Department of Environment & Climate Change NSW

Application for a

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)*	Employees and contractors of Shoalhaven City Council undertaking or managing the project described in this application.	
2. Australian Business Number (ABN):	59 855 182 344	
3. Organisation name and position of applicant ^: *(if applicable)*	Shoalhaven City Council C/- Russell Pigg – General Manager, and Rodney Wallace – Contract Project Manager	
4. Postal address ^:	PO Box 42 NOWRA NSW 2541	Telephone ^: B.H.4429 3135
5. Location of the action *(including grid reference and local government area and delineated on a map).*	Shoalhaven City Cnr Worrigee Road and Isa Road Worrigee (see attached map) Lot 132 DP 8611271 Lot 832 DP 1060601 Lot 7001 DP 1024303 NE – 34° 54' 13" Latitude 150° 37' 51" Longitude SE – 34° 54' 18" Latitude 150° 37' 50" Longitude SW – 34° 54' 17" Latitude 150° 37' 41" Longitude SE – 34° 54' 12" Latitude 150° 37' 42" Longitude	

* 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.)*	*Note: A section 95(2) certificate (certificate no.1119611) was issued previously, however due to weather factors the works were unable to be completed prior to its expiry. This application is to seek another section 95(2) certificate (or s.91 licence) for works that were not completed.* Shoalhaven City Council is proposing to improve stormwater drainage at the intersection of Worrigee Road and Isa Road, Worrigee. Stormwater from Isa Road is proposed to be re-diverted into a newly constructed detention basin, which will have a working capacity of 5000 cubic metres. Excess water will over flow into a drain which runs south along Worrigee Road (see attached plan). The proposed works will enlarge the capacity of the existing stormwater system to cater for large volumes of water so that in times of heavy or prolonged periods of rain the area does not flood. Under a Section 95(2) certificate (no.1119611) works were commenced and substantially complete. However as a result of significant rainfall over the 2010/11 summer period some components of the project (inlet drain and associated works) were not completed prior to the 1st May 2011 expiry of the s.95(2) certificate. Prior to the expiry of the s.95(2) certificate, construction works were completed for the detention basin, earthen wall, discharge structure and downstream outlet as shown on the attached plan. Although there would be some revegetation works for these structures to complete, a s.91 licence or s.95(2) certificate (or s.91 licence) is now sought for construction works that were not completed, that is, for the inlet drain and associated works running right from left on the attached layout plan, *i.e.* from south of the residential areas of Jewel Road, Worrigee to the detention basin. The proposed works, shown on the attached stormwater drainage design layout plan, include: • the draining and filling of an existing dam to achieve proposed design levels • removal of disturbed tickbush shrubland and stands of cumbungi • backfilling of an existing open drain • construction of an open drain from south of Jewel Road to the detention basin • installation of reinforced concrete pipes to divert stormwater from residential streets into the open drain • construction of a gabion mattress across the open drain at the end of Liberty Road. *Attachments: Review of Environmental Factors, Section 5A 7-part test of significance and stormwater drainage design layout plan.*
7. Details of the area to be affected by the action *(in hectares).*	The overall area of the site on which the project is to take place is 6.34 hectares, with only about 2/3 of this area (4.42 ha) disturbed by the project as a whole. Much of this disturbance has already taken place under the previous s.95(2) certificate. This application is only for the works that were incomplete, that is, the inlet drain and associated works running right from left on the attached layout plan, *i.e.* from south of the residential areas of Jewel Road, Worrigee to the detention basin.

	The area was clear felled *circa* 1997, and now supports re-growth Tickbush *Kunzea ambigua* shrubland, a few Spotted Gums *Coymbia maculate* and Snow-in-Summer *Melaleuca linarilifolia*. The ground cover consists of native grasses and lilies such as *Dianella spp.* The area to be directly disturbed by the works that are the subject of this application are highly disturbed and include tickbush shrubland towards the newly constructed detention basin and stands of cumbungi and denuded areas directly behind the houses along Jewel Road. The stands of cumbungi surrounding the existing dam represent potential Green and Golden Bell Frog (GGBF) habitat.
8. Duration and timing of the action *(including staging, if any).*	Starting in summer 2010/11, the whole project was expected to take 12 weeks to complete. As a result of significant rainfall over this period, however, the work was unable to be completed prior to the 1st May and the Section 95(2) Certificate (no.1119611) expired. Works are now planned to re-commence in spring 2011. Construction would be timed to avoid the winter period when GGBF that may be present would be relatively inactive. Given that the site does not currently support breeding, construction during the period from September to April is considered appropriate as frogs would be able to disperse back to Brundee Swamp during this time.
9 Is the action to occur on land declared as critical habitat*? *(tick appropriate box)*	☐ Yes ☒ No

10. Threatened species, populations or ecological communities to be harmed or picked.	Scientific name	Common name *(if known)*	Conservation status *(i.e. critically endangered, endangered or vulnerable)*	Details of no. of individual animals, or proportion and type of plant material *(e.g. fertile branchlets for herbarium specimens or whole plants or plant parts)*
	Litoria aurea	Green and Golden Bell Frog	Endangered	Unknown, however mitigation measures will be in place to minimise numbers harmed.

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

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

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

12. Describe the type and condition of habitats in and adjacent to the land to be affected by the action.	The region to the east of Worrigee Road, including Brundee Swamp and the remaining Crookhaven Floodplain is known to support an important population of GGBF. The area subject to the proposed works, however, constitutes refuge habitat only (Gaia Research 2010). The project site is to the west of potentially suitable and connected habitat. Given the existing urban area to the northwest, northeast and north of the project site, the site is not considered to provide connectivity function with the landscape for the species (Eco Logical 2010).
13. Provide details of any known records of a threatened species in the same or similar known habitats in the locality *(include reference sources).*	A large survey of GGBF in the surrounding area (Brundee, Worrigee and Terara) was conducted recently by Gaia Research (2011). Of the 40 sites surveyed, GGBF were detected at 27 of these sites. Approximately 176 GGBFs were observed and a further 185 were heard calling. The Crookhaven Floodplain, which covers the project site, supports the largest population of GGBF in NSW and has expanded in distribution and density over the last two years. This represents the most significant natural recovery of any threatened species of vertebrate in the state. Gaia Research (2011) estimate that currently the key population of the Crookhaven Floodplain consists of tens of thousands of adult GGBF. Within the project area, 20 metamorphlings were observed by both Garry Daly of Gaia Research and Eco Logical in April 2010. On 12th November 2010, Gaia Research captured and moved 179 GGBF from the site prior to earthworks. Although GGBF were recorded on the project site, they are thought to have dispersed from the nearby Brundee Swamp (Eco Logical 2010).
14. Provide details of any known or potential habitat for a threatened species on the land to be affected by the action *(include reference*	The project site occurs at the western extent of potentially suitable and connected habitat, *i.e.,* the Brundee Swamp. Given the existing urban area that bounds the project site, the site is not considered to provide a connectivity function within the landscape for the species (Eco Logical 2010). The area is considered to be non-breeding refuge habitat

sources).	(Ecological 2010 and Gaia 2010), however, the project involves the construction of a permanent pondage with appropriate soils and landscaping to assimilate ideal GGBF breeding and torpor habitat. Rehabilitation of the site is also intended to improve its long-term function as GGBF habitat (Eco Logical 2010).
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.	There would be no breeding habitat affected by the proposal. The modification of approximately 5,000 square metres of regrowth Tickbush shrubland is not considered to put the GGBF in the Culburra/Crookhaven Flood plain at risk of extinction (Gaia 2010). Currently there are tens of thousands of GGBF in the broader Worrigee and Terara area as a result of recent breeding events. The proposed action aims to improve habitat function through the creation of a permanent pond (the detention basin) which has been specifically designed with consideration of the *Best Practice Guidelines: Green and Golden Bell Frog Habitat* (DECC 2008) to provide habitat for the frog (*e.g.* retention and depth of water, fringing vegetation)
16. Provide an assessment of the likely nature and intensity of the effect of the action on the lifecycle and habitat of the species.	Based on the nature of the site and implementation of the proposed mitigation measures, significant impacts to the lifecycle and habitat of the species are considered unlikely. This is because of the following reasons (Eco Logical 2010 and Gaia 2010): • The site does not currently provide breeding habitat and the proposed action aims to improve habitat function. • Disturbance of the site is short-term and rehabilitation will improve the area in relation to its previous state. • The potential short term impacts will not affect an area that is important for connectivity of the species as the project site occurs at the western extent of potential habitat. • Given that the site is not a known breeding site, construction will occur during spring and summer. This will ensure that potential impacts to individual animals are minimised as construction is outside the winter months when the species may be in torpor.
17. Provide details of possible measures to avoid or ameliorate the effect of the action.	The following mitigation measures are adapted from those stipulated in the Section 95(2) certificate issued for the proposal in September 2010 (cert. No. 1119611): • A field survey shall be undertaken by a suitably qualified person just prior to commencing earth works. The survey must aim to capture and relocate any Green and Golden Bell Frog within the proposed disturbance area. • Individual frogs captured must be relocated away from the earth works but into the same drainage system and within close proximity to the capture site. • The project construction is to be undertaken during warm conditions prior to 1st May 2011. The following measures stipulated by the Commonwealth during the referral process shall also be applied: • Construction shall be timed to avoid winter when frogs are inactive and unable to disperse from the site. • The detention basin shall be specifically designed with consideration of the *Best Practice Guidelines: Green and*

	Golden Bell Frog Habitat (DECC 2008) to provide habitat for the GGBF. • A Construction Environmental Management Plan shall be developed and implemented to ensure that potential impacts during construction are minimised. This shall include requirements such as: o Staging of works to allow frogs to disperse o The presence of an ecologist during construction to monitor the site and move frogs as required o Establishment of temporary frog barriers (during construction) to prevent frogs that may have been present at the site returning once removed • Rehabilitation of the site to improve its long term function as GGBF habitat.

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 species such that a viable local population of the species is likely to be placed at risk of extinction.	If the proposed mitigation measures are adhered to, the proposal is unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction. *Refer to attached 7-Part Test – Assessment of Significance for more detail*
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.	The only endangered population listed on Part 2 of Schedule 1 of the TSC Act and Part 2 of Schedule 4 of the FM Act that occur within the Shoalhaven Local Government Area is the *Eucalyptus langleyi population north of the Shoalhaven River in the Shoalhaven Local Government Area*. This is outside the area that would be affected by the proposed activities. The action therefore will not have an adverse effect on the life cycle of the species that constitutes an endangered population.
20. In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed: (i) is likely to have an	No endangered ecological communities exist on the site.

adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.	
21. In relation to the habitat of a threatened species, population or ecological community: (i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality.	i) The proposal would remove or modify an area of native vegetation, which is refuge and foraging habitat for GGBF. Currently GGBF from this population occupy several thousand hectares (DECC 2007b). The modification of habitat associated with the proposed activities is considered insignificant in comparison to the area of habitat currently occupied. ii) The existing habitat is currently not isolated from other areas that may be used by GGBF. The proposed action would remove a portion of refuge habitat. However, the impacts will be temporary and GGBF can forage and disperse to other sites. iii) The habitat to be removed would not be of critical importance to the survival of the GGBF in the locality as animals in the population have been detected within seven kilometres of the project site, on freehold land and land managed by State Forests and NSW National Parks and Wildlife Service.
22. Whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly).	Currently (May 2011) critical habitat has been declared for Little Penguin population at Sydney's North Harbour, Mitchell's Rainforest Snail in Scotts Island Nature Reserve, Wollemi Pine and Gould's Petrel. There are two recommendations for critical habitat one for the Eastern suburbs Banksia scrub endangered ecological community and the Bomaderry Zieria within the Bomaderry Creek bushland. As these areas do not lie within the subject area, the proposed activities would not have an adverse effect on critical habitat.

23. Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan.	The GGBF draft recovery plan lists the Crookhaven floodplain population of Green and Golden Bell Frog (GGBF) as a 'key population' within the State. Consequently a management plan has been completed for this population to satisfy Action 11.3.4 of the draft recovery plan. Any action to remove potential habitat is inconsistent with the draft recovery plan or any management plans. The proposal would, however, only temporarily modify refuge habitat and, in the longer-term, would improve habitat for the species by constructing the detention pond with consideration of the *Best Practice Guidelines* (DECC 2008). The only Threat Abatement Plans that have been finalised are Bitou Bush and Boneseed, predation by the Red Fox, and predation by Gambusia holbrooki. As there are no threat abatement actions within these plans that are relevant to the proposal, the proposal is considered consistent with threat abatement plans.
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.	The clearing of native vegetation is listed as a key threatening process under Schedule 3 of the Threatened Species Conservation Act. Clearing of vegetation would result in removal of habitat for native animals. The project however is unlikely to lead to: • the destruction of habitat resulting in the loss of local populations of individual species • fragmentation • expansion of dryland salinity • riparian zone degradation • increased greenhouse emissions • increased habitat for invasive species • significant loss of leaf litter layer • loss or disruption of ecological function • changes in soil biota As a consequence, the proposed activities are considered unlikely to result in the operation of, or significantly increase the impact of this particular key threatening process.

REFERENCES

DECC (NSW Department of Environment and Climate Change) 2007 *Management Plan for the Green and Golden Bell Frog Key Population within the Crookhaven River floodplain.* Department of Environment and Climate Change (NSW), Sydney.

DECC (NSW Department of Environment and Climate Change) 2008. B*est Practice Guidelines Green and Golden Bell Frog Habitat.* [Online]. South Sydney, NSWDECC.

Eco Logical Pty Ltd 2010 *Referral of Proposed Action: Stormwater Drainage Modification, Worrigee and Isa Roads, Worrigee NSW.* Referral to the Commonwealth Department of the Environment, Water, Heritage and the Arts.

Gaia Research Pty Ltd 2010 *Supplementary assessment of the impacts of the proposed works to modify the drainage at the intersection of Worrigee Road and Isa Road, Worrigee on the Green and Golden Bell Frog.* Unpublished report commissioned by Shoalhaven City Council

Gaia Research Pty Ltd *Review of Environmental Factors for essential routine maintenance activities within drains, parks and road-sides in the Brundee-Terara-Worrigee Area.* Report prepared for Shoalhaven City Council

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 Department of Environment, Climate Change and Water NSW (DECCW) 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 DECCW 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 DECCW

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 Actare available on the DECCW website at
www.environment.nsw.gov.au/threatenedspecies/S91TscaRegisterByDate.htm
or in hardcopy form from The Librarian, DECC, 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.*

Applicant's name *(Please print)*	RUSSELL PIGG
Applicant's Position & Organisation *(if relevant)* *(Please print)*	GENERAL MANAGER, SHOALHAVEN CITY COUNCIL
Applicant's signature	RJ Pigg
Date	15 · 6 · 11

For more information or to lodge this form, contact the nearest branch of DECCW's Environment Protection and RegulationGroup:

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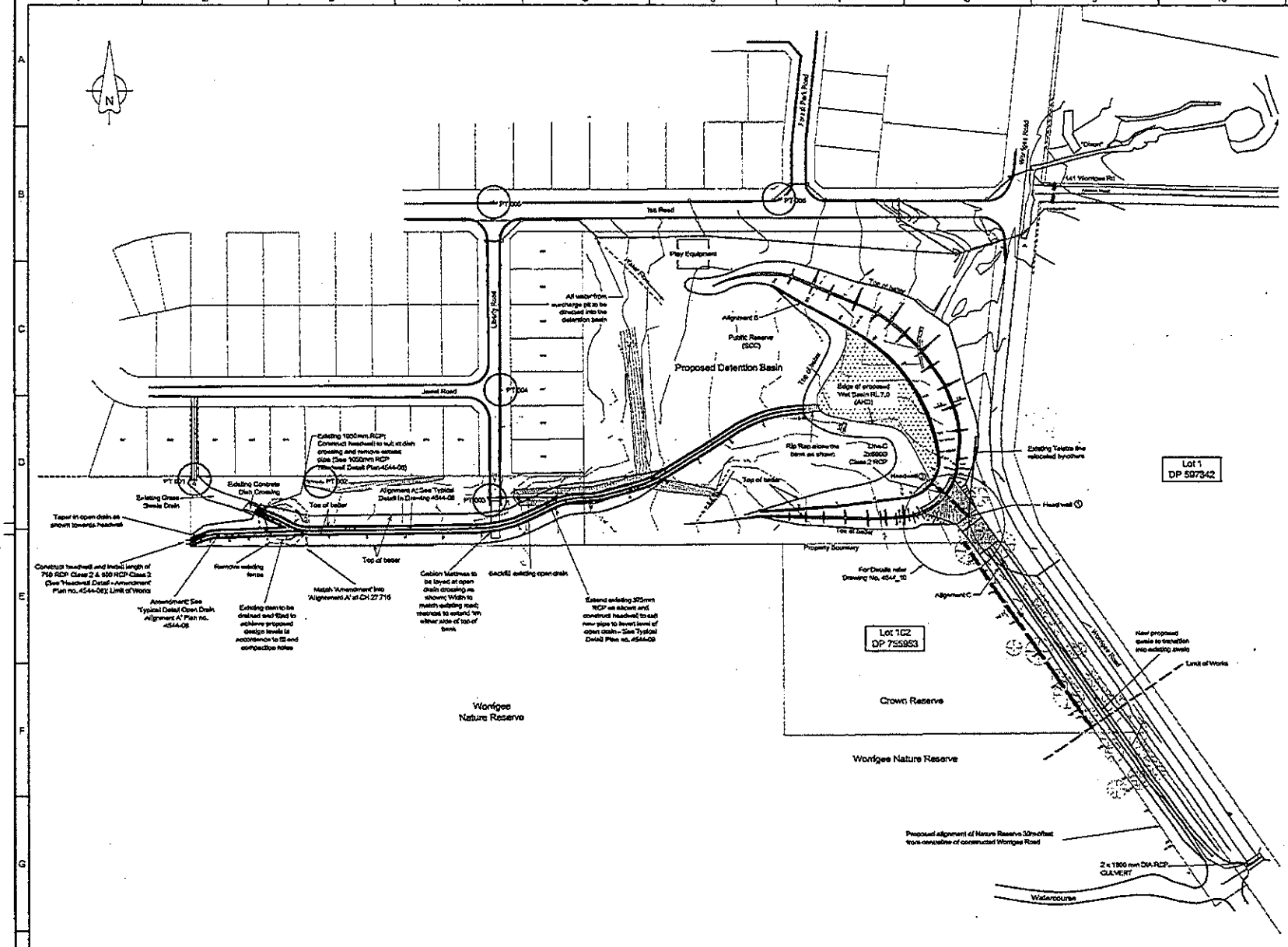

Set out Details

Alignment A

Chainage	Easting	Northing	Remark
0	283118	6134984	Headwall
20	283135	6134973	
40	283154	6134969	
60	283174	6134966	
80	283194	6134963	
100	283214	6134961	
120	283233	6134958	VC
140	283253	6134959	
160	283273	6134965	
180	283292	6134963	
200	283305	6134966	
220	283326	6134970	
240	283341	6134976	
260	283359	6134984	
280	283382	6134993	
300	283398	6134996	
309	283410	6134995	TOB

Amendment

Chainage	Easting	Northing	Remark
0	283061	6134973	Headwall
10.000	283062	6134976	
20.000	283102	6134975	
30.000	283112	6134974	
40.000	283122	6134973	
50.000	283132	6134972	
60.000	283142.5	6134970	
60.447	283142	6134970	Match CH 27.716

Alignment B

Chainage	Easting	Northing	Remark
0	283366.03	6134845.336	Start
40	283419.91	6134842.205	TP
75.424	283456.306	6134841.471	TP
			Radius 20
100.624	283476.899	6134902.301	TP
115.629	283478.29	6134908.821	TP
			Radius 90
191.996	283441.254	6135034.112	TP
240.023	283403.139	6135063.331	End

Alignment C

Chainage	Easting	Northing	Remark
0	283406.145	6134908.533	Future
33.653	283510.68	6134879.16	Future
97.007	283536.997	6134821.503	Start TP
147.06	283569.892	6134777.397	TP
183.202	283577.838	6134745.473	TP
200.867	283567.631	6134730.921	End

Survey Control

Point	Easting	Northing	Height (mAHD)	Remark
PT 001	283089.541	6135005.101	12.617	DH100
PT 002	283153.672	6134994.674	12.789	DP7255
PT 003	283240.448	6134972.133	10.862	DHW
PT 004	283253.942	6135029.295	11.228	SSM13827
PT 005	283284.565	6135127.504	10.940	SSM13823
PT 006	283410.751	6135107.563	8.216	SSM74486

NOTE: COORDINATES ARE MGA Zone 56

DESIGNED: AS 01/7/2009	SURVEYED:	AMENDMENTS
DRAWN: NP 7/7/10 AS 19/10/2010	FIELD BOOK:	1. "Amendment Alignment" added
CHECKED: RD 09/03/2010	ORIGIN OF LEVELS:	2. Concrete V-drain extend to "Amendment Alignment"
APPROVED:	DATUM:	3. Variation to "Alignment A"
DRAWING FILE: 4544.dwg	CIVILCAD FILE:	4. Flow direction removed
		5. Headwall 6009 & 7500 added

Shoalhaven City Council

CITY OF SHOALHAVEN

Worrigee - Isa & Worrigee Roads
Stormwater Drainage Design
Layout Plan

REDUCTION RATIO: 1:1000 @ A1

DIRECTOR CITY SERVICES & OPERATIONS: DATE:

- PLAN REFERENCE -
4544_02 rev 1.0