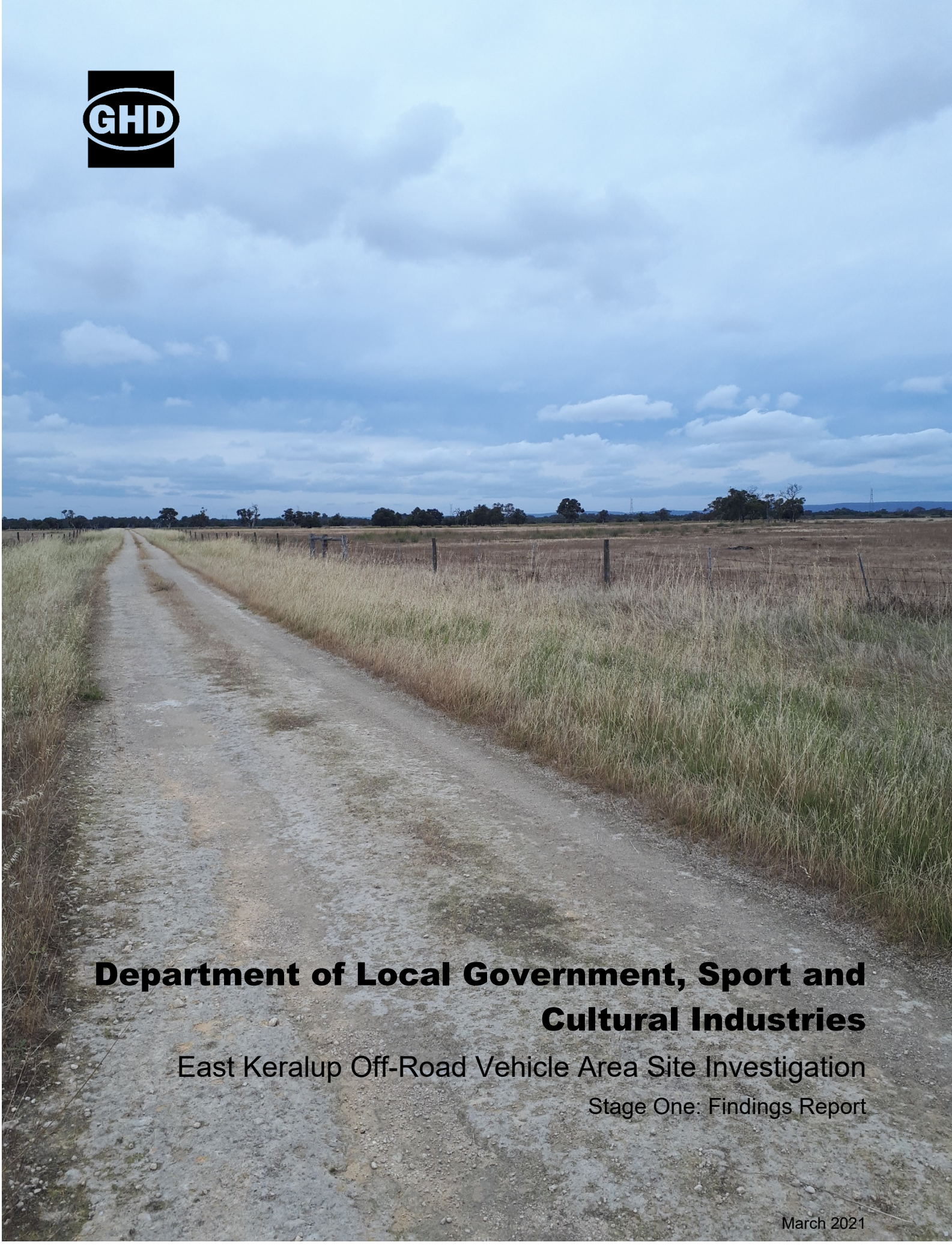

Department of Local Government, Sport and Cultural Industries

East Keralup Off-Road Vehicle Area Site Investigation

Stage One: Findings Report

March 2021

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Appendix A - Nature Map report

1. Introduction

Trail bike usage is a recognised and legitimate pastime when undertaken in sanctioned areas and/or on road-registered bikes on legal trails, roads and tracks throughout Western Australia (WA). For decades, however, the use of off-road vehicles (ORV) has raised concerns for local governments and communities in WA, and other jurisdictions in Australia. The impacts of ORV use are well documented and centre primarily on community safety, environmental, economic and social impacts (WALGA, 2018).

In WA, areas where use of ORV are permitted is regulated under the *Control of Vehicles (Off-Road Areas) Act 1978* (the Act). There are currently six permitted areas gazetted under the Act:

1. Gnangara
2. Medina
3. Lancelin
4. Pinjar
5. York
6. Karratha

There are several other Permitted Areas including in Ledge Point, Cervantes, Geraldton, Carnarvon, Karratha and Port Hedland, although these have not been gazetted under the Act.

The lack of sanctioned off-road trails and facilities, particularly in the Perth metropolitan area, has led to significant impacts on other trail users as well as reducing environmental and other values of various trails (Department of Sport and Recreation, 2017), reserves and parks subjected to unauthorised ORV use (GHD, 2018).

The lack of a designated ORV area easily accessible to residents to the south of the Perth metropolitan area is of particular concern. An area in the eastern part of Keralup has been identified for potential development and use by ORV.

This report will assess the potential of this site based on environmental and social opportunities and constraints. Two potential locations were initially considered, however, initial stakeholder engagement determined that one of the sites was fatally flawed and should not be considered for use by ORV. The findings study therefore focusses on the second site (Figure 1), herein referred to as the subject site.

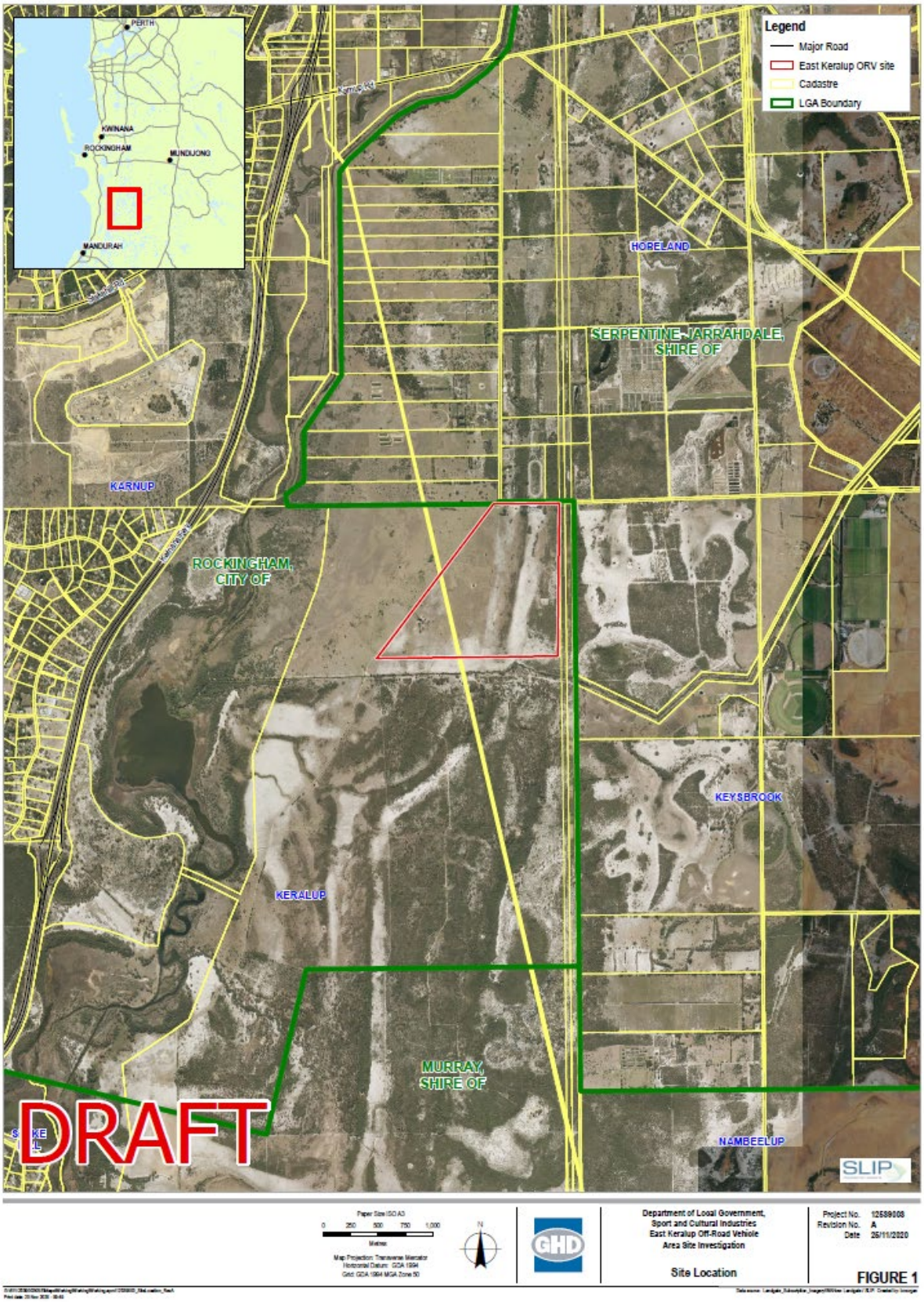

Figure 1 Off-road vehicle site investigation area

1.1 Strategic alignment

Western Australian Strategic Trails Blueprint (2017-2021)

The Western Australian Strategic Trails Blueprint 2017-2021 (Blueprint) is an overarching guide for consistent and coordinated planning, development and management of quality trails and trail experiences across WA.

Vision: By 2021 more people will be using Western Australia's trail network resulting in greater community, social, cultural, economic, environmental, health and wellbeing outcomes for Western Australia.

The Blueprint recognises that whilst the majority of trailbike riding is done by licenced riders on road-registered trail bikes on roads and tracks across the State, there are limited opportunities for sanctioned off-road recreational trailbike riding experiences and no long-distance trails. Lack of sanctioned trails and facilities impacts on other trail users and can reduce environmental and other values through the development of unsanctioned trails.

The Blueprint recommends the development of State-wide activity-based trails strategies including trail bikes and 4WD.

Off-Road Vehicle (ORV) Regional Land Use Planning Study (2010)

This study identified potential land (areas and trails) for the lawful use of the various forms of off-road vehicles by different user segments. The study considered environmental, social and legal constraints as well as user requirements. This study encompassed areas within the Darling Range, roughly from the City of Swan to Collie and did not include locations in the vicinity of the subject site.

Back on Track: State Trail Bike Strategy (2008), WA

The State Trail Bike Strategy recommends a series of actions to aid the transition of recreational trail bike riding from unplanned, unmanaged and unsustainable, to planned, managed and sustainable. It was envisaged that implementation of the Strategy would:

- Result in a reduction in antisocial behaviours associated with trail and quad bikes (through access to better facilities and education)
- Adequately address concerns from different stakeholder groups
- Establish an improved governance and funding model
- Improve trail and venue facilities that are planned and developed with and for the user
- Clarify insurance and liability responsibilities

The action plan included identification and establishment of an off-road vehicle area (ORVA) in the south metropolitan and eastern/hills areas.

Metropolitan Region Scheme

The subject site is zoned Rural under the Metropolitan Region Scheme. The City of Rockingham has delegated approval responsibility for land use and development on this land.

South Metropolitan Peel Sub-regional Planning Framework

The State Government released the Perth and Peel @ 3.5 million suite of documents in 2018, which provide long-term strategic planning direction for land use and development through to 2050. Land use and development of the subject site is guided by the South Metropolitan Peel Sub-regional Planning Framework (the Framework).

The Framework outlines key long-term land use proposals, classifying the subject site as Rural, however, noting that further investigation is required to consider alternative future land uses. Such uses could include a combination of activities providing opportunities for recreation, environmental management, economic activity and/or agribusiness.

Investigation of the identified area for use by ORV broadly aligns with the Sub-regional Planning Framework, however, the Framework also identifies the need for a cemetery in this area and conflicts between these land uses need to be considered.

City of Rockingham Local Planning Scheme No.2 (2004)

The subject site is zoned Rural under the City of Rockingham's Local Planning Scheme No.2. General objectives of Local Planning Scheme No.2 include optimising the provision of services and facilities for the community and reconciliation of community needs and aspirations with appropriate land use and development. The use of the subject site by off-road vehicles is likely to be considered as a use not listed. The City may therefore:

1. Determine that the use is consistent with the objectives and purpose of the particular zone and is therefore permitted
2. Determine that the proposed use may be consistent with the objectives and purposes of the particular zone subject to advertising the proposal to the public
3. Determine that the use is not consistent with the objectives and purposes of the particular zone and is therefore not permitted

A linear east west section of land to the south of the subject site is zoned public purposes. This is the location of the Punrak Drain.

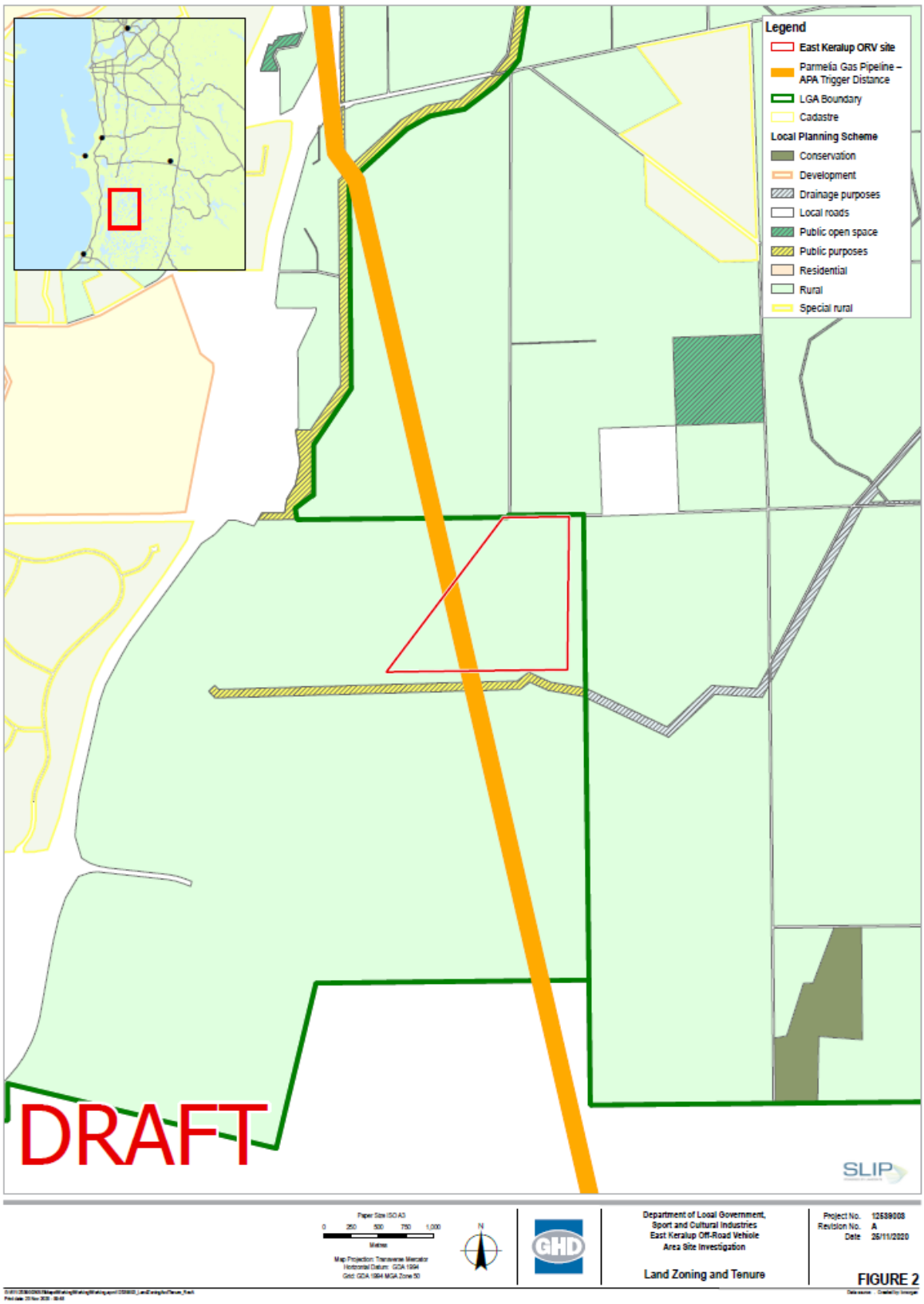

Figure 2 Land zoning – City of Rockingham Local Planning Scheme No.2 (2004)

1.2 Legislative Framework

1.2.1 Control of Vehicles (Off-road Areas) Act 1978

Within WA, the use of off-road vehicles is regulated under the *Control of Vehicles (Off-road Areas) Act 1978* (the Act). Under section 5 (1) of the Act, which states '*Subject to the Minister, and in co-operation with the Director General, it shall be the duty of a local government to administer and enforce the provisions of this Act within its district*', the local government authority is the City of Rockingham (the City). When the Act was proclaimed, the Governor declared that the Act only be applied to the parts of the State listed in the Schedule. This includes the City of Rockingham.

The City also has responsibilities in relation to off-road vehicles and off-road vehicle areas under various other legislation, such as the *Local Government Act 1995*, the *Civil Liabilities Act 2002* and local government by-laws.

The term 'off-road vehicle' is used to describe a vehicle that is not licensed, deemed to be licensed, or subject of a permit granted under the *Road Traffic Act 1974* (WA) and may include trail bikes, go-karts, two or four wheel motorbikes and four wheel drives. It is an offence for vehicles to be driven in an off-road area unless on:

- Private land with consent; or
- Land within a permitted area as declared under the Act.

Under the Act, a person is not permitted to drive an off-road vehicle on any land, whether public or private, in a manner which creates or causes undue or excessive noise.

Under the *Civil Liabilities Act 2002*, there is no liability for harm caused by obvious or inherent risks associated with recreational activities, such as riding off-road vehicles. There have been no successful off-road vehicle claims since the *Civil Liabilities Act 2002* was introduced. Duty of care measures for local governments and other land managers includes signage, management, inspection and maintenance of ORVAs.

1.2.2 Environmental Protection (Noise) Regulations 1997

The *Environmental Protection Act 1986* states that noise includes vibration of any frequency, whether transmitted through air or any other physical medium. The *Environmental Protection (Noise) Regulations 1997* (the Regulations) operate as a prescribed standard under the Act and set limits on noise emissions (assigned levels).

Schedule 1, Part C of the Regulations define noise sensitive premises, which include:

- Premises occupied solely or mainly for residential or accommodation purposes
- Rural premises

Both types of premises are located in the vicinity of the subject site. The assigned levels for receiving noise at noise sensitive premises: highly sensitive area is provided in Table 1.

Table 1 Receiving noise assigned levels at noise sensitive premises: highly sensitive area

Time of day	Assigned level (dB)		
	$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
0700 to 1900 hours Monday to Saturday	45 + influencing factor	55 + influencing factor	65 + influencing factor
0900 to 1900 hours Sunday and public holidays	40 + influencing factor	50 + influencing factor	65 + influencing factor
1900 to 2200 hours all days	40 + influencing factor	50 + influencing factor	55 + influencing factor
2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays	35 + influencing factor	45 + influencing factor	55 + influencing factor

The prescribed standard for noise emissions (Regulation 7) does not apply to noise emitted from a motorsport venue during the conduct of a racing activity at the venue if the racing activity is conducted in accordance with an approved noise management plan, excluding any ancillary measure, for the venue.

Before making a decision relating to a noise management plan for a motorsport venue, reasonable opportunity should be provided for occupiers of any noise sensitive premises within one kilometre of the venue, the local government and any other person considered appropriate to make a submission.

1.2.3 Environmental Protection (Clearing of Native Vegetation) Regulations, 2004

Under the *Environmental Protection Act, 1986* (EP Act) and *Environmental Protection (Clearing of Native Vegetation) Regulations, 2004,* it is an offence to clear native vegetation unless the clearing is done in accordance with a clearing permit. The removal of native vegetation to develop off-road vehicle tracks and ancillary uses (such as parking and ablutions) is likely to require a clearing permit.

1.3 Scope and limitations

This report: has been prepared by GHD for Department of Local Government, Sport and Cultural Industries and may only be used and relied on by Department of Local Government, Sport and Cultural Industries for the purpose agreed between GHD and the Department of Local Government, Sport and Cultural Industries as set out in section 1 of this report.

GHD otherwise disclaims responsibility to any person other than Department of Local Government, Sport and Cultural Industries arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

GHD has prepared this report on the basis of information provided by Department of Local Government, Sport and Cultural Industries and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Desktop Environmental and Heritage Impact Assessment

2.1 Location

The subject site is part of Lot 802 River Road, located in the suburb of Keralup in the City of Rockingham. The site is bounded by the Shires of Serpentine Jarrahdale and Murray approximately 50 kilometres south of the Perth CBD and is approximately 190 hectares (refer to Figure 1).

2.2 Environment

The following section provides a summary of the key environmental attributes of the subject site.

2.2.1 Vegetation and fauna

Bush Forever

Bush Forever seeks to protect a target of at least 10 percent of the original extent of each vegetation complex within the Perth Metropolitan Region portion of the Swan Coastal Plain. The subject site is not identified as a Bush Forever site.

Bush Forever site 378 is located to the north east of the subject site. Bush Forever Site 394 is located to the west of the subject site associated with the Serpentine River (Figure 3).

Risks to Bush Forever sites from unauthorised off-road vehicle use can be managed through measures such as fencing and on-site management of the facility.

Implications

Access to Bush Forever sites will not be provided through the use of the subject site as an ORVA. Access to the wider area, including Bush Forever sites should be restricted.

Native vegetation extent

Approximately 42 hectares of remnant vegetation remains on the subject site. The vegetation is mapped as belonging to the Bassendean Complex-Central and South vegetation complex. The Bassendean Complex-Central and South vegetation complex is considered to be regionally significant with less than 10 percent of the original extent formally protected within reserves (WALGA 2011).

Vegetation in the Bassendean Complex-Central and South complexes ranges from woodland of *Eucalyptus marginata* (Jarrah) - *Allocasuarina fraseriana* (Sheoak) - Banksia species to low woodland of Melaleuca species, and sedgelands on the moister sites (Department of Biodiversity, Conservation and Attractions, 2019).

The condition of the vegetation ranges from completely degraded to good. The better condition vegetation is located in the central and eastern areas of the site and should be avoided where possible.

Implications

Site design should avoid clearing of native vegetation where possible. Where clearing of native vegetation is required to create tracks and amenities such as parking and ablutions, a clearing permit is likely to be required.

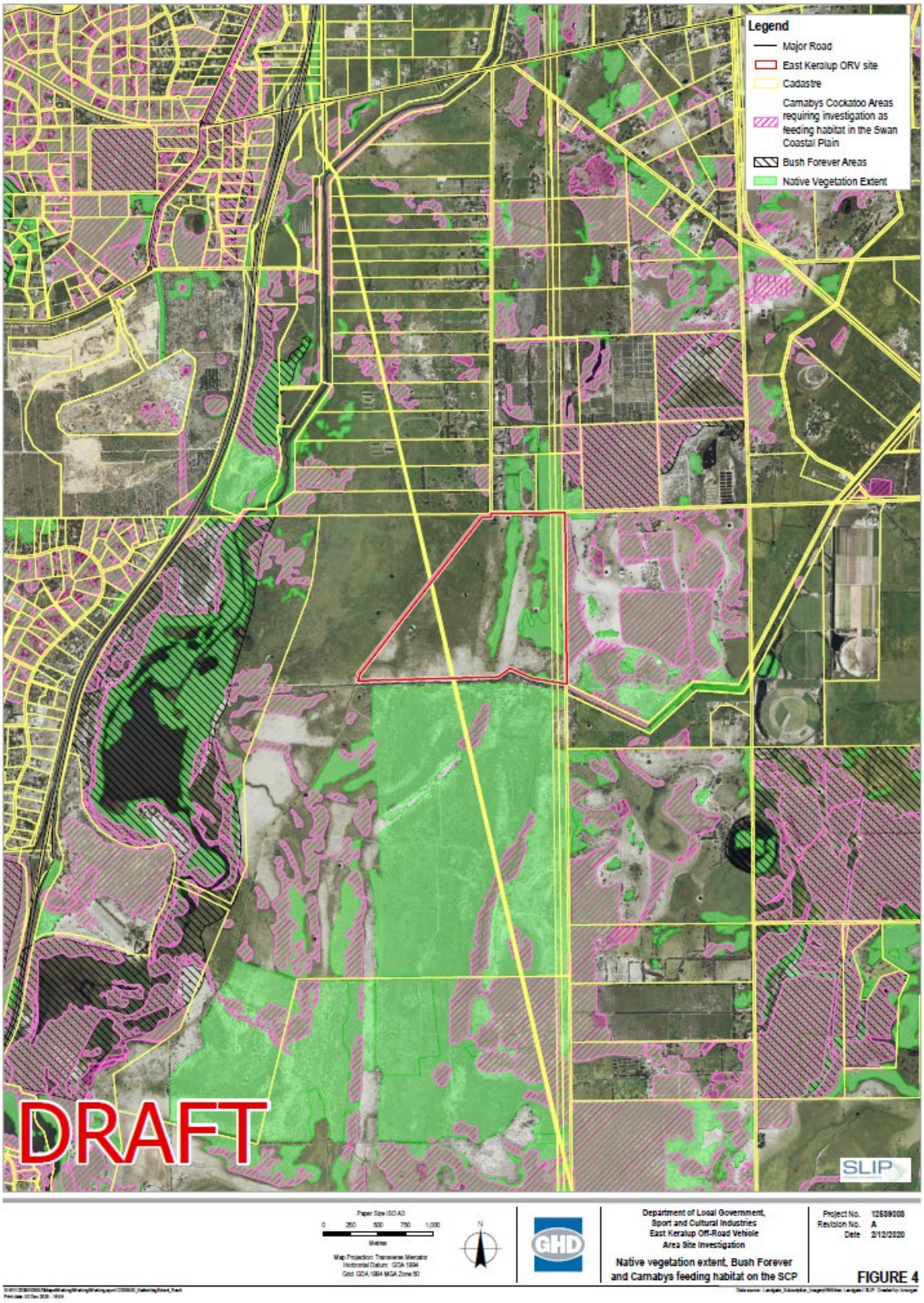

Figure 3 Native vegetation extent (DPIRD, 2020), Bush Forever (DPLH, 2020) and Carnaby's feeding habitat (DBCA, 2020)

Flora and Fauna

A species search was conducted on the 23 November 2020 using the Department of Biodiversity, Conservation and Attractions NatureMap tool. A search of the area within a two kilometre radius revealed the presence of three native species and one naturalised species within the immediate vicinity of the subject site.

4. *Lepidosperma effusum* (Spreading Sword-sedge)
5. *Phascogale tapoatafa subsp. wambenger* (South-western Brush-tailed Phascogale, Wambenger)
6. *Pinus pinaster* (Pinaster Pine)
7. *Rhagodia baccata subsp. baccata*

Only the Spreading Sword-sedge has been recorded on the subject site. The other species are located in the Bush Forever site 378. The Pinaster Pine is a naturalised species, potentially providing foraging habitat to threatened black cockatoo species. The Southern-western Brush-tailed Phascogale is listed as Specially Protected under the *Biodiversity Conservation Act, 2016*.

The vegetation on site is not mapped as feeding habitat for Carnaby's Black Cockatoos (Figure 3). On-site observations suggest a predominance of introduced grasses, sedges and isolated trees, suggesting the value for foraging by Carnaby's and other species of Black Cockatoos is limited.

There is more extensive occurrences of remnant vegetation and pockets of potential feeding habitat for Carnaby's Black Cockatoo in the southern section of Lot 802.

Implications

Access to the southern part of Lot 802 should be restricted to avoid damage to native vegetation associated with that area.

2.2.2 Weeds and diseases

Diseases such as Phytophthora dieback and canker can alter the structure and floristic of natural areas through causing the death of native vegetation. A search of the Dieback Information Delivery and Management System does not indicate the known presence of Phytophthora dieback. A visual assessment of the proposed area and surrounds confirms an area of historical grazing. It is unlikely that use of this area by ORV will contribute significantly to the spread of Phytophthora dieback.

Due to the cleared nature of the area, the presence of weed species is likely. However, the buffer between the area proposed for use by ORV and areas of native bushland means that the proposed use will not likely spread weed species into areas of bushland.

Implications

Site design should avoid areas of native vegetation where possible. When identifying suitable areas for ORV use, if Phytophthora dieback susceptible species are observed, consider undertaking disease confidence mapping to ensure that the disease is not spread.

Management measures such as fencing should be incorporated to ensure that site users remain in the designated area.

2.2.3 Geology and soils

Geology and soils

Mapping data for the site indicates sandy soil (Bassendean Sand) underlain by clays and silt of the Guildford Formation. The geological description of the site is $S_{10.}$ The site is also documented as prone to waterlogging primarily as a response to meteorological recharge.

Acid sulfate soils

Acid sulfate soils (ASS) occur naturally in WA and are harmless when left in a waterlogged, undisturbed environment. However, when exposed to air, through drainage or excavation, the iron sulfides in the soils react with oxygen to produce iron compounds and sulfuric acid. This acid can mobilise other substances, including metals (and metalloids), nutrients (phosphate) from the soil and into the surrounding environment and waterways.

Activities with the potential to disturb ASS must be managed carefully to avoid serious environmental harm. The subject site is mapped by the Department of Water and Environmental Regulation (DWER) as 'Moderate to low risk of acid sulfate soils occurring within 3 m of natural soil surface but high to moderate risk of ASS beyond 3 m of natural soil surface'.

Soils within this risk category are required be investigated where soil or sediment disturbance is greater than 100 m^3 below the natural watertable.

Figure 4 Example tracks caused by 4WD (GHD, 2018)

Implications

Sandy soils are likely to be generate dust in dry conditions when used by ORV. The volume of dust generated will be influenced by the amount and type of use and should continue to be investigated so that a dust management plan can be developed as part of ongoing management considerations.

It is not envisaged that disturbance from ORV such as trail bikes, motorbikes and quad bikes will cause significant oxidisation and subsequent acidification below the surficial surface. Erosion and impact from 4WD usage can create significant ruts 1-3 metres in depth (Figure 4), which may disturb minor volumes of soils. A site investigation for ASS may be required depending on the proposed use (vehicle types) and site works (excavation vs. fill). This may result in a requirement to prepare of an acid sulfate soils management plan.

2.2.4 Groundwater

The subject site is included in the Department of Water and Environmental Regulation's Perth Groundwater Atlas 2020, which estimates the depth to groundwater at a minimum of 5 metres.

Figure 5 Example site waterlogging, GHD November 2020

The site is mapped as a multiple use wetland (Figure 7) and observations of waterlogged soils during a visit to the site indicates the watertable may be higher than this for parts of the year (Figure 5), potentially due to a perched water table. This is also confirmed by previous studies conducted at the site during its assessment for suitability for urban development.

Implications

A high groundwater table may have implications for the types of ORV use that can occur at the site, track design and track maintenance. For example:

- Waterlogged conditions may be desired by/ attract 4WD use – although this may cause increased risk of ASS exposure.
- Trailbike and motorcross tracks may only be accessible seasonally
- Trailbike and motorcross tracks may require fill/stabilisation.

2.2.5 Surface water

There are five perennial man-made dams located on the subject site (Figure 7). The Punrak Drain forms the southern boundary of the site (Figure 6). The Punrak Drain flows into Lake Armarillo, one of the Serpentine Lakes. It is responsible for contributing to large amounts of nutrients, especially nitrogen, to the Serpentine River and lakes and depositing sediment in the drain outflow. Punrak Drain flows year-round during wet years but stops flowing from around December to May in dry years (Department of Water, 2015).

The Punrak Drain is known to have become choked with grass and other weed species despite revegetation efforts. Stock have been excluded from the drain.

The Serpentine River and associated lakes are approximately 1.5 kilometres to the west of the subject site. Access to the western part of the Lot 802 is currently restricted with fencing.

Implications

Direct access to the Punrak Drain should be prohibited. The access track forming the western boundary of the subject site crosses the Punrak Drain. A gate may be required to restrict access to the southern part of Lot 802.

The western boundary fence should be maintained to restrict access to the western part of Lot 802.

Figure 6 Punrak Drain, GHD November 2020

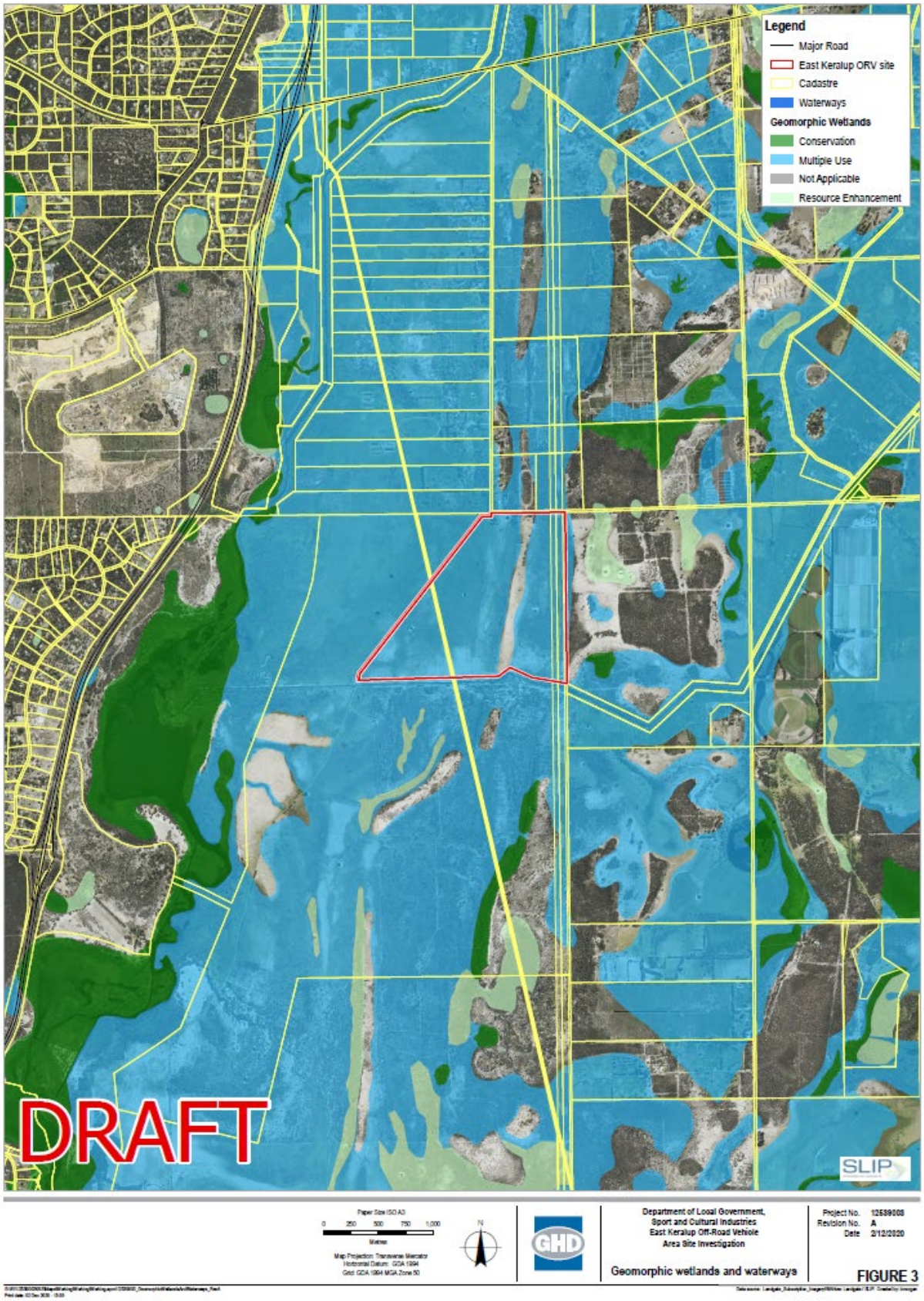

Figure 7 Wetlands and Waterways (DWER, 2020)

2.2.6 Contaminated sites

There are no known contaminated sites listed at or in the vicinity of the subject site.

Implications

Nil

2.2.7 Mosquitoes

The subject site and surrounding Keralup area was investigated for predominantly residential use in 2012. A proposal to amend the Metropolitan Region Scheme to zone the area urban deferred resulted in advice from the Environmental Protection Authority (EPA). The EPA advised that mosquitoes are known to breed in the area and the risks from this would require management if there was an increase in residential population.

Management measures proposed to manage these risks included:

- Maintaining a mosquito management buffer around main breeding habitat areas
- Minimise planting of dense woodland vegetation to discourage further mosquito breeding
- Improve biodiversity to encourage species that are predators of mosquitoes

Ultimately, residential expansion of Keralup did not proceed with the presences of mosquitoes potentially carrying Ross River virus listed as one of the reasons.

Rockingham is considered to have a Frequent high Ross River Virus risk (Department of Health, website, accessed 26.11.2020).

Implications

Use of the site as an ORVA will increase visitation to the area. Much of the site is cleared and would not be considered to be dense woodland, reducing mosquito breeding potential. Rural residences nearby indicate that while some risks may be present, they can be managed. The EPA and Department of Health may provide further guidance on how to reduce risks from mosquitoes at the site. Educational signage at the site may be required.

2.2.8 European House Borer

European house borer (EHB) (*Hylotrupes bajulus*) is a destructive pest of seasoned coniferous timber including pine, fir and spruce. If allowed to become established, it can cause major structural damage to buildings (Department of Primary Industries and Regional Development (DPIRD), 2019).

The subject site is within a Restricted Movement Zone (gazetted control area surrounding a known site of European House Borer infestation) (Figure 8). Restricted Movement Zones restrict the movement of untreated pinewood and its storage, disposal and treatment.

Pine trees susceptible to infestation are known to occur within the vicinity of the subject site.

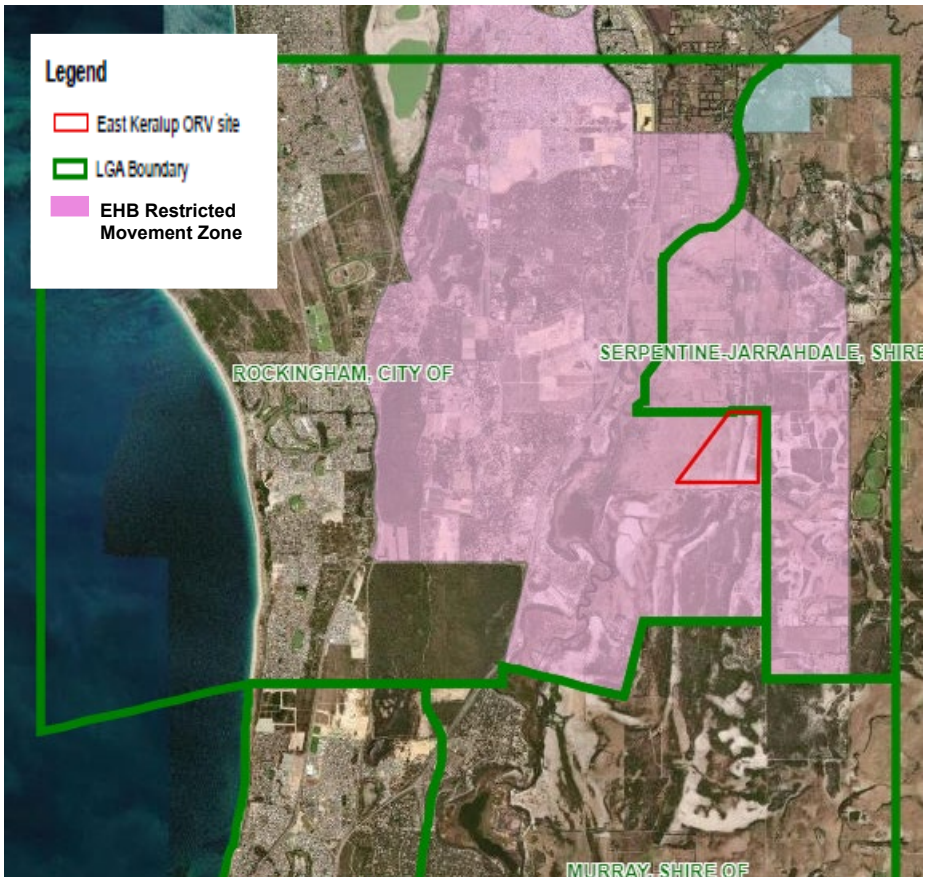

Figure 8 European House borer Restricted Movement Zones, DPIRD, 2019

Implications

ORV use does not require use of untreated pinewood. Fencing and track construction should not use untreated pinewood.

2.3 Heritage

2.3.1 Aboriginal Heritage

A desktop assessment of the site proposed for use by ORV has not identified any Sites of Aboriginal Heritage. The Serpentine River, located to the west of the subject area, is a registered Aboriginal Site (Place ID: 3562) and there are two Other Heritage Sites located to the south east (Nambeelup Brook, Place ID 17982 and Place ID 3553). Use of either site by ORV is unlikely to impact upon known Aboriginal Heritage Sites.

2.3.2 State Heritage

There are no places listed on the State Register at the subject site or in the surrounding area.

2.3.3 Local Heritage

One site of local significance is identified to the south east of the subject site (Yangeddi Swamp, Place ID 08608). This site is listed on the Shire of Serpentine Jarrahdale Municipal inventory. Use of the proposed site by ORV is unlikely to impact upon Yangeddi Swamp.

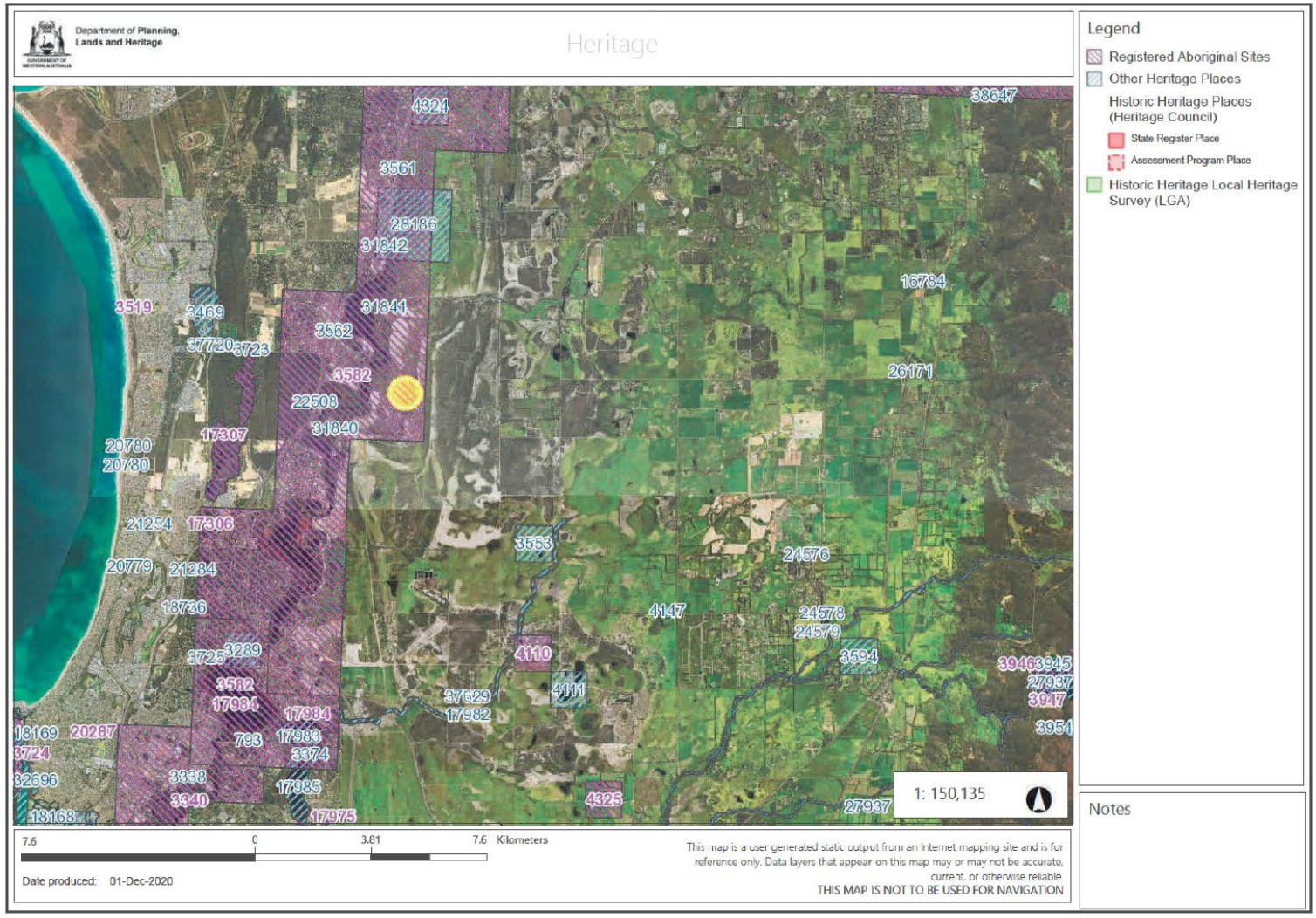

Figure 9 Heritage sites in the vicinity of the subject site (DPLH, 2020)

3. Land Compatibility Assessment

3.1 Land Zoning and Tenure

The subject site is:

- Zoned Rural under the Metropolitan Region Scheme and City of Rockingham Local Planning Scheme No.2
- Part of a lot owned freehold by DevelopmentWA
- Approximately 195 hectares
- Bounded to the south by the Punrak Drain – zoned Public Purposes – Drain
- Contains the Parmelia Gas Pipeline easement – the pipeline is owned by APA Group

Refer to Figure 2.

Implications

It is likely that the City of Rockingham would consider the use of this site as an ORV area as a use not listed under the local planning scheme generally compatible with the purpose of the zone. Development approval would be required with advertising prior to a decision.

Development approval may also be required under the Metropolitan Region Scheme.

Ownership by DevelopmentWA implies that this area will be developed. Its current Rural zoning implies that the type of development is undecided. DevelopmentWA may consider interim use of this site by ORV while the ultimate land use is determined.

It is unlikely that development within the Punrak Drain would be supported by the City of Rockingham or the Department of Water.

Draft Development Control Policy 4.3: Planning for High Pressure Gas Pipelines establishes the Western Australian Planning Commission's position regarding development along high-pressure gas pipelines. It seeks to protect people from unacceptable risk from high pressure gas pipelines by protecting pipelines from unregulated encroachment. Restricted public open space on/close to high pressure gas pipelines can be considered, however, the presence of the pipeline should be considered as part of the ORVA design. A risk assessment may be required.

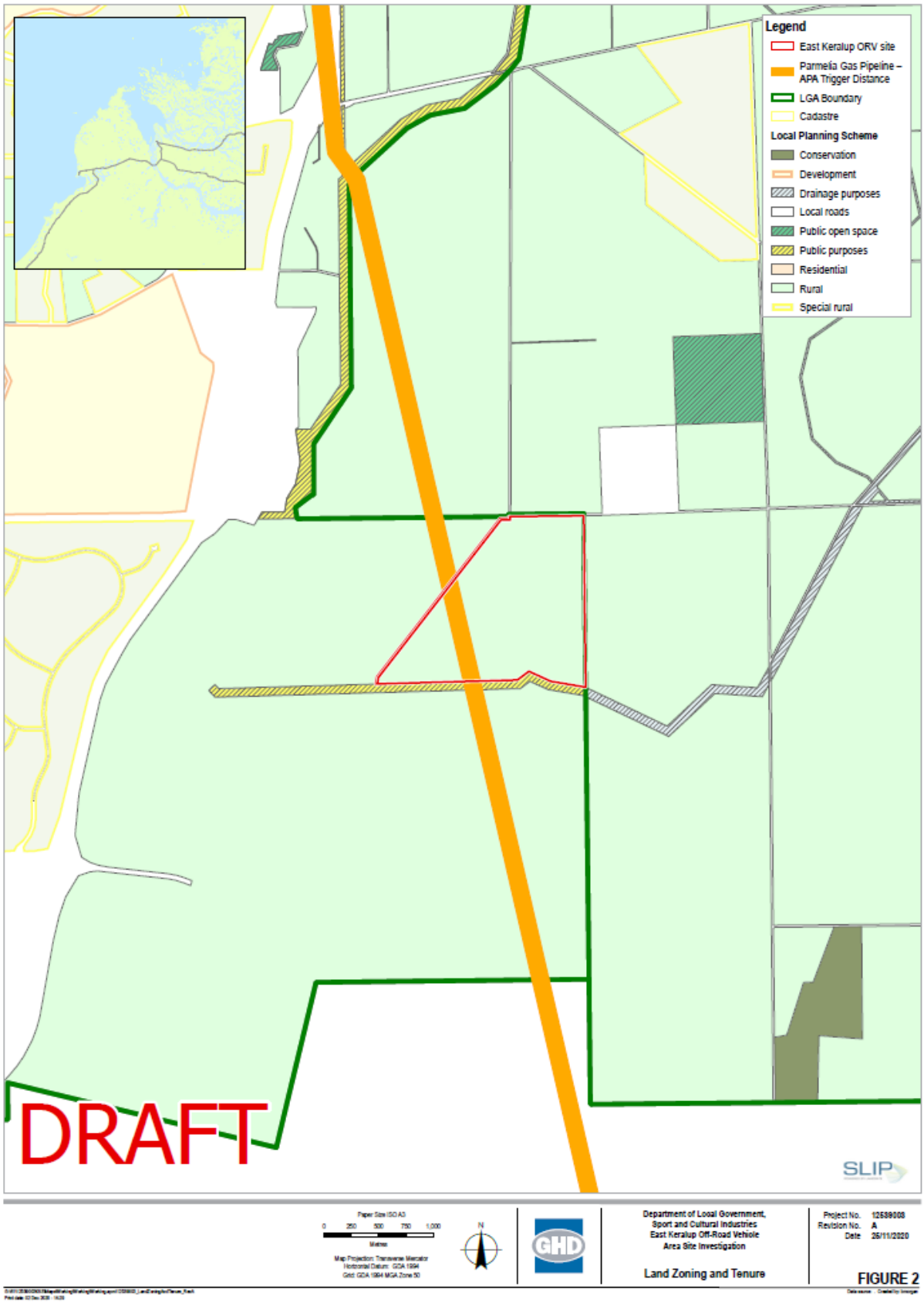

Figure 10 Land Zoning and Tenure (DPLH, 2020)

3.2 Land use planning history

The subject site forms part of a larger strategic government landholding previously identified as a residential expansion area. It was originally proposed that this area undergo urban expansion to house 56,000 dwellings. Due to environmental constraints relating to drainage, fill requirements, nutrient inputs into the Peel Harvey Catchment and the presence of mosquitos potentially carrying Ross River virus, this development did not proceed.

Implications

The use of the subject site by ORV is unlikely to alter the drainage of the area or nutrient inputs into the Peel Harvey catchment. It is also unlikely to require significant volumes of fill.

The presence of mosquitos carrying Ross River virus should be considered due to the potential increase in visitation.

3.3 Surrounding land use (current)

Whilst the subject site is in the City of Rockingham, the area immediately to the north and east is within the Shire of Serpentine Jarrahdale. The area to the north along River Road is zoned Rural. This area appears to be used for rural land uses including horse breeding and agistment facilities. A number of residential properties are located along River Road, the closest being approximately 300 metres from the northern boundary of the subject site.

The remaining part of Lot 802 is used for grazing and pasture.

To the west of the subject site is the suburb of Karnup. This area contains Special Rural development (residential use) and is approximately 2.5 kilometres from the western boundary of the subject site.

Lot 100 (320) Gull Road, Keralup is located immediately south of Lot 802. This is a freehold lot owned by the Department of Communities. This lot is within the Shire of Murray.

To the east of the site there are a number of rural uses including poultry farm, turf farm and horticulture.

The Serpentine Airfield is located to the northeast of the subject site.

Implications

Premises occupied solely or mainly for residential or accommodation purposes and rural premises are considered to be noise sensitive premises under the *Environmental Protection (Noise) Regulations 1997*. Noise emissions received at the residential houses nearby to the proposed ORVA are likely to exceed the assigned noise levels prescribed by the Regulations.

As described in Section 1.2.2, the prescribed standard for noise emissions (Regulation 7) does not apply to noise emitted from a motorsport venue during the conduct of a racing activity at the venue if the racing activity is conducted in accordance with an approved noise management plan, excluding any ancillary measure, for the venue.

Further consultation is required with the EPA to determine if the proposed facility can be considered as a motorsport venue. A noise management plan can then be developed, including consultation with impacted residents. Site design can consider noise implications and locate lower noise uses (such as parking) closer to the residential premises to reduce impacts from noise emissions. Specified site opening times may also be required to manage the impacts of noise.

The noise regulations would also apply to noise generated from the Serpentine Airfield. The Airfield is approximately 1.2 kilometres from the north east corner of the subject site.

The Shire of Serpentine Jarrahdale's Poultry Farm Special Control Area, defined by Local Planning Scheme No.2, forms the eastern boundary of the subject site, however, there are no restrictions directly associated with the subject site.

3.4 Surrounding land use (future)

Rural land uses surrounding the site to the north and east are unlikely to change in the near future. The Department of Communities owns Lot 100 Gull Road, Keralup to the south. This lot adjoins Lot 802 River Road but does not connect to the subject site. The Department of Communities is investigating appropriate land uses that can be accommodated on its landholding. Uses currently under investigation include plantations, aquaculture and a cemetery, which aligns with the South Metropolitan Peel Sub-regional Planning Framework.

Implications

There is a 2.5-kilometre buffer between the subject site and those under investigation on Lot 100 Gull Road (plantations, aquaculture and a cemetery). This is likely to be considered an appropriate buffer to manage the impacts from noise and dust.

3.5 Access

The site can be accessed from River Road. There is a formalised track (although not sealed) track that runs along the western boundary of the site. Currently the access track is fenced, limiting access to the remaining site and the other parts of Lot 802.

The formalised track crosses the Punrak drain providing access to the southern section of Lot 802.

Access improvements in the area are currently being considered by the Department of Communities and DevelopmentWA.

Implications

Should development of the site for use by ORV proceed, a boundary fence to mark the permitted area and gates will be required to restrict access to other areas. It is important that this fence be maintained. Improvements into and out of the site may be required to accommodate increased vehicle use and emergency procedures.

3.6 Bushfire

A desktop search of the State Map of Bushfire Prone Areas that the proposed site is bushfire prone.

Implications

Increasing access to and use of the site will increase risks from bushfire. Should development of the site for use by ORV proceed, and once more detailed information regarding site design and access in and out is available, the proposal should be referred to DFES for comment. A Bushfire Management and Emergency Evacuation Plan will be required prior to use of the site.

3.7 Other planning considerations

More detail regarding factors such as exact location, specific vehicle use, number of tracks, parking, facilities etc, may result in additional information requirements as part of the development approval process. This includes, but is not limited

- Earthworks
- Dewatering

- On-site effluent disposal
- Traffic impact

4. Implications Summary and Next Steps

Table 2 below provides a summary of the implications describes in Sections 2 and 3 together with key benefits and next steps.

Table 2 Implications Summary Table and Next Steps

Key implications to address	Key benefit	Next steps
1. Noise	Reduced impact of noise on surrounding residents	Liaise with EPA, City of Rockingham, Shire of Serpentine Jarrahdale
2. Access to adjoining lot and surrounding area	Restricted access to Serpentine River, Punrak Drain, southern and western parts of Lot 802 will increase protection of the environment and minimise conflicts with nearby land uses	Include intention in stakeholder consultation Include in site designs
2. Avoid clearing native vegetation	Protection of remnant vegetation, avoid clearing permit requirements	Include intention in stakeholder consultation Include in site designs
3. Consider revegetation activities	Lower groundwater table/ impacts of waterlogging, increase biodiversity and provide an enjoyable space to ride	Include intention in stakeholder consultation Include in site designs
4. Waterlogging of site may limit user types	Restricting use of site to bike users only is likely to result in less conflicts	Include intention in stakeholder consultation Include in site designs
5. Fence dams for safety	Protection of site users	Include intention in stakeholder consultation Include in site designs
6. Reduce mosquito breeding habitat	Improved biodiversity, fewer risks to site visitors	Consult with EPA and Department of Health
7. European house borer	Use of treated pinewood or other materials will limit the spread of EHB and damage to infrastructure	Site designs should not include use of untreated pinewood
8. Gas pipeline	Reduce risk of exposure to gas pipeline	Liaise with APA Group
9. Bushfire	Reduce risk of bushfire to site users and develop plan to	Liaise with DFES

	manage risks and develop evacuation plan	
10. Dust	Reduce generation of dust through development and implementation of dust management plan.	Include intention in stakeholder consultation Liaise with local government

The Findings Report will be updated following completion of Stage 2 which includes stakeholder engagement. The findings from Stage 2 will further inform suitability of use of the subject site by ORV.

5. References

Department of Local Government, Sport and Cultural Industries Strategic Plan 2018-2021

Department of Planning, Lands and Heritage, Shire of Murray Local Planning Scheme No.4 (23 June 1989)

Government of Western Australia, Back on Track: WA State Trail Bike Strategy, Department of Sport and Recreation, Department of Environment and Conservation, Department of Planning and Infrastructure, Department of Local Government and Regional Development, 2008

Government of Western Australia, Identification and investigation of acid sulfate soils and acidic landscapes, Department of Environment Regulation 2015

Government of Western Australia, Off-Road Vehicle (ORV) Regional Land Use Planning Study (2010), Department of Environment and Conservation, Department of Local Government, Department of Water, Water Corporation, City of Swan, City of Armadale, 2010

Government of Western Australia, Western Australian Strategic Trails Blueprint (2017-2021), Department of Sport and Recreation, 2017

State of Western Australia, *Planning and Development Act 2005*, Peel Region Scheme 2013

State of Western Australia, Peel Region Scheme Strategic Minerals and Basic Raw Materials Resource Policy, Western Australian Planning Commission, October 2002

Western Australian Local Government Association, Off-road Vehicles and Local Government, 2018

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Appendices

Appendix A - Nature Map report

ADD PDF

NatureMap
Mapping Western Australia's biodiversity

NatureMap Species Report

Created By Guest user on 23/11/2020

Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 115° 51' 01" E,32° 24' 52" S
Buffer 2km

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
1.	932	*Lepidosperma effusum (Spreading Sword-sedge)*			
2.	48070	*Phascogale tapoatafa subsp. wambenger (South-western Brush-tailed Phascogale, Wambenger)*		S	
3.	87	*Pinus pinaster (Pinaster Pine)*	Y		
4.	11341	*Rhagodia baccata subsp. baccata*			

Conservation Codes
T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

[1] For NatureMap's purposes, species flagged as endemic are those whose records are wholely contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

GHD

Level 10
999 Hay Street
T: 61 8 6222 8222 F: 61 8 9463 6012 E: permail@ghd.com

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Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	Outside of Scope	Outside of Scope	On file	Outside of Scope	On file	2.12.2020
0	Outside of Scope	Outside of Scope	Outside of Scope	Outside of Scope	Outside of Scope	21.01.2021

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