIA suggests that the development of the River Club site is an opportunity for the articulation or making public, even celebration, of the significance of the place and of its historical associations (i.e. its intangible heritage).

5.57.16 Regarding the visual impact on sense of place, it is acknowledged that although ~65% of the site will be retained as open space, due to its location at the confluence of the Liesbeek River and Black River, and long-term status of the site as a green open space, the change in character may be experienced as a strong visual contrast for surrounding (urban) receptors, and the (negative) impact of a change in sense of place will be significant.

5.57.17 It is assumed that people derive a positive sense of place from the site, and it is acknowledged that although ~65% of the site will be retained as open

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space, due to its location at the confluence of the Liesbeek River and Black River, and long-term status of the site as a green open space, the change in character may be experienced as a strong visual contrast for surrounding (urban) receptors, and the (negative) impact of a change in sense of place will be significant. It is also significant that almost all commentators, including the First Nations collective, accept that the River Club site could, even should, be developed: and any form of development will transform the sense of place referred to.

5.57.18 Most academic studies attribute sense of place to the history, values, perceptions and preferences of the observer. The VIA for the development reports the relationship to place on the following basis:
- 5.57.18.1 Biographical (historical and familial).
- 5.57.18.2 Spiritual (emotional, intangible).
- 5.57.18.3 Ideological (moral and ethical).
- 5.57.18.4 Cognitive (based on choice and desirability).
- 5.57.18.5 Narrative.
- 5.57.18.6 Dependent.

5.57.19 Although a change is sense of place is anticipated and has been assessed as a negative impact of the project, the opinion that the development will destroy the sense of place of the broader area is rejected on the following grounds:
- 5.57.19.1 Whether the site is developed or otherwise, it will always have a history which not manifested on the ground and cannot be destroyed by physical changes.
- 5.57.19.2 The development will include high quality open spaces (approximately 65% of the site), and views through the site have been retained where possible.
- 5.57.19.3 There are very extensive open space areas in the immediate vicinity, comprising active open spaces such as sports fields and passive open spaces including parks and environmental areas.
- 5.57.19.4 Within the greater the Two Rivers local area there remain very large areas in public ownership which cannot be developed and (along with open spaces that have been included in the development proposal) will continue to form part of the public open space system.
- 5.57.19.5 The proposal is to restore and celebrate the history of the Liesbeek River and site, and to celebrate the history of the First Nations people (enhancing the narrative sense of place to these people and the broader public).
- 5.57.19.6 The very sense of place referred to is degraded and the development proposed enables the restoration of the sense of place referred to, even if significantly interrupted.

5.57.20 Although an ecological benefit from the development is anticipated (i.e. habitat quality and connectivity in this "fragmented natural system" would be enhanced), impacts on the sense of place, and historical character of the site have been assessed in the HIA and found to be significant.

5.57.21 Notwithstanding the site's current role in the open space system and anticipated change in character as assessed, it does not necessarily mean to say that development of the site should be precluded. In this regard.

5.57.22 And relating to open space specifically, it should further be noted that:
- 5.57.22.1 The heritage specialists argue that while the development may lead to significant visual impacts, transformation of the site's character is of relatively low heritage significance.
- 5.57.22.2 The development will be publicly accessible, approximately 65% of the site would be retained as open space if developed as proposed,

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and ~25% of the site would made available for recreational activities in open space areas - the open space provided is considered sufficient for a development of this nature.

5.57.22.3 The development would allow the public to enjoy open space vistas associated with the Raapenberg Bird Sanctuary more meaningfully.

5.57.22.4 The wider open space system of which the site forms part contains campus style development (e.g. Observatory and Valkenberg). These institutions illustrate that development can be accommodated within the Two Rivers local area, provided that pockets of green space and ecological connectivity are retained (as per the development proposal).

5.57.22.5 There are very extensive open space areas in the immediate vicinity, comprising active open spaces such as sports fields and passive open spaces including parks and environmental areas.

5.57.22.6 Within the greater the Two Rivers local area there remain very large areas in public ownership which cannot be developed and (along with open spaces that have been included in the development proposal) will continue to form part of the public open space system.

5.57.22.7 Considerable social (as well as heritage and ecological) benefits are anticipated from extending the public movement corridor along the "new" Liesbeek River corridor should the Riverine Corridor Alternative be selected for development.

5.57.22.8 Considerable heritage benefits are anticipated by memorialising the history of the First Nations people at the site.

5.57.23 While a difference in opinion between First Nations groupings is noted, the historical record for the broader area presented in the HIA is generally not contested, and aligns with the heritage significance of the area reported by the First Nations Collective (Section1(I) of River Club First Nations Report):

5.57.23.1 First Nations people resided (most unlikely on the site) in or grazed their herds in the area prior to European colonialization; and

5.57.23.2 That the broader area is a site of contestation, dispossession and resistance.

5.57.24 Based on interviews, it is evident that the First Nations collective concur with the authors of the HIA that the entire two rivers area was part of the historic indigenous landscape, and that each of the precincts that make up the two rivers area have a measure of inherent indigenous cultural heritage, but that the heritage significance of each precinct that makes up the TR area is not universal, but is determined by the tangible and intangible cultural elements which are precinct specific, or cut across two or more precincts. In this regard, engagement with the First Nations Collective has confirmed that "no cross-cutting, narrative-defining event for any of the strands of the indigenous narrative... can be attributed specifically to the River Club site" (Section 2(D) of River Club First Nations Report and see response to item 46), but that the Liesbeek River is an important heritage element in the broader landscape (see Section 2(G) of River Club First Nations Report).

5.57.25 The assertion that there is a disconnect between First Nations' understanding of heritage resources (and significance) is therefore rejected by the specialist team.

5.57.26 After reporting the history of the broader area, the HIA:

5.57.26.1 Confirms that "the area in which the River Club is situated is historically important for the role it played in the distant past"; and

5.57.26.2 Places the site "within the core of this early contested landscape" (see Section 4.5 of the HIA) and within an "associative cultural

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landscape" with definable/known historical associations of great socio-political import.

5.57.27 Nevertheless, it is the opinion of the heritage practitioners who compiled the HIA (and others) that the Two River local area is comprised of a variety of precincts of very different topographies, histories of use, of development-type, each with its own qualities and a variety of potential heritage significances. In this context, the HIA finds that, apart from the Liesbeek River, **the site itself has little obvious tangible heritage significance**, noting that:

5.57.27.1 The site is either entirely or mostly an infill site reclaimed from wetlands.

5.57.27.2 Much of the history that derives the cultural significance of the Two Rivers local area extends over a far broader spatial scale.

5.57.27.3 The valley (or floodplain) in which the site is located, although an important component of the Liesbeek River as a landscape, has been transformed by urban development upstream and downstream of the site.

5.57.27.4 No tangible heritage relics or resources occur on the site.

5.57.27.5 No historic events are attributed the have occurred at the site.

5.57.28 Therefore, while the HIA acknowledges the role that the 'openness' of the site plays in determining the current sense of place, as well as the importance of views from within and across the floodplain (which are comprehensively assessed in the VIA), it argues that this openness and these views are of low heritage significance: "whether the site is developed or otherwise, it will always have a history which does not manifest on the ground and cannot be destroyed by physical changes". This view is supported by the First Nations Collective: "no cross-cutting, narrative-defining event for any of the strands of the indigenous narrative... can be attributed specifically to the River Club site" (Section 2(D) of River Club First Nations Report).

5.57.29 It is on this basis that the heritage practitioners defend their assessment (and mapping) of heritage significance of the site and immediately adjacent areas (also refer to Sections 4 and 5 of the HIA Supplementary Report).

5.57.30 There are no tangible elements of the history of the site which remain, and therefore all heritage significance attributed to the site (with the exception of the Liesbeek River) derives from its intangible history.

5.57.31 The assessment and mapping of heritage significance of the site is provided under Sections 4 and 5 of the HIA Supplementary Report.

5.57.32 The high historic and symbolic significance of the broader area is not contested, what is contested is the "heritage capital" that can and should be attributed to the River Club site itself. In this context the HIA finds that, apart from the Liesbeek River, **the site itself has little obvious heritage significance**, noting that:

5.57.32.1 The site is either entirely or mostly an infill site;

5.57.32.2 Much of the history that derives the cultural significance of the Two Rivers local area extends over a far broader spatial scale;

5.57.32.3 The valley (or floodplain) in which the site is located, although an important component of the Liesbeek River as a landscape, has been transformed by urban development upstream and downstream of the site;

5.57.32.4 No tangible heritage relics or resources occur on the site.

5.57.32.5 No historic events are attributed the have occurred at the site.

5.57.33 Therefore, while the HIA acknowledges the role that the 'openness' of the site plays in determining the current sense of place, as well as the importance of views from within and across the floodplain (which are comprehensively

assessed in the VIA), it argues that this openness and these views are of low (but not of "no") heritage significance.

5.57.34 The heritage practitioners argue that the development of the site will not destroy its history – to the contrary, they see the development as an opportunity to celebrate it.

5.57.35 Engagement with the First Nations Collective has confirmed that "no cross-cutting, narrative-defining event for any of the strands of the indigenous narrative... can be attributed specifically to the River Club site" (Section 2(D) of River Club First Nations Report), but that the Liesbeek River is an important heritage element in the broader landscape (see Section 2(G) of River Club First Nations Report).

5.57.36 The proponent seeks to develop a mixed use, "live, work and play" facility at the site, and this development must be financially viable for the proponent to proceed. Nevertheless, the development proposal has been formulated in collaboration with a multi-disciplinary team that has responded to independent environmental and specialist input. In this context there have been more than 250 iterations to the development proposal / layout, and the assertion that the HIA post rationalises a pre-conceived development concept is therefore rejected.

5.57.37 Development responses have included:

5.57.37.1 Reducing the heights of building directly opposite the SAAO and locating taller buildings to the north of the site - the visual effect will be that buildings opposite the SAAO will appear as 3 - 4 storey buildings.

5.57.37.2 Setting back from the SAAO as far as practically possible.

5.57.37.3 Splitting the development into two precincts to retain a faunal movement corridor and views through the site.

5.57.37.4 Rehabilitating the Liesbeek Canal and infilling the unlined, western course of the Liesbeek River (in line with detailed specialist design input, with associated ecological and cultural benefits).

5.57.37.5 Providing a cultural centre and memorialising the history of the First Nations People in the design of the development.

5.57.37.6 Realigning the link road between Precinct 1 and Precinct 2 to an orthogonal geometry instead of a diagonal geometry to create a better "fit" in terms of urban design and a better functioning central ecological corridor and park.

5.57.37.7 Realigning of other internal roads (to improve views from the through the site).

5.57.37.8 The argument about "posrationalsing" is irrelevant (see Section 8 of the HIA Supplement).

5.57.38 There is a difference in opinion as to how this heritage manifests, and should be memorialised at a precinct level, or even more local scale. The heritage practitioners have presented a well-researched and motivated opinion on the heritage significance of the site which is confirmed by the First Nations Collective, and the specialists argue that sense of place concerns of certain stakeholders, while being valid, are mostly visual in nature. It is acknowledged that this opinion is contested, the specialists reject that the assessment of significance has been tailored for any reason.

5.58 The Supplement Report to the HIA, dated 4 December 2019, which was conducted Mr Timothy JG Hart and Dr Stephen Townsend as required by HWC stated *inter alia* that:

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Introduction

5.58.1 This document is a *Supplement* to the *Heritage Impact Assessment* dated 2 July 2019 which was submitted to Heritage Western Cape in July, discussed by HWC's Impact Assessment Committee on 22 August 2019, and commented on in the written *Interim Comment* from HWC dated 13 September 2019.

5.58.2 By way of introduction they note that, while explicitly under NEMA (and, therefore, section 38(8)), a NID was submitted by Bridget O'Donoghue on behalf of Liesbeek Leisure Properties Trust to HWC in December 2015; and HWC responded in January 2016 confirming that an HIA "that satisfies the provisions of section 38(3) of the NHRA" was necessary and that it should include "an archaeological study and highlighting the urban design framework of the proposed development".

5.58.3 In due course, O'Donoghue submitted a Phase I HIA to HWC with an attached peer review by Dr Nicolas Baumann in February 2017.

5.58.4 However, given that a *Phase I HIA* by Melanie Attwell and Graham Jacobs and a draft *Situational Analysis Report* by Nisa Mammon dealing with the wider TRUP area (henceforth, "the Two Rivers area" or "TR-area") were being considered at the same time, the O'Donoghue *Phase I HIA* was withdrawn before being considered by HWC.

5.58.5 After this interruption, in September 2017, they, Townsend and Hart, took over the responsibility of compiling the HIA.

5.58.6 Subsequently, their presume prompted by these submissions in the first half of the year, in November 2017 HWC announced its intention to provisionally protect the entire Two Rivers area and invited comment. However, later, in March 2018 HWC provisionally protected the River Club site only under section 29 of the Act. This led to a separate appeal process (to the MEC who appointed a Tribunal to address this) which has been finalized in April 2020.

5.58.7 Also, in October 2018 and referring to the River Club provisional protection as "background", HWC sought an external service provider to conduct a "heritage assessment" of the wider TRUP area. They note that these terms of reference made no reference to the interest of First Nations or to the TRUP-area as the site of a "National Khoisan Legacy Project"; and it is noted also that HWC was unable to find and appropriate "external service provider"; we note also that although it is now more than two years since HWC announced its intention to provisionally protect the entire TRUP-area, it has not yet begun any investigation or any negotiation/consultation which could lead to the alleviation of any threat, real or imagined.

5.58.8 Initially, the provisional protection by HWC interrupted the process of researching and drafting the HIA (and seeking comment from IAPs); but, in July 2019, the HIA was ultimately submitted to HWC, the IA Comm considered the matter at a meeting on 22 August 2019 and commented in an Interim Comment dated 13 September 2019.

5.58.9 In this *Supplement* to the *Heritage Impact Assessment of 2 July 2019* they deal with these two issues in sufficient detail (we hope and trust) for HWC to articulate a "final comment" in respect of the development proposed; they also deal with a variety of other issues which HWC has contested and which might otherwise be argued to be unresolved (or incompletely or inadequately dealt with); and, finally, they give up-to date details of the development proposal3 as refined in response to commentary made in the NEMA, NHRA and MPB-L processes including, of course, responses to the input and effects of two reports by Rudewaan Arendse (of AFMAS Solutions) dealing with the views of several First Nations groupings, first, in respect of the wider Two Rivers area (eight groupings) and, second, in respect of the River Club site (five groupings).

Engagement with First Nations Groupings:

5.58.10 HWC says in the *Interim Comment* that *"(i)t is clear to HWC, however, that there has been a lack of, or avoidance, of a meaningful consultation with the First Nation groups"*.

5.58.11 In this regard, they note the following:

5.58.11.1 HWC did not make any reference to the First Nations in its response to the NID in early 2016 or to the Phase I HIA compiled by Bridget O'Donoghue and submitted to HWC in March 2017 which did not make reference to any such engagement;

5.58.11.2 HWC's own attempts in late 2018 to find an "external service provider" to assess the wider TR area makes no reference to the First Nations or the necessity of their interests in either the wider Two Rivers area or to the isolated River Club site and nor could they find an appropriate external service provider;

5.58.11.3 The HIA does, however, describe the history of the site and the wider environs and its historical importance;

5.58.11.4 The HIA also details the numerous attempts to engage with representatives of and/or with First Nations groupings;

5.58.11.5 The HIA does also allude to the extensive endeavours of the owners over the past several years to meet First Nations groupings and HWC was aware of the support for the development of the site from the Gorinhaiqua Cultural Council received just before the IA Comm meeting; and

5.58.11.6 While the HIA does not include an account of the endeavours made to find an expert on intangible heritage to assist in this regard, these efforts included conversations with numerous potentially appropriate parties over much of the period between the first comment made by the Goringhaicona Traditional Council in late 2018 on the provisional protection of the River Club and the completion of the HIA in July 2019.

5.58.12 Given these endeavours and given the iterative processes described in section **5. Consultation and Commentary of Interested Parties** of the *HIA* and given that HWC recognises that the "formal notice and commenting procedure" has been "complied with", HWC's accusation that engagement with First Nations groupings was "avoided" is denied.

5.58.13 The heritage specialists refer to two recently completed reports by Rudewaan Arendse of AFMAS Solutions: the first is the TRUP First Nations Report dated 25 September 2019 which was prepared for incorporation into the draft land-use planning local area spatial development framework being prepared by the City Council and the Western Cape Provincial Government; and the second is the River Club First Nation Report dated November 2019 which was commissioned by Liesbeek Leisure Properties Trust specifically to add to the efforts made to date and given Arendse's success in interacting with several First Nations groupings in the process of the preparation of the land-use planning local area spatial development framework just referred to contribute to this Supplement.

5.58.14 The first of Arendse's reports referred to, TRUP First Nations Report, is more generally framed and addresses what has been raised by eight First Nations groupings in connection with the wider Two Rivers-area and, indeed, an even wider area including the entire length of the Liesbeek and its confluence with the Black River and the Salt River all the way to the sea. The heritage specialists note the following:

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5.58.14.1 That the landscape referred to as "indigenous" and made numinous by the first Nations' understandings is much wider than the Two Rivers area (to say nothing of the River Club site):
"the indigenous landscape is not circumscribed by precinct boundaries - considered by indigenous custodians as value-laden lines that designate formal political and economic divisions between outsider-designated and imposed territorial units, which are viewed by First Nations as zones of contestation between the establishment and the subaltern.

For the purposes of this report, the boundary of the indigenous landscape is

defined as a line instantiated by the indigenous collective memory of the footprints of the ancestors."

5.58.14.2 That the First Nations seek recognition of their history or "narrative" and its importance through an "indigenizing" of the TR-area and its "transformation to a commemorative landscape": *"It's the collective aspiration and contention of the First Nations, that this remaining - fragmented - landscape, be authenticated as an indigenous commemorative landscape with distributed spaces of engagement and indigenous place-making, spanning different precincts (whist acknowledging the co-existence of other, non-indigenous layers of heritage).*
Indigenizing the TRUP landscape and transformation to a commemorative landscape, can be achieved by using land, space and physicality, to give form, structure and functional expression, to the intangible cultural heritage of the Khoi and San. This materialized indigenous landscape would then be

activated and enlivened through negotiated and enshrined indigenous cultural practices and heritage activities."

5.58.14.3 That these aspirations can be implemented by structuring the narrative into the United Nations Educational, Scientific and Cultural Organization ("UNESCO") intangible heritage 'domains' which can then be made tangible through "embodying" the narrative in the landscape and through "enshrining" access to this landscape:
"This task involves embodying of the intangible/s in each of the ICH domains;

which is achieved through using land, space and physicality to give it form, structure and functional expression."

"Embodied intangibles allow for the landscape to be activated and enlivened

(culturally cultivated) through indigenous cultural practices and heritage activities."

"Enshrining indigenous people's physical access to a TRUP landscape, as field of materialized intangible cultural heritage, facilitates ensoulment and reconstituting of indigenous identity through the First Nations reconnecting their identity with place-based indigenous spirituality and the ancestral domain."

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5.58.14.4 This report, Arendse's first report, also introduces a number of precedents which he uses to imply or suggest some mechanisms or strategies for specializing the "indigenous narrative" and embodying the indigenous narrative within the landscape. These strategies are given more 'substance' in Arendse's second report which deals specifically with the River Club site as a part or precinct within the TR-area and within the wider locality frequented and occupied by the pre-colonial indigenous people and within which the historical events of the early years of colonial settlement took place.

5.58.15 While parts of the indigenous narrative presented by Arendse in both reports, repeating the words of the leaders and representatives of the First Nations groupings, read as autochthonous, even 'popular', histories and are perhaps relatively free interpretations of documented events, it would serve no purpose to argue the details of these interpretations here. Indeed, it is their hope that the River Club development will provide a meaningful locus/place for and of the realisation of the First Peoples' greatest desire, a proper and formal recognition and articulation of ***their*** narrative(s).

5.58.16 Arendse's second report, the *River Club First Nation Report*, sets out to:

5.58.16.1 Understand the significance of the River Club site to the First Nations by identifying indigenous intangible cultural heritage specific to the River Club;

5.58.16.2 Locate the River Club site within the indigenous narrative of the broader TR cultural landscape;

5.58.16.3 Identify First Nation aspirations with regard to indigenous cultural heritage and the River Club site; and

5.58.16.4 Implement the recommendation of the TR report that "*acknowledging, embracing, protecting and celebrating the indigenous narrative be a heritage related design informant that informs*" precinct and site planning and development of the River Club property.

5.58.17 The heritage specialists noted that they stand by their articulation of the history of the site and environs described in section 4. The History of the Place, page 34-49, and that articulated by Attwell and Jacobs in their *Phase 1 HIA* for the TR-area and their supplementary study on the history of the D'Almeida event,

5.58.18 The heritage practitioners therefore record that the views which have been articulated and developed in engagements between the First Nations collective and the Applicant, have been agreed to and have been explored in some detail in revisions to the development proposal. In essence, this comprises "indigenizing" the site through the following place-making mechanisms:

5.58.18.1 Establishing an Indigenous Garden for medicinal plants used by the First Nations;

5.58.18.2 Establishing a Cultural, Heritage and Media centre at the location of the Heritage information hub;

5.58.18.3 Establishing a Heritage-Eco trail that goes around the site;

5.58.18.4 An Amphitheater for use and cultural performances by both the First Nations and the general public.

5.58.18.5 Commemorating the history of the First Nations in the area, by:

5.58.18.5.1 Establishing a Gateway Feature inspired by symbols central to the First Nations narrative at the road crossing the eco-corridor;

5.58.18.5.2 Incorporating symbols central to the First Nations narrative in detailed design of buildings (e.g. pillars / supports, facades, building names, etc.); and

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5.58.18.5.3 Naming internal roads inspired by people or symbols central to the First Nations narrative."

5.58.19 The implementation of these mechanisms is to be assured through the following institutional arrangement which has been agreed to in principle by the Applicant: "The First Nations Collective led by the Gorinhaiqua Cultural Council, in discharging its traditional duty of custody over not only the River Club site, but all of the precincts of the Two Rivers area; and in exercising its internationally recognized right of Indigenous cultural agency, is in the process of establishing a legal entity that will be responsible for the post-establishment governance, planning, management, operations, maintenance and sustainability of the aforementioned indigenous place making mechanisms.

5.58.20 This entity will be a fully autonomous indigenous entity, whose Indigenous access and negotiated rights as, articulated above as the elements of the First Nations Imperative, will be enshrined in a formal agreement between the envisaged First Nations legal entity led by the Gorinhaiqua Cultural Council, and the Community Property Association of the development."

5.58.21 They note in concluding this section that several First Nations groupings and the First Nations Collective led by the Gorinhaiqua Cultural Council explicitly and clearly support the development proposal: for example, a five-page letter from the Gorinhaiqua Cultural Council signed by Chief !Garu Zenzile Khoisan articulates its support clearly and cites the concurrence of several other leaders of different groupings; another letter from the Goragouqua signed by Kaibi'a Hennie van Wyk articulates their position; and Chief !Garu Zenzile Khoisan has responded publicly in the media to articles attacking the application and proposal explaining the reasons for the support of "the majority of senior indigenous leaders and their councils in the Peninsula" unambiguously.

5.58.22 While it is apparent that there are some First Nations groupings who do not share this view, this First Nations Collective is authoritative; and Arendse's report is persuasive in its method, its argument and in its conclusions. The heritage practitioners express the hope and trust that Arendse's report and the incorporation of its conclusions/recommendations in the revised development proposal will satisfy HWC at least insofar as there has been "meaningful engagement" with First Nations groupings. Indeed, they think that the interactions have been more than "meaningful".

Land-Use Planning in the Two Rivers Area:

5.58.23 In its *Interim Comment* HWC argues ambiguously that (a) there is no reason for the property owners of the River Club not to compile and submit an HIA in respect of a development proposal for the River Club site and (b), notwithstanding the absence of clear land-use planning frameworks for the area, that it, HWC, has iteratively (at various times during the steps outlined above) contended that development of the River Club site should necessarily not be planned or assessed "in isolation from" the wider TR-area.

5.58.24 The HIA does deal with this issue and it describes the extant land-use planning frameworks under two headings: **5.2.3. Spatial Development Frameworks** and **5.2.5. Planning for the Two Rivers Urban Park.**

5.58.25 However, given the recent release by the City Council ("the City") of a draft local area spatial development framework (LSDF) in terms of the MPB-L, they re-state the land-use planning mechanisms pertinent in an assessment of the development proposed at the River Club site now including this new local area SDF. While outlining the most important (from a heritage management point of view) components of their assessment here, they refer the reader to

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Planning Partners' recent submission to the City in respect of the land-use planning applications.

5.58.26 First, the *Two Rivers Urban Park Contextual Framework and Phase 1 Environmental Management Plan* compiled by the City's Environmental Management Branch in 2003, while 'adopted' by the Council itself in August 2003, is not legally binding. Indeed, the City's Legal Services has explained that while the report was, at least in part, prepared to fulfill the Provincial Administration's requirement for a management plan in proclaiming the bird sanctuary inside the TRUP, it was not adopted as a structure plan in terms of LUPO and does not have formal status as such and that, in the absence of formal structure-plan status, it must be regarded as a guideline only.

5.58.27 Second, the 2012 formally adopted Municipal Spatial Development Framework (MSDF), the land-use mechanism for the guiding and managing of urban growth and the balancing of competing demands, designates most of the River Club site as "Urban Development" and it makes no reference to the 2003 Two Rivers Urban Park Contextual Framework and Phase 1 Environmental Management Plan.

5.58.28 In 2018 the MSDF was revised and updated; and the River Club site was designated as part of the "Urban Inner Core" where the City is committed to targeting investment and development.

5.58.29 Third, the Table Bay District Plan , prepared in 2012 as part of more detailed planning associated with the 2012 MSDF, designates the River Club site as "open space". This designation was based on information known at the time before the more detailed hydrological studies associated with the River Club had been undertaken and it was assumed that the site had limited development potential due to flood risk. Also, this TBDP contains anomalies including the designation of the neighbouring PRASA site, with its rail yards and sheds, as a green open space, questioning this plan's accuracy and relevance; and, finally, with the promulgation of the 2018 MSDF, the relevance of the 2012 *Table Bay District Plan* was further diminished as the "Consistency Principle" set out in the Technical Supplement of the MSDF requires lower order (district or local area) spatial plans and policies to be consistent with higher order (municipal) spatial plans and policies. Given that the MSDF identifies the River Club site as "Urban Inner Core", the lower order Table Bay District Plan, which is inconsistent with the higher order MSDF, cannot be invoked to inhibit development at this site.

5.58.30 Fourth, subsequent to the completion of the HIA (and of the Interim Comment) the City has recently released the draft Two Rivers Local Spatial Development Framework ("Draft LSDF") for public comment. It is intended that this will have the status of an LSDF under Section 12 of the MPB-L; and it deals with the land previously known as the Two Rivers Urban Park ("TRUP"), now to be known as the "Two Rivers area" that extends from the PRASA land in the north to the N2 freeway in the south and from the sports fields lining the Liesbeek Parkway in the west to the industrial area of Ndabeni and parts of Pinelands in the east.

5.58.31 Importantly, this Draft LSDF changes the vision of and for the area: while "(t)he previous vision... promoted a New York style Urban Park, or 'doughnut' with a green/park core and high rise buildings on the edges" this new Draft LSDF argues that "this somewhat utopian vision does not deal with the reality on the ground or with the current mandate and current National imperatives in SPLUMA".In the revised vision, the Draft LSDF identifies the area as "a significant area of underutilized, state owned and private land, strategically placed within the Urban Inner Core of the City" with opportunities to promote public transport and urban integration and to unlock development potential where, "(a) the same time, the ecological role of the river corridors, the

importance as a regional amenity and significance placed on the cultural and built heritage must be enhanced".

5.58.32 The findings and conclusions of the Draft Two Rivers LSDF are represented in two diagrams: Although this Draft LSDF is a draft, it nevertheless reflects the current views and land-use planning intentions of the two authorities. We note too that this Draft Two Rivers Local Spatial Development Framework includes the explicit and detailed contributions and input of Cindy Postlethwayt's Draft Phase I Heritage Impact Assessment for the Site 'Two Rivers' dated September 201924 and Rudewaan Arendse's TRUP First Nations Report dated 25 September 2019;and we note that the more detailed and focused conclusions and recommendations regarding the "implementation of the indigenous imperative" of Arendse's River Club First Nation Report dated November 2019 outlined in section 2 above are perfectly consistent with this draft LSDF.

5.58.33 With respect to the River Club site, the following provisions in the *Draft Two Rivers LSDF* are significant:

5.58.33.1 The Berkley Road extension is identified both as a new mobility route and as an activity corridor;

5.58.33.2 The continuity of the Liesbeek River is promoted along the eastern side of the site with the canal transformed into an eco-corridor;

5.58.33.3 The pre-1952 river course between Liesbeek Parkway and the western side of the site is identified as public open space with a green-space-related pedestrian route;

5.58.33.4 A significant open space corridor is provided across the River Club site running east - west between the newly restored Liesbeek River and the old pre-1952 course; and

5.58.33.5 The remainder of the River Club site is identified for mixed use intensification in two precincts on either side of this east - west open space corridor.

5.58.34 Given this, it seems that the proposal analyzed in the HIA is generally in accordance with these recent land-use planning developments, that is, the preparation of and public circulation of these three land-use planning and heritage studies; and they trust that HWC will now accept that the River Club site and its development is not being planned or assessed "in isolation from" the wider TR area. Indeed, it appears to us that the River Club proposal and these various land-use planning and heritage planning endeavours are consistent with and 'in synch' with each other.

5.58.35 While they have dealt with this issue comprehensively both in the HIA and in this Supplement, they argue that this is not a statutorily required component of HIAs; and HWC's implied claims that the HIA is *inadequate* in this respect are mistaken.

5.59 Considering the above, it is considered that this ground of appeal has been adequately addressed.

Results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources

5.60 The application for the proposed redevelopment of the River Club for mixed use development and associated infrastructure on the remainder of Erf 15326 and Erven 26169 – 26175, 26426 – 26427, 108936 and 151832, Observatory and the TRUP matter are completely separate processes. The EA under appeal relates to the proposed redevelopment of the River Club and is not concerned with the TRUP relating to the investigation of the protection of the TRUP as a heritage resource. It is noted from the

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ruling of the Heritage Appeal Tribunal dated, 14 April 2020 that parties, including the First Nations, are to be consulted meaningfully but this is a completely separate process which is under the jurisdiction of HWC in terms of the NHRA. However, the Supplementary to the HIA Report dealt with the engagement of the First Nations under ***"Appeal ground 5: Evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development",*** although this is separate process from the EA under appeal. The issues with regards to the TRUP matter cannot be resolved under this EA appeal process.

5.61 The public participation process conducted for this EA application, detailed in the reasons for the decision, is deemed satisfactory to meet the requirements of the applicable legislation.

5.62 The suggestion that this EA process should await the outcome of the consultation process required in terms of the TRUP matter is noted. However, the NEMA and 2014 EIA Regulations do not empower the Competent Authority to suspend the EA process pending the outcome of the engagement regarding the TRUP matter.

5.63 Considering the above, this ground of appeal has been adequately addressed.

Plans for mitigation of any adverse effects during and after the completion of the proposed development

5.64 It is not concurred that the Applicant's specialist HIA reports do not adequately address the impacts of the development. Two HIA reports have been submitted to inform the Final BAR which resulted in the granting of the EA.

5.65 The HIA reports have adequately responded and/or addressed the concerns of HWC as required in terms of the empowering legislation.

5.66 Considering the above, this ground of appeal has been adequately addressed.

Conclusion

5.67 The declaration of the River Club site to be of at least Provincial heritage significance or National heritage significance is beyond the scope of this EIA process.

5.68 It is not concurred that the floodplain is undeveloped when the following, amongst other developments, have taken place on the site:

- 5.68.1 The River Club itself has its origins in the 1920s when part of the old Salt River estuary was reclaimed for the construction of shunting yards and railway sheds.
- 5.68.2 The main buildings which exist today were completed in 1939 after the playing fields had been in place for a few years.
- 5.68.3 In 1993, the property was leased to various tenants who let it fall into disrepair.
- 5.68.4 The entity known as the River Club was established in 1993 on the basis of a long-term (75 years) development lease and has since become a popular local venue with a restaurant, conference facilities, bar, golf driving range, and a 'mashie' golf course (which was developed in 2002).

5.69 Considering the history of development or disturbance on the site, the Heritage Appeal Tribunal dated, 14 April 2020, acknowledged that:

"28. In the absence of evidence of tangible heritage resources in the context of these appeal proceedings, the focus shifted to the intangible heritage resources, and more specifically: -

28.1 The multifaceted exercise of identifying cultural heritage resources; how these resources have been protected internationally; and

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28.2 Recent developments in the acknowledgement and conservation of South African heritage in terms of the indigenous cultural practices and structures."

5.70 The applicant has made provision in the proposed development to commemorate the intangible heritage of the River Club site within the context of the greater TRUP area.

5.71 In order to avoid duplication and allow for coordination in terms of the requirements in terms of the NEMA and the NHRA, section 38(8) of the NHRA states that if the development activities listed in section 38(1) must be subjected to EIA in terms of the NEMA, then a separate HIA and approval from the heritage resources authority are not required, provided that the environmental authority must:

5.71.1 Ensure that if the relevant heritage resources require a HIA it fulfils the requirements of the heritage resources authority.

5.71.2 Any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the environmental authority's consent.

5.72 As such, if a NEMA EIA is required for the development activities listed in terms of section 38 of the NHRA, then separate HIA and EIA processes may not be followed and separate decisions may not be issued in terms of the NHRA and the NEMA. An EIA process is followed and if the heritage resources requires an HIA, then the HIA must be undertaken as one of the EIA specialist studies, but the environmental authority must ensure that the heritage resources authority's requirements in terms of the assessment are met. A separate heritage approval may also not be issued, but the environmental authority must take into account the comments and recommendations of the heritage resources authority prior to granting or refusing the EA.

5.73 The DEA&DP's Directorate: Development Management (Region 1) stated that:

5.73.1 The heritage specialists' written response (dated 31 March 2020) was included in the Final BAR submitted to the Competent Authority on 8 June 2020.

5.73.2 The heritage specialists' written response (dated 31 March 2020) did not result in significant changes made to the BAR, where the need for additional public participation was not warranted. The requirements of Regulation 41 of the NEMA EIA Regulations, 2014 (as amended) were therefore met.

5.74 Based on the information contained in the Final BAR, the meeting that was agreed to between the DEA&DP and HWC did not take place before the granting of the EA although:

5.74.1 On 2 July 2019, a HIA was conducted by Mr. Timothy JG Hart and Dr. Stephen Townsend to identify, assess and communicate the impacts of the proposed development on the heritage resources on the site and its environs.

5.74.2 On 13 September 2019, HWC provided interim comments objecting to the proposed development on the site due *inter alia* to the following comments:

5.74.2.1 The River Club forms part of the wider Two Rivers Urban Park ("TRUP") and represents a microcosm of Cape history.

5.74.2.2 The HIA has been well researched but the actual mapping of identified heritage resources is illogical and flawed and is relegated to two diagrams in section 10.8 of the HIA report which is titled "Conclusions regarding impacts on significance".

5.74.2.3 The assessment of the significance of the heritage resources in terms of the heritage assessment criteria set in out in section 6(2) or prescribed under section 7 of the NHRA is inadequate.

5.74.2.4 The HIA Report downplays that the irreversible impacts of transforming a green lung at the heart of the TRUP into a mega project.

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5.74.2.5 While there may be economic benefits to developing the site, there has been no acknowledgement of the impact of the development balanced against a site which has been recognised previously by HWC as being of provincial or national significance.

5.74.2.6 There has been a lack of, or avoidance of a meaningful consultation with the First Nations Groups.

5.74.2.7 There is no meaningful consideration of alternatives although heritage resources will be adversely affected by the proposed development.

5.74.3 On 4 December 2019, HWC was provided with a Supplementary Report to the HIA which was undertaken *inter alia* to mainly respond to the concerns/ address the comments of HWC as detailed in their interim comments dated 13 September 2020. This Supplementary Report to the HIA provided information in terms of the following requirements of section 38 of the NHRA:

5.74.3.1 The identification and mapping of all heritage resources in the area affected.

5.74.3.2 An assessment of the significance of resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7 of the NHRA.

5.74.3.3 An assessment of the impact of the development on heritage resources.

5.74.3.4 An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development.

5.74.3.5 The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources.

5.74.3.6 If heritage resources will be adversely affected by the proposed development, the consideration of alternatives.

5.74.3.7 Plans for mitigation of any adverse effects during and after the completion of the proposed development.

5.74.4 On 13 February 2020, HWC provided written final comments still objecting to the proposed development on the site.

5.74.5 In their Appeal lodged against the EA, HWC continues to object to the proposed development despite the HIA and the Supplementary Report to the HIA conducted to address their concerns.

5.74.6 On 25 November 2020, the Appeal Authority, as part of the Appeal process, requested HWC to supply the information/HIA requirements to supplement the current HIA that will enable HWC to consider that the HIA fulfils the requirements of the HWC and the NHRA.

5.74.7 On 11 December 2020, HWC responded as follows:

"2. HWC is of the opinion that all the information was supplied in the comments prepared by our Impact Assessment Committee which were appended to the Appeal and is appended again for ease of reference.

3. Your attention is drawn to paragraph 43 onward thereof, in which the committee detailed with specific reference to the provisions of S38(3) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA") the information required in order to comply with said section.

4. HWC is concerned that, should certain of these requirements be highlighted, it would result in the impression being created that these are the only issues which must be addressed. It is re-iterated that all the issues stand to be addressed."

5.75 On 26 January 2021, the Appeal Authority wrote a further letter to HWC stating *inter alia* the following:

"1. I refer to your comments dated 11 December 2020 (your reference: HM/CAPE METROPOLITAN/OBSERVATORY/ERF 15326 & ERVEN 26169 – 26175, 26426 – 26427, 108936 AND 151832).

2. I note your comments stating inter alia that:

"2. HWC [Heritage Western Cape] is of the opinion that all the information was supplied in the comments prepared by our Impact Assessment Committee which were appended to the Appeal and is appended again for ease of reference.

3. Your attention is drawn to paragraph 43 onward thereof, in which the committee detailed with specific reference to the provisions of S38(3) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA") the information required in order to comply with said section.

4. HWC is concerned that, should certain of these requirements be highlighted, it would result in the impression being created that these are the only issues which must be addressed. It is re-iterated that all the issues stand to be addressed."

3. I have reviewed your comments dated 13 February 2020 and 11 December 2020 as well as the information provided in the Supplementary Report to the HIA Report dated 4 December 2019, as well as the Applicant's Responding Statement dated 12 October 2020. I am of the view that the issues you raised in your response dated 11 December 2020, have been addressed in the Applicant's Supplementary Report to the HIA Report, as well as the Responding Statement.

4. Should you wish to clarify and provide additional information on the HIA requirements to supplement the current HIA and Supplementary Report, please submit this to the Ministry of Local Government, Environmental Affairs and Development Planning ...) on 10 February 2021.

5. Should you not provide me with an indication of such information, I will then surmise that the Supplementary Report to the HIA Report does satisfy the NHRA and HWC requirements and that all issues raised by yourself have been adequately addressed."

5.76 On 3 February 2021, HWC responded that

"Your letter dated 26 January 2021 in the above refers.

Heritage Western Cape (HWC) cannot agree with your contentions as stated in paragraph 3 thereof. It is re-iterated that HWC is of the strong opinion that Supplementary Report to the HIA report dated 4 December 2019 and the Responding statement dated 12 October 2020 merely re-state the initial opinions expressed in the original HIA and do not in fact address the issues that HWC raised in its Final Comment.

We can accordingly not also agree with the sentiments expressed in paragraph 5 thereof."

5.77 As required by the 2014 EIA Regulations, SRK Consulting was appointed as an independent EAP to conduct the basic assessment process and various independent specialists were also appointed to conduct specialist studies which informed the basic assessment process which informed the granting of the EA. Independence is defined

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in the 2014 EIA Regulations that, *in relation to an EAP, a specialist or the person responsible for the preparation of an environmental audit report, means—*
(a) that such EAP, specialist or person has no business, financial, personal or other interest in the activity or application in respect of which that EAP, specialist or person is appointed in terms of these Regulations; or

(b) that there are no circumstances that may compromise the objectivity of that EAP, specialist or person in performing such work; excluding—

(i) normal remuneration for a specialist permanently employed by the EAP; or

(ii) fair remuneration for work performed in connection with that activity, application or environmental audit;"

5.78 I concurred with the Responding Statements that:

5.78.1 The Appellant's statement that "the decision-maker was biased in the decision and that the decision-maker had decided long before the BA was finalised to get the proposal approved" is refuted based on the lack of evidence provided. The Competent Authority based his decision on the information contained in the BAR (dated 06 April 2020).

5.78.2 The DEA&DP did not pre-empt the decision to grant an EA in its comments on the draft reports that were available for comment.

5.78.3 The Applicant, EAP and all the specialists who conducted a specialist study for this EIA process have signed and dated the declaration to confirm that the information provided in the BAR (dated 6 April 2020) is true and correct.

5.78.4 The EA takes cognizance of the fact that HWC indicated (in their correspondence dated 13 February 2020) that the requirements of Section 38(3) of the NHRA have not been met.

5.78.5 The Basic Assessment process is based on the findings of research undertaken by independent specialists, and not the "interpretations and assertions" of the developer.

5.78.6 Specialist independence is assured by the fact that EAPs and specialists must confirm that they do not have any material present or contingent interest in the outcome of the environmental assessment process, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence.

5.78.7 Appellants have not demonstrated any conflict of interest of any members of the basic assessment process project team and specialists.

5.79 Considering the above, HWC was adamant that the information provided was not sufficient. However, the Applicant's heritage specialist was of the opinion that the information was more than sufficient. After repeated requests form the Appeal Authority to HWC by the Appeal Authority to clarify what was still required in terms of the HIA, no answer was forthcoming except that their original comment remained the same. I have to however, make a decision on this matter. I thus took into consideration all the different facets of the development as it also has an impact on the environment. The conclusion I came to was that the holistic overall need and desirability of the development supports the granting of the Appeal Environmental Authorisation.

Meeting between DEA&DP and HWC

5.80 A workshop was scheduled on 4 March 2020 by DEA&DP in the offices of HWC at which it had been agreed that HWC's senior officials and the members of IACom, officials of DTPW and DEA&DP, and the Applicant's HIA team would attend, in order to develop any further clarity that might be required regarding HWC's IACom

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arguments that the HIA and its supplementary documentation did not adequately comply with the requirements of section 38(3) of the NHRA.

5.81 The updated *Issues and Responses Report* and 6-page summary was provided to the IACom one week prior to the date of the proposed workshop.

5.82 The IACom's members did not attend this workshop despite the apparent agreement of the Committee's Chairman.

5.83 As a consequence, although attended by HWC, DTPW and DEA&DP officials, the outcomes of the workshop were inconclusive resulting in the HWC CEO inviting one of the heritage practitioners and the EAP to meet the following week, first with the HWC officials, and then with the IACom at its regular monthly meeting (which was scheduled for 11 March 2020).

5.84 The IACom again refused to meet the specialist and EAP when called upon to do so nor did they provide any explanation as to why they did not want to meet.

5.85 The Applicant submits that HWC's refusal to meet or engage further regarding the Section 38(3) information requirements, demonstrates that the IACom's final comment is not rational, most importantly in their finding that the HIA and supporting documentation do not meet the information requirements of Section 38(3) of the NHRA – as to any objective observer, it must be clear that the information requirements are demonstrably met.

Appeal ground 5: Hydrological impacts

5.86 The flooding of adjacent properties was identified as one of the main potential impacts of the proposed development. It was also one of the major issues raised during the stakeholder engagement processes during the Basic Assessment process. It was acknowledged that the site and surrounding area is prone to regular flooding. As such, the hydrologist on the project team conducted a detailed modelling of floodwater conditions in the local area. The study, which informed the Final BAR, established that the most achievable mitigation measure to prevent flooding of the site is to raise the ground surface at the River Club to an elevation slightly above the 100-year flood elevation. Therefore, this measure will have limited detrimental effects on neighbouring properties (following specific mitigation), which is a key criterion for determining whether or not the raising of the site is a viable proposal.

5.87 The Final BAR states *inter alia* that:

5.87.1 Twelve key monitoring points were selected to represent areas where any impacts of the proposed developments would be realised / be of concern. These monitoring points were used to assess the potential effects on surface water hydrology of raising the site under the following scenarios (for various flood return intervals):

5.87.1.1 Status quo (no development);

5.87.1.2 Status quo with widened Salt River Canal;

5.87.1.3 Status quo with sea level rise;

5.87.1.4 Status quo with PRASA overland route closed;

5.87.1.5 Status quo with PRASA overland route closed and bridges obstructed;

5.87.1.6 Post-development (River Club only);

5.87.1.7 Post development with TRUP and the PRASA upgrades implemented;

5.87.1.8 Post-development with TRUP and the PRASA upgrades implemented with widened Salt River Canal;

5.87.1.9 Post-development with TRUP and the PRASA upgrades implemented with the PRASA overland escape route blocked;

5.87.1.10 Post-development with TRUP and the PRASA upgrades implemented with the PRASA overland escape route blocked and bridges obstructed; and

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5.87.1.11 Post development with TRUP and the PRASA upgrades implemented with sea level rise.

5.88 The study reached the following conclusions that are pertinent to the development of the River Club (assuming TRUP and the PRASA upgrades have been implemented):

5.88.1 The runoff from the site will have no impact on the flood levels as peak runoff from the site will occur between one and three hours before the peak flowing the adjacent rivers (Liesbeek and Black Rivers). Therefore, runoff has an insignificant impact on the flows in the adjacent rivers.

5.88.2 Flooding currently occurs (i.e. regardless of the redevelopment of the River Club) in the adjacent urban area for storms more frequent than 1:5 to 1:10-year return interval flood events from local overland flows only (that occur when the local stormwater runoff exceeds the capacity of the stormwater system).

5.88.3 The development of the River Club (as well as the TRUP and the PRASA upgrades) may increase the extent of inundation from overland flow at the:

5.88.3.1 SAAO;

5.88.3.2 Valkenberg wetland; and

5.88.3.3 Malta Sports Fields (including at two residential properties, Number 1 and Number 3 Ossian Road) to a limited extent.

5.88.4 Regarding the SAAO:

5.88.4.1 Buildings at the SAAO would not be flooded during a 1-year return interval flood event;

5.88.4.2 Some buildings at the SAAO lie within the 1:5-year flood plain, and are therefore expected to flood periodically;

5.88.4.3 During a 1:2-year return interval flood event, water elevations would increase by less than 5cm. Land surrounding buildings at the SAAO would be flooded, including a building on the south-west of the property that is not currently flooded by an event of this frequency;

5.88.4.4 During a 1:5-year return interval flood event, three buildings at the south-west west of the SAAO are flooded under current conditions. However, floodwater elevations would increase by approximately 12cm following development in the catchment; and

5.88.4.5 For the 1:0.5-year and 1:1-year return interval flood events, the combined effect of the development, the TRUP and the PRASA upgrades on increased flood elevations will be small throughout the catchment.

5.88.5 The greatest increases in water levels will be in the immediate vicinity of the River Club at monitoring Points 5 to 12 – with the maximum expected increase in water level of up to 13cm for all 1:5 year to 1:100-year return interval floods - noting modelling uncertainties. Aurecon conclude that this increase is relatively small;

5.88.6 For the 1:50 to 1:100-year return interval floods, flood levels (elevations) will increase at properties that will be affected by flooding to some extent whether the additional developments take place or not;

5.88.7 The increase of flood levels will lead to a limited increase in the extent of inundation for flood events between the 1:50 and 1:100-year return intervals at the following locations only:

5.88.7.1 The PRASA site; and

5.88.7.2 Near the Observatory Swimming Pool south of the site.

5.88.8 The increase in the extent of flooding at the PRASA site (which is expected to occur less than once every 50 years) is unlikely to compromise any infrastructure that is not already affected by flooding, other than railway lines;

5.88.9 The increase in flood levels at the Observatory Swimming Pool would not be significantly different to the existing flooding regime;

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5.88.10 Volumetric flow would increase from increased discharge volume from the Liesbeek Canal at the following locations only:
- 5.88.10.1 Peak flow and total flow will increase at the western bank of the Salt River by 7% and 4% respectively; and
- 5.88.10.2 Peak flow will increase at the western bank of the Black River at the site by 24%;

5.88.11 The increase in flow volume at the western bank of the Salt River will take place a few minutes earlier than the current situation, and will have little effect on the extent of inundation (and is therefore considered to be insignificant by Aurecon);

5.88.12 The anticipated increase in peak flow at the Black River at the site is from stormwater currently directed over the site from the Liesbeek River, down the original course of the Liesbeek which will be directed into the rehabilitated Liesbeek Canal after the site is infilled. The increase in flow is significant, will take place over a few hours, and will increase flood levels locally along the (rehabilitated) Liesbeek Canal;

5.88.13 Closing of an existing overland floodwater escape route over the PRASA site will have an insignificant effect on the extent of inundation during a storm event, unless downstream bridges were obstructed (in which case closing the escape route over PRASA will increase inundation);

5.88.14 The extent of flooding is not significantly affected by tidal influence (assuming a 1:10 year storm surge with a 1:100-year flood event);

5.88.15 The sea level rise will lead to flooding in the lower parts of the catchment during (major) storm events regardless of whether the development went ahead or not; and

5.88.16 The widening of the Salt River Canal and removing the hydraulic constraints posed by the bridges will reduce the maximum water surface level by between 10cm and 80cm but will have a little impact on the extent of inundation, except at the Malta Sports Fields and at the PRASA site.

5.89 Two potential direct operational phase impacts related to flooding were identified:

Change in flood hazard at surrounding properties

<u>The Riverine Corridor Alternative and the Island Concept Alternative</u>

5.89.1 The City of Cape Town's 'Floodplain and River Corridor Management Policy' (CSRM, 2009) considers the hazard that flooding may pose to life and property. The hazard posed by floodwaters is determined by the ability of the public to wade or gain vehicular access, and the stability of structures such as dwellings or boundary walls. If these are likely to be seriously compromised, the area is considered to be in the "High Hazard Zone" (and floods pose a risk to people and structures here). An area is considered to be located within the High Hazard Zone if water depth exceeds 0.8 m and water velocity exceeds 2 m/s.

5.89.2 Development at the River Club will increase flood depths and / or velocity at the following locations:
- 5.89.2.1 The PRASA site;
- 5.89.2.2 SAAO;
- 5.89.2.3 Valkenberg Wetland;
- 5.89.2.4 Malta Sports Fields / Hartleyvale Sports Complex;
- 5.89.2.5 Near the Observatory Swimming Pool south of the site;
- 5.89.2.6 Western bank of the Salt River; and
- 5.89.2.7 Western bank of the Black River (Riverine Corridor Alternative only).

5.89.3 With regards to changes in flood hazard from these changes to surface water hydrology from infilling the site (as well as the development of TRUP and PRASA upgrades), Aurecon conclude the following:

5.89.3.1 The flood hazard will not change at the Valkenberg Wetland or SAAO;

5.89.3.2 Increased flooding at PRASA may increase the extent of Low Hazard flooding here for flood return events of 1:50-years or less frequent, and is not expected to have an impact on property or safety;

5.89.3.3 An increase in flood velocity at the confluence of the rehabilitated Liesbeek Canal and Black River will create localised and isolated High Hazard Flood zones for flood return events of 1:50 years or less frequent along the western banks of the rehabilitated Liesbeek Canal (Riverine Concept Alternative only); and

5.89.3.4 Increased flooding south of the site near the Hartleyvale Sports Complex may increase the extent of High Hazard Flood zones for flood return events of 1:50 years or less frequent at:

- ✓ One lane of the Liesbeek Parkway; and
- ✓ A localised area around the complex itself.

5.89.4 Regarding the areas where the extent of the High Hazard Flood zone is expected, and noting that:

5.89.4.1 Increased flooding at the western bank of the Liesbeek River is localised, and the probability of damage to property and a decline in public safety is low;

5.89.4.2 Increased flooding at the Liesbeek Parkway, although localised, has a higher probability of affecting public safety (especially road users); and

5.89.4.3 Increased flooding at the Hartleyvale Sports Complex has a low probability of threatening property and human safety as flooding here is localised and the area would be flooded under current conditions (but at a slightly lower depth). It is also unlikely that the complex will be used during a flood event of this magnitude.

5.89.5 The impact is assessed to be of low significance and with the implementation of mitigation is reduced to very low significance.

5.89.6 This impact is manageable to a limited degree and is irreversible.

No-Go Alternative

5.89.7 In the case of the No-Go Alternative, the site will continue to be used as a commercial recreational and conference facility. If no other developments were to take place in the catchment, and climatic variables were to remain constant, surface water hydrology in the catchment would not change. In other words, the catchment would continue to be flood prone, and low probability risks of localised increases in flood hazard from the development would be avoided.

Inundation and damage to two residential properties during the 1:20-year return interval flood

The Riverine Corridor Alternative and the Island Concept Alternative

5.89.8 Regarding the increased risk of inundation at the residential properties at Number 1 and Number 3 Ossian Road:

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5.89.8.1 The proposed development may alter the 1:20-year flood level and therefore there is a risk that during the 1:20-year flood event:

5.89.8.1.1 The dwelling at Number 1 Ossian Road (which is modelled to currently flood to a depth of 4cm in the 1:20-year return interval flood event) may be inundated by an additional 9cm (to a depth of 13cm) as a result of all developments modelled; and

5.89.8.1.2 The dwelling at Number 3 Ossian Road (which is currently not flooded in the 1:20-year flood event) may be inundated to a depth of 7cm as a result of all developments modelled;

5.89.8.2 For less frequent and more extreme events than the 1:20-year flood, the two affected properties in Ossian Road are expected to be partially inundated with water under current circumstances (i.e. whether portions of the floodplain are developed or not); and

5.89.8.3 Other development in the catchment (e.g. associated with the Two Rivers local area) in isolation of the River Club development would have a similar effect on flood levels at these properties (requiring mitigation).

5.89.9 This increase in inundation from the River Club (and other developments included in the model) for the 1:20-year return interval event will increase the risk of superficial damage to these properties requiring expenditure to effect repair. However, this increase in inundation is not expected to threaten the structural integrity of these properties during the 1:20-year return interval flood event.

5.89.10 This impact (i.e. the risk of damage during the 1:20-year return interval flood) can be mitigated by using door flood barriers at these properties, supplied at the cost of the developer. These flood barriers could also be used to prevent damage at these properties during less frequent, and more extreme floods (which modelling predicts will flood these properties under current circumstances).

5.89.11 The impact is assessed to be of very low significance and with the implementation of mitigation is reduced to insignificant.

5.89.12 This impact is manageable to a high degree and is irreversible.

No-Go Alternative

5.89.13 In the case of the No-Go Alternative, the site would continue to be used as a commercial recreational and conference facility, and if no other developments were to take place in the floodplain, surface water hydrology in the catchment would not change. In other words, these properties would continue to be flood prone during less frequent and more extreme floods but would not be susceptible to flooding from 1:20-year return interval (or less extreme) flood events.

5.89.14 Essential mitigation measures during design are as follows:

5.89.14.1 Raise the Liesbeek Parkway locally to eliminate potential High Hazard flooding at this location (at 33° 56' 14.80" South, 18° 28' 34.13" East); and

5.89.14.2 Supply door flood barriers at properties at Number 1 and Number 3 Ossian Road.

5.89.15 Since a large portion of the River Club is bounded by the unlined course of the Liesbeek River and Liesbeek Canal, very little (if any) overland flow from adjacent areas pass through the River Club. Therefore, only stormwater

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generated at the River Club itself needs to be managed through the proposed stormwater system.

5.89.16 The River Club is located within the floodplain and in order to permit development, the River Club will be raised to above the 1:100-year flood line. However, since the River Club is located within a floodplain and its surrounds are inundated even during low order storm events, attenuation of stormwater adds no significant value (i.e. will not prevent flooding). Thus, the rate at which runoff is released from the development is irrelevant. A departure from the City of Cape Town's Stormwater Policy will therefore be requested. Requirements with respect to the quality of stormwater discharged from the site will be adhered to.

5.89.17 Currently the River Club drains towards the Liesbeek Canal to the east, and to the unlined course of the Liesbeek River to the west. Buildings at the development will be raised above the 1:100-year floodline. The site will continue to drain to the east and west following the redevelopment.

5.89.18 In terms of stormwater quality, the developers are required to retain stormwater that will be generated on-site during a 1:0.5-year storm event over 24 hours, reduce suspended solids in stormwater retained on site by 80%, reduce the phosphate content of stormwater by 45% and trap litter and grease at pollutant sources.

5.89.19 In order to achieve these requirements, vegetated stormwater swales underlain by a piped drainage network will provide stormwater storage capacity, reduce flow velocities (lengthening the catchment response time and decreasing peak flows) and provide pre-treatment of stormwater through vegetation to remove coarse to medium sediments. Bioretention systems will be installed in trenches under the full length of all swales. This bioretention system will remove finer particulates, nutrients and associated contaminants through fine filtration. Bioretention swales also provide flow retardation for frequent storm events. Pocket wetlands will be provided in the swale between the Liesbeek Parkway and the development.

5.89.20 Scouring will be reduced at outlets by ensuring the slope and hydraulic roughness of the overlying swale reduces flow velocities by creating shallow temporary ponding (i.e. extended detention) over the surface of the bioretention filter media via the use of check dams (where required).

5.89.21 Sustainable urban drainage systems proposed at the site will also combine with water sensitive reduction strategies and other broader sustainable strategies in the following manner:

- 5.89.21.1 Green (planted) roofs are proposed which will assist in reducing post development peak flows (as well as mitigate against the heat island effect);
- 5.89.21.2 Rainwater harvesting will contribute to sustainable urban drainage systems by reducing post development peak flows whilst also removing contaminants and improving the quality of the runoff;
- 5.89.21.3 The constructed wetlands are proposed to treat stormwater runoff; and
- 5.89.21.4 The constructed wetlands will create habitat for various species of fauna most notably the Western Leopard Toad.

5.90 When the I&APs made comments with regards to flooding on the site and its surrounding properties, the EAP responded in the comments and responses report as follows:

5.90.1 The surface water hydrology impact assessment (Appendix G3 of the BAR) found that flood hazard will not change significantly, that only a marginal change in flood depth is anticipated and that a significant increase in flood risk / hazard is not anticipated as a result of the development. It is therefore the

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view of the surface water hydrology specialists, Aurecon, that with mitigation, additional flooding is insignificant from a flood hazard perspective.

5.90.2 The assessment also found that the increase in flood inundation from the River Club (and other developments included in the surface water hydrology model) for the 1:20-year return interval event will increase the risk of superficial damage to two properties at Ossian Road, possibly requiring expenditure to effect repair. However, this increase in inundation is not expected to threaten the structural integrity of these properties during the 1:20 year return interval flood event. Nevertheless, mitigation is required at these two properties at Ossian Road to mitigate the risk of superficial damage, and the owners of these properties have been engaged directly in order to agree on flood mitigation measures required at these properties to be implemented at the cost of the developer.

5.90.3 The surface water hydrology impact assessment provides no recommendation on whether the development (/departure) should or should not be allowed, but rather only presents the findings of this and previous studies for the catchment and describes what would be required for the development to go ahead from a technical perspective. The decision was left to the competent authority to assess the impacts of this development – that being City of Cape Town's Catchment, Stormwater & River Management Branch.

5.90.4 It is pertinent that the City of Cape Town's Catchment, Stormwater & River Management Branch, the competent authority with regard to deviations from stormwater policy, have acknowledged the findings of the Hydrological Report and have stated: "This Branch has been involved in several studies of flooding in the area and is in agreement with the modelling result presented (in the Hydrology Report). As such the Branch will not oppose an application for departure from the requirements of the Stormwater By-Law or the River Corridor Management Policy for hydraulic reasons."

5.90.5 The Applicant is engaging all affected parties. Inputs are based on accepted City of Cape Town's data and flood models.

5.90.6 The specialist team reiterate that:

- 5.90.6.1 The site provides insignificant stormwater attenuation;
- 5.90.6.2 Hard surfaces at the development (including podiums and roads) equate to less than 0.05% of the catchment area (therefore the loss of infiltration at the site would be insignificant);
- 5.90.6.3 Sustainable urban drainage systems are incorporated in the development proposal; thereby promoting infiltration at the site, and ameliorating stormwater;
- 5.90.6.4 The surface water hydrology impact assessment found that the development would entail an insignificant change in flood hazard in the catchment; and
- 5.90.6.5 The development would lead to a net ecological benefit, including the replacement of a canal with a watercourse with natural ecological function, and the transformation of a degraded water body into a swale with terrestrial and aquatic ecological function *(more similar to the historic ecological condition of the Liesbeek River in the lower reaches here)*.

5.90.7 The biodiversity specialist has assessed that the impact of infilling the "unlined course" of the Liesbeek River is more than offset by the replacement of a canal with a watercourse with natural ecological function, and the transformation of this degraded water body into a swale with terrestrial and aquatic ecological function (more similar to the historic ecological condition of the Liesbeek River in the lower reaches).

5.90.8 The development will lead to a net ecological benefit, including the replacement of a canal with a watercourse with natural ecological function and the transformation of a degraded water body into a swale with terrestrial and aquatic ecological function.

5.90.9 The surface water hydrology impact assessment did consider the hydrological impact of the development on the functionality of the PRASA railyards. It found a very small increase in the extent of flooding was anticipated at the PRASA railyards in the 1:50-year and less frequent floods, mainly at railway lines, but that this increase in the extent of flooding is unlikely to compromise any infrastructure that is not already affected.

5.90.10 The surface water hydrology impact assessment has found that the PRASA site is (and must remain) a flood route during extreme events. The proposed development would not change this.

5.91 It is concurred with the Applicant's Responding Statement that:

5.91.1 The hydrological modelling inputs are based on accepted City of Cape Town's data and flood models and include, inter alia, the removal of the canalised section of the river in order to restore the natural watercourse there as well as the implementation of a wide setback here; and the conversion of the unlined course to a bioswale.

5.91.2 The Surface Water Hydrology Impact Assessment found that flood hazard will not change significantly, that only a marginal change in flood depth is anticipated and that a significant increase in flood risk / hazard is not anticipated as a result of the development.

5.91.3 It is therefore the view of the surface water hydrology specialists, (Aurecon), that with mitigation, additional flooding is insignificant from a flood hazard perspective and it is accordingly rated as a "low significance impact".

5.91.4 Anticipated impacts and required mitigation of inundation by an increased approximate 9cm and consequent damage to two residential properties during the 1:20-year return interval flood is assessed in the BAR.

5.91.5 The increase in inundation is not expected to threaten the structural integrity of these properties during the 1:20-year return interval flood event.

5.91.6 In summary, hydrological impacts were considered in the Basic Assessment process and EA and found to be acceptable.

5.91.7 The decision-maker clearly took flooding risks into account based on the Surface Water Impact Assessment for the proposed development (the results of which are supported by City of Cape Town's Catchment, Stormwater & River Management Branch).

5.91.8 On 18 September 2020 the City of Cape Town's Municipal Planning Tribunal approved the relevant land use applications pertaining to the Applicant's proposed development of the property and its environs.

5.91.9 The approval (granted in terms of the Municipal Planning By-Law) includes the following condition pertaining to stormwater management (among others): "*A Stormwater Management Plan for the property shall be submitted for the approval of the delegated authority (Development Management) in consultation with the Director: Catchment Stormwater and River Management in accordance with their requirements.*"

5.91.10 Issues relating to the assumptions of the hydrological report were raised and responded to during the Basic Assessment process. The lengthy and detailed SWH Report was specifically structured to layout, as transparently as possible, all assumptions and the approach to modelling.

5.91.11 Issues relating to sea level change were raised and responded to in the Basic Assessment process. The hydrological report was discussed and agreed to with the City of Cape Town's Catchment Stormwater and River Management Branch (the Department responsible for evaluating flood studies) in relation to

the latest climate change rainfall and sea level rise assumptions. For frequent Return Interval events, where the City of Cape Town did not have accepted parameters, a conservative estimate was made, based on other available studies.

5.91.12 The site currently performs a limited storm water attenuation function, and swales are proposed at the development to attenuate and treat stormwater flow for frequent storm events and increased run-off would have no impact on the flood levels.

5.91.13 Surface water modelling considered Spring High tides.

5.91.14 It is pertinent that the City of Cape Town's Catchment, Stormwater & River Management Branch, the competent authority with regard to deviations from stormwater policy, has acknowledged the findings of the Hydrological Report and has stated the following in that regard: *"This Branch has been involved in several studies of flooding in the area and is in agreement with the modelling result presented (in the Hydrology Report). As such the Branch will not oppose an application for departure from the requirements of the Stormwater By-Law or the River Corridor Management Policy for hydraulic reasons"*, and that the City of Cape Town Municipal Planning Tribunal has approved the development with this aspect in mind.

5.92 Considering the above, this ground of appeal has been adequately addressed.

Appeal ground 6: Climate change impacts

5.93 The impact of the development on the City of Cape Town's resilience to climate change was identified as one of the potential impacts of the proposed development. The Comments and Responses Report indicates that many I&APs, including the City of Cape Town, submitted comments with regards to this ground of appeal. The EA's non-specific reference to the comments of specific I&APs should not be construed as if their comments were not considered.

5.94 When the I&APs made comments with regards to climate change impacts, the EAP responded, in the Comments and Responses Report, as follows:

5.94.1 The surface water hydrology report (Appendix G3 to the BAR) considered the potential impacts of climate change, including:

5.94.1.1 Sea Level rise.

5.94.1.2 Increased rainfall intensity.

5.94.2 In this regard, the study demonstrated that there is a negligible increase in flood levels even when considering climate change.

5.94.3 Regarding aspects of the development (and the impacts thereon considered in the BAR):

5.94.3.1 The surface water hydrology assessment (Appendix G3 to the BAR) found that only a marginal change in flood level and extent is anticipated (and is mitigable) and that a significant increase in flood risk / hazard is not anticipated as a result of the development.

5.94.3.2 Section 4.5 of Aurecon's Hydrology report (Appendix G3 to the BAR) focuses on the opportunity cost of not utilising the River Club as an attenuation facility and concludes that *"the potential benefits of using the site for flood attenuation purposes would be negligible"*.

5.94.4 The development will promote a reduction in resource use by:

5.94.4.1 Incentivising the use of public transport by applying low parking ratios and being located close to public transport nodes.

5.94.4.2 Achieving approximately 50 watts/m^2 power consumption density – i.e. 50% of the industry standard in South Africa.

5.94.4.3 Emissions may reduce through a reduced reliance on public transport by employees and residents at the site and no noxious or industrial activities are proposed.

5.94.4.4 In terms of groundwater recharge / water use:

5.94.4.4.1 Hardened portions of the site equate to less than 0.05% of the catchment, which is considered to be insignificant from a groundwater recharge perspective.

5.94.4.4.2 The developers aim to reduce residential water demand by 20% and commercial demand by 50% of the guidelines prescribed by the City of Cape Town.

5.94.4.5 The site does not have high agricultural potential as it is an infill site.

5.94.4.6 The socio-economic impact assessment concludes that the development does not include incompatible activities (such as industrial activities) that would definitely lower the quality of life in the area. Rather, the project will increase 'busy-ness' in the area, create a (vibrant) urban node and accessible higher-quality open space system. The net impact of the above elements on quality of life in the area, and whether this is perceived as positive or negative, will depend on personal values and preferences;

5.94.4.7 The proposal is for a sustainable economic and social development, which will create jobs and increase investment (as well as other economic benefits – see Appendix G4 of the BAR); and

5.94.4.8 The development is assessed by the ecologists to lead to a net ecological benefit (see Appendix G2 and Appendix J, Section 2.4, 2.5 and 2.6 of the BAR).

5.94.5 The development proposal is aligned with the City of Cape Town's Transit Oriented Design Strategy where high-density mixed-use development is located in close proximity to the CBD and along major transport corridors with the aim of reducing private vehicle use (and therefore per capita carbon emissions).

5.94.6 Indigenous vegetation proposed in landscaped and ecological areas (approximately 45ha of the site, or approximately 11ha) will have a significantly higher carbon sequestration potential than the current moved lawn and will offset the impact of the loss of approximately 12ha of lawn at the site.

5.94.7 Lawns have a limited role in reducing the urban heat island, and the "unlined course" of the Liesbeek River (backwater) is unlikely to have a significant impact (cooling effect) on ambient temperatures even locally.

5.94.8 Indigenous vegetation proposed in landscaped and ecological areas (~11 ha of the site) will promote urban cooling to a greater extent than existing lawned areas, and therefore would promote urban cooling (albeit insignificantly in a metropolitan context).

Geohydrological study

5.95 Considering the concerns that were raised with regards to the potential impacts of the proposed development on groundwater, a specialist geohydrological study which was based on the following was conducted:

5.95.1 Detailed survey information for the site and adjacent watercourses as well as publicly available; desktop information, describe local groundwater hydrology at the site and in adjacent freshwater systems.

5.95.2 Comment on the degree to which the Raapenberg wetlands are fed by the water table versus flood flows.

5.95.3 Comment on potential changes to the groundwater flow regime from developing the River Club (noting that the current elevation of the site will generally be the ground level of a basement of the new proposed development).

5.95.4 Drawing on the findings of a geotechnical investigation, as well as on water level and Electrical Conductivity data from test holes on the site and (where available) from adjacent water bodies, SRK (2017) provided comment on the linkages between groundwater and surface wetlands on the River Club and adjacent Raapenberg wetlands. These comments that assisted the specialist in arriving at an understanding of the role of groundwater in determining aquatic ecosystem function are summarized as follows:

5.95.4.1 Large areas of the River Club site have been infilled (geotechnical data show depth of infilling to some 1.5 to 2m, underlain by sediments, which are in turn underlain by bedrock (shale)). Measured groundwater levels on the River Club site were mainly at the contact zone between fill and sediments. This reflects the fact that the northern section of the River Club was naturally part of the Raapenberg wetlands prior to construction of the Liesbeek Canal;

5.95.4.2 Early summer (January 2015) river water levels were lower than measured groundwater levels on the River Club site, possibly suggesting groundwater flow into the river – although the geohydrological specialist warns that there may be some influence of a deeper aquifer as a result of drilling into the bedrock. This relationship differed from that in the Raapenberg wetlands to the east of the canal, where surveyed data (this study) showed river water levels to be some 150mm higher than wetland water;

5.95.4.3 River electrical conductivity was considerably lower than borehole (7.8 - 16.3m below ground) and shallower test hole electrical conductivity on the River Club site. The latter levels were similar to electrical conductivity measured by FCG in the Raapenberg wetlands, which were also found to be substantially higher than in the river at the time of FCG's Raapenberg survey in September 2017. It is expected that if there was regular inflow from the rivers to the wetlands that a much lower electrical conductivity would have been recorded at the wetlands;

5.95.4.4 The Raapenberg wetlands are thus assumed to be mainly groundwater-fed - flow from the two rivers towards the wetlands is minor (and likely to be confined to flood events;

5.95.4.5 The geohydrological study noted also that, on the basis of measured water level, the Raapenberg wetlands lie up-gradient of the River Club, and are separated from these wetlands by the Liesbeek Canal, which acts as a hydraulic "buffer" between the River Club and the Raapenberg wetlands; and

5.95.4.6 No connection between shallow groundwater on the River Club site and that on the Raapenberg wetland site appears to exist today, although the systems would have been connected under natural circumstances.

5.96 It is concurred with the Responding Statements that:

5.96.1 There are key elements missing to the Appellants' ground of appeal. Although the Appellants claims that the flow of water will be displaced, the Appellant fails to recognise the rehabilitation of the Liesbeek Canal (to be done as part of this project) which will enhance the flow of water, whilst the existing open areas will contain the proposed buildings. The Appellant also failed to recognise that more than 60% of the development footprint will remain as open

space and whilst the site is a "deeply important heritage site", the Appellant failed to recognise that the site does not display any heritage informants in its current state and in addition the proposed development creates an opportunity for the First Nations history to be told. Balancing the "triple bottom line" must consider the negative and positive impacts associated with the proposed development and in this instance, the positive impacts far outweigh the negative impacts associated with the proposed development. The decision therefore provides adequate reasons for the granting of the EA.

5.96.2 The BAR (dated 6 April 2020) indicates that the percentage of public open space on the River Club site (i.e. Erf No. 151832) is approximately 64%.

5.96.3 Pages 14 and 15 of the BAR (dated 6 April 2020) has provided a breakdown of the percentages for hard and soft, recreational, ecological and stormwater infrastructure. Portions of the River Club fall below the 1 in 100-year floodline elevation, which has been assessed to be 5.81 metres above mean sea level at the site. The ground levels of buildings proposed at the site will therefore be raised above this level, plus an additional 600 mm safety factor – i.e. to 6.4 metres above mean sea level (but basements will be below this level). More than 60% of the River Club property will be retained as open space (approximately 9.4ha and will include both soft landscaping (i.e. soft open spaces / lawns, the park or ecological corridor, and setbacks at the interfaces of rivers – 6.6ha) and hard open spaces (i.e. including covered pedestrian space, foot and cycle paths, and service infrastructure – 2.8 ha). Additional landscaped open areas will be created by infilling the unlined course of the Liesbeek and rehabilitating the canal, and when one considers the site beyond the River Club property 15.6ha of high-quality open space will be created through the development, including 5ha available to the public for active and passive recreational activities. In total, both hard and soft open spaces at the site will extend approximately 156 000m^2 (~15.6 ha / 63% of the site).

5.96.4 The comments that "omission of reference to the City's comments regarding climate change in the EA indicates that the decision maker did not give due consideration to the comments provided" have been addressed.

5.96.5 Promethium Carbon, an experienced climate change consultancy operating since 2003, was appointed to review SRK's consideration of climate change aspects to support the Applicant's Responding Statement. It was found that "SRK has sufficiently considered climate change as part of the BAR for the proposed redevelopment of the River Club property. In addition, the study considers the key climate change impacts that could affect the resilience of the site".

5.96.6 Impacts associated with climate change are generally accepted to be associated with emissions (and other factors) which cause temperature variation leading to increased rainfall (flooding) or decreased rainfall (water scarcity).

5.96.7 The development will promote a reduction in resource use and emissions.

5.96.8 No significant emissions from the development are anticipated (no noxious or industrial activities are proposed), and emissions per capita may reduce through an increased reliance on public transport by employees and residents at the site.

5.96.9 Considering sea level rise and increased rainfall intensity, specialist hydrology assessment found that only a marginal change in flood depth is anticipated (and is mitigable) and that a significant increase in flood risk / hazard is not anticipated as a result of the development.

5.96.10 Specialist assessment found that "the potential benefits of using the site for flood attenuation purposes would be negligible" – in other words, the

development will not affect the City's future potential water attenuation capacity.

5.96.11 The development is assessed by the ecologists to lead to a net ecological benefit.

5.96.12 Lawns (e.g. at the site) have a limited role in reducing the urban heat island, and the "unlined course" of the Liesbeek River (backwater) is unlikely to have a significant impact (cooling effect) on ambient temperatures even locally.

5.96.13 Indigenous vegetation proposed in landscaped and ecological areas (approximately 11 ha of the site) will promote urban cooling to a greater extent than existing lawned areas and therefore would promote urban cooling (albeit insignificantly in a metropolitan context).

5.96.14 In terms of groundwater infiltration, hardened portions of the site equate to less than 0.05% of the catchment (which is considered to be insignificant from a groundwater recharge perspective), the Applicant is not aware of any proposed bulk groundwater abstraction near the site, groundwater at the site is saline and the water table at the site is shallow. It is therefore unclear how the development will reduce the availability of water.

5.96.15 The proposal is for a sustainable development, which will create jobs and increase investment (as well as other economic benefits).

5.96.16 Unless the findings of specialist assessment are rejected on unknown grounds, it cannot be argued that the development will exacerbate climate change or reduce the City's resilience to climate change.

5.96.17 The arguments that the development is not in line with the Western Cape Climate Change Response Strategy and the City of Cape Town's Climate Change Policy and Resilience Strategy are therefore without foundation.

5.96.18 Furthermore, the September 2020 draft City of Cape Town Climate Change Strategy for the year 2050:

- 5.96.18.1 Anticipates a decrease in rainfall, and indicates that it is not expected that the incidence of severe storm events will increase;
- 5.96.18.2 Considers risks of increased rainfall (floods), droughts, sea-level rise, increased temperatures and loss of biodiversity and ecosystem services, and the City's resilience to these risks (addressed above);
- 5.96.18.3 Promotes sustainability and ecosystem functioning – the project is non-abstractive, and the applicant will apply 4-Star Green Building design principles;
- 5.96.18.4 Promotes urban growth and development in a way that enables urban efficiencies, economic vitality, climate resilience and improved access to opportunities and quality of life – as is proposed at the River Club development; and
- 5.96.18.5 Promotes the densification of mass transit routes through mixed use developments that support public transport and include social housing - as is proposed at the River Club development.

5.96.19 The design proposal therefore does in fact positively address a number of climate change issues (not only in the current policy but also those identified in the draft City of Cape Town Climate Change Strategy document - published for comment in September 2020).

5.96.20 The Appellants' arguments that the development will be unsustainable, but without providing a logical basis for this assertion – the Applicant submits that it is not an abstractive project as ecological benefits have been assessed by specialists.

5.96.21 The 17 February 2020 judgement in the Philippi Horticultural Area matter found that all relevant factors to project impacts must be considered in an EIA process.

5.96.22 According to the EAP, the decision-maker who granted the EA and an experienced climate change consultancy, found that all relevant factors, including climate change, are included in the BAR for the proposed development.

5.96.23 This appeal ground is therefore without any merit and should be dismissed.

5.97 As submitted during this Appeal process, the review of climate change assessment (by Promethium Carbon) as part of the proposed River Club development's BAR and stakeholder response stated *inter alia* that:

5.97.1 Climate Change Impact Assessments, as part of the EA process, must now follow a two-pronged approach, in line with international best-practice, assessing both:

5.97.1.1 The impact of the project on climate change.

5.97.1.2 The resilience of the project in terms of climate change.

5.97.2 SRK considered climate change as a relevant impact with regards to the proposed redevelopment of the River Club property and as such climate change was considered in the BAR.

5.97.3 The Surface Water Hydrology Impact Assessment considered climate change in the following respects:

5.97.3.1 The 24-hour 1:100-year SA SCS Type 1 design rainfall event, including climate change in accordance with SRK's 2012 study which suggested an increase of modelled rainfall depth for design storms by 15%, was used to model events with recurrence intervals of between 1 in 2 years and 1 in 100 years.

5.97.3.2 Storm surge increase as well as sea level rise, as a result of climate change, were considered as part of the tidal levels used for the modelling in the Surface Water Hydrology Impact Assessment.

5.97.4 In terms of the project's impact on climate change, they found the following:

5.97.4.1 Due to the nature of the proposed redevelopment of the River Club property, it is our opinion that the greenhouse gas emissions related to the construction phase of the development will be minimal.

5.97.4.2 Relevant greenhouse gas emissions during the operational phase to consider, include energy, transport and waste associated with the development.

5.97.4.3 SRK has indicated that the developer will apply "*4 Star Green Building principles, and at a minimum green building and design principles*" in order to achieve "*~ 50-Watts/m² power consumption density – i.e. 50% of the industry standard in South Africa*". This will contribute to significantly reduced energy emissions associated with the proposed redevelopment of the River Club project.

5.97.4.4 In terms of transport related emissions, SRK has detailed the strategic location of the site and the intention of the proposed redevelopment of the River Club property to support and encourage the use of public transport. This will contribute to the City of Cape Town's intention to reduce transport related greenhouse gas emissions.

5.97.5 The redevelopment of the River Club property will contribute to addressing the current need for integrated housing and commercial provision in the City of Cape Town rather than increase the population of the City or add to surplus provision of housing or commercial properties. Therefore, waste related greenhouse gas emissions from the proposed redevelopment of the River Club property will not additionally contribute to the waste emissions in the City's greenhouse gas inventory. In addition, it has been our experience that waste related emissions from this type of land use is not material.

5.97.6 When considering a project's resilience to climate change, they found the following:

5.97.6.1 In terms of **exposure** to climate change, they do not believe that the proposed redevelopment of the River Club property will increase climate change exposure of either the site or its surrounds.

5.97.6.2 SRK has sufficiently considered three key climate change impacts in terms of exposure being rainfall variability and flooding, increased temperature and the potential impact of storm surges.

5.97.6.3 SRK has considered the groundwater context of the site and found the following:

5.97.6.3.1 Hardened portions of the site would equate to less than 0.05% of the Quaternary Catchment G22C, which is considered to be insignificant from a groundwater recharge perspective; and

5.97.6.3.2 Groundwater at the site is saline suggesting recharge is naturally very low.

5.97.7 Whereas they recognise that climate change will have an impact on aquifer recharge in the City of Cape Town, it should be noted that the scale of the proposed redevelopment of the River Club property will not result in a material impact in terms of the aquifer recharge.

5.97.8 In terms of the site's **sensitivity** to climate change, we believe that the proposed development will reduce the site's sensitivity through the following:

5.97.8.1 The improved management of stormwater on the site and in terms of its surrounds;

5.97.8.2 The introduction of natural vegetation as part of the proposed ecological planning which will improve drainage and increase natural cooling efficiency;

5.97.8.3 The rehabilitation of the Liesbeek River which will improve stormwater drainage and limit risks associated with flash flooding at the site.

5.97.8.4 The introduction of natural vegetation and improved site development, as opposed to its current use, will contribute significantly to the resilience of the area, in the context of the City of Cape Town. Ecological infrastructure plays a critical role in ecosystem-based adaptation through increased cooling potential, improved stormwater and water quality management and the introduction of biodiversity in the cityscape.

5.97.8.5 It should also be noted that the urban heat island effect, within the context of the site, will not be materially increased by the proposed development due to a) the location of the site and b) the relatively small built footprint of the proposed redevelopment of the River Club property.

5.97.9 In terms of adaptive capacity to the proposed redevelopment of the River Club property allows for the following:

5.97.9.1 Publicly accessible, well planned and managed open space in the City of Cape Town.

5.97.9.2 Restoration and increase of natural vegetation as part of the open space proposal for the site.

5.97.9.3 Effective stormwater management through ecosystem-based adaptation measures.

5.97.9.4 Encouraging the use of public transport to limit greenhouse gas emissions.

5.97.9.5 Water saving design parameters suggested as part of the proposed redevelopment of the River Club property will contribute to the City

of Cape Town's strategic water efficiency and water conservation initiatives.

5.97.9.6 Strategic densification to support a compact and more sustainable urban form which aligns to the City's climate change adaptation objectives and supports urban greenhouse gas emission reduction strategies.

5.97.10 Based on the above, we believe that SRK has sufficiently considered climate change as part of the BAR for the proposed redevelopment of the River Club property. In addition, the study considers the key climate change impacts that could affect the resilience of the site and considers these impacts in the Surface Water Hydrology Study as well as in the proposed design principles for the site.

5.97.11 The following are critical aspects for cities to manage climate change effectively, which, based on our assessment, is provided for the in the proposed redevelopment of the River Club property:

5.97.11.1 Strategic urban densification aligned to public transport use;

5.97.11.2 Adherence to green building principles;

5.97.11.3 The rehabilitation of existing natural features; and

5.97.11.4 The introduction of ecological systems to support urban development.

5.97.12 Considering the above, this ground of appeal has been adequately addressed.

Appeal ground 7: Biodiversity impacts

5.98 The BAR stated *inter alia* that:

5.98.1 No CBAs are located on the site.

5.98.2 The western boundary of the River Club, or the eastern bank of the unlined, degraded course of the Liesbeek River is classified as an unchanneled valley-bottom wetland and Critical Ecological Support Areas ("CESA") (of 0,37 ha in extent). This CESA is not linked to a vegetation type, and no specific conservation management objectives for this feature are provided. Ecological services provided by the section of the "*unlined course*" of the Liesbeek River are in fact mainly stormwater conveyance, with some water quality amelioration by filtration through vegetation. These functions would be provided in a more managed and efficient manner for runoff from the site – stormwater from the surrounding urban area would be routed to the downstream portion of the "*unlined course*" through the swale, and water quality would be enhanced – though the effects of this would be marginal, given that the system is backed up by the Black River, which has poor water quality. The loss of wetland habitat at the "*unlined course*" would be mitigated / offset by the proposed inclusion of standing water ponds along the "swale area, and these would retain stormwater into the early summer, thus supporting Western Leopard Toad breeding cycles, without exposing them to predation from carp, as per the existing backwater system, that links to the Black River.

5.98.3 The eastern boundary of the River Club as it banks onto the Black River is classified as an unchanneled valley-bottom wetland and CESA.

5.98.4 Although the City of Cape Town Biodiversity Network (Holmes et al 2008; updated June 2016) lists the Berkley Road Extension and the PRASA owned land to the north of the site as "Other Natural Vegetation", studies have concluded that there is almost no natural vegetation remaining in the study area.

5.98.5 The Black River and both channels of the Liesbeek River are classified as protected areas in terms of a biodiversity agreement.

5.98.6 In terms of the City of Cape Town Biodiversity Network (2017):

5.98.6.1 *"Conservation, low impact recreation & enviro education (could be supported in sensitive areas) as outlined in site management plan; hard infrastructure (should) only (be located) outside Critical Biodiversity Areas (CBAs) or adjacent or in existing highly degraded areas. Higher impact activities may be permitted on highly degraded areas.";*

5.98.6.2 The River Club property (Erf 151832) is degraded, and hosts no CBAs;

5.98.6.3 The western boundary of the River Club, or the eastern bank of the unlined, degraded course of the Liesbeek River is classified as an Ecological Support Area (ESA) – the potential impacts of infilling this feature are reported in Impact FE4 and FA2 – in summary, a net ecological benefit in aquatic habitat quality is anticipated from the selection of either development alternative;

5.98.6.4 The eastern boundary of the site where it banks onto the Black River is classified as an ESA – the potential impacts on this ESA are reported in Impact FE2 – a very low significance impact is anticipated following mitigation (i.e. reinstatement of the wetland following construction); and

5.98.6.5 The Raapenberg Wetland is listed as a CBA – the potential impacts on which are reported in Impact FE5 (Appendix J of the BAR) and are found to be insignificant.

Surrounding areas:

5.98.6.6 A patch of Renosterveld vegetation on the northern extent of the SAAO is listed as a CBA.

5.98.6.7 The Raapenberg Bird Sanctuary has been recognised as a nature reserve area within the City of Cape Town and is an important breeding site for many bird species (City of Cape Town 2011).

Raapenberg Wetland

5.98.6.8 Located to the east of the site, beyond the artificial eastern channel of the Liesbeek River.

5.98.6.9 Of all the aquatic ecosystems in proximity to the site, the Raapenberg Wetland is the only one with significant ecological value and is considered by far the most sensitive to changes in flow, hydroperiod, water quality or fragmentation. The wetland is considered part of the seasonal clay flats renosterveld wetland.

5.98.6.10 Seasonal salt marshes of the Raapenberg Wetland appear to have been accidentally conserved by the construction of berms along the Black River and Liesbeek Canal, as well as by the infilled pathway leading to the pedestrian bridge over the Black River.

5.98.6.11 The biodiversity importance of the Raapenberg Wetland as a whole owes itself to the spatial and temporal diversity of habitat types that support a wide range of indigenous and in many cases locally to regionally endemic fauna and flora.

5.98.6.12 Water birds are attracted to all peripheral water bodies at the site, including two birds that are rated conservation species (Great White Pelican and Greater Flamingos, both rated as near-threatened).

The SAAO

5.98.6.13 Critically Threatened Peninsula Shale Renosterveld vegetation is present on this site, albeit in a greatly disturbed condition. Nine endemic or near endemic wetland plant species occur within the SAAO site. Most of the natural vegetation is located in the central west, northern and central eastern part of the site, and is mainly in a poor condition.

5.98.6.14 The proposed development is highly unlikely to impact negatively on the dryland renosterveld vegetation at the SAAO site and the security of the Critically Endangered *Moraea aristata* is thus likely assured, provided acceptable conservation measures are introduced on the SAAO site.

The unlined channel of the Liesbeek River north of the site

5.98.6.15 The least developed sides of the river, and also the only sides along which there are real opportunities for channel / wetland rehabilitation. The channel here is steep and shows signs of historic and ongoing disturbance. Dense stands of Common Reeds (Phragmites australis) in places form good cover for waterfowl and likely to provide nesting habitat for other birds as well.

5.98.6.16 Mature alien trees line the left-hand bank in places, with the main species comprising Manotoka and Sesbania. Although both of these are listed alien species in terms of the National Environmental Management Biodiversity Act 10 of 2004 (NEMBA), they still provide useful shelter as well as roosting and perching areas for birds.

5.98.6.17 In the lower reaches of the channel, the channel is separated from a mixed Phragmites australis and Typha capensis reedbed by the bermed left hand riverbank. This reedbed is considered an important part of the river / wetland system in these reaches and assumed to comprise a relic of the former more extensive riverine wetlands that would have occurred in this now highly altered part of the catchment.

5.98.6.18 Water birds are attracted to all peripheral water bodies at the site, including two birds that are rated conservation species (Great White Pelican and Greater Flamingos, both rated as near-threatened).

The unlined channel of the Liesbeek River west of (fronting) the *River Club*:

5.98.6.19 This channel is steep and shows signs of historic and ongoing disturbance. The channel itself currently provides a transformed and disturbed aquatic habitat, which would not be sensitive to slight changes in water quality but which could be affected by significant deterioration in habitat quality. This channel may support the indigenous Cape Galaxias Fish.

5.98.6.20 The channel is at least partially suited as a western leopard toad breeding habitat, and for the purposes of this study it is assumed that they do indeed currently breed here.

5.98.6.21 Birds use the banks of the natural channel of the Liesbeek River abutting the River Club for roosting and/or nesting. Water birds are attracted to all peripheral water bodies at the site, including two birds that are rated conservation species (Great White Pelican and Greater Flamingos, both rated as near-threatened).

5.98.6.22 The Liesbeek is classified as a Fish Support Area (FEPA CODE 2) in the NFEPA database. This dataset also attributes Cape Kurper to the river. The biodiversity report will be amended to include the FEPA Status. Ecological services provided by the section of the "unlined course" of the Liesbeek River are in fact mainly stormwater conveyance, with some water quality amelioration by filtration through vegetation. These functions would be provided in a more managed and efficient manner for runoff from the site – stormwater from the surrounding urban area would be routed to the downstream portion of the "unlined course" through the swale, and water quality would be enhanced – though the effects of this would be marginal, given that the system is backed up by the Black River, which has really poor water quality.

5.98.6.23 The loss of wetland habitat by the "unlined course" would be mitigated / offset by the proposed inclusion of standing water ponds along the "swale area", and these would retain stormwater into the early summer, thus supporting Western Leopard Toad breeding cycles, without exposing them to predation from carp, as per the existing backwater system, that links to the Black River.

5.98.6.24 The canal rehabilitation project should at least improve habitat for fish species, compared to the canal, and if important fish species can survive in the Black River backwaters of the "unlined course" of the Liesbeek River (unlikely) then such conditions would persist downstream of the site. The proposed rehabilitation activities associated with the Riverine corridor alternative would support the status of the Liesbeek as a Fish Support Area.

Infilled former floodplain that lies north of the River Club boundary:

5.98.6.25 An area that is now subject to litter, minor dumping and invasion by weedy and /or alien plants, including kikuyu grass (*Pennisetum clandestinum*). This floodplain is considered of extremely low sensitivity from an ecological perspective, with its only present functions being provision of a degree of buffering of the channel from adjacent noise and physical disturbance – such buffering derives only from the physical space provided by this area, and not from any quality of habitat it affords.

Unlined eastern channel of the Liesbeek River:

5.98.6.26 Steep banks vegetated with Common Reed (Phragmites australis) (right hand bank), and mixed reeds and (mainly alien) trees along the left-hand bank abutting the River Club.

5.98.6.27 The left-hand bank (abutting the River Club) has been bermed along most of its length, presumably to reduce its flood potential.

5.98.6.28 A small treed island has been established in the channel here and provides day roosting for birds (Darters and Cormorants) and is worthy of preservation.

5.98.6.29 Water birds are attracted to all peripheral water bodies at the site, including two birds that are rated conservation species (Great White Pelican and Greater Flamingos, both rated as near-threatened).

The Black River on the north-eastern site boundary:

5.98.6.30 This bank is lined mainly with alien kikuyu grass and other invasive aliens such as cannas and are bermed in places. The Black River is considered generally poor in indigenous biodiversity, largely as a result of habitat transformation, ongoing maintenance disturbance as a result of dredging of the channel; invasion by alien plants of both aquatic and marginal habitats; and poor water quality. Although no quantitative data had been sourced at the time that this document was produced, two alien fish species are understood from popular literature and comments by local resident to occur in the Black River, namely common carp (Cyprinus carpio) and African Catfish (Clarias gariepinus), as well as the pollution tolerant amphibian, the Common platanna (Xenopus laevis).

5.98.6.31 Water birds are attracted to all peripheral water bodies at the site, including two birds that are rated conservation species (Great White Pelican and Greater Flamingos, both rated as near-threatened). In ecological terms the Black River, which is broader and more stable offers the greatest potential for birds.

Canalised eastern channel of the Liesbeek River:

5.98.6.32 Canalised on both sides in its reaches immediately downstream of Observatory Road fronting the site. Habitat diversity is low, and the canal provides a generally sterile aquatic ecosystem, unlikely to support a high diversity of flora and fauna, despite the relatively good water quality in this river.

5.98.6.33 Willow trees along the canal provide day roosting for birds (Darters and Cormorants) and are worthy of preservation. Liesbeek River supports the Cape Galaxias (Galaxias zebratus) (a Western Cape endemic fish) as well as a more diverse suite of aquatic macroinvertebrates than those occurring in the Black River.

5.98.6.34 Water birds are attracted to all peripheral water bodies at the site, including two birds that are rated conservation species (Great White Pelican and Greater Flamingos, both rated as near-threatened).

Golf Driving Range, Golf Course and other transformed areas (e.g. road reserves)

5.98.6.35 The River Club and surrounding areas was found to support no terrestrial indigenous plant communities, being located on old fill material, and sensitivity to development was deemed negligible from a floral perspective.

5.98.6.36 Apart from the open water habitats of the river channels, there are few habitat patches of value for birds within the site itself.

5.98.6.37 Otter activity has been confirmed from the general region, however these are unlikely to have a resident population at the site, but rather a few individuals probably move in and out of this area throughout the year.

Golf Course Ponds

5.98.6.38 A number of seasonally to perennially inundated ponds have been created in the golf course. These artificial water features have been noted as potentially suitable breeding sites for Western Leopard Toads and other amphibians. They are, however, easily replaceable

TK

habitats, and little effort has been made in their landscaping / design to replicate natural standing water habitats in this area.

Birds

5.98.6.39 Water bird use of the area is heavily influenced by the availability of wetland habitats in the Raapenberg wetlands. The major drawback of the area for water birds, despite reasonable foraging areas and apparent food availability, is the lack of safe, undisturbed breeding habitat for the larger species. This situation applies along the greater part of the two rivers. The nearest significant breeding populations of larger water birds are at Intaka Island in Century City and at Rondevlei, near Grassy Park.

5.98.6.40 Despite the poor availability of habitat for birds on the River Club, its location at the confluence of the Liesbeek and Black Rivers means that the site has excellent wetland linkages across the centre-north of the Cape Town metropol.

Mammals

5.98.6.41 Most of the larger mammal species that would have occurred naturally on the *River Club* have become locally extinct, leaving only a subset of small species that still manage to maintain meagre populations here. The conservation status of these mammals are almost all listed as being of Least Concern (LC), with only one species (African Clawless Otter) with a global and regional listing of Near Threatened (NT).

5.98.6.42 The Faunal Importance Assessment score for Mammals on the River Club site is considered Moderate at regional and Low to Moderate at a national scale.

Reptiles

5.98.6.43 The only reptile species of conservation concern that could occur at the site is the Cape Dwarf Chameleon which currently is listed as Vulnerable (VU).

5.98.6.44 The FIA score for reptiles in the context of the River Club is Moderate at regional and Low to Moderate at a national scale.

Amphibians

5.98.6.45 The only amphibian species of conservation concern that occurs at the site is the Western Leopard Toad which currently is listed as Endangered (EN).

5.98.6.46 The Faunal Importance Assessment score for amphibians in the context of the site is Moderate at regional and Low to Moderate at a national scale.

5.98.6.47 With regard to the presence of Western Leopard Toads at the site, the following has relevance:

5.98.6.47.1 The only known Western Leopard Toad breeding site in the region of the site is the wetlands at the Raapenberg Bird Sanctuary.

5.98.6.47.2 Western Leopard Toads refuge at terrestrial areas at the site during the non-breading season.

5.98.6.47.3 The Western Leopard Toad population of the area (that is, Observatory and surroundings), appears to be somewhat disjunct and seemingly completely separated from Western Leopard Toad breeding populations further south on the Cape Peninsula.

Vegetation Types:

5.98.6.48 The City of Cape Town falls within the Cape Floral Region (CFR). The CFR is of international significance as one of the smallest but richest plant kingdoms in the world with approximately 70% of the plant species found only in this region. The fynbos biome includes of two of South Africa's rarest vegetation types, namely Sand Fynbos and Renosterveld. Most of the City of Cape Town is highly developed and transformed with very little natural vegetation remaining (City of Cape Town, 2011).

5.98.6.49 The majority of the River Club falls within the original extent of the Cape Flats Dune Strandveld Vegetation type. A small portion of the River Club falls within the original extent of the Peninsula Shale Renosterveld vegetation type. This vegetation type occurs at the SAAO, but no remnants occur at the River Club.

5.98.6.50 The Cape Flats Dune Strandveld Vegetation Type is considered an Endangered vegetation type. The Peninsula Shale Renosterveld vegetation type is endemic to the City of Cape Town and is considered to be a Critically Endangered vegetation type (Mucina and Rutherford, 2006). However, no known remnants of these vegetation types occur at the *River Club*.

5.98.6.51 The *River Club* itself is mostly grassed (lawn) with scattered trees and is considered to be of extremely low sensitivity from a botanical perspective. There are a few trees in the areas surrounding the *River Club*. There are also dense tree copses surrounding the Observatory buildings on the ridgeline to the south-east of the site.

Aquatic Ecosystems:

5.98.6.52 Almost all the land that makes up the River Club is an artificial island that has been reclaimed from the estuary surrounded by artificial drainage channels on all sides. As such the River Club is considered to be a highly disturbed environment and the floodplain at the site is considered to be of extremely low sensitivity from an ecological perspective, with its only present functions being as a Western Leopard Toad refuge and movement corridor and provision of a degree of buffering of the channel from adjacent noise and physical disturbance – such buffering derives only from the physical space provided by this area, and not from any quality of habitat it affords.

Water Quality

5.98.6.53 Poor water quality characterises the Black River, falling into Category F+ ("Critically modified"), which is the most impacted category to which river quality can be assigned. The river has almost completely lost habitat and function. Main contributors towards poor quality in the Black River are high concentrations of orthophosphate and total ammonia, and low oxygen concentrations.

5.98.6.54 Bacterial concentrations in the Black River peak in summer when water flows are low and inflow of relatively polluted water is undiluted. Smaller peaks occur in winter, from periodic sewage overflows and rain driven wash-off from polluted surfaces.

5.98.6.55 Despite the refurbishment of the Athlone WWTW in 2003, Escherichia coli (E.coli) data recorded between 2012 and 2014 exceeded the threshold maximum concentration of 4 000 counts per 100ml. As such, the river was classified as "unacceptable" for full and intermediate contact recreation purposes.

5.98.6.56 Bacterial data for the Liesbeek River indicated a Human Health Risk to intermediate contact users with faecal counts between 2 000 and 4 000 counts per 100ml.

Ecological Status

5.98.6.57 Most of the naturally occurring aquatic ecosystems such as extensive floodplain wetlands have been transformed from their natural condition and no *natural* wetland ecosystems remain on *the River Club* today.

The unlined course of the Liesbeek River

5.98.6.58 No natural flow from the Liesbeek River enters the unlined course west of the River Club and it is supplied by backwaters of the Black River. As a result, flow through this watercourse has been largely reduced. One result of the reduced rate is the shallowing of the water body which has facilitated the invasion of alien aquatic plants that prevent birds using the waterbody. Despite this, the unlined course has high rehabilitation and ecological potential.

5.98.6.59 An assessment of condition or Present Ecological State ("PES") of the water course classified it as PES Category E, which indicates *"a system that has undergone a Serious change from its natural conditions, with changes in natural river morphology being major contributors to this poor condition rating, along with water quality, changes in natural flow regime, extensive loss of indigenous vegetation and invasion of the river channel by alien plants".*

5.98.6.60 This aquatic ecosystem is considered to be of moderate local sensitivity.

5.98.6.61 Banks on either side of the unlined course of the Liesbeek River show signs of ongoing disturbance such as the raising of the right-hand bank, presumably to reduce flooding of the River Club (FCG, 2015). The water course supports dense stands of reeds which form good cover for water fowl and likely provide nesting habitat for other birds as well.

5.98.6.62 In the lower reaches (towards the confluence of the Black River), the channel is separated from a reedbed by a berm. Although this reedbed lies outside of the River Club boundary, it is considered to have ecological value as a relic of a former, more extensive riverine wetland.

5.98.6.63 Reedbed wetlands are considered to be of High local sensitivity.

The Liesbeek Canal

5.98.6.64 The Liesbeek Canal is not a natural water feature and is considered to have a PES Category of F which is indicative of *"a system that has*

undergone Extreme changes from its natural condition". The canalised portion of the canal has low habitat diversity with a sterile aquatic ecosystem. In contrast, the uncanalised portion (approximately 200m in length upstream of the confluence with the Black River) offers a better quality of riverine habitat and could be considered sensitive to disturbance.

5.98.6.65 This aquatic ecosystem is considered to be of Very low local sensitivity.

5.98.6.66 Similarly, a berm separates the right-hand side of the Liesbeek Canal from Raapenberg Sanctuary in which the Raapenberg Wetlands occur. These wetlands support a wide diversity of habitat types such as reedbed, open water pools and pans and shallow wading areas and are recognised as an important breeding site for many duck species. These habitats would be sensitive to elevations in flood height which would inundate wading and nesting areas.

5.98.6.67 The Raapenberg Wetlands are considered to be of Very high local sensitivity.

The Black River

5.98.6.68 The Black River is not considered a sensitive environment. Given the high degree of habitat transformation, impacts of dredging and poor water quality, the Black River is considered to have low ecological importance. Its diminished importance is attributable to its stormwater and effluent conveyance function and habitat for some birds. The improved servicing and management of upstream developments would rapidly improve the water quality of the river which would make the rehabilitation of the riverbanks attainable, albeit not to natural conditions. The Black River was accorded a PES Category F.

5.98.6.69 Abutting wetlands such Raapenberg wetlands and other reedbed wetlands have high functional importance as wetlands large enough to provide wetland habitat in an environment that is largely transformed and urbanised. More specifically, they may play a role in polishing discharge from adjacent urbanised developments.

5.98.6.70 The Black River is considered to be of Low local sensitivity, and reedbed wetlands are considered to be of High local sensitivity.

5.98.6.71 The riverbanks of the Black River are lined mainly with alien invasive species, with berms in places. The right-hand riverbank, abutting the M5, is sterile with little vegetation. A small treed island exists on the site near the confluence with the Liesbeek Canal that serves as the focal area for a bird hide.

5.99 When the I&APs raised comments with regards to the biodiversity impacts of the proposed development, the Comments and Responses Report stated the following:

5.99.1 The Biodiversity Impact Assessment takes a conservative, habitat-driven approach, and assumes that the most sensitive faunal (including avifaunal) species known to occur in the area do occur at the site and recommends mitigation and assesses impacts on this basis. Mitigation (design interventions) are aimed at enhancing habitat conditions for all species (including avifaunal) known to occur at the site, with a special focus on Species of Conservation Concern ("SCC") – most notably, the Western Leopard Toad.

5.99.2 A biodiversity assessment was conducted to characterise the baseline and to assess potential ecological impacts of the proposed development. The assessment was comprehensive and was informed by site inspections, and

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written inputs from a freshwater ecologist, avifaunal specialist, faunal specialist (with specific expertise in herpetology), surface water hydrologist and a botanist, and a desktop assessment by a hydrogeologist. The assessment found that terrestrial areas of the site are transformed and do not host any indigenous plant communities, but that these areas do provide low quality terrestrial faunal habitat and function as a faunal movement corridor (most importantly for the Western Leopard Toad. The assessment also found that rivers surrounding the site are severely degraded, the canal is a sterile aquatic environment, and that reed-bed wetlands fronting the site are well represented locally and are of low ecological value. The Raapenberg Wetland is the only area of high local ecological sensitivity near the site and is not expected to be negatively affected by the development. Noting the degraded / transformed nature of the site and surrounding aquatic environments, the assessment concluded that:

5.99.2.1 By removing the canal and rehabilitating this course of the Liesbeek to provide natural aquatic habitat function, and infilling the unlined course of the Liesbeek river to the west of the site and creating a high-quality aquatic and terrestrial habitat here (with seasonal ponds), the Riverine Corridor Alternative will improve the quality of aquatic habitats at and adjacent to the site;

5.99.2.2 The development will lead to the (tolerable) loss of well represented wetlands (that are classified as Ecological Support Areas, but are of limited ecological value) in the "unlined course" of the Liesbeek River (should the Riverine Corridor Alternative) and at the Berkley Road extension on the banks of the Black River;

5.99.2.3 Although there will be a loss in the extent of terrestrial habitat, the quality of terrestrial habitat will improve by developing the site as proposed (especially if the Riverine Corridor Alternative is selected); and

5.99.2.4 Faunal mortalities, most importantly of Western Leopard Toads, are anticipated both during construction and operation, and extensive mitigation has been carefully planned to avoid and mitigate this impact to sustainable levels.

5.99.3 In summary, various alternative layouts were considered by the proponent through a process of extensive consultation with specialists, most notably freshwater and heritage specialists. The outcome of this iterative process is that the development is anticipated (by the ecological specialists) to lead to an improvement in the quality of aquatic and terrestrial faunal habitat adjacent to the site regardless of the development alternative selected (i.e. both the Riverine Corridor and Island Concept Alternatives are preferable to the No Go Alternative from an ecological perspective).

5.99.4 More detailed operational phase management measures for watercourses will be included in a River Corridor Management Plan is being developed for review by City of Cape Town.

5.99.5 The site is predominantly an infilled, degraded terrestrial area, that does provide terrestrial habitat to Western Leopard Toads, and includes the "unlined course" of the Liesbeek River, which is no longer hydrologically connected to the river; the ecologically sterile Liesbeek Canal, which today takes the main flow of the Liesbeek River and the highly degraded Black River. The "unlined course" of the river is one in name only – the river itself now flows in the canal. The canal lies in close association to the (very important) Raapenberg Wetland. However, ecological connectivity is limited by the canal sides – and probably only occurs in the lower reaches of the canal, where the canal walls have broken down or comprise earth walls. The "unlined course" comprises a

backwater wetland system, backed up by the Black River. Neither its function nor its structure reflect natural riverine conditions.

5.99.6 While in an ideal system, rehabilitation of the remnant "unlined course" of the river should be undertaken, in the context of a highly developed urban area, this is simply not practical. Existing development (e.g. Liesbeek Parkway and the PRASA site) mean that there is no space to provide the channel with the space it needs to carry the full river flows, and the upstream (blocked) offtake from the weir also does not lend itself to passage of full river flows, including maintenance floods, into this channel.

5.99.7 Based on the above, the ecological outcome of the proposed development – namely rehabilitation of terrestrial areas to support Western Leopard Toads, dismantling of the canal to provide a more natural functional river than that provided by the current situation (at the ecologically important Raapenberg Wetland), and the reconfiguration of the "unlined course" to provide shallow, seasonally inundated pools and swales that will lead stormwater flows (more closely replicating the floodplain wetlands once believed to have been associated with the Liesbeek River, as well as with the seasonal Black River) from the development into the remnant backed-up backwater area downstream of the site, is considered an ecological benefit (offsetting impacts of infilling this "unlined course"), provided that the implementation allows for landscaping, planting and maintenances as outlined in the mitigation measures.

5.99.8 The site is an infilled, degraded terrestrial area, that does provide terrestrial habitat to Western Leopard Toads, and includes the "unlined course" of the Liesbeek River, which is no longer hydrologically connected to the river, and the ecologically sterile Liesbeek Canal, which today takes the main flow of the Liesbeek River.

5.99.9 Ecological services provided by the section of the "unlined course" of the Liesbeek River are in fact mainly stormwater conveyance, with some water quality amelioration through passage through vegetation. These functions would be provided in a more managed and efficient manner for runoff from the site – stormwater from the surrounding urban area would be passed into the downstream portion of the "unlined course" through the swale, and would experience slightly improved water quality amelioration - but the effects of this would be marginal, given that the system is backed up by the Black River, which is of really poor water quality.

5.99.10 The loss of wetland habitat by the "unlined course" would be mitigated / offset by the proposed inclusion of standing water ponds along the "swale area", and these would retain stormwater into the early summer, thus supporting Western Leopard Toad breeding cycles, without exposing them to predation from carp, as per the existing backwater system, that links to the Black River.

5.99.11 While in an ideal system, rehabilitation of the remnant "unlined course" of the river should be undertaken, in the context of this highly developed urban area, this is simply not practical. Existing development (e.g. Liesbeek Parkway and the PRASA site) mean that there is not spaced to provide the channel with the space it needs to carry the full river flows, and the upstream (blocked) offtake from the weir also does not lend itself to passage of full river flows including maintenance floods into this channel. So real rehabilitation of this section of the river is not feasible – this is why the proposed rehabilitation of river function and structure, albeit not river restoration, of the canal section is seen as a positive potential outcome, as there is space to provide realistic improvement in river function without unmitigated loss of the functions provided by the "unlined course" of the river: The loss of wetland habitat by the "unlined course" would be mitigated / offset by the proposed inclusion of standing

water ponds along the "swale area", and these would retain stormwater into the early summer, thus supporting Western Leopard Toad breeding cycles, without exposing them to predation from carp, as per the existing backwater system, that links to the Black River.

5.99.12 It is agreed that international trends are favouring daylighting of rivers and the removal of canals where possible. This project has favoured such an approach, by recommending the decanalisation of the Liesbeek Canal. According to the freshwater ecologist and aerial photographs of the site, the "original course" of the river is one in name only – the river itself now flows in the canal, and this is the focus point of river rehabilitation efforts, whereas the "original course" is in fact today functionally only a stormwater outlet into the Black River – albeit with some habitat value, changes to which can be effectively mitigated against (by e.g. rehabilitating the canal).

5.99.13 The Liesbeek River is of high ecological importance. The ecological outcomes of this project, if implemented, would aim to improve ecological function of the Liesbeek River at the site by improving river connectivity (at present the river passes into an ecologically sterile lined canal, which would be largely replaced by a vegetated river channel with flood plain margins and ecological function). The "unlined course" of the river today is fed by stormwater from adjacent urban areas and backed-up water from the Black River and not the Liesbeek River – the Liesbeek River itself now flows in the canal.

5.99.14 According to the freshwater ecologist, on its own, there would be no justification for the infilling of this channel, which at present provides better aquatic habitat than the Liesbeek Canal. However, the ecological gains of rehabilitating the canal, to provide a relatively continuous (albeit intersected by the weir) river system, with a functional riparian zone, compared to the alternative "conservation" of an artificially driven stormwater system within the remnants of what is now an hydrologically disjunct channel, leads the specialist to the conclusion that rehabilitation of the canal must be the ecologically preferred alternative.

5.99.15 In other words, the ecological benefits of rehabilitating the canal and creating a stormwater swale with ecological function at the "unlined course" would more-than offset aquatic ecology impacts of infilling the "unlined course".

5.99.16 On its own, infilling of this remnant course would not be rehabilitation – although the remnant course is highly modified, in that it no longer conveys the Liesbeek River flows, but rather conveys stormwater flows from surrounding urban areas and contains backup water from the Black River. The "rehabilitation" contemplated in the Riverine Corridor Alternative would be the rehabilitation of the Liesbeek Canal, to achieve a level of function more akin to that of the natural river (e.g. with an unlined low flow channel; a connected riparian zone; hydrological links to the upstream river system).

5.99.17 From a strictly faunal perspective, this is correct – the development is anticipated to improve aquatic habitat quality and faunal connectivity should the Riverine Corridor alternative be selected. It should also be noted that the ecological benefits of rehabilitating the Liesbeek Canal are rated as being of high significance (refer to FE3 in Appendix J to the BAR. On the contrary, the Riverine Corridor Alternative would (assuming full implementation of mitigation measures) offer significant improvement in ecological connectivity: currently the canal offers very limited faunal movement opportunities according v the herpetologist on the biodiversity team. The rehabilitation of the canal would include low flow channel, river fringe and river floodplain habitat, as well as a vegetated riverine corridor, and extend the zone of connectivity between the Liesbeek south of the site with the confluence of the canal with the Black River,

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the proposed east-west corridor through the site, the proposed stormwater swale to the west and the Raapenberg Wetland. This will improve the ability of Western Leopard Toads (and other fauna) to move to and through the site, as well as on the periphery.

5.99.18 Connectivity is missing on the existing site – the canal is ecologically sterile, and the "unlined course" of the river lacks hydrological connectivity.

5.99.19 One of the mitigation measures for the project is that sections of the steep river embankment are retained / recreated to provide for nesting opportunities in the bank. The Cape Galaxias fish occur naturally in perennial systems that support riverine / wetland vegetation that will afford them shelter from flood scour. If Riverine Corridor Alternative is implemented, then such habitat should be readily available in the rehabilitated canal – with risk factors being major flood conditions. However – the current canal is very unlikely to support any Cape Galaxias fish (it is a canal) and although the fish have been found in the slow-flowing Liesbeek Lake reaches of the river upstream of the site, they would today occur in the "unlined course" of the Liesbeek River only if they could access it from the polluted Black River (unlikely) or were residual from past connectivity (also unlikely).

5.99.20 A net improvement in faunal aquatic habitat quality is anticipated should the development proceed (refer to impact FA2 in Appendix J to the BAR). Although the Cape Galaxias fish have been found in the slow-flowing Liesbeek Lake reaches of the river upstream of the site, they would today occur in the "unlined course" of the Liesbeek River only if they could access it from the polluted Black River (unlikely) or were residual from past connectivity (also unlikely). Therefore, even in the unlikely event that these fish do occur in the remnant course fronting the site, they would not be "lost" to the system from infilling this portion.

5.99.21 Should the Riverine Corridor Alternative be selected, a perennial system that is hydrologically connected to upper reaches and supports riverine / wetland vegetation would be created. This habitat is favoured by Cape Galaxias. The presence of Galaxias zebratus has been noted – the presence of either of these species in the "unlined course" of the Liesbeek River is questioned, given that it is hydrologically separated from the river itself. The canal rehabilitation project should at least improve habitat for these species, compared to the canal, while if the species can survive in the Black River backwaters of the "unlined course" of the Liesbeek River (unlikely) then such conditions would persist downstream of the site.

5.99.22 Specialist studies and the BAR has conservatively assed that there will be negative impacts of low significance on the population of Western Leopard Toads due to fatalities during construction and operation (refer to impacts FA1 and FA5 in Appendix J to the BAR). These impacts are assessed by the ecologists to be tolerable, and fatalities associated with the project are not expected to affect the survival of this population of the species. It is, however, possible that this population of Western Leopard Toads will benefit from enhanced terrestrial and aquatic habitat and connectivity at the development (see Impacts FE3, FA2, FA3 and FA4), and that population numbers will increase (i.e. a net benefit to this population of Western Leopard Toads in the long term, which has not been assessed in the BAR).

5.99.23 The barriers during the construction phase will be temporary (short-term) structures to keep toads out of high-risk areas until construction or landscaping tasks have been completed. Some of these areas (e.g. landscaped wetlands) will then be opened up again for toad access. Barriers erected for the operational phase will permanent (long-term) structures. In both cases the

barriers are likely to be close to 100% effective in preventing toads from entering hazardous areas.

5.99.24 Search and Rescue operations would be carried out prior to the start of Construction and before each new Phase of Construction begins.

5.99.25 It is not possible to save all Western Leopard Toads during construction and it is assumed that there will be mortalities during this period. The aim is to safeguard a viable population of toads that in time (a few years) will recover to pre-construction population numbers. In fact, with the various mitigation measures in place, including improvement of nodes of breeding and shelter/foraging habitat, the specialists on the project team predict that the population may increase beyond the pre-construction numbers.

5.99.26 If the project is implemented as planned, there should be a net improvement in habitat quality for the Western Leopard Toad, although the available non-breeding area will decrease.

5.99.27 Although there will be a net loss in the extent of terrestrial areas (non-breeding habitat) for Western Leopard Toads), the project aims to improve the quality of non-breeding habitat by extensive planting of indigenous vegetation that will provide cover. Connectivity between the Raapenberg wetlands and the site should also be improved through rehabilitation of the canal should the Riverine Corridor Alternative be selected for development.

5.99.28 The biodiversity report notes that compared to the present situation and given that the proposed development alternatives would both include large areas of landscaped open space, with the design intention of the provision of high quality, safe faunal environments, the loss of degraded terrestrial habitat is considered of low negative significance, given the improvement in its quality.

5.99.29 The following mitigation measures have been included in the operational management section of the EMPr for the development:

- 5.99.29.1 Implement a Western Leopard Toad fatality monitoring programme; and
- 5.99.29.2 Respond to high rates of Western Leopard Toad mortalities in specific areas (e.g. by installing additional faunal movement barriers in these areas).

5.99.30 The Liesbeek is classified as a Fish Support Area (FEPA CODE 2) in the NFEPA database. This dataset also attributes Cape Kurper to the river. The biodiversity report will be amended to include the FEPA Status. The proposed rehabilitation activities associated with the Riverine corridor alternative would support this status, while the Island concept alternative largely represents the status quo from a freshwater ecology perspective (notwithstanding rehabilitation to the remnant course of the Liesbeek River as it fronts the site).

5.99.31 The report notes the presence of this species in the Liesbeek River, noting that it is however unlikely that it breeds in the canal or "unlined course" of the river where it fronts the site – and is more likely to breed in the "Liesbeek Lake" area upstream of the site, where it has been observed by the specialists.

5.99.32 The impact of the Operational Phase of the development is likely to be a positive one for the species as both Alternatives would improve aquatic habitat quality, and the Riverine Corridor Alternative in particular would improve river habitat and connectivity by removal of the canal and its replacement with a vegetated system that would provide enhanced connectivity and support more food for otters and provide vegetated shelter.

5.99.33 Otters are mobile animals, and there is suitable habitat for this species in close proximity (e.g. the upstream Liesbeek Lake). In the event that this species does occur in the "unlined course" of the Liesbeek fronting the site, it would be able to flee construction activities into suitable nearby aquatic habitats where otters are known to occur. The bird specialist comments as follows: Based on 20+

years of development in Century City there appears to be no major negative impact, either of noise or light pollution, on water birds (nor any known on land birds) using the Intaka Island nature reserve (IINR). The IINR has on the contrary been a major night roost, often with >700 water birds of 10+ species, flying onto the island towards dusk. Nor has the considerable range of noise through construction, heavy vehicles and motorcycles etc prevented water birds breeding within the IINR. Rather use of an area is related to the birds' safety. Potential nocturnal predation by fewer than 10 Water Mongoose had a drastic effect on breeding by water birds that had seemingly ignored both noise and light pollution issues.

5.99.34 On a wider scale water birds seem indifferent to heavy levels of traffic e.g. along the R27 where it runs beside Rietvlei and Flamingos have often foraged in the Black River within the M5/N2 cut-off.

5.99.35 There is considerable literature on the impact of noise on land birds based substantially on work in the Netherlands. Some species do tend to move away from major roads though as I recall this was in country rather than urban areas. Urban birds cope remarkably well with both the noise and the close proximity of traffic as shown by Hadeda Ibises foraging on narrow roadside lawns in Century City and in Tableview as do Guineafowl where there is suitable roadside habitat.

5.99.36 Suitable foraging habitat and safety appear to outweigh any impact of noise and light pollution. Birds most likely to be potentially affected by these issues are likely to be country, especially "pristine" vegetation area, species.

5.99.37 With regard to other fauna, although it has been shown that some frog species are affected by traffic noise, this is not considered a significant factor at the Raapenberg Wetland which would be some distance from the development. Moreover, Western Leopard Toads are known to move through urban areas – one of the reasons for their decline as a result of roadkill.

5.99.38 Also keep in mind that the Raapenberg Wetlands are situated closely to the M5. In spite of the close proximity of this high-traffic road that has been a significant source of noise and light for many years, the birds and toad populations at Raapenberg are nevertheless coping with these impacts.

5.99.39 Infilling of the floodplain per se would not necessarily lead to negative ecological impacts. It is the indirect impacts that could have negative impacts, and these often include the following: Loss of floodplain or other ecologically important habitat; changes in flood peaks making sensitive areas vulnerable to more frequent or larger floods; increased flow velocities as a result of loss of capacity, making rivers / wetlands more vulnerable to erosion; loss of buffer areas. These issues have all been carefully considered in this project. Apart from the Liesbeek Canal, Black River, Raapenberg Wetlands and the "unlined channel of the Liesbeek River", the areas below the floodline on and abutting the site do not include any areas of ecological importance but are degraded and infilled.

5.99.40 The biodiversity study depended on the hydrological study for its assessment of the impacts of floodwaters in terms of increased discharge or changes in flood heights / frequency in the Raapenberg wetlands. This study suggested a negligible change, and this issue is thus not considered of ecological significance.

5.99.41 In terms of the City of Cape Town Biodiversity Network (2017):

5.99.41.1 "Conservation, low impact recreation & enviro education (could be supported in sensitive areas) as outlined in site management plan; hard infrastructure (should) only (be located) outside Critical Biodiversity Areas (CBAs) or adjacent or in existing highly degraded areas. Higher impact activities may be permitted on highly degraded areas.";

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5.99.41.2 The River Club property (Erf 151832) is degraded, and hosts no areas of conservation value;

5.99.41.3 The western boundary of the site, or the eastern bank of the unlined, degraded course of the Liesbeek River is classified as an Ecological Support Area (ESA) – the potential impacts of infilling this feature are reported in Impact FE4 and FA2 (Appendix J of the BAR) – in summary, a net ecological benefit in aquatic habitat quality is anticipated from the selection of either development alternative;

5.99.41.4 The eastern boundary of the site as it banks onto the Black River is classified as an ESA – the potential impacts on this ESA are reported in Impact FE2 (Appendix J of the BAR) – a very low significance impact is anticipated following mitigation (i.e. reinstatement of the wetland following construction); and

5.99.41.5 The Raapenberg Wetland is listed as a CBA – the potential impacts on which are reported in Impact FE5 (Appendix J of the BAR) and are found to be insignificant.

5.99.42 Raapenberg wetlands and the SAAO sites host important habitat, with Critically Threatened Peninsula Shale Renosterveld occurring on the latter. However, on the River Club development site itself, there is no critically threatened habitat, and no impacts on the ecology of the SAAO, and ecologically important Raapenberg wetland are anticipated.

5.99.43 The "unlined course" of the Liesbeek River is listed as a Conservation area on the City of Cape Town Biodiversity Network / SDF does provide nesting and feeding habitat to important bird species and other fauna. The impacts to these have been considered in the Biodiversity report – both alternatives are expected to achieve an improve habitat quality on the site.

5.99.44 The loss of degraded but ecologically valuable backwater wetland habitat at the "unlined course" associated with the Riverine Corridor Alternative would be mitigated / offset by:

5.99.44.1 The proposed inclusion of standing water ponds along the "swale area", and these would retain stormwater into the early summer, thus supporting Western Leopard Toad breeding cycles, without exposing them to predation from carp, as per the existing backwater system, that links to the Black River.

5.99.44.2 The proposed rehabilitation of a river system in what is now a sterile canal.

5.99.45 The loss of backwater wetland (even though it is disconnected from the upstream river), could not be sanctioned without this substantial mitigation. Standing water habitat of the "unlined course" of the Liesbeek River would be lost and replaced with swales and pools (which will provide avifaunal habitat).

5.99.46 The Riverine Corridor Alternative would (from an ecological perspective) provide riverine habitat more closely akin to natural ecological conditions, and the loss of deep swimming habitat is not considered to be a significant avifaunal impact (standing water habitat for avifauna would be available in the Black River, in the Liesbeek Lake area upstream, and in the remnant section of the "unlined course" of the Liesbeek River, downstream of the site).

5.99.47 Flamingos would be able to wade in the shallow margins of the rehabilitated Liesbeek Canal in terms of Riverine Corridor Alternative. Given that Riverine Corridor Alternative seeks (from an ecological perspective) to provide riverine habitat more closely akin to what was there before, the loss of deep swimming habitat is not considered an issue.

5.99.48 The botanical specialist found no areas of any floral importance on the River Club site and concluded moreover that the proposed development at this site would be highly unlikely to impact negatively on the dryland renosterveld

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vegetation at the adjacent SAAO site, including the Critically Endangered Moraea aristata populations.

5.99.49 Impacts of the pollution / contamination of freshwater environments during construction and operations have been assessed in the BAR (Appendix J, Impacts FE2 and FE6 respectively) and found to be of low significance with the strict application of mitigation measures.

5.99.50 The development allows for linkage of the system via two 160mm diameter HDPE rising mains to a break-pressure manhole outside of the site – they would run mainly in the basements of the built precincts, but would be trenched in for a short distance between the basements and the property boundary, with a single 160mm diameter HDPE rising main crossing Liesbeek Parkway to tie into the existing mains, and gravity feed from here. The east-west ecological corridor and the natural channel of the Liesbeek River / swale area would be crossed by these pipelines.

5.99.51 Implicit in development design are however two new pump stations, which would be located in basements, to contain spillage / leakage and minimise the chance of its passage into watercourses in the event of malfunction – the sump would have a 2-hour overflow capacity, after which sewage would pass into the basement. Appendix K4 to the BAR outlines a reaction plan framework in the event of power or pump failure. There is always a possibility that sewage would leak at times into the adjacent rivers via the stormwater system. This is assessed in Section 5.3.2 of the specialist biodiversity impact assessment report, and additional mitigation measures outlined.

5.99.52 It is the opinion of the freshwater ecologist that an increase in the frequency of inundation of the Raapenberg Wetland, and a decrease in the time taken to drain following (infrequent) inundation, would have a negative ecological impact on the wetland.

5.99.53 A channel was excavated by the FOTL into the wetland which has effectively increased the frequency of inundation and decreased the time that the wetland takes to drain.

5.99.54 The surface water hydrology impact assessment has found that (see Section 4.4 of Appendix G3 to the BAR):

5.99.54.1 Should the intervention be reversed, the development will lead to no significant change in the performance of the wetland; and

5.99.54.2 Should the intervention not be reversed, the wetland will be inundated more frequently (achieving the purpose of the intervention).

5.99.55 The freshwater ecologist reiterates the recommendation to reverse this intervention, as per the development proposal.

5.99.56 The biodiversity impact assessment has taken a precautionary approach and considered impacts on faunal species that are known to occur in the region but are not necessarily known to occur at the site and surrounding freshwater ecosystems. It is therefore extremely unlikely that habitats that important to species not known to occur in this part of Cape Town will be negatively impacted by the project.

5.99.57 The freshwater ecology impact assessment focuses on impacts associated with aquatic ecosystems, and the experienced, independent specialist of international standing stands by the findings.

5.99.58 The setback on this boundary for the preferred alternative will be 40 m from the existing eastern canal wall and buildings at the development. A 10 m setback will be allocated from the northern property boundary and buildings associated with the development.

5.99.59 As well as the function of ameliorating water quality impacts, the stormwater system would be constructed and managed so as to facilitate the creation and long-term management of ponds with standing water lasting at least into

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late November / early December within the system, in order to allow breeding by Western Leopard Toads (and other wetland fauna).

5.99.60 The freshwater ecologist has confirmed that the setbacks are adequate to ensure protection of these systems – the interface with the Raapenberg wetlands should be more resilient and afford better ecological connectivity than that at present.

5.99.61 The entire site will be the subject of construction activities (including watercourses during extensive rehabilitation activities), and all areas outside of the site boundary (most notably the Raapenberg Wetland) will be defined as no-go areas during construction. The impact of water contamination during construction is addressed in Impact FE1 in Appendix J of the BAR.

5.99.62 A survey of terrestrial areas at the site concluded that the River Club site "has no indigenous vegetation, being located on old fill material" (see Appendix G2 to the BAR), however, stands of common reed (Phragmites australis) would be cleared for the construction of the Black River bridge (conservatively estimated at 0.35 ha), for the infilling of the "unlined" course of the Liesbeek River (estimated at 0.37 ha based on the extent of the wetland here reported in the City of Cape Town biodiversity network) and for the construction of the Berkley Road crossing over the Liesbeek River (conservatively estimated at 0.15 ha). No other indigenous vegetation would be cleared for the project. Therefore, it is calculated that less than 0.9 ha of indigenous vegetation would be cleared for the project. However, noting the uncertainty of the extent of common reed in the unlined course of the Liesbeek River, this activity has been conservatively added to the application.

5.99.63 The majority of the faunal corridor has a width of 70m or more and has a minimum width of 65m. Furthermore, 40% of this corridor (i.e. at least 25m) must be managed as an ecological refuge (or buffer).

5.99.64 The biodiversity specialists have assessed the width of the corridor to be adequate.

5.99.65 The freshwater ecologist appointed for the BA concluded that the 10m buffer is adequate and has assessed impacts on this basis.

5.99.66 The BlueScience (2016) assessment that informed the Draft LSDF indicated that "a buffer width of 35 m is recommend that would need to extend along the river corridors" (as is proposed at the restored Liesbeek River), and that the old Liesbeek course should either be retained and restored, or that the channel could be replaced "with a series of smaller wetland areas" (in conjunction with the restoration of the canal – this is achieved in the design).

5.100 I concur with the Respondent Statements that:

5.100.1 Although the faunal baseline study was based on available data and an assessment of habitat suitability, where the likelihood of certain species being present is low, a conservative approach to include the said species was undertaken. The Biodiversity Impact Assessment, which included as assessment of the potential biodiversity impacts and incorporated the findings of the aquatic ecosystems, botanical, faunal, avifaunal and groundwater specialists was undertaken. Site inspections were conducted by the main specialist (i.e. the freshwater specialist) between 2015 and 2017.

5.100.2 The biodiversity specialist indicated that where the uncertainty of a species to occur in an area is low, a risk averse and conservative approach is applied. Therefore, although the likelihood of, inter alia, the Cape Dwarf Chameleon and the African clawless otter is low, the potential impacts on these species were considered in the specialist reports.

5.100.3 The primary flow of the Liesbeek River no longer enters the unlined course (referred to as the "river" by the City of Cape Town Environmental Management Department officials).

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5.100.4 Specialists have determined that the unlined course is a transformed habitat, with limited ecological function, fed primarily by stormwater and back-flow of polluted water from the Black River.

5.100.5 One of the key components of the development proposal is to naturalise the canalised course of the Liesbeek River (where it has been flowing for the last 80 years - including the removal of the concrete base structure), thereby turning this hydraulically connected, but sterile, canalised aquatic environment into a 40m+ wide river and riparian area (in the setback) which will have significantly more ecological function than the hydraulically disconnected and transformed but unlined course.

5.100.6 Another key component of the proposal is to establish a terrestrial and aquatic transition area ("swale") in the hydraulically disconnected, unlined course (comprising a mosaic of wetland pools, wetland swales and, importantly, high quality terrestrial habitat for the Western Leopard Toad). This component is also considered by the specialists to be an ecological benefit in and of itself, and an important offset for the loss of currently degraded terrestrial habitat at the site. Terrestrial habitat is required for Western Leopard Toads during non-breeding periods.

5.100.7 This "swale" would also serve the function of stormwater conveyance and amelioration – this function would not be lost as is claimed by the Appellant. Furthermore, the surface water hydrologists indicate that this feature will be more similar to the (historical) natural off-channel transitional environments of the lower Liesbeek than is the current case of the unlined course.

5.100.8 As well as the terrestrial ecology benefit, the low significance loss of wetland habitat in the unlined course (which is well represented elsewhere) is more than offset by establishing the swale here (and the high significance benefit of re-establishing / naturalising the current canalised river course as a highly functional aquatic environment (i.e. the project has been assessed to have a net benefit from an aquatic ecology perspective).

5.100.9 The City of Cape Town has ignored these specialist findings and refer to "*piping a 30m wide river underground*" – a complete misrepresentation of the proposal to naturalise the current canalised course of the river and retain the flow here.

5.100.10 The overall aquatic ecology effect of the project is considered positive when considering the proposal to naturalise the current, canalised course and rehabilitating the old course into wetland swales.

5.100.11 By overlooking or ignoring the proposal to naturalise the current course of the Liesbeek River at the site, the Appellants envisages a reduction in ecological connectivity through the site, again directly in contrast to specialist findings that while the site "*currently affords faunal connectivity, access across the site is risky and connectivity is poor*", and the "*canal offers very limited faunal movement opportunities*". However, "*the rehabilitation of the canal would extend the zone of connectivity between the original course of the Liesbeek south of the site with the confluence of the canal with the Black River, the proposed east-west corridor through the site, the proposed stormwater swale to the west and the Raapenberg Wetland*".

5.100.12 On this basis, the specialist concludes that therefore the preferred alternative "*will improve the ability of Western Leopard Toads (and other fauna) to move to and through the site, as well as on the periphery*".

5.100.13 The Appellants selectively quotes from the BlueScience, 2016, Freshwater Ecology Impact assessment (which in fact aligns with the Biodiversity Impact Assessment for the River Club in general terms) to motivate for a larger buffer from the bioswale (current unlined course) without acknowledging the 40m wide setback from the new naturalised course. In this regard the BlueScience (2016) assessment indicated that "a buffer width of 35 m is recommended that

would need to extend along the river corridors" (as is proposed for the restored Liesbeek River, currently canal), and that the old Liesbeek course should either be retained and restored, or that the channel could be replaced "with a series of smaller wetland areas" – which is proposed by the project and ignored by EMD officials.

5.100.14 In conjunction with the restoration of the canal and wide setback here – this is achieved in the design.

5.100.15 Potential impacts on the plant species Moraea aristata (located on the SAAO site) are not anticipated and impacts on the Western Leopard Toad have been considered in detail (and mitigated for) and are assessed by qualified specialists to be acceptable.

5.101 CapeNature, the authority responsible for biodiversity conservation in the Western Cape, stated *inter alia* that:

5.101.1 It supports the approach of an integrated biodiversity assessment report, as it has successfully incorporated the findings and recommendations of each of the specialists to provide a holistic recommendation.

5.101.2 In general, CapeNature agrees with the findings and recommendations of the biodiversity impact assessment.

5.101.3 Proposed mitigation measures and recommendations of all the components of the biodiversity assessment must be implemented, in particular the faunal and aquatic ecosystems.

5.101.4 Minimal changes have been made to the faunal and avifaunal reports. CapeNature's previous comments regarding the biodiversity assessment are therefore still relevant and we agree that the avifaunal and faunal assessments are still relevant.

5.102 Considering the above, this ground of appeal has been adequately addressed.

Appeal ground 8: Failure to consider appropriate alternatives, including the no-go alternative

5.103 In terms of the criteria to be considered by the Competent Authority when considering Applications, section 24O(1)(b)(iv) of the NEMA further states that if the Competent Authority considers an Application for an EA, it must consider *"where appropriate, any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment."* Therefore, the alternatives must be considered as reasonable and feasible for inclusion in the EIA process.

5.104 The definition and assessment requirements relating to "alternatives" makes it clear that the obligation to consider alternatives may be achieved in a variety of different ways including site locations, types of activities, design or layout; and technological or operational aspects of undertaking the activity (either in combination or in isolation of each other).

5.105 When Appellants claims that *"there is no meaningful consideration of alternatives whatsoever"* and the *"reduction of the Heritage Significance... is not something that can be mitigated, as it wholly ignores the broader issues pertaining to a highly significant cultural landscape"*, the Supplement to a HIA, dated 4 December 2019, in response to HWC stated *inter alia* that:

5.105.1 The cost of the installation of services to the unserviced site alternative (which will benefit a greater area than just the site in question) will be high as will the ecological restoration of the riverine corridor, of the old pre-1952 river course and of the connecting ecological corridor between the two courses; and certain portions of the site must be filled to above the 1:100 flood-line which will also entail significant cost. Also, the provision of inclusionary housing and of