Application for a

NSW GOVERNMENT | Office of Environment & Heritage

Section 91 Licence

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)*	Edgar Leon Freimanis	
2. Australian Business Number (ABN):	40 107 405 934	
3. Organisation name and position of applicant ^: *(if applicable)*	Organisation Name: Ecohort Pty Ltd Position of Applicant: Director	
4. Postal address ^:	PO Box 6504 Rouse Hill Town Centre NSW 2155	Telephone ^: [redacted]
5. Location of the action *(including grid reference and local government area and delineated on a map).*	Banksmeadow Public School Cnr, Wiggins and Trevelyan Streets Botany NSW 2019 LGA: City of Botany Geographic Coordinates: Latitudine: -33.956799 South Longitudine: 151.209595 Est Latitudine degrees, minutes and seconds (DMS): -33°57′24" South Longitudine degrees, minutes and seconds (DMS): 151°12′35" Est N.B. See Appendix I at the end of this document for 'Site Location' map	

* 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.

6. Full description of the action and its purpose *(e.g. environmental assessment, development, etc.)*	As bush regenerators and natural area restorationists, Ecohort Pty Ltd has been engaged by the Banksmeadow Public School to restore one of the last few remaining remnants of Eastern Suburbs Banksia Scrub (ESBS) (EEC) located in the grounds of the school to offset the loss and degradation associated with clearing of this endangered community from the Banksmeadow Golf Course in 2009 for the Men's Australian Open Golf Championship. The primary objective of this project is to rehabilitate or re-establish a functioning and sustainable ecosystem of the type that existed on the site prior to development. It will be a 3 year project. A necessary pre-requisite as part of the rehabilitation process will be to undertake some seed and vegetative material collection of Eastern Suburbs Banksia Scrub species from the site and surrounding locales, such as the Eastgardens Golf Course, and other possible sites, to allow for the installation of 6000 local shrub and groundcover plants during years 1 and 2 of the project. It is also envisaged a long term seed bank may also be established from seed collected during this phase to provide for future plantings. As the site is also heavily weed-infested, a major component of the project will be to undertake weed removal activities which will involve recognised best practice bush regeneration techniques, such as mechanical and hand removal, and some chemical treatments. Although the intention is to protect and preserve the EEC from any deleterious effects through these actions, there may however, be some unavoidable harm to the extant vegetation in situations such as spray drift onto surrounding vegetation. It is envisaged however, that spray Herbicide will be used sparingly and only in situations where no native species will be affected. N.B. Please see Ecohort Pty Ltd's 'TENDER for the Restoration of Eastern Suburbs Banksia Scrub at the Banksmeadow Public School Site', a copy of which is together with this Application
7. Details of the area to be affected by the action *(in hectares)*.	The area requiring bush regeneration treatment is located in the southern section of the Banksmeadow Public School property, adjoining the school between Stephen Road and Brighton Street, Botany, however, separated by wire fencing. The area consists of a central core of remnant Eastern Suburbs Banksia Scrub surrounded by areas of open space. The area containing the remnant is approx. 0.6924ha in size, although only approx. 50% of that area is core bushland (see: Appendix II – 'Location of Remnant Vegetation' map). Reference: National Trust of Australia (NSW) 1996. *Restoration of Native Vegetation at Banksmeadow Public School.* Unpublished document prepared for Botany Bay Council, Mascot, NSW. A copy of this document is together with this Application

8. Duration and timing of the action *(including staging, if any).*	

Year 1 Proposed Works Timing Program

Year	2013		2014																								
Fortnight beginning	9-Dec	23-Dec	6-Jan	20-Jan	3-Jan	3-Feb	17-Feb	3-Mar	17-Mar	31-Mar	14-Apr	28-Apr	12-May	26-May	9-Jun	23-Jun	7-Jul	21-Jul	11-Aug	25-Aug	8-Sep	22-Sep	6-Oct	20-Oct	3-Nov	17-Nov	1-Dec
Year 1 Initial Bush Regeneration and related activities	**Indicative Timing of Year 1 bush regeneration works at the Banksmeadow Public School ESBS site**																										
Initial primary weeding in Areas 1, 2, 8a, 9, 5 and 8b in chronological order, and spacing allocated works' resources relatively evenly over the 6 month primary weeding works period.																											
Collecting local native seeds and vegetative material																											
Year 1 mulching in Areas 1 and 2																											
Year 1 planting in Areas 1 and 2, (including a school community planting day)																											
Maintenance of areas treated to initial works, spreading allocated works' resources relatively evenly over the 10 month maintenance weeding works period.																											
End of Year 1 report submitted																											

Year 2 Proposed Works Timing Program

Year	2014		2015																									
Fortnight beginning	15-Dec	29-Dec	12-Jan	26-Jan	9-Feb	23-Feb	9-Mar	23-Mar	6-Apr	20-Apr	4-May	18-May	1-Jun	15-Jun	29-Jun	13-Jul	27-Jul	10-Aug	24-Aug	31-Aug	7-Sep	21-Sep	5-Oct	19-Oct	2-Nov	16-Nov	30-Nov
Year 2 Bush Regeneration and related activities	**Indicative Timing of Year 2 bush regeneration works at the Banksmeadow Public School ESBS site**																											
Initial primary weeding in Areas 4 and unnamed open areas in chronological order, and spacing allocated works' resources relatively evenly over the 3 month primary weeding works period.																												
Collecting local native seeds and vegetative material																												
Year 2 mulching in Areas 4, 5 and 8b																												
Year 2 planting in Areas 4, 5 and 8b, (including a school community planting day)																												
Maintenance of areas treated to initial works, spreading allocated works relatively evenly over the year 2 works period.																												
End of Year 2 report submitted																												

Year 3 Proposed Works Timing Program

Year	2015						2016																					
Fortnight beginning	15-Dec	29-Dec	12-Jan	26-Jan	9-Feb	23-Feb	9-Mar	23-Mar	6-Apr	20-Apr	4-May	18-May	1-Jun	15-Jun	29-Jun	13-Jul	27-Jul	10-Aug	24-Aug	31-Aug	7-Sep	21-Sep	5-Oct	19-Oct	2-Nov	16-Nov	30-Nov
Year 3 Bush Regeneration and related activities	**Indicative Timing of Year 3 bush regeneration works at the Banksmeadow Public School ESBS site**																											
Maintenance of areas treated to initial works, spreading allocated works resources relatively evenly over the 12 month maintenance weeding works' period.																												
End of Year 3 report submitted																												

9. Is the action to occur on land declared as critical habitat*? *(tick appropriate box)*	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 no. of individual animals, or proportion and type of plant material *(e.g. fertile branchlets for herbarium specimens or whole plants or plant parts)*
N.B. The total flora species list for the Eastern Suburbs Banksia Scrub may be larger than that supplied herewith, with many species present only in one or two sites or in a very small quantity. In any particular site, not all of the assemblage listed may be present. At any one time some species may only be present as seeds in the soil seed bank with no above ground individuals present. Invertebrate species are poorly known but some species may be restricted to soils or canopy trees and shrubs. The species composition of a site will be influenced by the size of the site and by its recent disturbance history. For a number of years after a major disturbance, dominance by a few species (such as *Kunzea ambigua* or *Leptospermum laevigatum*) may occur, with gradual restoration of a more complex floristic composition and vegetation structure over time. The balance between species will change with time since fire, and may also change in response to changes in fire regimes (e.g. fire frequency). References: http://www.environment.nsw.gov.au/determinations/EasternSuburbsBanksiaScrubEndComListing.htm Benson, D. & Howell, J. (1994). The natural vegetation of the Sydney 1:100,000 map sheet. *Cunninghamia* **3(4)**, 679 - 787	The Eastern Suburbs Banksia Scrub ecological community in the Sydney Basin Bioregion is characterised by the following assemblage of species: *Acacia longifolia* *Acacia suaveolens* *Acacia terminalis* *Acacia ulicifolia* *Actinotus helianthii* *Actinotus minor* *Allocasuarina distyla* *Astroloma pinifolium* *Baeckaea imbricata* *Banksia aemula* *Banksia ericifolia* *Banksia integrifolia* *Banksia serrata* *Bauera rubioides* *Billardiera scandens* *Boronia parvifolia* *Bossiaea heterophylla* *Bossiaea scolopendria* *Brachyloma daphnoides* *Caustis pentandra* *Conospermum taxifolium* *Cyathochaeta diandra* *Darwinia fascicularis* *Darwinia leptantha* *Dianella revoluta* *Dichelachne crinita* *Dillwynia retorta* *Epacris longiflora* *Epacris microphylla* *Epacris obtusifolia* *Eragrostis brownii* *Eriostemon*		Eastern Suburbs Banksia Scrub in the Sydney Basin Bioregion - endangered ecological community listing **NSW Scientific Committee - final determination** The Scientific Committee, established by the Threatened Species Conservation Act, made a Final Determination to amend Part 3 of Schedule 1 of the Act (Endangered Ecological Communities) by listing the Eastern Suburbs Banksia Scrub in the Sydney Basin Bioregion as an endangered ecological community (EEC) and as a consequence, to omit reference to the Eastern Suburbs Banksia Scrub in Part 3 of Schedule 1 of the Act. Listing of endangered ecological communities is provided for by Part 2 of the Act. The Scientific Committee found that:	Ecohort Pty Ltd plans to collect enough seed to allow for the propagation of 114 ESBS shrubs and 1368 ESBS groundcover plants in Year 1 and 340 ESBS shrubs and 4077 ESBS groundcover plants in Year 2. ESBS plants known to be easy to collect will be prioritized. All propagated plants will be planted in areas of very low resilience at the Banksmeadow ESBS site. Refer to Ecohort Pty Ltd's EOI for this restoration project (copy together herewith) for additional information regarding the re-vegetation component of the project. **Species List for Banksmeadow Public School:** (National Trust of Australia (NSW) 1996. *Restoration of Native Vegetation at Banksmeadow Public School.* Unpublished document prepared for

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

	australasius *Eucalyptus gummifera* *Gonocarpus teucrioides* *Haemodorum planifolium* *Hakea teretifolia* *Hardenbergia violacea* *Hibbertia fasciculata* *Hypolaena fastigiata* *Kunzea ambigua* *Lambertia formosa* *Lepidosperma laterale* *Leptocarpus tenax* *Leptospermum laevigatum* *Leptospermum trinervium* *Lepyrodia scariosa* *Leucopogon ericoides* *Lomandra longifolia* *Melaleuca nodosa* *Melaleuca squamea* *Monotoca elliptica* *Monotoca scoparia* *Persoonia lanceolata* *Philotheca salsolifolia* *Pimelea linifolia* *Pomax umbellata* *Pteridium esculentum* *Restio fastigiata* *Ricinocarpos pinifolius* *Styphelia viridis* *Woollsia pungens* *Xanthorrhoea resinifera* *Xanthosia pilosa*		1. A Notice of Final Determination to list the Eastern Suburbs Banksia Scrub appeared in the NSW Government Gazette No. 62 on 13th June, 1997. The Scientific Committee considers that an amendment should be made to this listing following the receipt of additional information about the ecological community. 2. The Eastern Suburbs Banksia Scrub is the accepted name for the ecological community occurring on nutrient poor sand deposits in the Sydney Basin Bioregion. 3. It has the structural form predominantly of sclerophyllous heath or scrub occasionally with small areas of woodland or low forest, with, depending on local topography and drainage conditions, limited wetter areas. Reference: http://www.environment.nsw.gov.au/determinations/EasternSuburbsBanksiaScrubEndComListing.htm	Botany Bay Council, Mascot, NSW. **Pteridophyta (Ferns)** **Adiantaceae** *Chielanthes* sp. (Stone Fern) **Dennstaedtiaceae** *Pteridium esculentum* (Bracken) **Angiosperms (Dicotyledons)** **Aizoaceae** *Carpobrotus glaucescens* (Pig Face) **Campanulaceae** *Wahlenbergia gracilis* (Native Bluebell) **Dilleniaceae** *Hibbertia fasciculate* (Guinea Flower). **Epacridaceae** *Brachyloma daphnoides* (Daphne Heath) *Monotoca elliptica* (Tree Broom-Heath) **Fabaceae** **Mimosoideae** *Acacia sophorae var sophorae* (Coast Wattle) *Acacia suaveloens* (Sweet-scented Wattle) **Myrtaceae** *Leptospermum trinervium* (Paperbark Tea-tree) **Oxalidaceae** *(Oxalis sp.)* **Rubiaceae** *Opercularia aspera* (Thin Stink Weed) **Thymelaeaceae** *Pimelea linifolia* (Rice Flower) **Violaceae** *Hybanthus monopetalus* (Slender Violet)

				Monototyledons **Commelinaceae** *Commelina cyanea* (Scurvy Weed) **Cyperaceae** *Lepidosmerma laterale* (Sword-sedge) *Isolepsis nodosa* (Knobby Club-rush) *Haemodorum planifolium* (Blood Root Lily) **Poaceae** *Dichelachne crinita* (Longhair Plume Grass) *Microlaena stipoides* (Weeping Meadow Grass) **Xanthorrhoeaceae** *Lomandra glauca* (Pale Mat Rush) *Xanthorrhoea resinosa* (Grass Tree)

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.	an SIS is attached - No Items 12 to 25 have been addressed - Yes

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 <u>not</u> 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.	Condition of the treatment area containing the bushland remnant is reported as 'poor to fair' (DEC 2004) as follows: The central core of the site, which essentially comprises the remnant bushland, is relatively free of weeds. However, woody weed seedlings (Bitou Bush, Lantana), grasses (Common Couch, African Love Grass), and weedy herbs (Fireweed, Ground Asparagus) are making inroads into the bushland, moving inwards from edge sites and systematically displacing native ground covers and indigenous grasses. Major weed problems are found around the edges of the remnant, along the school boundary fences, and in the open space between the boundary fences and the remnant itself. The fringing areas closest to the core bushland also support small numbers of native plants – the area is not entirely occupied by weeds. Occasionally, one large *Acacia* or *Banksia* tree has survived, surrounded by Bitou Bush and Lantana. These outlying plants form the nuclei of bushland outside the

	core bushland, and may in the future provide seed for the expansion of the core into adjacent (now degraded) areas. It is worth noting that the original flora survey (Benson 1989) records that the aggressive African Love Grass (*Eragrostis curvula*) which commonly occurs on sandy soils, is virtually absent from the Banksmeadow remnant. This weed however, is widespread through the remnant and adjoining open areas, and poses a serious threat to the native understorey. Condition summarised as follows: • There is a core of native vegetation which has some weed invasion. • An adjacent section contains native vegetation sparsely covering the sandy soil. Weed growth is evident. The sparse cover leaves the area prone to erosion. • Surrounding the remnant are open areas. Vegetation on these areas is mostly weed with the occasional native shrub. In the corner, the ground has been levelled by Council and some planting has taken place. This was to repair damage by Council to this site when gaining access to an adjacent area. • African Love Grass is widespread through the remnant and adjoining open areas. References: Dept. of Environment and Conservation (NSW) (2004). *Eastern Suburbs Banksia Scrub Endangered Ecological Community Recovery Plan.* Dept. of Environment and Conservation (NSW), Hurstville, NSW. (National Trust of Australia (NSW) 1996. *Restoration of Native Vegetation at Banksmeadow Public School.* Unpublished document prepared for Botany Bay Council, Mascot, NSW. Urban Bushland Management Consultants (1997) *Action Plan for Bush Regeneration at Banksmeadow Public School* N.B. Copies of these documents together with this Application
13. Provide details of any known records of a threatened species in the same or similar known habitats in the locality *(include reference sources).*	The NSW Scientific Committee, established by the Threatened Species Conservation Act, made a Final Determination to amend Part 3 of Schedule 1 of the Act (Endangered ecological communities) by listing the Eastern Suburbs Banksia Scrub in the Sydney Basin Bioregion as an endangered ecological community (EEC) and, as a consequence, to omit reference to the Eastern Suburbs Banksia Scrub in Part 3 of Schedule 1 of the Act. Listing of endangered ecological communities is provided for by Part 2 of the Act. WWW Reference Source: *Eastern Suburbs Banksia Scrub in the Sydney Basin Bioregion - endangered ecological community listing - NSW Scientific Committee - final determination* http://www.environment.nsw.gov.au/determinations/EasternSuburbsBanksiaScrubEndComListing.htm Eastern Suburbs Banksia Scrub once occupied approx. 5,300ha between North Head and Botany Bay. Today, only 146ha of the community remains in isolated remnants, ranging in size from 0.06 to 69ha. These remnants occur across a range of tenures, including private, Local, State, and Commonwealth Government land. Less than 3% (146ha) of the original distribution of ESBS (5,300ha) remains. Only 33ha of ESBS (or 0.6% of its original distribution) occurs within conservation reserves (Botany Bay National Park at La Perouse and Sydney Harbour National Park at North Head). Reference: Dept. of Environment and Conservation (NSW) (2004). *Eastern Suburbs Banksia Scrub Endangered Ecological Community Recovery Plan.* Dept. of Environment and Conservation (NSW), Hurstville, NSW.

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).*	Please refer to Item 13
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.	The area requiring bush regeneration treatment is located in the southern section of the Banksmeadow Public School property, adjoining the school between Stephen Road and Brighton Street, Botany, however, separated by wire fencing. The area consists of a central core of remnant Eastern Suburbs Banksia Scrub surrounded by areas of open space. The area containing the remnant is approx. 0.6924ha in size, although only approx. 50% of that area is core bushland (see: Appendix II – 'Location of Remnant Vegetation' map). Of the original distribution of the community of approximately 5,300 ha between North Head and Botany Bay, only 146 ha remain in isolated remnants, ranging in size from 0.06 to 69 ha (DEC 2004). Consequently, the amount of area to be affected by the proposed action is approximately 0.6924 hectares of 146 hectares. References: National Trust of Australia (NSW) 1996. *Restoration of Native Vegetation at Banksmeadow Public School.* Unpublished document prepared for Botany Bay Council, Mascot, NSW. Dept. of Environment and Conservation (NSW) (2004). *Eastern Suburbs Banksia Scrub Endangered Ecological Community Recovery Plan*
16. Provide an assessment of the likely nature and intensity of the effect of the action on the lifecycle and habitat of the species.	Section 8.3 – 'Ecological restoration' of the Eastern Suburbs Banksia Scrub Endangered Ecological Community Recovery Plan (DEC 2004) states that *'Restorative actions need to be used to reinstate the natural ecosystem function in degraded ESBS fragments. Such restoration programs should utilise the in-situ resilience of the remnant to the fullest extent practical, by applying low level intervention techniques',* and Section 8.4. states *'The ability of ESBS to 'recover' is limited given that so little of the community survives and that most of the area that is formerly occupied is now developed. The removal of ESBS from the schedules of the TSC Act is not a recovery objective as the community is likely to remain in relatively small, isolated and disjunct remnants. The successful management of the remaining stands of ESBS through habitat protection and restoration is achievable however'*
17. Provide details of possible measures to avoid or ameliorate the effect of the action.	All bush regeneration works undertaken at the Banksmeadow Public School site will be undertaken using appropriately experienced and qualified Ecohort bush regeneration staff, using best practice guides such as: • Buchanan, R. (1989) *Bush Regeneration: Recovering Australian Landscapes.* TAFE Student Learning publication, Sydney. • Greening Australia NSW (1999) *Management principles to guide the restoration and rehabilitation of indigenous vegetation.* Greening Australia NSW, Sydney • Langkamp, P. Ed (1987) *Germination of Australian Native Plant Seed,* Inkata Press, Sydney

	• National Trust of Australia NSW (1991) *The Bush Regeneration Handbook* • Sweedman, L, Merritt, D. (2006) Australian Seeds: A guide to their collection, Identification and Biology. CSIRO Publishing, Collingwood Vic. Ecohort Pty Ltd will only undertake reconstruction plantings on disturbed soils using locally occurring plant species. The local native plantings will also use practices advocated in the above references and will follow the principles of 'bushland reconstruction' or 'reconstruction through revegetation'. Ecohort Pty Ltd proposes to collect seed and vegetative material to enable the production of provenance native plant species for use in the revegetation component of the project, with all seed collection being undertaken within the Florabank guidelines. Materials required for the production of plants for the revegetation component of the project will be collected on site. If required quantities cannot be fulfilled with material collected on site, then off-site collection will occur at other possible locations such as the Eastgardens Golf Course. Seed will be collected without damaging the local environment with enough sufficient seed left for other collectors, insects, animals and the plant itself. Ameliorative measures include: • Not over-collecting. Collect only the fruit, and wherever possible, don't damage the future years' crops i.e. flowers and buds. • Collect no more than 10% of the seed present from any given plant. This should ensure that sufficient seed is left behind to service natural purposes as well as other seed collectors. • Cutting of complete branchlets may remove the plant's seed producing potential for many years. • Check the seed bank to determine if there is a need for the species No plantings will be undertaken in any areas of resilient bushland, and additional local species that may spread into revegetation areas will be encouraged to establish. The reconstruction plantings will include the following techniques: • Ongoing control of weeds using accepted best practice bushland regeneration techniques. Herbicide spraying will only be used in areas where damage to adjoining native plants can be avoided. • Sourcing local native plant material and installing these plants using appropriately sterilised hand tools, using species' composition schedules and rates outlined in the accompanying Ecohort works' proposal. • Stabilising soils and suppressing weeds around reconstruction planting areas, and minimising activity in areas where remnant plant species are present or have the capacity to regenerate naturally. • Maintaining reconstruction planting treatments (including watering, weeding and replacing dead plant material) as a part of the proposed maintenance period after installation.

N.B: The Director-General 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	No impact is expected on the EEC, Eastern Suburbs Banksia Scrub, if Ecohort Pty Ltd implement all proposed restoration works using our appropriately qualified and experienced staff and if these staff are properly inducted to recognise native plant species at the site. All Ecohort Pty Ltd staff to be used on this job have bush regeneration training at Certificate 2 level or higher and have all worked in the bush regeneration industry for 1-20 years (depending on relevant staff member). One of the key work skills

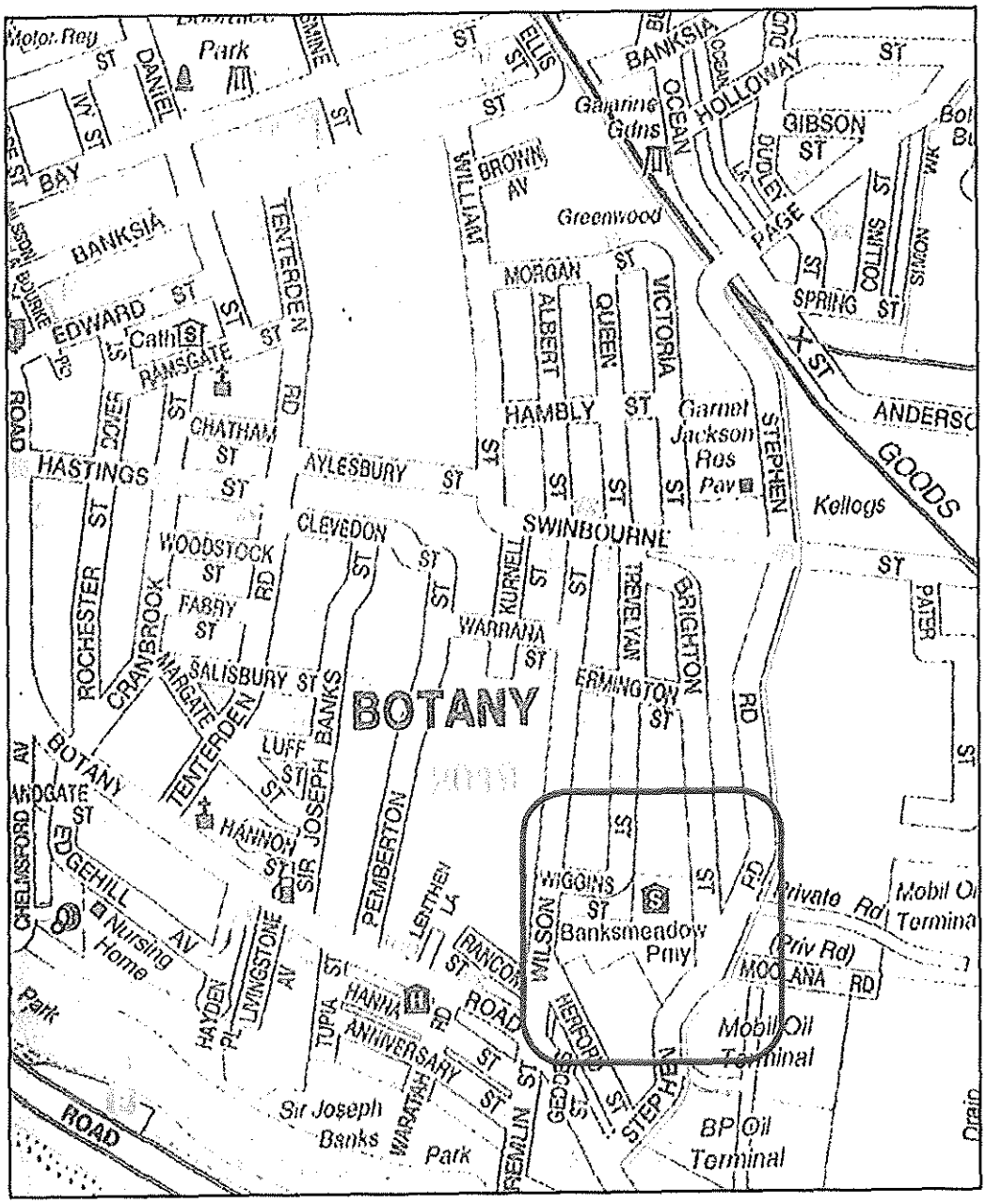
species such that a viable local population of the species is likely to be placed at risk of extinction.	attained and incrementally developed from formal and on the job training by Ecohort Pty Ltd staff, is the ability to identify and recognise a broad range of weed and native plant species. This includes the learning of new plant species, not previously encountered by Ecohort Pty Ltd staff at other sites when beginning works on a new site. Ecohort Pty Ltd will not use inexperienced or unqualified staff on this project. Please refer to Ecohort Pty Ltd's 'TENDER for the Restoration of Eastern Suburbs Banksia Scrub at the Banksmeadow Public School Site', a copy of which is together with this Application, which contains details of staff qualifications. Ecohort Pty Ltd is a professional company that specialises in providing bush regeneration and bushland reconstruction services to a range of entities in the government and private sector. Our company prides itself on the delivery of professional bush regeneration and reconstruction services using appropriately qualified and experienced field and management staff, and by employing accepted best practice bush regeneration and reconstruction techniques. Herbicide spraying work will be avoided in areas where damage to non-target native remnant ESBS plant species occur, to minimise any chance of damage to these species. Ecohort Pty Ltd proposes to collect seed and vegetative material to enable the production of provenance native plant species for use in the revegetation component of the project, with all seed collection undertaken within the Florabank guidelines. It is expected that the proposed bush regeneration measures will in fact abate some of the main threatening processes, i.e. weed competition, clearing and development, and erosion, affecting the threatened ecological community at the subject site, with the overall long-term goal to *increase* the survival prospects of the community as a whole.
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.	See Item 18
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 extent of the ecological	No impact is expected on the EEC, Eastern Suburbs Banksia Scrub, if Ecohort Pty Ltd implement all proposed restoration works using our appropriately qualified and experienced staff and if these staff are properly inducted to recognise native plant species at the site. All Ecohort Pty Ltd staff to be used on this job have bush regeneration training at Certificate 2 level or higher and have all worked in the bush regeneration industry for 1-20 years (depending on relevant staff member). One of the key work skills attained and incrementally developed from formal and on the job training by Ecohort Pty Ltd staff is the ability to identify and recognise a broad range of weed and native plant species. This includes the learning of new plant species, not previously encountered by Ecohort Pty Ltd staff at other sites when beginning works on a new site. Ecohort Pty Ltd will not use inexperienced or unqualified staff

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.	on this project. Please refer to Ecohort Pty Ltd's 'TENDER for the Restoration of Eastern Suburbs Banksia Scrub at the Banksmeadow Public School Site', a copy of which is together with this Application, which contains details of staff qualifications. Ecohort Pty Ltd is a professional company that specialises in providing bush regeneration and bushland reconstruction services to a range of entities in the government and private sector. Our company prides itself on the delivery of professional bush regeneration and reconstruction services using appropriately qualified and experienced field and management staff, and by employing accepted best practice bush regeneration and reconstruction techniques. Herbicide spraying work will be avoided in areas where damage to non-target native remnant ESBS plant species occur to minimise any chance of damage to these species. Ecohort Pty Ltd proposes to collect seed and vegetative material to enable the production of provenance native plant species for use in the revegetation component of the project, with all seed collection undertaken within the Florabank guidelines. It is expected that the proposed bush regeneration measures will in fact abate some of the main threatening processes, i.e. weed competition, clearing and development, and erosion, affecting the threatened ecological community at the subject site, with the overall long-term goal to *increase* the survival prospects of the community as a whole.
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.	**Item (i)** The proposed management actions provide for the future recovery of Eastern Suburbs Banksia Scrub, rather than the removal or modification of the habitat as a result. **Item (ii)** The overall objective of the restoration works is to *stabilise* and *increase* the occurrence and distribution of the Eastern Suburbs Banksia Scrub, therefore, it is highly unlikely the habitat will be adversely affected by the proposed restoration actions. **Item (iii)** Section 3 – 'Conservation Status', of the Eastern Suburbs Banksia Scrub Endangered Ecological Community Recovery Plan (DEC 2004) states that: *'In 1997, the NSW Scientific Committee listed Eastern Suburbs Banksia Scrub as an endangered ecological community on Schedule 1 Part 3 of the TSC Act. This listing occurred because in view of the substantial reduction in the area occupied by ESBS, its fragmentation and the numerous threats operating on surviving remnants, the NSW Scientific Committee was of the opinion that the community was likely to become extinct in nature in NSW unless the factors threatening its survival ceased to operate.'* Consequently, it is imperative that restoration techniques be undertaken to ensure the long-term conservation of the community.
22. Whether the action proposed is likely to	Critical habitat has not been scheduled for the location

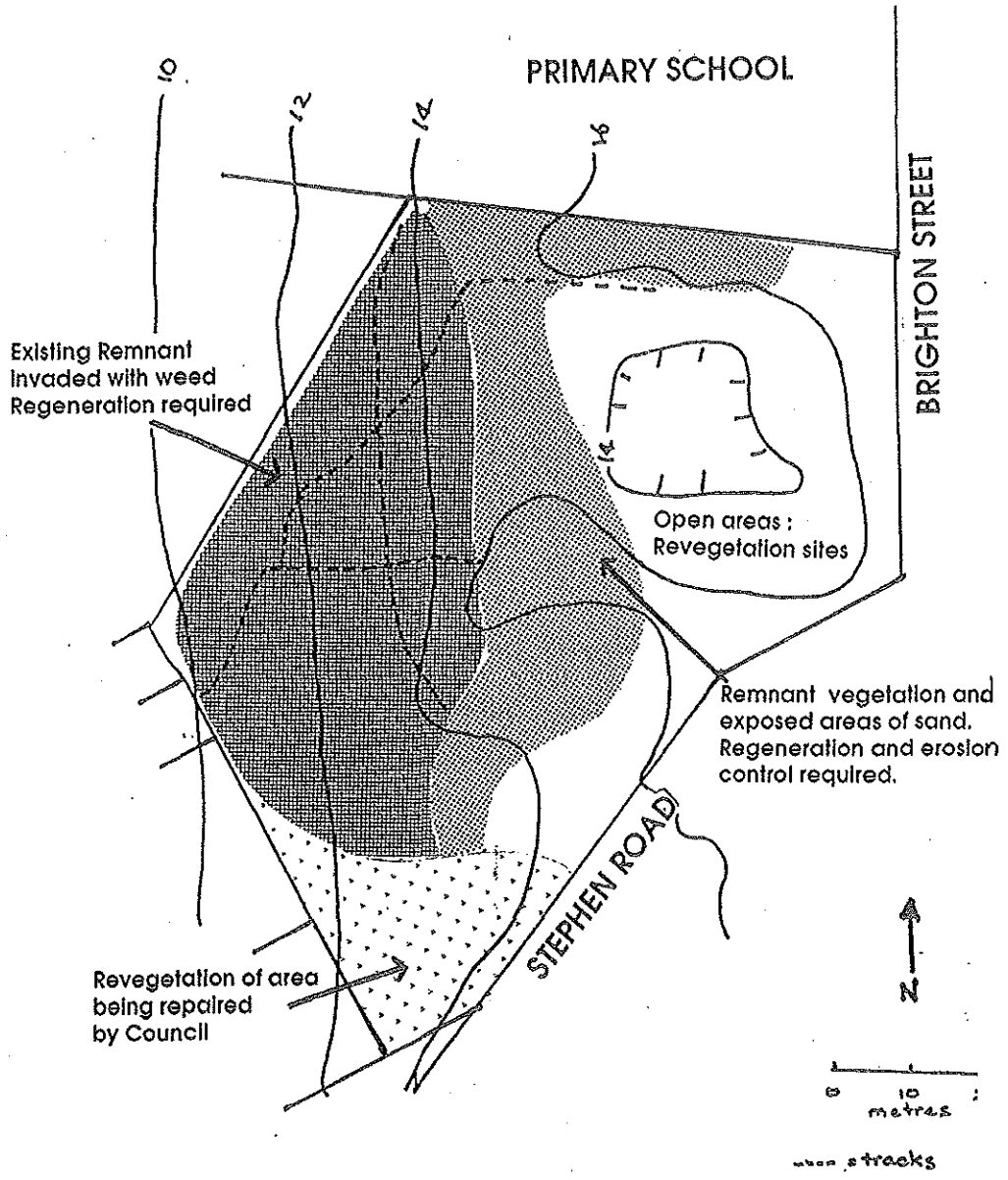
have an adverse effect on critical habitat (either directly or indirectly).	
23. Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan.	The Eastern Suburbs Banksia Scrub Endangered Ecological Community Recovery Plan (DEC) 2004, is the formal Commonwealth and New South Wales recovery instrument for the restoration of the Eastern Suburbs Banksia Scrub EEC, to ensure the long-term viability of the community. This document provides for public authorities and Councils to be responsible for implementing appropriate measures and actions to achieve the provisions of the plan. Botany Council is the relevant authority for the Banksmeadow Public School and other local ESBS remnants and a member of the ESBS recovery team established in 1999 to guide the DEC in the preparation and implementation of the recovery plan. In collaboration with Banksmeadow Public School, Botany Council invited quotations from trained Bush Regenerator contractors to undertake the restoration works on the ESBS remnant at the school. Given the set budget, the proposed restoration works in the tender documentation needed to satisfy the objectives and selection criteria of the two authorities. Ecohort Pty Ltd was the successful respondent.
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.	Some of the recognised key threatening processes to ESBS at the Banksmeadow Public School site are: • Habitat loss and fragmentation leading to a reduction in species diversity • Habitat degradation, including erosion • Overuse • Weed invasion • Adjacent land use • Dumping • Fire • Planting of non-indigenous species Section 9.3 – 'Threat management and ecological restoration', and sub-section 9.3.3, of the Eastern Suburbs Banksia Scrub Endangered Ecological Community Recovery Plan, state that *'All on-ground restoration work in ESBS remnants will be undertaken by, or under the direct supervision of a person, or persons, with training (such as TAFE certification) and experience in bush regeneration techniques. This work will be guided by site management plans'.* Seed collection and weed management are two recognised best practice bush regeneration techniques for the recovery of bushland fragments. Seed collection is undertaken within Florabank Guidelines ensuring that no more than 10% of the seed present from any given plant will be collected so that sufficient seed is left behind to service ongoing natural recovery purposes. The collected seed will be propagated and planted within the fragment to revegetate denuded areas. Weed management is undertaken using minimal disturbance methods such as hand-pulling, crowning, cut and painting, stem injection, scrape and painting. Herbicide is a useful control, however, should be used tactfully and in combination with other sensitive control techniques. The recovery actions proposed by Ecohort Pty Ltd are intended to arrest and repair the degrading processes at the site, and to maintain the existing ESBS remnant, with the ultimate goal to restore the remnant to a state where it can sustain itself naturally.

Banksmeadow Public School Location Map

(Source: 2005 Sydney City Link UBD Street Directory)



Appendix II - Banksmeadow Public School Remnant Vegetation Location Map



REMNANT VEGETATION
AT BANKSMEADOW PRIMARY SCHOOL

Important information for the applicant

Processing times and fees

The *Threatened Species Conservation Act 1995* provides that the Director-General 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 Director-General 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 Director-General 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.

Request for additional information

The Director-General 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 SIS, the Director-General 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 Director-General will advise the applicant of the need to prepare a SIS.

Director-General's requirements for a SIS

Prior to the preparation of a SIS, a request for Director-General'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 Director-General of OEH.

Disclosure of Personal Information in the Public Register of s91 Licences

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* 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.*

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 www.environment.nsw.gov.au/threatenedspecies/S91TscaRegisterByDate.htm or in hardcopy form from The Librarian, OEH, 59 Goulburn St, Sydney.

Certificates

If the Director-General 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 Director-General 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.*
EDGAR LEON FREIMANIS

Applicant's name
(Please print)
DIRECTOR / PROJECT MANAGER
ECOHORT PTY LTD

Applicant's Position & Organisation *(if relevant)*
(Please print)

Applicant's signature E. Freimanis

28th January, 2014
Date

For more information or to lodge this form, contact the nearest branch of OEH's Conservation and Regulation Division:

Metropolitan Branch
P: 02 9995 6802
F: 02 9995 6900
PO Box 668
Parramatta
NSW 2124

North East Branch
P: 02 6640 2500
F: 02 6642 7743
PO Box 498
Grafton
NSW 2460

North East Branch
P: 02 4908 6800
F: 02 4908 6810
PO Box 488G,
Newcastle
NSW 2300

North West Branch
P: 02 6883 5330
F: 02 6884 8675
PO Box 2111
Dubbo
NSW 2830

South Branch
Biodiversity Conservation Section
P: 02 6122 3100
F: 02 6299 3525
PO Box 622 Queanbeyan
NSW 2620

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

EcoHort Pty. Ltd.
www.bushregenerators.com

Supplementary Information Requested by the NSW Office of Environment and Heritage for the Restoration of Eastern Suburbs Banksia Scrub at the Banksmeadow Public School Site

Introduction

This report contains supplementary information requested by Melina Budden from the NSW Office of Environment and Heritage (OEH) after Ecohort lodged a licence to undertake works within the endangered Eastern Suburbs Banksia Scrub (ESBS) ecological community to satisfy the requirements of Section 91 under the Threatened Species Conservation Act 1995 (TSC Act) to harm or pick a threatened species, population or ecological community* or damage habitat.

As Ecohort propose to undertake bush regeneration weeding within the endangered ESBS plant community and also to propagate plants collected from ESBS to reconstruct ESBS in adjoining non-ESBS parts of the Banksmeadow Public School, a Section 91 licence from OEH is technically required to undertake this work. This application was mailed to OEH on 28 January 2014. On 13 February 2014, an emailed response from OEH's representative was received, outlining that a number if aspects of the licence application had to be addressed before the licence could be issued.

To give some historical context to this matter, the NSW Department of Education and Training tendered out the bushland restoration works on the at the Banksmeadow Public School site in 25 October 2014. Ecohort submitted a tender for this work on 15 November 2014. Ecohort were advised of DET's acceptance of our tender on 26 November 2014. The $100,000.00 ex GST budget for these restoration works is believed to have come from Events NSW to DET to restore ESBS at the Banksmeadow Public School site to offset the loss and degradation associated with clearing of 280m2 of this endangered community from the Eastlakes Golf Course in 2009 for the Men's Australian Open Golf Championship. The primary objective of this project is to regenerate and reconstruct the ESBS in core and adjoining very-low resilience parts of the ESBS and surrounding areas at the Banksmeadow Public School site. The allocated funding has been applied to a 3-year period. Before this time Doug Benson wrote about the importance of this site in 1989. The National Trust wrote a plan for the site in 1996 and a further Action Plan was put-together for the site by UBM in 1997. With the exception of some minor planting on eroding sands in the south-eastern reaches of the site by Botany Council in the early-to-mid 1990's, the site has seen no restoration the site has not had any significant regeneration or restoration work undertaken since it was described in 1989.

A site meeting has also been undertaken with Ecohort and OEH representatives, since the licence application was rejected.

The Banksmeadow Public School community is keen to see the ESBS at the site be restored as well as can be done using allocated resources and in doing so engage the school community in this restoration process. They are also keen to foster relationships with the broader school and local community to assist with the ongoing restoration requirements of the site and to utilise this highly significant remnant of ESBS as an educational resource for the school community and other relevant stakeholders in the greater Banksmeadow and Botany community.

The following emailed transcript in *red-italic-text* lists the concerns and supplementary information that was requested by Melina Budden from OEH, via email on 13 February 2014, before a Section 91 licence could be issued for the proposed ESBS restoration works at the Banksmeadow Public School site. Ecohort have made brief and detailed clarifications to each raised concern in **black bold text** adjoining each red coloured italic concern. Additional information has also been provided, where relevant, in latter parts of this document.

The following list outlines the primary concerns that the NSW Office of Environment has with your current application:

1. The existing 'Action Plan for Bush Regeneration at Banksmeadow Public School' (hence forth referred to as the Action Plan) was prepared in October 1997 and as such is well out of date. Relevant sections such as 1.1.3, 1.1.4, 2.1, 2.2 and 3.1 relating the vegetation mapping, vegetation descriptions, management zones and management actions will require updating given that the condition of the remnant and the surrounding vegetation is more than likely to have changed in the 18 years since the document was written. A site assessment would be required to achieve this.
Ecohort's opinion is that although around 18-years old, both the 1997 UBM Action Plan and

the 1996 National Trust report relating to this site are still highly relevant and that these documents were adequate for Ecohort and presumably two other companies to quote on the works that are required at the subject site, given the allocated resources. The fundamental difference is that the site has become more-weedy. A detailed site assessment was undertaken of the site during the tender meeting, which was organised by Banksmeadow Public School, with assistance from Botany Council's representative. Aspects such as current weed densities and native plant resilience assessments were included in Ecohort's detailed works plan in the submitted 15 November 2013 tender and in the 28 January 2014 Section 91 licence. We feel that this requested additional information/rewriting in effect a new management plan will take away limited resources away from on-ground works and that it is a largely unnecessary, bureaucratic exercise that will delay the works at the site until OEH;s licencing requirements have been met. However, as requested Ecohort have remapped the native vegetation, weeds native plant resilience and proposed management actions based on the site's conditions and allocated project resources, based on the inspection that Ecohort undertook at the site back in October 2014 and a second time in March 2014, as outlined in the enclosed Figure 1. Table 1 describes the site's conditions in more detail and recommended management actions are outlined in the enclosed Table 2. In all cases all works that Ecohort p[ropo0se to undertake will conform to OEH's best practice guidelines for restoring ESBS.

2. The proposed management actions in both the Action Plan, Ecohort (2013) 'Tender for the Restoration of ESBS at the Banksmeadow Public School Site' and Ecohort (2013) Section 91 Licence Application are not aligned with the Department of Environment and Climate Change NSW (now the NSW Office of Environment and Heritage)(2009)'Best Practice Guidelines ESBS'. See following points and the attached guidelines for further detail.

Ecohort has consulted OEH's ESBS Best Practice Guidelines and we hereby agree to conform to all of its recommended restoration actions, when undertaking restoration works at the ESBS and surrounding areas at the Banksmeadow Public School site that is depicted in Figure 1. I must reiterate that some of the methods we proposed in our 15 November 2013 tender, such as the careful and judicious use of spot herbicide spraying by skilled operators, using low pressure back pack spraying applicators of certain non-selective and selective herbicides, in situations where damage to adjoining native plants can be avoided and after careful preparatory hand weeded has been undertaken, are fundamentally ecologically sound and the most cost effective way to treat certain weeds at the site. Many examples of how herbicide spot spraying can be used effectively throughout the project site during the site meeting between Ecohort's and OEH's representative in March 2014. What worked at two sites at Centennial Parklands does not necessarily apply to this site.

3. The proposed methods for weed removal according to the tender document and the licence application will involve techniques such as mechanical, hand removal and some chemical treatments including spot spraying. As well as the removal of primary weeds including overstorey species such as Lantana, Green Cestrum and Phoenix Palm in the first instance along with ground cover species. Whereas the guidelines indicate that tall weed trees and shrubs should not be removed before considering the impacts of increased sunlight and warmth will have on currently unexposed vegetation layers. Further the ESBS at the school is described by Doug Benson, Senior Plant Ecologist at the Sydney Botanic Gardens, as "particularly important", as the site is located on a high sand dune which contains "the crest and slopes characteristic of the original sand dune" and this form of the community is now rare. The site is also described as being on sands that are highly erodible. Based on these descriptions of the remnant, it would not be desirable to remove over storey weeds in the first instance as this may leave the sandy soils exposed and lead to several erosion problems and a loss of seed bank within these areas. Addition the use of herbicides within or on the edge of the remnant is considered to be undesirable given there is a greater potential for spray drift and the loss of native species. The guidelines suggest that hand removal is the best option and that herbicide use should be restricted to 'cut and paint' or 'scrape and paint' methods on woody weeds. Potential soil stabilisation methods would also need to be explored e.g. terracing (without machinery). **Although I fundamentally disagree with many of OEH's representative's above-outlined assumptions, it is my professional opinion as a bush regenerator with 26-years' experience that all of our recommended techniques were ecologically sound and the best restoration options for the site. For example, weeds in adjoining ESBS areas and also within ESBS areas can be safely sprayed without risk of drift onto adjoining native plants as long as a thorough preparatory hand weeding treatment has been undertaken before any spraying work is undertaken , as**

long as spraying is undertaken with a low pressure back-pack, by experienced spot-spraying operators and in conditions that are not too windy or too still. I reiterate that many examples of how herbicide spot spraying can be used effectively throughout the project site were outlined during the site meeting between Ecohort's and OEH's representative in March 2014. However, Ecohort agrees to conform to using only techniques that conform to those outlined in the Best Practice Guidelines ESBS' by OEH, when undertaking restoration works at the ESBS and surrounding areas at the Banksmeadow Public School site that is depicted in Figure 1. This includes undertaking all weeding works in a careful considered, manner, with only judicious use of herbicides, staging the removal of weeds, adequately resourcing following-up weeding requirements and considering soil erosion issues with all works.

4. The licence applications also states that planting will be undertaken in a number of areas, including the areas mapped as both the core remnant ESBS and ESBS sections containing weeds. In the first instance, regeneration through soil stimulation is the preferred option, especially given the remnant has been described as "likely to have an intact seed bank and will generate quite readily after weed removal, given the lack of earthworks at the site". The survival of ESBS is based on regeneration of a viable seed bank. Planting directly into these areas may prevent regeneration due to competition for resources and/or further disturbances. Soil stimulation techniques recommended by the guidelines suggest manual turning or digging in the soil to 40cm, raking of the leaf litter and mosaic ecological pile burns. It is important to note however, that a fire management plan would need to be developed prior to any burns and such burns would need to take into account any threatened species habitat requirements and the suggested fire regimes for ESBS. Plantings should only be undertaken in the first instance in areas outside of the remnant ESBS when creating linking bushland corridors. **As a bush regenerator with 26-years' experience I am well aware of the bushland restoration fundamentals that you do not plant in areas that are capable of regenerating naturally from soil stored and adjoining seed and vegetative propagule sources. Planting within the core bushland areas was not planned in our original scope of works. It was only proposed in non-core areas clearly adjoining the ESBS at the Banksmeadow Public School site. It should be pointed-out that our proposed planting was never proposed in areas which we considered had the capacity of regenerating ESBS plants naturally and in response to weeding and burning treatments, (contrary to OEH's licensing officer's above "glass-half-empty" assumptions regarding ESBS reconstruction planting in areas adjoining the core ESBS at the Banksmeadow Public School site. There is also the issue that certain key ESBS shrubs such as *Banksia spp* and *Leptospermum spp*, which fundamentally rely on storing seeds on fruits on the plant rather than in the seedbank, are not likely to regenerate from the soil seedbank. Reconstruction planting of plants from these two genera is probably the only way to get these plants back at the site, (albeit in the degraded adjoining areas) when they are clearly absent from the site and the chance of regeneration from the seedbank of these serotinous shrubs is remote. As a appeasement/precautionary measure Ecohort have reduced the scope of ESBS reconstruction planting that was proposed in the 15 November 2013 works proposal. Reconstruction planting is now only proposed over 50% of Zone 3, refer to Figure 1, which had very few native plants persisting, were on obviously disturbed soils and were represented by nearly exclusively weeds. Refer to Table 2 for the quantities of plants that are proposed for reconstruction planting. Revegetation is proposed in Year 2 of the proposed works program.**

5. The licence applications also states that seed and vegetative material of ESBS species would be collected from surrounding sites and gives the East lakes Golf Course as a potential option. Given the disturbed nature and limited seed potential (i.e. viability and maintenance of the remnant in which the seed is being removed) at the golf course, this collection would need to be undertaken adhering to strict conditions (to be stipulated in the licence) and only by accredited or qualified professionals. Another alternative may be to use ESBS tube stocks from Randwick Council Nursery (using local providence only). In the first instance however, natural regeneration should always be the first option through soil stimulation and monitoring of the regeneration process. **Ecohort are following recommendations from Doug Benson's 1989 account of the Banksmeadow site that seed material should be collected from the Eastlakes Golf Course site for recommended revegetation in areas that adjoin the core ESBS at the Banksmeadow Public School site. As stated previously, Ecohort are well aware of "when-to and when-not-to-plant" in these sort of projects. Ecohort will use Florabank guidelines to collect seeds and vegetative material to propagate the required, stipulated numbers of plants at the degraded Zone 3 areas that adjoin the ESBS at the Banksmeadow Public School site. We will mostly collect material from the**

Banksmeadow Public School site, but we would also propose to collect some seeds from other ESBS sites, such as the Eastlakes Golf Course in order to represent key serotinous shrubs such as *Banksia serrata* and *B. aemula and to be able to reconstruct a diverse and functional ESBS plant community in areas adjoining the core ESBS at the site.* We will also source ESBS plants directly from specialist nurseries such as the Randwick Community Nursery and the industry leaders, Toolijooa. Ecohort have been collecting seeds for many bushland reconstruction projects, including from many EEC's over the past 17-years and we will ensure that we only collect using precautionary techniques that conform to those advocated and documented by Greening Australia's Florabank guidelines. We certify that we will only collect sufficient seed and vegetative material to allow for the propagation of the quantities of plants outlined in Table 2 of this document.

6. The licence applications also states that mulching will be undertaken. The guidelines state that no mulching should ever be undertaken with in an ESBS patch.

Mulching with a relatively thin 25-50mm layer of mulch is only proposed in proposed ESBS reconstruction plantings areas, in the more degraded 50% of the already determined very-low resilience Zone 3, which has been subject to past soil disturbance such as cutting, filling and importing of fill materials. Also, "native plant tubestock planting survival in sandy soils 101" dictates that a mulch will help retain soil moisture, keep weeds down and add organic matter to the soils where the plants have been installed, (i.e. all good things). A thin mulch layer would also break down quite quickly and allow for any incidental and unlikely natural regeneration of ESBS plants to occur in these designated Zone 3 very-low resilience areas, which have been subject to past soil disturbance and filling and are now represented by weeds. NO MULCHING OR PLANTING IS PROPOSED IN CORE ESBS PARTS OF THE SITE.

7. The licence application makes no reference to pest control e.g. rabbits, foxes, cats etc. Pest control should be undertaken in cooperation with neighbour properties and authorities to prevent introduced species from grazing on new regenerating plants, digging within the remnant and /or providing for the re-establishment of more weed invasions.

Feral animal numbers at the site were observed as being negligible, with only 1 burrow being found at the site. No dropping were located in the diggings around this hole. Ecohort will however treat this burrow-lead with pestex fumigation tablets, using label and MSDS guidelines. The following text summarises the directions of using pestex tablets to control rabbits in NSW in burrow situations: Cut back around hole to expose other leads or tunnels for treatment and to provide adequate depth for the soil plug to close the opening after treatment. Place tablets well down the tunnel to avoid accidental covering by the soil plug.
Fill the opening with ample soil and firm down well. Leave the surface as level as possible to discourage attention from outside rabbits. Effectiveness will be increased in any soil condition if tablets are wrapped in moistened paper prior to insertion in the hole. Ecohort staff will then monitor the site and retreat any burrows if they are reformed. We will also monitor if rabbit grazing damage to remnant and regenerating native plants is significant or not. Other rabbit control strategies may be considered at the site if rabbit populations increase to more significant levels at the Banksmeadow Public School site.

Methodology by Ecohort Used to Assess the Native and Naturalised vegetation at the Banksmeadow site and to assist in determining the most applicable restoration techniques.

Edgar Freimanis from Ecohort carried out a field investigation of the site during project tendering period in late October 2013. A supplementary site inspection was undertaken on a second occasion with OEH's representative on 10 March 2014.

During the field investigation phase mapping, field notes and photographs were taken on factors relating to the study site. Information recorded during the field investigation phase included comments on:

- The landscape setting and abiotic site observations.

- The floristics of the main plant species present and structure of native and naturalised vegetation associations.

- The influences of various threatening processes on remnant native vegetation, including the resilience and integrity of native vegetation associations at the study site.

As the UBM Action Plan maps were still considered quite adequate and applicable to the proposed works, new maps were not composed of the site until OEH's demands to update the condition maps at the site in early 2014.

Areas within the study site that were in close proximity to one another, and with localised similarities in the following attributes, were grouped and mapped together in coded management zones (as depicted in Figure 1), using a system similar to that described by Wale (1993):

- The main plant species and associations present and their relevant percentage cover abundance scores.

- Vegetation structure.

- Localized soil landscape, hydrology and landuse conditions.

- Disturbance histories, impacts, condition of site soils, proximity to developed infrastructure, threatening processes present and management issue.

- Perceived resilience and the integrity of native vegetation associations at each zone by considering the above-factors.

- Perceived responses to appropriate weed control and restoration activities.

Specific data on vegetation within these management zones was compiled by estimating the percentage cover abundance of the dominant and commonly occurring native and naturalised tree, shrub and ground layer plant associations in the field using anecdotal observation using a modified Braun Blanquet scale, similar to that described by McDonald et al (1984). The various percentage cover classes of native and naturalised were ranked using the following classes: Very low <5% cover; Low: 6-25% cover; Medium: 26-50% cover; High: 51-75% cover; and Very High 76-100% cover. Percentage cover estimates were combined with qualitative and anecdotal site observations and the review of previous relevant site and regional studies to formulate descriptions of the native and naturalised vegetation associations and site conditions throughout the study site. The above field information was gathered by using a 'random meander' method similar to that described in Cropper (1993).

The dominant and feature plants recorded during the field survey were identified using nomenclature in Harden (1990-1993).

The literature review, field survey observations, consultation with other stakeholders, and the authors' experience in designing and implementing similar bushland management works strategy documents in the past assisted in formulating the Management Zone specific resilience assessments outlined in Table 1 and the most appropriate strategies for restoring the ESBS vegetation throughout the study site.

The relative resilience levels of each management zone were classified using the following rankings: high; medium to high; medium; low to medium; low; and very low.

Description Summaries of Management Zone Specific locations, Native and Naturalised vegetation, Resilience assessments and Threatening Processes occurring at the Banksmeadow Public School site.

The following Table 1 summarises the management-zone-specific descriptions of the locations, native and Naturalised vegetation, resilience assessments and threatening processes affecting the ESBS and surrounding areas occurring at the Banksmeadow Public School site. The location of the relevant management zones outlined in Table 1 is depicted in Figure 1. Photographic examples of the relevant management zones are outlined in the enclosed Figures 2-24.

The descriptions outlined in Table 1 assisted in determining the most appropriate management actions and relevant levels of resourcing to be allocated to the restoration of ESBS at the Banksmeadow Public School site.

Table 1: Description Summaries of Management Zone Specific locations, Native and Naturalised vegetation, Resilience assessments and Threatening Processes occurring at the Banksmeadow Public School site.

Zone	General Location & Description	Resilience of Native Vegetation	Main Naturalised Plant Associations	Threatening Processes Affecting Native Vegetation
1	2015m2 Core ESBS area located in the western reaches of the site. Refer to figures 3-7 for photographic examples of Zone 1.	ESBS shrubs (such as *Acacia longifolia, Xanthorrhoea resinifera, Brachyloma daphnoides* & to a lesser extent *Leptospermum trinervium*) & groundcover plants, (such as *Lepidosperma laterale, Microlaena stipoides, Hypolepis muelleri*, *Carpobrotus glaucescens*, *Lomandra glauca* and *Dichelachne crinite*) occur as individual plants or patches at 26-50% cover abundance levels. ESBS resilience was considered as medium-to-high.	Weeds such as lantana, bitou bush, coral tree, mickey-mouse-bush, asparagus fern, African lovegrass, couch and buffalo grass occur at high 50-75% cover abundance levels	Weed competition appears to be the main current threat to ESBS in Zone 1. Evidence of past localised sand erosion from old walking tracks, wind and past native vegetation clearing has reduced native vegetation extent and resilience in this zone. Future regeneration works should be staged to avoid any new sand erosion issues from emerging.
2	2718m2 Zone 2 degraded remnant ESBS area, located around the sand dune landform and surrounding areas. Refer to Figures 8-14 for photographic examples of Zone 2.	Native shrubs & groundcover plants occur in patches at 5-25% cover abundance levels. ESBS resilience was considered as low-medium in Zone 2.	Weeds lantana, prickly pear, bitou bush, cypress pine, mickey-mouse-bush, asparagus fern, morning glory, turkey rhubarb, African lovegrass, couch and buffalo grass occur at very high 75-100% cover abundance levels	Weed competition appears to be the main current threat to ESBS in Zone 2. Evidence of past localised sand erosion from old walking tracks, wind and past native vegetation clearing has reduced native vegetation extent and resilience in this zone. Future regeneration works should be staged to avoid any new sand erosion issue from emerging.
3	1,321m2 Zone 3 disturbed soil profile areas surrounding ESBS, located on the formed-up embankment adjoining the school buildings along the northern boundary and in the south-	Native shrubs & groundcover plants are absent or occur as isolated individuals or patches, (<5% cover abundance levels), or as a result of past revegetation. ESBS resilience was considered as low-to-very low in Zone 3, due to evidence of past cutting and filling of soils, (including with some foreign fill materials such as gravel and building materials). The	Weeds lantana, green cestrum, bitou bush, prickly pear, green cestrum, mickey-mouse-bush, *Acacia saligna*, phoenix palm, cotoneaster, morning glory, turkey rhubarb, asparagus fern, mother-of-millions, African lovegrass, couch and buffalo grass	Weed competition, past soil disturbance and past native vegetation clearing appear to have drastically reduced the extent and resilience of ESBS in Zone 3 to the extent that it would unrealistic to expect that much ESBS could regenerate naturally in Zone 3.

	eastern corner of the site. Refer to Figures 15, 16, 18-23 for photographic examples of Zone 3.	native shrubs present in the southern reaches of Zone 3 are suspected of being planted by past Council organised plantings.	occur at very high 75-100% cover abundance levels.	
4	2057m2 Zone 4 area located on disturbed soil profiles surrounding ESBS, located on formed-up embankments and a cut depression in the north-eastern corner of the site. Refer to Figures 17for a photographic example of Zone 4.	Native shrubs & groundcover plants are absent or occur as isolated individuals or patches, (<5% cover abundance levels), or as a result of past revegetation. ESBS resilience was considered as low-to-very low in Zone 3, due to evidence of past cutting and filling of soils, (including with some foreign fill materials such as gravel and building materials).	Groundlayer weeds dominated by naturalised grasses including African lovegrass, couch and buffalo grass occur at Zone 4 at very high 75-100% cover abundance levels. Woody weeds such as lantana, bitou bush and other key weeds such as morning glory and prickly pear are generally more scattered and occur at 5-25% cover abundance levels.	Weed competition, past soil disturbance and past native vegetation clearing appear to have drastically reduced the extent and resilience of ESBS in Zone 4 to the extent that it would unrealistic to expect that much ESBS could regenerate naturally in Zone 4.

Figure 1: Banksmeadow Public School Proposed ESBS Restoration Zone Descriptions

Zone 1 Core ESBS remnant area, (est. 2,015m2). Native shrubs & groundcover plants occur in patches at 26-50% cover abundance levels & weeds are at 50-75% cover abundance levels. ESBS resilience was considered as medium-to-high. Bush regen weeding & pile burning is proposed in this zone to encourage the regeneration of ESBS plants in Zone 1.

Zone 2 degraded remnant ESBS area, (est. 2,718m2). Native shrubs & groundcover plants occur in patches at 5-25% cover abundance levels & weeds at >75% cover abundance levels. ESBS resilience was considered as low-medium in Zone 2. Bush regen, pile burning & the gentle turning of the soil is proposed in this zone to encourage the regeneration of ESBS plants in Zone 2.

Zone 3 disturbed soil profile areas surrounding ESBS, (est. 1,321m2).Native shrubs & groundcover plants are absent or occur as isolated individuals or patches, (<5% cover abundance levels),or as a result of past revegetation. Weeds occur at >75% cover abundance levels. ESBS resilience was considered as low-to-very low in Zone 3. Bush regen weeding, pile burning & the gentle turning of the soil is proposed over about 50% of this zone to encourage the regeneration of ESBS plants. Reconstruction of ESBS through revegetation of ESBS is proposed over 50% of the lower resilience parts of Zone3.

Zone 4 disturbed soil profile areas surrounding ESBS. Native shrubs & groundcover plants are absent or occur as isolated individuals or patches, (<5% cover abundance levels), or as a result of past revegetation. Weeds occur at >75% cover abundance levels. ESBS resilience was considered as low-to-very low in Zone 4. Bush regeneration weeding of key woody weeds is proposed in Zone 4. African lovegrass and other key groundlayer weeds will only be targeted around the edges of this zone to encourage the regeneration of ESBS plants. No reconstruction of ESBS through revegetation of ESBS is proposed in this zone due to current project resourcing limitations.

Revegetation area/school playground area edge, outside the scope of this project.

Approximate location of key site contours/levels

Approximate location of ESBS restoration restoration project boundary

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Table 2: Bushland Restoration Works' methodologies, quantities and costings for the Eastern Suburbs Banksia Scrub area at Banksmeadow Public School over a 3-year period. Submission prepared for Banksmeadow Public School. 28 March 2014 version.

Item No	Activities	Unit	No Units	$/unit ex GST	Cost est. ex. GST
1.0	**YEAR 1 WORKS**				
1.1	**PRIMARY SELECTIVE BUSH REGENERATION WEED TREATMENTS DURING YEAR 1**				
1.1.1	Primary initial bush regeneration weeding at the estimated 2,015m2 medium-high resilience-Core ESBS Zone 1. Primary weeding will include the judicious and staged treatment of weeds using techniques that conform to OEH's best practice guidelines for restoring ESBS. Will also include the creation of piles for proposed future mosaic pile burning, using treated weedy material in situations where damage to existing native plants can be avoided. Some manual turning and digging of the soil to a 40cm-depth will also be undertaken, as well as the raking of the leaf litter OEH's best practice guidelines for restoring ESBS.	hours	164	$44.00	$7,216.00
1.1.2	Primary initial bush regeneration weeding at the estimated 2,718m2 low-to-medium-resilience, degraded remnant ESBS Zone 2 areas, which are represented by woody and herbaceous weeds at 75-100% cover levels, and some remnant native plants present (at about 0-25% cover abundance levels). Primary weeding will include the judicious and staged treatment of weeds using techniques that conform to OEH's best practice guidelines for restoring ESBS. Will also include the creation of piles for proposed future mosaic pile burning, using treated weedy material in situations where damage to existing native plants can be avoided. Some manual turning and digging of the soil to a 40cm-depth will also be undertaken, as well as the raking of the leaf litter OEH's best practice guidelines for restoring ESBS.	hours	152	$44.00	$6,688.00
1.1.3	Primary initial bush regeneration weeding at the estimated 1,321m2 low-to-very low resilience Zone 3, on disturbed soil profile areas, surrounding ESBS. Primary weeding will include the judicious and staged treatment of weeds using techniques that conform to OEH's best practice guidelines for restoring ESBS. Will also include the creation of piles for proposed future mosaic pile burning, using treated weedy material in situations where damage to existing native plants can be avoided. Some manual turning and digging of the soil to a 40cm-depth will also be undertaken, as well as the raking of the leaf litter OEH's best practice guidelines for restoring ESBS.	hours	80	$44.00	$3,520.00
	Ex GST Sub-total for all initial, primary weeding activities during Year 1				**$17,424.00**
1.2	**Seed collection, supplying and installing local native shrubs and groundcovers in tubestock containers in all relevant Year 1 revegetation areas and to allow for the production of required quantities of plants during the 3-year life of the project.**				
1.2.1	**Collecting local native seeds and vegetative material** from the Eastlakes Golf Course, the project site, and any other ESBS remnants that are deemed suitable collection sites (e.g. possibly the La Perouse ESBS site, Centennial Park, Botany Bay National Park) during YEAR 1. Includes seed processing and cleaning time, and record keeping.	hours	48	$44.00	$2,112.00
1.2.2	**Running and supervising a community bush regeneration/planting day with Banksmeadow Public School students, staff and the school community during Year 1** when plants are ready. A team of 4 ecohort staff will prepare the planting area, dig holes and run the planting day with the school community during Year 1. This is most likely to occur in the easy-to-access Zone 3. Plants for this planting day will be purchased from both or either Randwick Community Nursery and/or Toolijooa Nursery. Ecohort anticipate that about 600-plants would be planted in a planting day over about an area of about 200m2 in the very low resilience parts of Zone 3 in this school community engagement planting day.	hours	32	$44.00	$1,408.00
	$ ex GST sub-total for all seed collection & community activities during Year 1				**$3,520.00**
1.3	**YEAR 1 ADMINISTRATIVE TASKS, including end of Year 1 reporting and applying for a Section 132C licence to work in an endangered ecological community and to collect seeds from an endangered ecological community.**				
1.3.1	Time taken to apply for a Section 132C licence from the TSC Act to allow for bush regeneration and seed collection works to be undertaken under this contract. To be done at the outset of the project.	hours	16	$100.00	$1,600.00

1.3.2	Compilation of annual works' update report.	report	1	$659.10	$659.10
				Year 1 administrative tasks	**$2,259.10**
1.4	**Year 1, post initial weeding maintenance weeding costings**				
1.4.1	Follow-up weeding in all parts of the site that received primary weeding during YEAR 1, using OEH's ESBS best practice bush regeneration techniques. This work will be undertaken by a team of 3-5 Ecohort staff monthly during the warmer months and every 2 months during the cooler months over the initial Year 1 period. 6 maintenance visits are proposed at the site over the first 12 month maintenance period. Includes provision to undertake pile burns at the site if assistance and permission to undertake pile burning at the site can be obtained. Includes provision to undertake pile burns at the site if assistance and permission to undertake pile burning at the site can be obtained.	hours	272	$44.00	$11,968.00
				Sub-total ex GST for all initial Year 1 maintenance period costings	**$11,968.00**
				Sub-total ex GST for all items and activities during YEAR 1	**$35,171.10**
2.0	**YEAR 2 WORKS**				
2.1	**PRIMARY SELECTIVE BUSH REGENERATION WEED TREATMENTS DURING YEAR 2**				
2.1.1	Primary, initial bush regeneration weeding of woody weeds, climbing weeds and key herbaceous weeds such as asparagus fern, mother-of-millions and prickly pear only in the 2,057m2m2 Zone 4 areas located on disturbed soil profiles surrounding ESBS, using judicious and staged treatment of weeds using techniques that conform to OEH's best practice guidelines for restoring ESBS. Some manual turning and digging of the soil to a 40cm-depth will also be undertaken, as well as the raking of the leaf litter OEH's best practice guidelines for restoring ESBS.. Treated material will be piled in this and adjoining, more resilient areas for later ecological burning. In general the African lovegrass, couch and African lovegrass dominated areas will be left *in situ* for soil stability in this very low resilience area.	hours	80	$44.00	$3,520.00
2.1.2	Ongoing staged primary weeing in the Zone 1, 2 and 3 areas treated during Year 1, using judicious and staged treatment of weeds using techniques that conform to OEH's best practice guidelines for restoring ESBS.	hours	160	$44.00	$7,040.00
				Ex GST Sub-total for all initial primary weeding activities during Year 2	**$10,560.00**
2.2	**Mulching treatments in ESBS Reconstruction/Reveg areas within the very low resilience parts of Zone 3, which adjoins the core ESBS areas.**				
2.2.1	Mulching the very-low-resilience 50% revegetation areas within the 1321m2 Zone 3, which adjoins the core ESBS areas with a relatively thin 25-50mm layer of leaf/woodchip imported mulch in Year 2, prior to planting-out with ESBS plants, to assist with adding organic matter to the site's sandy soils; and maintaining soil moisture levels in soil's post planting, without suppressing any native plant regrowth that may occur at the site. The following areas will be mulched with a 25-50mm layer of mulch: 50% of 1321m2 Zone 3=661m2. This will be done only a few weeks before planting is proposed in May 2015 in these areas. The mulching will be undertaken using a small skid steer machine where access allows and by hand in difficult-to-access areas.	m^2	661	$4.90	$3,238.90
				Sub-total ex GST for supplying & installing mulch in relevant very-low-resilience Zone 3 areas proposed for revegetation	**$3,238.90**
2.3	**Seed collection, supplying and installing local native shrubs and groundcovers in tubestock containers in all relevant Year 2 revegetation areas and to allow for the production of required quantities of plants during the 3-year life of the project.**				

2.3.1	**Collecting local native seeds and vegetative material** from the Eastlakes Golf Course, the project site and any other ESBS remnants that are deemed suitable collection sites (e.g. possibly the La Perouse ESBS site, Centennial Park, Botany Bay National Park) during YEAR 2. Includes seed processing and cleaning time, and record keeping.	hours	48	$44.00	$2,112.00
2.3.2	Supply and install local native hiko tubestock shrubs at 1 plant per 2.25m2, (i.e. at 1.5 metre spacings) over 50% of the very-low-resilience parts of Area 3, i.e. 1,321m2 x 50%/2.25m2 = 294-local native shrubs to be supplied and installed in the very-low resilience parts of Zone 3. Also shrubs will be kept at least 2-3 metres away from the fence edges to create an open safe area to discourage anti-social activity potential in these areas. Includes the supply and installation of 5 grams of terraform plant establishment aid to each plant, and 4-5 establishment waterings using adjoining mains water for each installed plant. Ecohort will engage Randwick Community Nursery to grow these plants on. Planting will be undertaken only in the very low resilience parts of Zone 3.	hiko tube	294	$4.50	$1,323.00
2.3.3	Supply and install local native grasses and herbs in hiko tubes at rate of 3- plants per m2 over 50% of the very-low-resilience parts of Area 3, i.e. 1,321m2 x 50% x 3-plants per m2 =1982-groundlayer plants and grasses in hikos to be supplied and installed in the very-low resilience parts of Zone 3. Ecohort suggests this quite thick plant density will replicate the ESBS community and will provide a good cover against weed reinfestation. Includes the supply and installation of 5 grams of terraform plant establishment aid to each plant and 4-5 establishment waterings using adjoining mains water for each installed plant. Ecohort will engage Randwick Community Nursery to grow these plants on. Planting will be undertaken only in the very low resilience parts of Zone 3.	hiko tube	1,982	$4.50	$8,919.00
2.3.4	Running and supervising a community planting day with Banksmeadow Public School students, staff and interested parents during Year 2 when plants are ready. A team of 4 Ecohort staff will prepare the planting area, dig holes and run the planting day with the school community during Year 2. Planting will be undertaken only in the very low resilience parts of Zone 3.	hours	32	$44.00	$1,408.00
	Total number of plants to be supplied and installed in the very-low-resilience Zone 3 areas		**2276**	**$ ex GST sub-total for all planting activities**	**$13,762.00**
2.4	**YEAR 2 ADMINISTRATIVE TASKS, (i.e. end of Year 2 reporting).**				
2.4.1	Compilation of an annual works' update report at the completion of Year 2 works.	report	1	$660.00	$660.00
				Year 2 administrative tasks	**$660.00**
2.5	**Year 2, post initial weeding maintenance weeding costings**				
2.5.1	Follow-up weeding in all parts of the site that received primary weeding during YEAR 2, using best practice bush regeneration techniques. This work will be undertaken by a team of 4-6-Ecohort staff monthly during the warmer months and every 2 months during the cooler months over the initial Year 2 period. 9 maintenance visits are proposed at the site over the first 12 month maintenance period. Includes provision to undertake pile burns at the site if assistance and permission to undertake pile burning at the site can be obtained. Includes provision to undertake pile burns at the site if assistance and permission to undertake pile burning at the site can be obtained.	hours	432	$44.00	$19,008.00
				Sub-total ex GST for all YEAR 2 maintenance period costings	**$19,008.00**
				Sub-total ex GST for all items and activities during YEAR 2.	**$47,228.90**
3.0	**YEAR 3 WORKS**				
3.1	**YEAR 3 ADMINISTRATIVE TASKS, (i.e. Year 3 reporting).**				

3.1.1	Compilation of an annual works' update report at the completion of Year 3 works.	report	1	$660.00	$660.00
				Year 2 administrative tasks	**$660.00**
3.2	**Year 3, post initial weeding maintenance weeding costings**				
3.1	Follow-up weeding in all parts of the site that received primary weeding during YEAR 3, using best practice bush regeneration techniques. This work will be undertaken by a team of 4 Ecohort staff monthly during the warmer months and every 2 months during the cooler months over the initial Year 3 period. 9 maintenance visits are proposed at the site over the first 12 month maintenance period.	hours	400	$44.00	$17,600.00
				Sub-total ex GST for all YEAR 2 maintenance period costings	**$17,600.00**
				Sub-total ex GST for all items and activities during YEAR 3	**$17,600.00**
				All work $ ex GST TOTAL for the specified 3 year period	**$100,000.00**

Figure 2: shows a patch of Xanthorreas and scattered Acacia longifolias in the south-western reaches of the Zone 1, core ESBS area. Note also the prevalence of African lovegrass and the past-planted native trees (the latter are outside the scope of this project). This area will be subject to bush regen weeding and pile burning only over the course of the next 3-years.

Figure 3: shows a mix of the native bracken fern & Acacia longifolia, and the weedy lantana and African lovegrass in the south-eastern reaches of the Zone 1, core ESBS area. This area will be subject to bush regen weeding and pile burning only over the course of the next 3-years.

Figure 4 (above): shows a patch of Lepidosperma laterale and Acacia longifolia in what is believed to be the south-western reaches of the Zone 1, core ESBS area in 1996. This photo was sourced from the National Trust August 1996 plan. Note also the abundance of bare sand, which is now mostly colonised with weeds such as lantana and African lovegrass. As with other parts of Zone 1, this area will be subject to bush regen weeding and pile burning only over the course of the next 3-years.

Figure 5 (above): shows some patches of remnant Acacia longifolias in the south-western reaches of the Zone 1, core ESBS area, looking north-east. Note also the prevalence of African lovegrass and the exotic cypress pine in this image. As with other parts of Zone 1, this area will be subject to bush regen weeding and pile burning only over the course of the next 3-years.

Figure 6: shows the prevalence of African lovegrass &scattered remnant Acacia longifolias in the south-western reaches of the Zone 1, core ESBS area, looking in a south-easterly direction. As with other parts of Zone 1, this area will be subject to bush regen weeding and pile burning only over the course of the next 3-years. Fewer resources will in general be put into this boundary section of the site, due the perceived lower resilience levels in this part of Zone 1.

Figure 7: shows a mix of the native bracken fern and the weedy lantana and African lovegrass in the boundary between Zone 1 and Zone 2, in the middle to north-western reaches of the site. Both Zones 1 and 2 will be subject to bush regen weeding and pile burning only over the course of the next 3-years.

Figure 8 (above): shows patches of remnant Acacia longifolias and the weedy lantana and African lovegrass as viewed from the top of the most prominent residual dune in the Zone 2 degraded ESBS remnant areas, looking in a southerly direction. Parts of the core ESBS Zone 1 are also visible in the background of this image. Zone 2 will be subject to bush regen weeding, gentle soil turning & pile burning only over the course of the next 3-years.

Figure 9 (above): shows patches of remnant Acacia longifolia and the weedy lantana, bitou bush and African lovegrass as viewed from the top of the most prominent residual dune in the Zone 2 degraded ESBS remnant areas, looking in a westerly direction. Parts of the core ESBS Zone 1 are also visible in the background of this image. Zone 2 will be subject to bush regen weeding, gentle soil turning & pile burning only over the course of the next 3-years.

Figure 10 (above): shows an August 1996 south-south-westerly view of the main sand dune at Zone 2 in the foreground and Zone 1 in the background. Note the prevalence of bare sandy-ground in this image. Zone 2 will be subject to bush regen weeding, gentle soil turning & pile burning only over the course of the next 3-years.

Figure 11 (above): the left of this image shows remnant Acacia longifolia and the weedy lantana, bitou bush and African lovegrass as viewed from the top of the most prominent residual dune in the Zone 2 degraded ESBS remnant areas, looking in a northerly direction. The area to the middle and left of the image shows the significantly more degraded and soil disturbance affected parts of Zone 4, which adjoin the ESBS remnants. Zone 2 will be subject to bush regen weeding, gentle soil turning & pile burning only over the course of the next 3-years, whilst the Zone 4 area will only be subject to bush regen weeding around the edges. Serious woody & environmental weeds such as lantana, bitou bush and green cestrum will be target weeded during the next3-year works period.

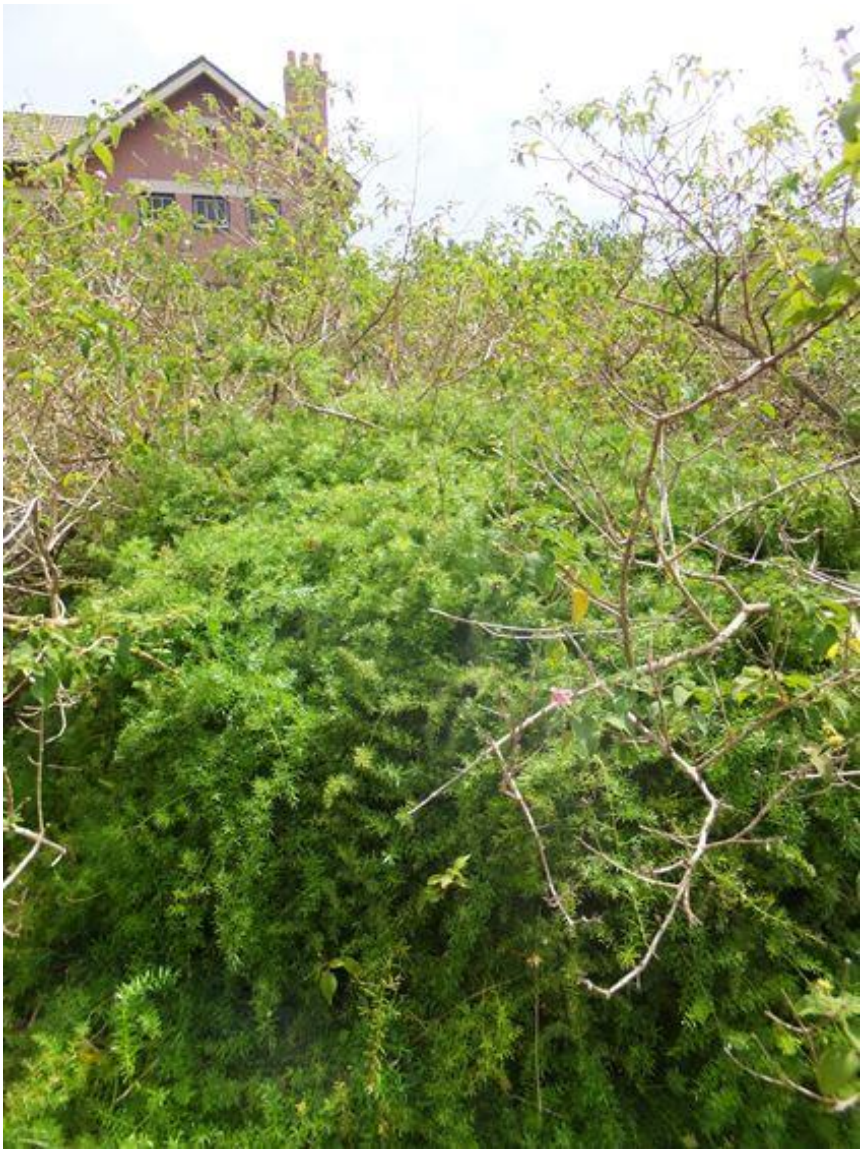

Figure 12: shows a patch of asparagus fern and lantana in the northern reaches of Zone 2 degraded ESBS remnant area. Weeds within Zone 2 will be subject to bush regen weeding, pile burning and some gentle soil turning over the course of the next 3-year works period.

Figure 13: shows some remnant Acacia longifolia in the background and the weedy, prickly pear, morning glory, African lovegrass, buffalo grass and couch grass in the south-eastern reaches of the Zone 2 degraded ESBS remnant area, near the boundary with the Zone 3 disturbed soil profile area. Weeds within Zone 2 will be subject to bush regen weeding, pile burning and some gentle soil turning over the course of the next 3-year works period.

Figure 14: shows a mickey-mouse-bush in the foreground and some remnant Brachyloma daphnoides surrounded by the weedy African lovegrass in the eastern reaches of the elevated dune in the Zone 2 degraded ESBS remnant area. Weeds within Zone 2 will be subject to bush regen weeding, pile burning and some gentle soil turning over the course of the next 3-year works period.

Figure 15 (above): mostly shows a south-facing-view of the degraded Zone 3, near the eastern boundary fence where weeds such as African lovegrass and bitou bush dominates. Zone 3 will be subject to bush regen weeding, gentle soil turning, pile burning and 50% of the more degraded parts of the site will be subject to ESBS reconstruction plantings over the course of the next 3-years.

Figure 16 (above): mostly shows a north-west-facing-view of the degraded Zone 3, near the eastern boundary fence where weeds such as African lovegrass and bitou bush dominate. The less degraded Zone 2 with remnant Acacia longifolias is also visible in the background of this image. Zone 3 will be subject to bush regen weeding, gentle soil turning, pile burning and 50% of the more degraded parts of the site will be subject to ESBS reconstruction plantings over the course of the next 3-years.

Figure 17 (above): mostly shows a north-west-facing-view of the degraded Zone 4, near the eastern boundary fence where weeds such as African lovegrass occur with scattered woody weeds and native shrubs. This area has clearly been used for cut and fill activities in the past. . Only the edges of Zone 4 and serious woody weeds within Zone 4 will be subject to bush regen weeding, during this current works period. .

Figure 18 (above): shows an easterly facing view of the assumed degraded Zone 3. Note the lantana, bitou bush, morning glory, date palm, as well as introduced grasses such as African lovegrass, couch and buffalo. Both the National Trust and UBM reports support the assumption that the south-eastern part of Zone 3 is a very low resilience area that is suitable for revegetation. As a precautionary measure this area will be weeded, subject to pile burning, gentle soil turning and provision has been allowed to revegetate only 50% of the definitively very-low resilience parts of the south-eastern reaches of Zone 3 over the next 3-years.

Figure 19 (above): shows a southern-facing view of the assumed degraded Zone 3. Note the lantana, and African lovegrass, amongst the past Council planted Leptospermum laevigatum, (refer to National Trust and UBM reports). Both the National Trust and UBM reports support the assumption that the south-eastern part of Zone 3 is a very low resilience area that is suitable for revegetation. As a precautionary measure this area will be weeded, subject to pile burning, gentle soil turning and provision has been allowed to revegetate only 50% of the definitively very-low resilience parts of the south-eastern reaches of Zone 3 over the next 3-years.

Figure 20 (above): shows an easterly-facing view of the assumed degraded Zone 3 embankment that adjoins the deep cut associated with Zone 4 and the fill affected embankment associated with the adjoining school fence and buildings. Note the bitou bush and African lovegrass in the middle and right of this image. The UBM report supports the assumption that Zone 3 is a very low resilience area that is suitable for revegetation. As a precautionary measure this area will be weeded and provision has been allowed to revegetate only 50% of the definitively very-low resilience parts of the northern-boundary embankment parts of Zone 3 over the next 3-years.

Figure 21 (above): shows a western-facing view of the assumed degraded Zone 3 embankment that adjoins the deep cut associated with Zone 4 and the fill affected embankment associated with the adjoining school buildings along the northern boundary of the site. Note the lantana, morning glory, asparagus fern, Acacia saligna and African lovegrass in the middle and right of this image. The UBM report supports the assumption that Zone 3 is a very low resilience area that is suitable for revegetation. As a precautionary measure this area will be weeded and provision has been allowed to revegetate only 50% of the definitively very-low resilience parts of the northern-boundary embankment parts of Zone 3 over the next 3-years.

Figures 22 and 23(above): show a southern facing view of the assumed degraded Zone 3 area along the Stephen Street fence, with the top image being taken in 2013 by Ecohort and the lower image in 1996 by the National Trust. As a precautionary measure this area will be weeded, subject to pile burning, gentle soil turning and provision has been allowed to revegetate only 50% of the definitively very-low resilience parts of the south-eastern reaches of Zone 3 over the next 3-years.

Figure 24 (above): shows some pig-face growing together with couch grass. The couch grass will be spot sprayed with a monocot selective herbicide, fusilade to ensure that the couch is controlled without affecting the broadleaf, native pig face plants.