Section 91 Licence

Application under the *Threatened Species Conservation Act 1995* to harm or pick a threatened species, population or ecological community* or damage habitat.

1. Applicant's name ^: *(if additional persons require authorisation by this licence, please attach details of names and addresses)*	Catherine Suggate	
2. Australian Business Number (ABN):	64 052 096 812	
3. Organisation name and position of applicant ^: (if applicable)	Centennial Springvale Environment and Community Officer	
4. Postal address ^:	Centennial Coal Company Ltd - Springvale 980 Castlereagh Highway, Lidsdale NSW 2790 Australia	Telephone ^: B.H [redacted] A.H.
5. Location of the action *(including grid reference and local government area and delineated on a map).*	Works are contained within a range of locations within the Newnes Plateau. General locations include;	

Bore ID	Swamp Name	Easting	Northing
CW1	Carne West	239350	6303200
CW4	Carne West	239069	6302380
BA1+SM (1)	Barrier Swamp	242024	6302814
BA2+SM	Barrier Swamp	242099	6303297
BA3+SM	Barrier Swamp	242070	6303923
BE2+SM (1)	Best Swamp	246552	6308281
BE2+SM (2)	Best Swamp	246565	6308274
CC2+SM	Central Carne Swamp	241131	6303290
FS1+SM	Firetail Swamp	246893	6306485

* A threatened species, population or ecological community means a species, population or ecological community identified in Schedule 1, 1A or Schedule 2 of the *Threatened Species Conservation Act 1995.*

^The personal details of all Section 91 licences will be displayed in the register of Section 91 licences required under Section 104 of the *Threatened Species Conservation Act 1995.* See notes.

FS2+SM (1)	Firetail Swamp	247489	6307074
MS2+SM (1)	Marangaroo Swamp	239046	6299049
PC1+SM	Unnamed Swamp	241204	6298832
PC2+SM	Unnamed Swamp	240913	6298663
BS4+SM	Nine Mile Swamp	241350	6300617
TG2 (1)	Twin Gullies Swamp	236043	6308932
BS1 SM	Nine Mile Swamp	241054	6301326
BS2 SM	Nine Mile Swamp	240814	6300171
BS3 SM	Nine Mile Swamp	241981	6301243
MS1 SM	Marangaroo Swamp	238860	6299170
TS2 SM	Tri Star Swamp	237446	6306781
TS3 SM	Tri Star Swamp	236896	6307162
CC1 SM	Central Carne Swamp	241190	6302690
TG1 SM	Twin Gullies Swamp	236437	6308766

These location are also included within **Figures 1 to 4**

6. Full description of the action and its purpose *(e.g. environmental assessment, development, etc.)*

The action involves the installation of;

- eleven surface water piezometers (100mm wide drill hole and a 50 mm wide PVC casing); and
- nineteen soil moisture probes (40mm wide probe which is hand augured).

Piezometers will be installed to measure water levels as well as other water quality parameters in line with the monitoring program.

Bore holes for surface water piezometers and soil moisture probes will be installed using a hand auger and drilled to refusal (the point of resistance). These bore holes are primarily located near water courses within swamps.

Above ground storage for fluids and cutting will be used and this will not require ground disturbance, other than the drilling which is 40-100mm wide as outlined above.

The expected ground disturbance during installation is approximately 171m^2 for surface water piezometers and soil moisture probes. Residual impact following installation is considered to be approximately 2.9m^2 for surface water piezometers and 0.6m^2 for soil moisture probes.

No trees with a trunk diameter of greater than 100mm should be removed to accommodate any of the piezometers.

Soil moisture and groundwater will be monitored monthly.

This application focuses primarily on the NSW *Threatened Species Conservation Act 1995* (TSC Act) listed Endangered Ecological Community (EEC) – Newnes Plateau Shrub Swamp in the Sydney Basin Bioregion (NPSS) and associated potential impacts resulting from the action. Further details on the potential impacts associated with the proposal are assessed in the attached ecological assessment (RPS 2017).

The assessment covered a wider area than the proposed impact area itself to conservatively assess the habitat features in the surrounding area.

7. Details of the area to be affected by the action *(in hectares)*.	Vegetation within the EEC with the potential to be impacted includes a narrow access corridor to each borehole site. Corridors within EEC are estimated at approximately two meters wide, and the expected ground disturbance during installation is approximately 0.0171 ha for surface water piezometers and soil moisture probes.
8. Duration and timing of the action *(including staging, if any).*	Installation works will be carried out immediately following approval of this application. Monitoring of these sites will occur monthly.
9. Is the action to occur on land declared as critical habitat*? *(tick appropriate box)*	☐ Yes ☒ No

10. Threatened species, populations or ecological communities to be harmed or picked.

Scientific name	Common name *(if known)*	Conservation status *(i.e. critically endangered, endangered or vulnerable)*	Details of number of individual animals, or proportion and type of plant material *(e.g. fertile branchlets for herbarium specimens or whole plants or plant parts)*
Newnes Plateau Shrub Swamp in the Sydney Basin Bioregion		Listed as an Endangered Ecological Community under the TSC Act. This vegetation community is also commensurate with the federally listed (*Environment Protection and Biodiversity Conservation Act* 1999) EEC known as Temperate Highland Peat Swamps on Sandstone.	The proposal involves the installation of surface water piezometers and soil moisture probes within this EEC. No vehicles or heavy equipment will be used to install these points. No threatened species are within the area of impact. Up to 0.0171 ha of the EEC may be impacted.

* Critical habitat means habitat declared as critical habitat under Part 3 of the *Threatened Species Conservation Act 1995*.

11. Species impact: *(please tick appropriate box)* a) For action proposed on land declared as critical habtat or b) For action proposed on land <u>not</u> declared as critical habitat.	a species impact statement (SIS) is attached ☐ Yes ☒ No Items 12 to 25 have been addressed ☒ Yes ☐ No

N.B: Provision of a species impact statement is a statutory requirement of a licence application if the action is proposed on critical habitat.
The provision of information addressing items 12 to 17 is a statutory requirement of a licence application if the action proposed is **not** on land that is critical habitat. Information addressing any of the questions below must be attached to the application.

12. Describe the type and condition of habitats in and adjacent to the land to be affected by the action.	NPSS occur in narrow, elongated swamps formed in low-slope headwaters of the Newnes Plateau, occurring along long gentle open drainage lines. It forms a dense wet heath with an unevenly textured tussock/hummock grassy sedge understorey. The substrate is typically a deep layer of damp to very wet organic matter and peat moss upon a layer of alluvial sand. Trees are typically absent, although sparsely scattered Eucalypts can occur in the margins. The areas of NPSS at risk of being affected by the action are considered to be in good condition where weed invasion is minimal. Vegetation adjacent to the NPSS includes (sourced from DEC 2006); ▪ MU 7 - Newnes Plateau Narrow-leaved Peppermint - Mountain Gum - Brown Stringybark Layered Forest. This forest community is found on high-altitude parts of the Newnes Plateau with relatively fertile soils. It is characterised by an open forest with a relatively diverse shrubby mid-layer and a ground layer consisting of graminoids and grasses; ▪ MU14 - Tableland Mountain Gum - Snow Gum - Daviesia Montane Open Forest. It forms open woodlands with moderately dense understorey vegetation on the more sheltered lower slopes of hills, typically in association with gullies and the slopes above drainage lines; ▪ MU 26 - Newnes Plateau Narrow-leaved Peppermint - Silvertop Ash Layered Open Forest. In general this community occurs in depressions and low-gradient slopes at high-altitude sites. It is characterised by an open forest with a relatively dense and diverse shrubby mid-layer and a ground layer consisting of graminoids and grasses; ▪ MU 26a - (Variant of MU26) Newnes Plateau Narrow-leaved Peppermint - Silvertop Ash Layered Open Forest in Gentle Depressions. This community occurs in slight depression and hollows. It is a variation of MU26 (described above) that differs in being shorter and characterised by an abundance of eucalypts with twisted, white stems. It is characterised by an

	open forest with a relatively diverse canopy layer with a sparse shrubby mid-layer and a ground layer consisting of graminoids and grasses; ▪ MU 28 – Sandstone Plateau and Ridge Scribbly Gum – Silver-top Ash Shrubby Woodland. This community occurs on shallow sandy soils, usually at altitudes greater than 1000m. It is open woodland, typically characterised by a diverse and dense shrub layer; ▪ MU 29 - Sandstone Slopes Sydney Peppermint Shrubby Forest. This community occurs on semi sheltered slopes and deeper soils on ridges, and is often dominated by Eucalyptus piperita. Wattles, proteaceae and epacrids dominate the midstorey and understorey is usually sparse ▪ MU 30 – Exposed Blue Mountains Sydney Peppermint - Silver-top Ash Shrubby Woodland. This community is found extensively across the Blue Mountains region. A moderately tall forest usually dominated by *E. piperita* and *E. sieberi*; and ▪ 59 Non-native Vegetation - Pine plantation / woodlot /shelter
13. Provide details of any known records of a threatened species in the same or similar known habitats in the locality *(include reference sources).*	Two threatened flora species (*Persoonia hindii* and *Veronica blakelyi)* were identified adjacent to the EEC during pre-clearance surveys, and access tracks and locations were altered to avoid impacting these species (RPS 2017). *Boronia deanei* (listed as vulnerable under TSC Act and EPBC Act), the Blue Mountains Water Skink (*Eulamprus leuraensis*) (listed as endangered under TSC Act and EPBC Act), the Giant Dragonfly (*Petalura gigantea*) (listed as endangered under TSC Act) and the Red-crowned Toadlet (*Pseudophryne australis*) (listed as vulnerable under TSC Act) have also been recorded within the vicinity of the activity (refer to **Figures 2** to **4**) (OEH 2017).
14. Provide details of any known or potential habitat for a threatened species on the land to be affected by the action *(include reference sources).*	NPPS provides habitat for a range of threatened species including *Persoonia hindii*, *Boronia deanei,* Blue Mountains Water Skink, Giant Dragonfly and Red-crowned Toadlet. *Veronica blakelyi* was recorded during pre-clearance surveys along the edge of NPSS, however, does not occur within the EEC. *Persoonia hindii* has been recorded by RPS in a number of locations within the NPSS, including within the vicinity of the Project Area (see **Figure 3**). It occurs in dry sclerophyll forests and woodlands on sandy soils. The species is known only from the Newnes Plateau, in the Newnes State Forest. The species is known to occur within the Project Areas and was recorded during pre-clearance surveys. *Boronia deanei* grows on the margins of high altitude swamps (Ollerenshaw 1979), but also may occur in wet heath, drier open forests or poorly drained, peaty soils on sandstone or granite (Harden 1991; Duretto 2003 and Benson and McDougall 2001). *B.deanei* has been recorded by RPS in a number of locations within NPSS, including within the vicinity of the Project Area (see **Figure**

	3). Blue Mountains Water Skinks are restricted to the middle and upper Blue Mountains at high elevations between 650m and 1060m (OEH, 2012a). These skinks are found within isolated and naturally fragmented habitat of sedge and shrub swamp, such as NPSS, in boggy soils and in some cases, permanently wet (OEH 2012a). Surveys conducted in 2015 recorded Blue Mountains Water Skinks within a number of swamps in the Project Area (see **Figures 2** to **4**). Red-crowned Toadlets are found predominantly in open forests, mostly on Hawkesbury and Narrabeen Sandstones (OEH 2012b). It inhabits periodically wet drainage lines below sandstone ridges, sheltering in dense vegetation and thick leaf litter. Red-crowned Toadlets appear to occur as localised populations restricted to the immediate vicinity of breeding habitats. One record of the Red-crowned Toadlet exists within the vicinity of Barrier Swamp (OEH 2017). Giant Dragonfly are found in permanent swamps and bogs with some water and open and has been recorded within NPSS (OEH 2017). This species is known to construct burrows into the ground where it lays its eggs (oviposition) in the waterlogged substrate or under moist litter (Benson and Baird 2012). Burrow depth was recorded to range from 18 to 75 cm (Benson and Baird 2012), with some burrows showing evidence of adaptive burrow deepening by larvae of the species as a response to a lowering groundwater table. Giant Dragonfly has been recorded by RPS in a number of locations within NPSS, including within the vicinity of the Project Area (see **Figure 3**). Habitat for these species occur within the land to be affected by the action, however, an assessment of significance (RPS 2017) has concluded that the proposed action is unlikely to have a significant impact on threatened species or EECs listed under the TSC Act.
15. Provide details of the amount of such habitat to be affected by the action proposed in relation to the known distribution of the species and its habitat in the locality.	According to the NSW Scientific Committee (2005) Vegetation mapping of the entire range of Newnes Plateau Shrub Swamp indicates that it covers less than 650 ha in total (Keith and Benson 1988; Benson and Keith 1990). Approximately 160 ha of Newnes Plateau Shrub Swamp occurs within Blue Mountains and Wollemi National Parks, with the remainder occurring in state forest and freehold land (NSW Scientific Committee 2005). Expected ground disturbance as a result of the activity is approximately 0.0171 ha for surface water piezometers and soil moisture probes. Residual impact following installation is considered to be reduced further. Initial ground disturbance is therefore expected to potentially impact less than 0.00011% of EEC.

16. Provide an assessment of the likely nature and intensity of the effect of the action on the lifecycle and habitat of the species.	The action within the Newnes Plateau Shrub Swamp involves the installation of surface water piezometers and soil moisture probes and also the respective monitoring of these locations, which is expected to be conducted monthly. It is expected that the impact of trampling during the installation of these boreholes is assumed to be minor, and also temporary. Any damage to vegetation during installation is likely to be regenerate over time and therefore long term impacts are expected to be minimal (see **Question 6** above). The impact through trampling during monitoring of these boreholes is also expected to be minimal as the same access track will be used each time and tracks are likely to be at the most, two meters wide. Ecological surveys indicated that no threatened flora is likely to be trampled or removed during installation. Proposed pre-clearance surveys during the installation of boreholes will also reduce the potential to damage threatened fauna or fauna habitat. Threatened flora and fauna are not expected to be significantly impacted by the proposed works due to the small scale of disturbance (compared to the available habitat adjacent to the proposed action) and the use of pre-clearance surveys by qualified Ecologists to ensure the proposed action avoids impacting threatened species.
17. Provide details of possible measures to avoid or ameliorate the effect of the action.	Initial proposed access tracks that contained *P. hindii* and *V. blakelyi* were relocated in order to avoid these individuals. Further mitigation measures include: ▪ No vegetation is to be cleared within the NPSS other than the small area required for the physical installation of the bore. ▪ Areas of *P. hindii* and *V. blakelyi* have been flagged to avoid trampling during installation and monitoring. ▪ A qualified Ecologist will be present during the installation of each bore to ensure minimal impact on Blue Mountains Water Skink, Giant Dragonfly habitat and Red-crowned Toadlet, including burrows and clumping plants.

N.B: The Chief Executive must determine whether the action proposed is likely to significantly affect threatened species, populations or ecological communities, or their habitats. To enable this assessment the Applicant is required to address items 18 to 24. Any additional information referred to in addressing these items must be attached to the application.

18. In the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of	**Flora** *P. hindii* was detected during surveys. An Ecologist was present during pre-clearance surveys giving instructions on where to relocate the access tracks and drilling locations in order to avoid all individual *P. hindii*. Proposed works are not expected to remove any individuals of the species and shall consist of small scale, localised disturbance of potential habitat (there will be a temporary impact of up to 0.0171ha across the Project Area). As there is extensive

extinction.	habitat for this species within the local vicinity, it is considered unlikely that the proposed action will adversely affect *P. hindii* such that a local population of the species is placed at risk of extinction. *V. blakelyi* was detected during surveys. An Ecologist was present during pre-clearance surveys giving instructions on where to relocate the access tracks and drilling locations in order to avoid all individual *V. blakelyi*. No individuals are expected to be trampled or removed and only a small portion of available habitat will be altered during the works (there will be a temporary impact of up to 0.0171ha across the Project Area). It is therefore considered unlikely that the proposed works will adversely affect *V. blakelyi* such that a local population of the species is placed at risk of extinction. No *B. deanei* individuals were recorded within the Project Area. Piezometer and soil moisture probe installation is unlikely to remove any individuals of the species and shall consist of small scale, localised disturbance (there will be a temporary impact of up to 0.0171ha) including moving small amounts of debris, compaction of vegetation and regular trampling of an access track and small area around the piezometers. Habitat to be impacted is suitable habitat for this species, however, it was not detected and extensive suitable habitat occurs in the immediate area. It is therefore unlikely that the proposed action will adversely affect *B. deanei* such that a local population of the species is placed at risk of extinction. No threatened plants are likely to be adversely affected such that a viable population would be placed at risk of extinction. **Fauna** The proposed works may lead to a temporary impact of up to 0.0171ha of potential habitat for the Giant Dragonfly (*Petalura gigantean)*. However, extensive areas of suitable habitat are available to the species in the surrounding areas. An Ecologist conducting pre-clearance surveys guided the repositioning of proposed piezometers to ensure minimal impact to burrows. Therefore, the proposed works is not expected to have an adverse effect on the life cycle of the species such that a viable local population is likely to be places at risk of extinction. Red-crowned Toadlet (*P. australis)* was not recorded during surveys of the Project Area. One record for the species exists within a 10 kilometre search of the Project Areas. Potential breeding habitat exists in the Project Areas within the shrub swamps. Suitable habitats occur widely through the Newnes Plateau and throughout the wider Blue Mountains area. Due to the tendency of *P. australis* to form discrete populations, disturbance to breeding or refuge habitat has the potential to adversely affect a local population of the species, however, it is expected that the disturbance area likely to

	impact *P. australis* is limited to approximately 0.0171ha and extensive habitat for the species exists adjacent to the Project Area. It is therefore considered unlikely that the Project will affect the lifecycle of this species such that a local population is likely to be placed at risk of extinction. The installation of surface water and soil moisture probes within the swamps is expected to involve the removal or crushing of approximately 0.0171ha of potential habitat for Blue Mountains Water Skink (*Eulamprus leuraensis*). Impacts are considered minor where extensive habitat is available adjacent to the Project Area and the proposed work are not expected affect the overall integrity of the swamp. It is therefore considered unlikely that the proposed works will affect the lifecycle of this species such that a local population is likely to be placed at risk of extinction. No threatened fauna (Blue Mountains Water Skink, Giant Dragonfly, Water Skink or Red Crowned Toadlet) were recorded during pre-clearance, however an Ecologist should be present to supervise installation of boreholes within the NPSS in an effort to avoid potential impacts to Blue Mountains Water Skink refuge habitat including burrows and clumping plants or Giant Dragonfly refuge habitat including crayfish holes. As the area of impact is minimal and the above mitigation measures will be in place, it is expected that the installation of boreholes for the activity is not likely to have an adverse effect the life cycle of fauna such that a viable local population of the species is likely to be placed at risk of extinction.
19. In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction.	No listed endangered populations are assessed within this application.
20. In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed: (i) is likely to have an adverse effect on the	Minor impacts during the installation of bores within the NPSS EEC are expected to cover approximately 0.0171ha. Access tracks within the swamps have been pre-marked, to avoid additional and unnecessary impacts to the EEC during installation. Animal tracks will be used where possible, and walking around the swamp will be encouraged where appropriate to do so during monitoring. As the proposed works are only expected to impact a small portion of the

extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.	EEC, it is considered unlikely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.
21. In relation to the habitat of a threatened species, population or ecological community: (i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality.	(i) Approximately 0.0171ha of NPSS EEC which provides habitat suitable for *B. deanei*, *P. hindii*, Blue Mountains Water Skink, Giant Dragonfly and Red-crowned Toadlet will be modified as part of the proposed activities. (ii) As the proposed installation and monitoring works are considered minor and threatened species within the EEC are mobile, any impacts caused by walking through the swamps is not expected to cause fragmentation as connectivity throughout the area will not be altered. (iii) Limited habitat will be modified as part of the works. Suitable habitat exists immediately adjacent to the Project Areas. Habitat to be modified is not considered long term for the survival of threatened species within the locality.
22. Whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly).	Critical habitat has not been defined for NPSS, or for the potentially occurring threatened species.
23. Whether the action proposed is consistent with the objectives or actions of a recovery	▪ No recovery plans are applicable for the NPSS. ▪ A recovery plan has not been developed for *P. hindii*. ▪ A recovery plan has not been developed for *B. deanei*. ▪ A recovery plan has not been developed for *V. blakelyi.*

plan or threat abatement plan.	▪ A recovery plan has not been developed for the Giant Dragonfly. ▪ The Blue Mountains Water Skink Recovery Plan (NPWS 2001) applies to this species. The proposed action is not consistent with the objective of the recovery plan due to potential degradation of the species' habitat; however the limited modification and small extent of disturbance is not expected to impact the survival of the species. ▪ No recovery plan has been developed for the Red-crowned Toadlet.
24. Whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.	Three Key Threatening Processes (KTP's) have the potential to affect threatened species and communities as a consequence of the proposed activity, being: ▪ Clearing of native vegetation; ▪ Infection of native plants by *Phytophthora cinnamomi*; and ▪ Invasion of native plant communities by exotic perennial grasses. No other KTP's are believed to be likely as a consequence of the proposed activity. **"Clearing of native vegetation"** This project will contribute to this KTP through the removal of a very small amount of native vegetation, in relation to the surrounding large habitats available for those threatened species that may be affected by this KTP. This has the potential to impact upon a range of threatened fauna species and is recognised as a major factor contributing to loss of biological diversity (NSW Scientific Committee 2001). Some potentially occurring threatened species may lose a very small amount of habitat as a result of this KTP. However, the NPSS habitat is only proposed to be subject to minor trampling with no removal and it provides the primary habitat for the following species; *Boronia deanei*, Blue Mountains Water Skink, Giant Dragonfly and the Red-crowned Toadlet. **"Infection of native plants by *Phytophthora cinnamomi*"** The activity has the potential to result in the importation of this pathogen, which has the potential to impact upon existing threatened plant species and a reduction in habitat complexity (NSW Scientific Committee 2002). It is considered that the proposed works will not significantly contribute to this KTP provided that the correct hygiene protocols are established and implemented. **"Invasion of native plant communities by exotic perennial grasses"** Due to the creation of soil disturbance at some sites, there is the potential for these areas to be colonised by exotic perennial grasses at the conclusion of subsidence monitoring activities. If introduced, exotic perennial grasses typically dominate such areas (OEH 2003), incrementally contributing to this KTP. Effective tool and vehicle

	cleaning procedures prior to commencing work will reduce the potential for this KTP to occur.
References	▪ Benson D and Baird RC (2012). *Vegetation, fauna and groundwater interrelations in low nutrient temperate montane peat swamps in the upper Blue Mountains, New South Wales*. Cunninghamia 12(4), 267-307. ▪ Benson DH and Keith DA (1990) *The natural vegetation of the Wallerawang 1:100 000 map sheet.* Cunninghamia 2, 305-335. ▪ Benson, D. & L. McDougall (2001). *Ecology of Sydney plant species: Part 8 Dicotyledon families Rutaceae to Zygophyllaceae. Cunninghamia*. 7(2):241-462. Sydney: Royal Botanic Gardens. http://www.rbgsyd.nsw.gov.au/__data/assets/pdf_file/0011/58556/Cun7Ben241.pdf. ▪ DEC (2006) *The Vegetation of the Western Blue Mountains.* Unpublished report funded by the Hawkesbury – Nepean Catchment Management Authority. Department of Environment and Conservation. Hurstville. ▪ Duretto, M.F. (2003). *Notes on Boronia (Rutaceae) in eastern and northern Australia*. Lebel, T. & M. Duretto, eds. *Muelleria*. 17:19-135. Melbourne: Royal Botanic Gardens. ▪ Harden, G.J. (ed.) (1991). *Flora of New South Wales, Volume Two.* Kensington, NSW: University of NSW Press. ▪ Keith DA and Benson DH (1988) *The natural vegetation of the Katoomba 1:100 000 map sheet.* Cunninghamia 2, 107-143. ▪ NSW Scientific Committee (2002) *Infection of native plants by Phytophthora cinnamomi – key threatening process declaration.* NSW Scientific Committee, Hurstville http://www.environment.nsw.gov.au/determinations/PhytophthoraKTPListing.htm ▪ NSW Scientific Committee (2001) *Clearing of native vegetation - key threatening process determination – final.* http://www.environment.nsw.gov.au/determinations/ClearingNativeVegKTPListing.htm ▪ NPWS (2001). *Blue Mountains Water Skink (Eulamprus leuraensis) Recovery Plan.* Prepared in accordance with the New South Wales *Threatened Species Conservation Act 1995* and the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999.* June 2001 ▪ NSW Scientific Committee (2005) *Final Determination - Newnes Plateau Shrub Swamp in the Sydney Basin Bioregion - endangered ecological community listing.* Prepared in accordance with the New South Wales *Threatened Species Conservation Act 1995* and the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999.* http://www.environment.nsw.gov.au/determinations/NewnesPlateauShrubSwampEndSpListing.htm ▪ OEH (2003*). Invasion of native plant communities by exotic perennial grasses - key threatening process listing.* NSW

	Scientific Committee - final determination. Proposed Gazettal date: 12/09/03. http://www.environment.nsw.gov.au/determinations/ExoticPerennialGrassesKTPListing.htm ▪ OEH (2012a). *Blue Mountains Water skink – profile* http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10322 ▪ OEH (2012b) *Red-crowned Toadlet - profile* http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10692 ▪ OEH (2017) Bionet Atlas of NSW Wildlife Search http://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/atlasreport.aspx ▪ Ollerenshaw, P.J. (1979). *Australian National Botanic Gardens: Growing Native Plants - Boronia deanei*. Canberra: Australian National Botanic Gardens. Available from: http://www.anbg.gov.au/gnp/gnp9/boronia-deanei.html. ▪ RPS (2017*) Ecological Due Diligence Survey, Springvale Surface and Groundwater Piezometers, Newnes Plateau, NSW*. Prepared for Centennial Springvale. May 2017.

Important information for the applicant

Processing times and fees

The *Threatened Species Conservation Act 1995* provides that the Chief Executive must make a decision on the licence application within 120 days where a species impact statement (SIS) has been received. No timeframes have been set for those applications which do not require a SIS. The Chief Executive will assess your application as soon as possible. You can assist this process by providing clear and concise information in your application.

Applicants may be charged a processing fee. The Chief Executive is required to advise prospective applicants of the maximum fee payable before the licence application is lodged. Therefore, prospective applicants should contact the Office of Environment and Heritage (OEH) prior to submitting a licence application.

A $30 licence application fee must accompany a licence application.

Protected fauna and protected native plants*

Licensing provisions for protected fauna and protected native plants are contained within the *National Parks and Wildlife Act 1974.* However, a Section 91 Licence may be extended to include protected fauna and protected native plants when these will be affected by the action.

If you are applying for a licence to cover both threatened and protected species please provide the information requested in Item 10 *as well as* a list of protected species and details of the number of individuals animals or proportion and type of plant material which are likely to be harmed or picked.

* Protected fauna means fauna of a species not named in Schedule 11 of the *National Parks and Wildlife Act 1974.*
Protected native plant means a native plant of a species named in Schedule 13 of the *National Parks and Wildlife Service 1974.*

Request for additional information

The Chief Executive may, after receiving the application, request additional information necessary for the determination of the licence application.

Species impact statement

Where the application is not accompanied by a species impact statement (SIS), the Chief Executive may decide, following an initial assessment of your application, that the action proposed is likely to have a significant effect on threatened species, populations or ecological communities, or their habitats. In such cases, the *Threatened Species Conservation Act 1995* requires that the applicant submit a SIS. Following initial review of the application, the Chief Executive will advise the applicant of the need to prepare a SIS.

Chief Executive's requirements for a species impact statement

Prior to the preparation of a SIS, a request for Chief Executive's requirements must be forwarded to the relevant OEH Office. The SIS must be prepared in accordance with section 109 and 110 of the TSC Act and must comply with any requirements notified by the Chief Executive of Office of Environment and Heritage (OEH).

Disclosure of Personal Information in the Public Register of s91 Licences

The Public Register provides a list of licence applications and licences granted. A person about whom personal information is contained in a public register may request that the information is removed or not placed on the register as publicly available.

Copies of all applications and licences issued under section 91 and certificates issued under section 95 of the Act are available on the OEH website at Public register of section 91 applications, licences and certificates or in hardcopy form from The Librarian, Office of Environment and Heritage, 59 Goulburn St, Sydney.

Certificates

If the Chief Executive decides, following an assessment of your application, that the proposed action is not likely to significantly affect threatened species, populations or ecological communities, or their habitats, a Section 91 Licence is not required and the Chief Executive must, as soon as practicable after making the determination, issue the applicant with a certificate to that effect.

N.B: An action that is not required to be licensed under the *Threatened Species Conservation Act 1995*, may require licensing under the *National Parks and Wildlife Act 1974*, if it is likely to affect protected fauna or protected native plants.

I confirm that the information contained in this application is correct. I hereby apply for a licence under the provisions of Section 91 of the *Threatened Species Conservation Act 1995.*

Applicant's name
(Please print)

Applicant's position and organisation *(if relevant)*
(Please print)

Applicant's signature

Date

For more information or to lodge this form, contact the nearest branch of OEH's Regional Operations Group:

Greater Sydney
PO Box 644
Parramatta NSW 2124
Phone: 02 9995 5000
Email:gs.complianceregulation@environment.nsw.gov.au

Hunter and Central Coast
PO Box 1002
Dangar NSW 2309
Phone: 02 6651 5946

Illawarra
PO Box 513
Wollongong NSW 2500
Phone: 02 4224 4150

North east
24 Moonee Street
Coffs Harbour NSW 2450
Phone: 02 6651 5946

North west
PO Box 2111
Dubbo NSW 2830
Phone: 02 6883 5300

South east
PO Box 733
Queanbeyan NSW 2620
Phone: 02 6229 7188

South west
PO Box 544
Albury NSW 2640
Phone: 02 6022 0600

Office of Environment and Heritage (NSW)
PO Box A290, Sydney South NSW 1232
Phone: 131 555 (Environment Line) Fax: 9995 5999
Email: info@environment.nsw.gov.au

April 2016
OEH 2016/0239

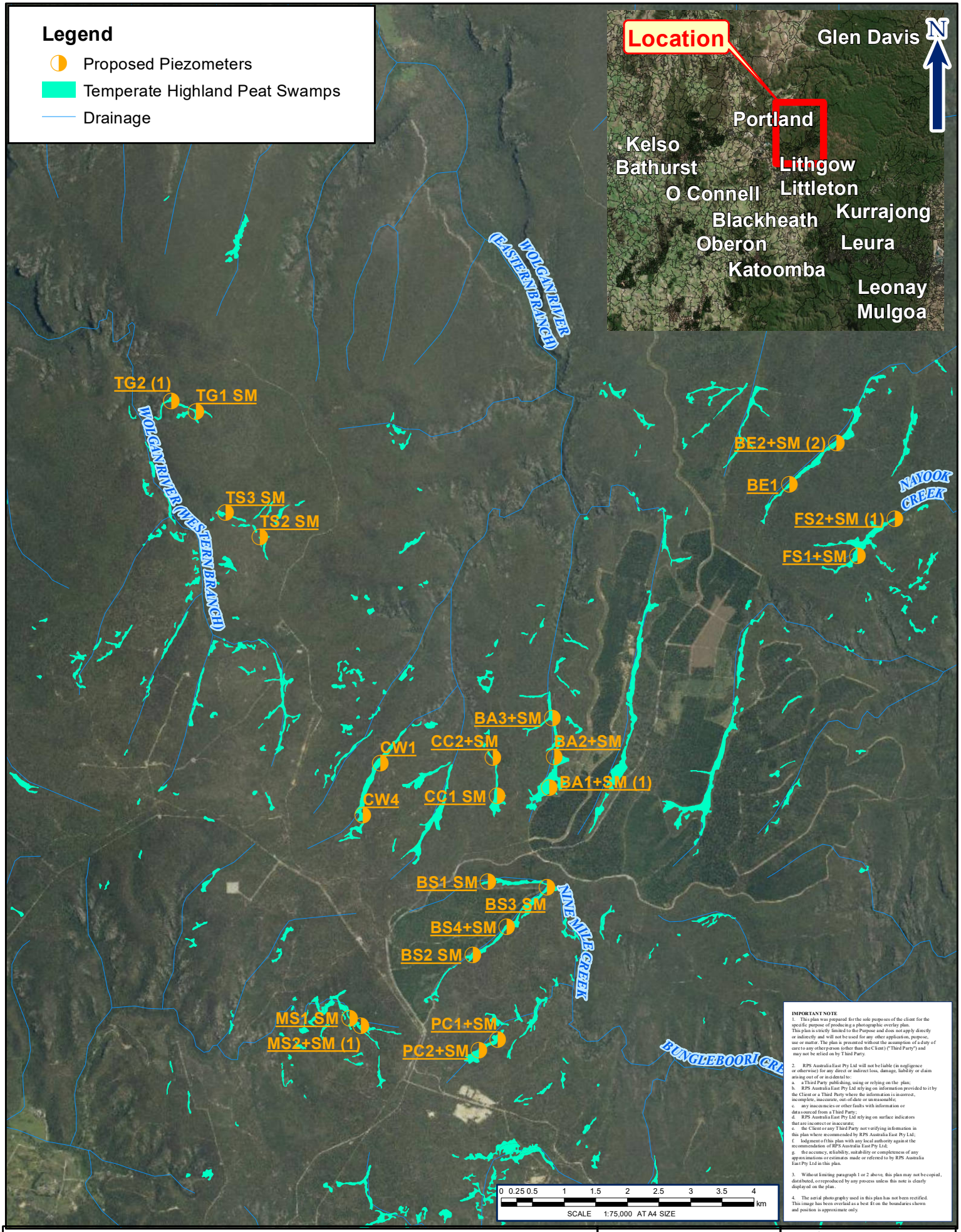

FIGURE 1: LOCATION OF ACTION

LOCATION: NEWNES PLATEAU	DATUM: GDA94 PROJECTION: MGA Zone 56
JOB NO.: PR 135626 PURPOSE: ECOLOGY Technician: Natalie.Wood Date: 21/07/2017	Data Sources: RPS Land and Property 2015

CLIENT: CENTENNIAL SPRINGVALE

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

RPS

Path: S:\Centennial\All Jobs\135626 Drill Hole Due Diligence Assessment\10 - Drafting\Arcgis Map Documents\Eco\Section 91 Application\135626 Figure 1 Location of Action 20170721.mxd

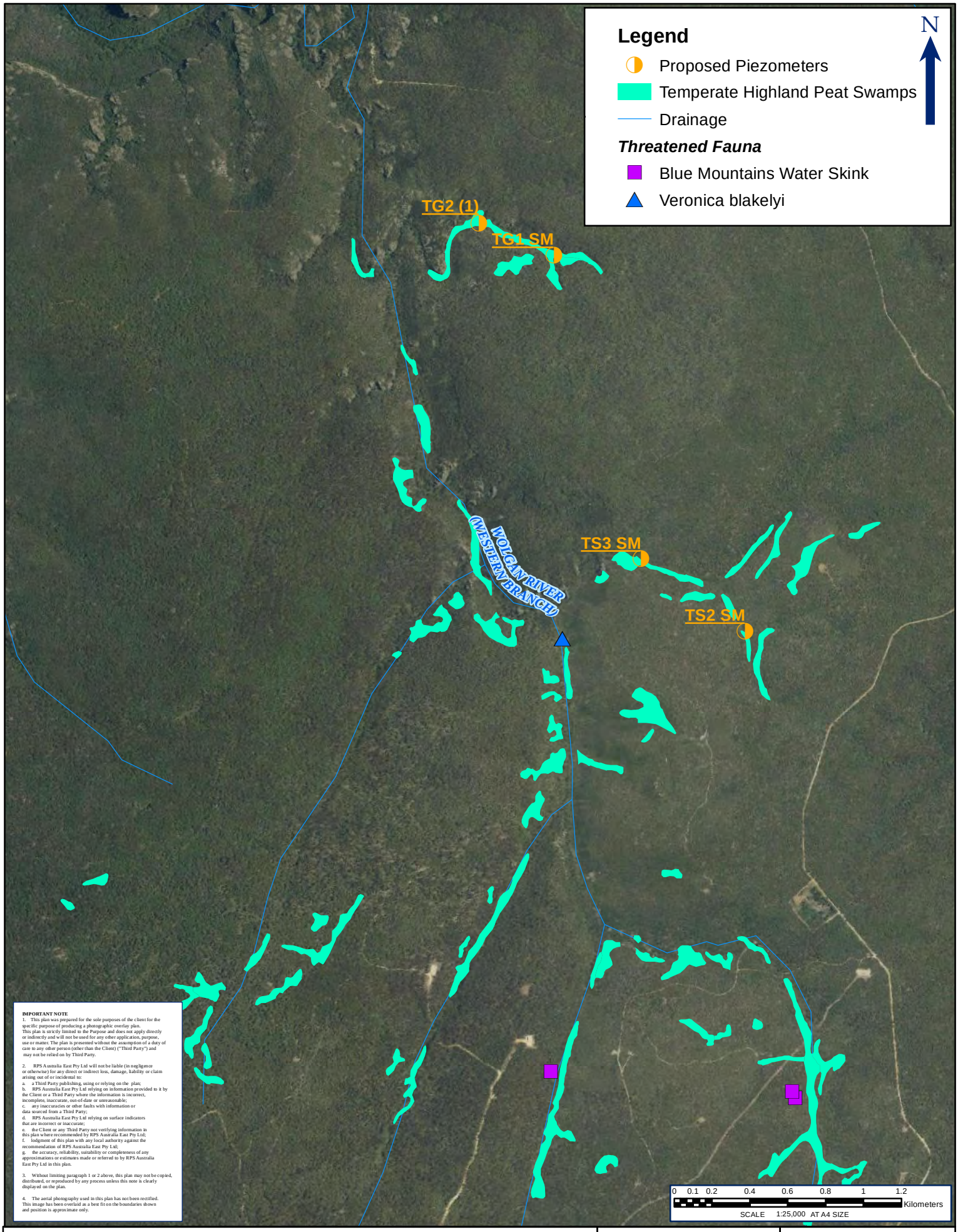

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FIGURE 2: THREATENED SPECIES - NORTH WEST

LOCATION: NEWNES PLATEAU

DATUM: GDA94

PROJECTION: MGA Zone 56

JOB NO.: **PR 135626**

PURPOSE: ECOLOGY

Technician: james.hugo Date: 22/6/2017

Data Sources:
RPS
Land and Property 2015

CLIENT: CENTENNIAL SPRINGVALE

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Path: \\ntlfile1\Jobs2\Centennial\All Jobs\135626 Drill Hole Due Diligence Assessment\10 - Drafting\Arcgis Map Documents\Eco\Section 91 Application\135626 Figure 2 Threatened North West 20170622.mxd

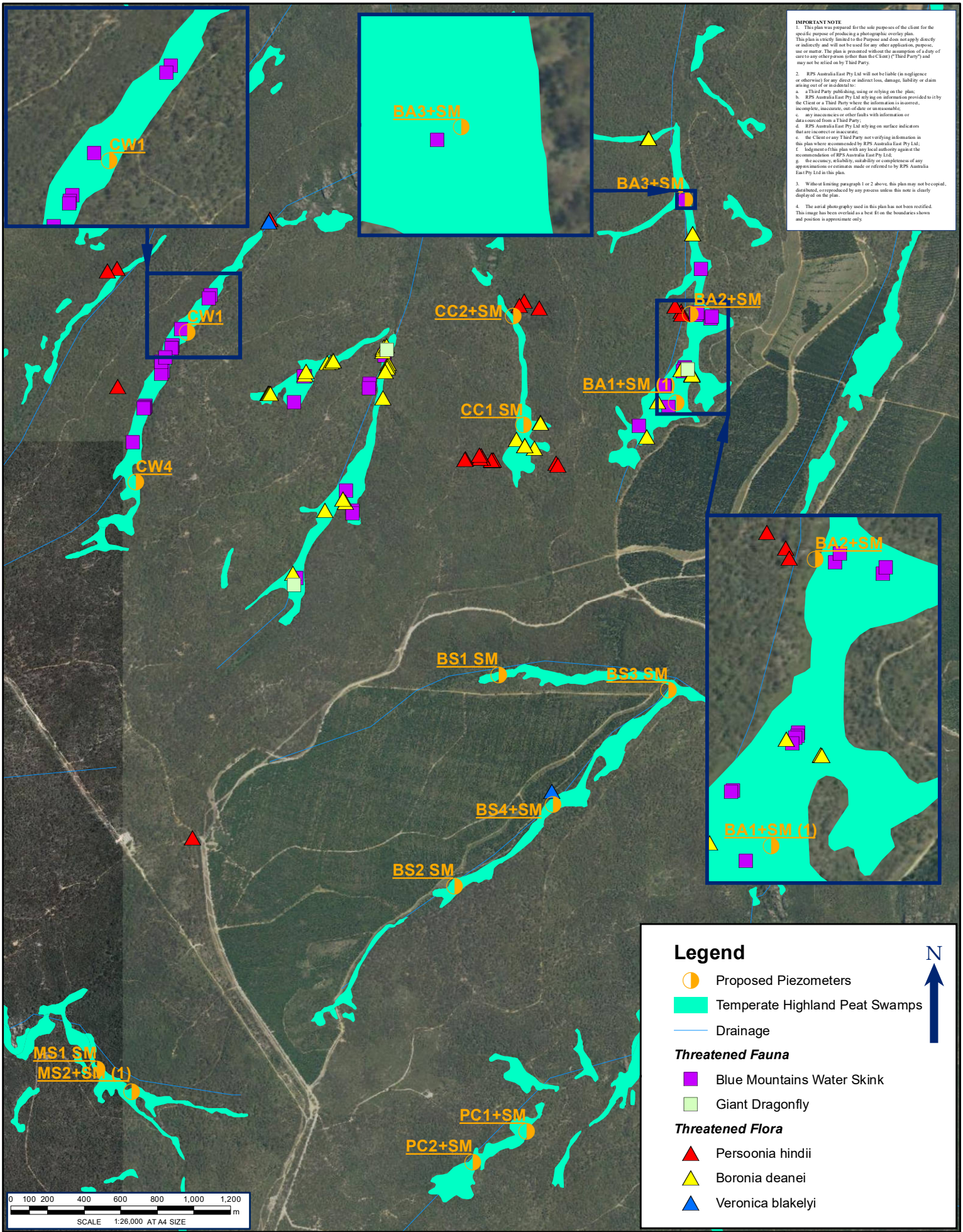

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FIGURE 3: THREATENED SPECIES - CENTRAL

LOCATION: NEWNES PLATEAU

DATUM: GDA94

PROJECTION: MGA Zone 56

JOB NO.: **PR 135626**

PURPOSE: ECOLOGY

Technician: Natalie.Wood Date: 21/07/2017

Data Sources:
RPS
Land and Property 2015

CLIENT: CENTENNIAL SPRINGVALE

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Path: S:\Centennial\All Jobs\135626 Drill Hole Due Diligence Assessment\10 - Drafting\Arcgis Map Documents\Eco\Section 91 Application\135626 Figure 3 Threatened Central 20170721.mxd

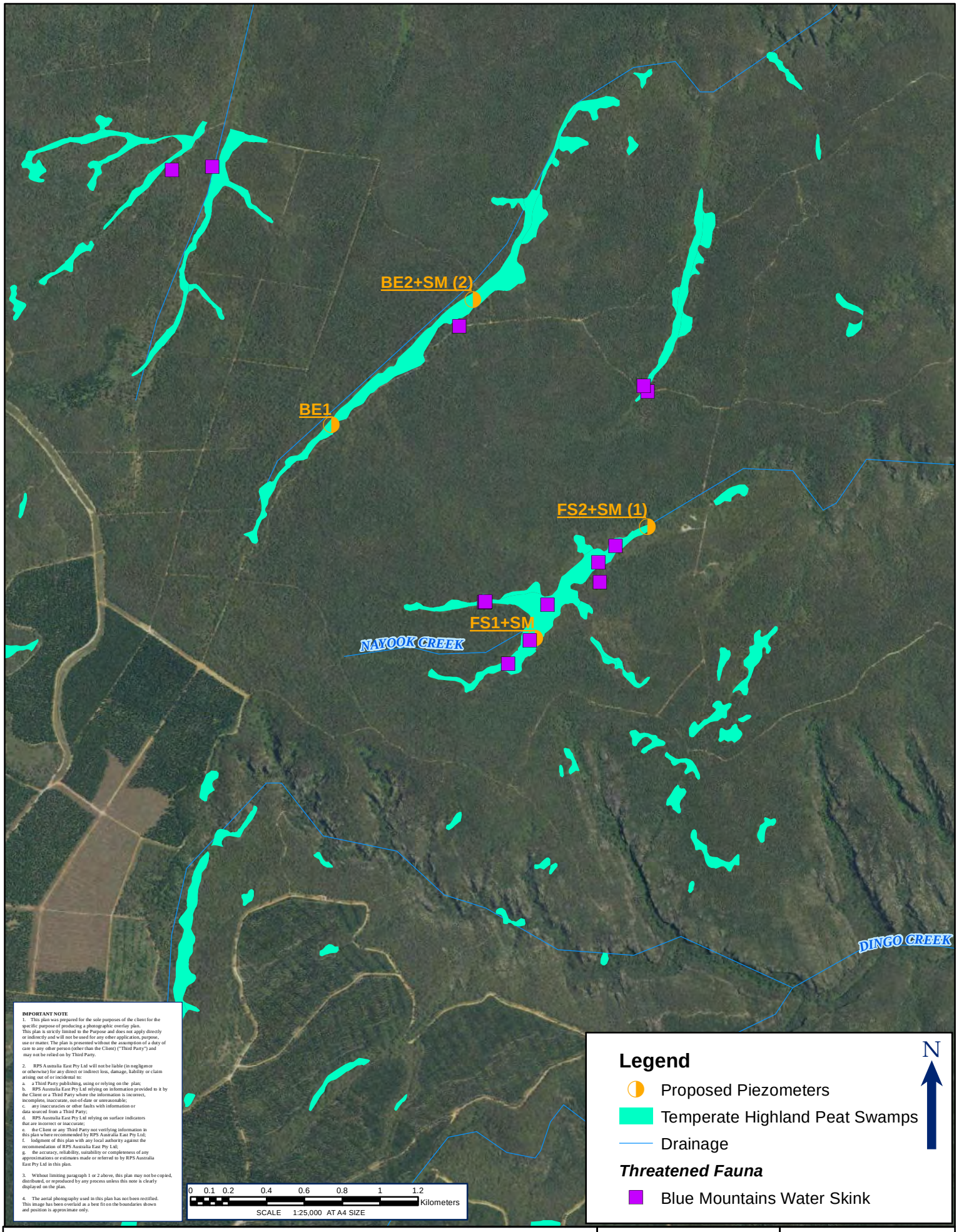

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FIGURE 4: THREATENED SPECIES - NORTH EAST

LOCATION: NEWNES PLATEAU

DATUM: GDA94

PROJECTION: MGA Zone 56

JOB NO.: **PR 135626**

PURPOSE: ECOLOGY

Technician: james.hugo Date: 22/6/2017

Data Sources:
RPS
Land and Property 2015

CLIENT: CENTENNIAL SPRINGVALE

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Path: S:\Centennial\All Jobs\135626 Drill Hole Due Diligence Assessment\10 - Drafting\Arcgis Map Documents\Eco\Section 91 Application\135626 Figure 4 Threatened North East 20170622.mxd