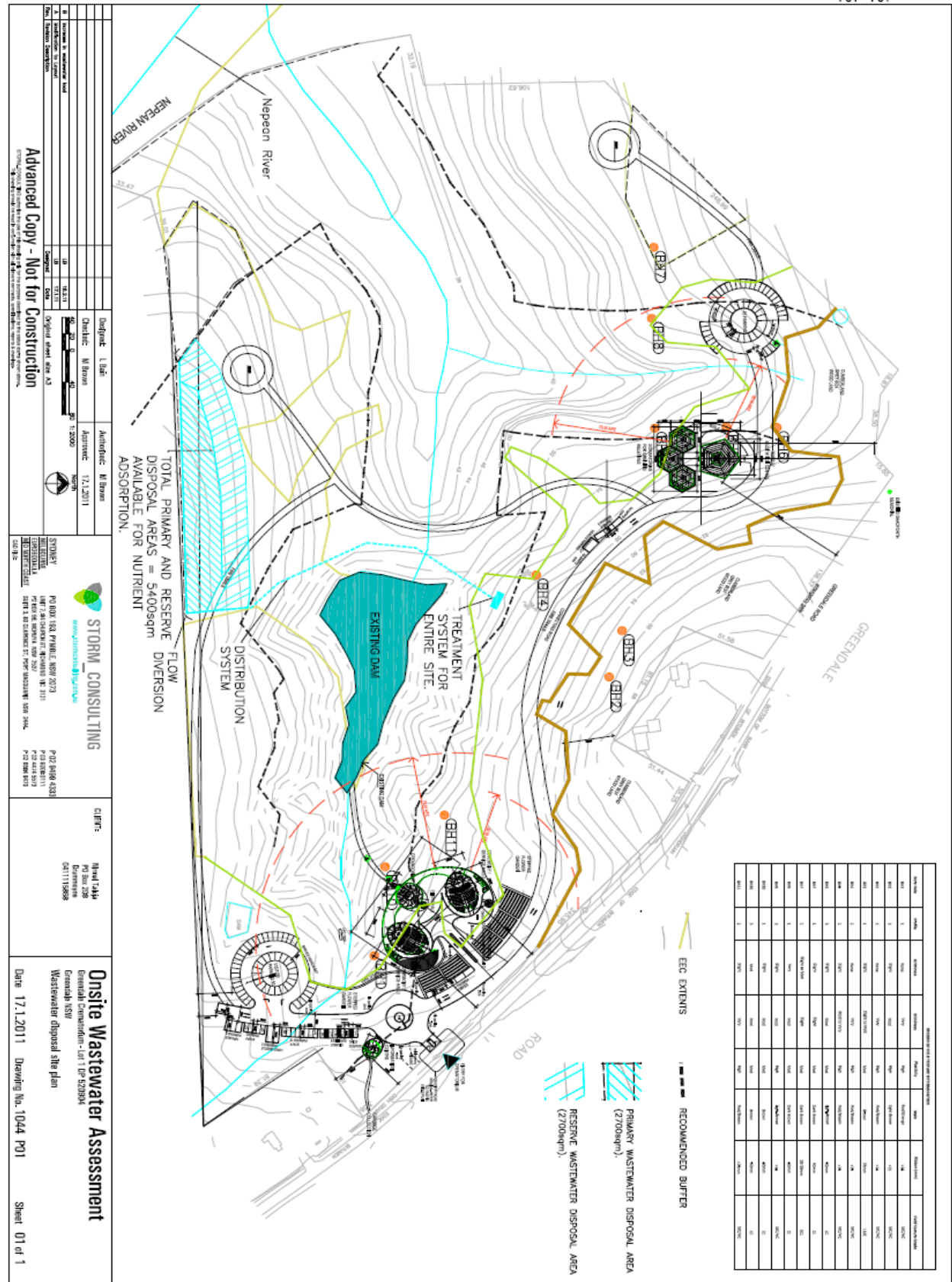


WASTE WATER MANAGEMENT PLAN



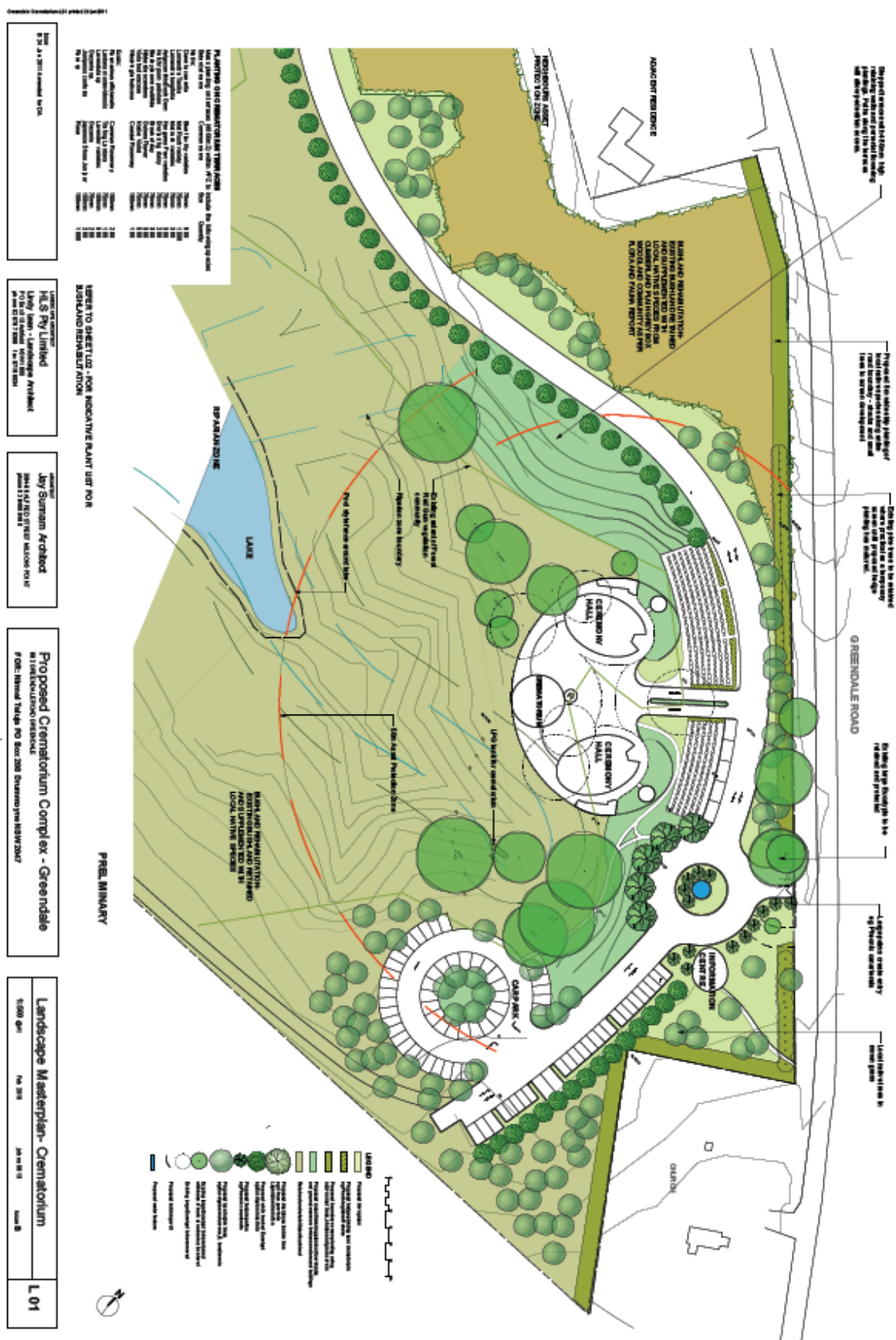
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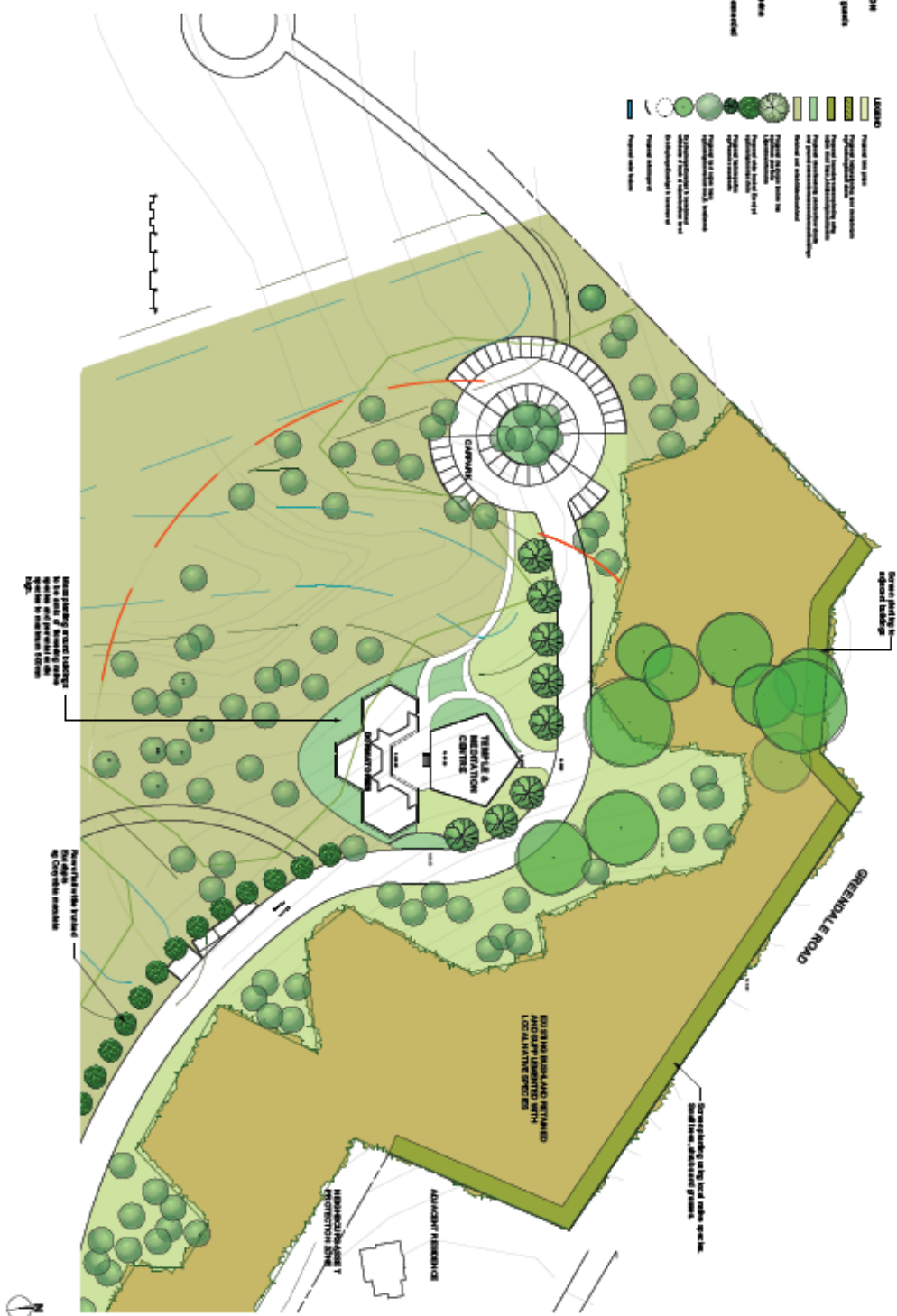
STORM CONSULTING
PO BOX 180, PYRALIE NSW 2073
PH 02 9438 4300
FAX 02 9438 4301
WWW.STORMCONSULTING.COM.AU

CLIENT:
Boral 1440
1440 Boral
Greendale NSW
041119888

Onsite Wastewater Assessment
Greendale NSW
Wastewater disposal site plan
Date 17.1.2011 Drawing No. 1044 P01 Sheet 01 of 1

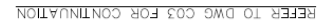
CONCEPT LANDSCAPE PLANS



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THIS DRAWING IS FOR
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K.F. Williams & Associates Pty Ltd
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Wollongong NSW 2500
A.C.N 008 664 417
Project Management, Surveying,
Civil, Structural, Water & Sewer

Surveyor	J McDonald GROUP	Date	JAN 2011
Date of Survey	COMP	Drawn	A PROUDLOVE
Highlight Datum	AHD	Designed	W.SUN
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Height Datum		Approved	

PROPOSED CREMATORIUM COMPLEX
LOT1 DP 520904
992 GREENDALE RD, GREENDALE
STORMWATER CONCEPT PLAN 1 OF 2

15050 8/1
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Drawing Status
ISSUED FOR DA APPROVAL

Project No.	KF110368	
Drawing No.	C02	
Sheet	2	Of 8
Revision		



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THE PROPOSED CREMATORIUM COMPLEX
LOT1 DP 520904
992 GREENDALE RD, GREENDALE
STORMWATER CONCEPT PLAN 2 OF 2

15:00 @ A1 Drawing Status ISSUED FOR EA APPROVAL

Project No.	KF110368	
Drawing No.	C03	
Sheet	3	OF 9
Revision		

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2

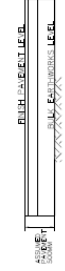
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DICH DRAIN (TYPE 3)



TYPICAL FORMATION—ASPHALT PAVEMENT (ASSUMED)



NATURAL SURFACE

BULK HEADWORKS

FUTURE BUILDING

1 in 1.5

TYPICAL SECTION THROUGH CUT BATTER



TYPICAL SECTION THROUGH CUT BATTER



TYPICAL SECTION THROUGH CUT BATTER

- 1 BACKFILL TO THE SHOULDER, PILE DRIVING AND
- 2 FOUNDATION TO BE APPROVED FOR A SAFE BEARING CAPACITY
- 3 ROCK IS TO BE SOUND DURABLE BASALT OR OTHER
- 4 MATERIAL APPROVED BY COUNCIL ENGINEER
- 5 AND STABLE AND INTERLOCKING AND LAY REGULARLY
- 6 COMBED AND BASED ON THEIR BROASTEST BASE
- 7 WALL CONSTRUCTION TO BE SUPERVISED BY A SUITABLY
- 8 QUALIFIED ENGINEER NOT EXCEED 10% VOLUME
- 9 OF STONE SHALL BE EXPOSED TO WEATHERING
- 10 THE TOP COURSE OF ROCKS ON BRIMKANT AND ADJACENT TO
- 11 PILE SHALL BE MORTARED INTO POSITION

WIDTH (W): 0.4 TO 0.6m
LENGTH (L): 2x (B OR W) \leq L \leq 3 x (B OR W)

- EACH ROCK SHALL BE
- ELONGATED TO ALLOW STACKING ON THE LONGEST AXIS.
- ANGULAR IN SHAPE (PROMOTES INTERLOCKING)
- FREE FROM OVERBURDEN, SPOIL, SHALE AND ORGANIC MATERIAL

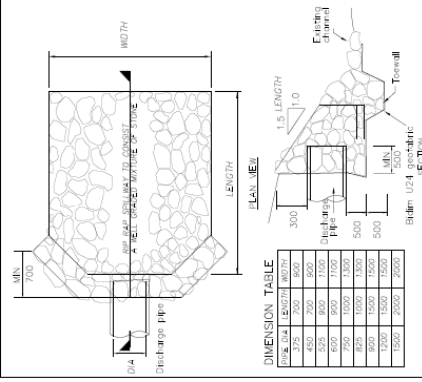
TYPICAL STACKED ROCK HEADWALL

NOT TO SCALE

ROCK PITCHING SCOUR PROTECTION

ROCK: 100mm - 200mm
NOMINAL SIZE HARD ROCK
100mm THICK CONCRETE
GROUT: 75mm ABOVE BED
ROCK PROJECTION: 90% IN PLAN VIEW
ROCK COVERAGE:

PIPE DIA	LENGTH	WIDTH
3.75	700	900
4.50	700	900
5.25	900	1100
6.00	900	1100
7.50	1000	1300
8.25	1000	1300
9.00	1500	1500
12.00	1500	1500
15.00	2000	2000



NOTES: - STACKED ROCK HEADWALLS

- 1 BACKFILL TO THE SHOULDER, PILE DRIVING AND
- 2 FOUNDATION TO BE APPROVED FOR A SAFE BEARING CAPACITY
- 3 ROCK IS TO BE SOUND DURABLE BASALT OR OTHER
- 4 MATERIAL APPROVED BY COUNCIL ENGINEER
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- 11 PILE SHALL BE MORTARED INTO POSITION

ROCK SPECIFICATION
A95-07H (R): 0.4 TO 0.6m

WIDTH (W): 0.4 TO 0.6m
LENGTH (L): 2x (B OR W) \leq L \leq 3 x (B OR W)

TYPICAL STACKED ROCK HEADWALL

NOT TO SCALE

ROCK PITCHING SCOUR PROTECTION

ROCK: 100mm - 200mm
NOMINAL SIZE HARD ROCK
100mm THICK CONCRETE
GROUT: 75mm ABOVE BED
ROCK PROJECTION: 90% IN PLAN VIEW
ROCK COVERAGE:

[illegible]

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f (02) 4226 2004
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Surveyor	Date
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BOBOSER CREMATORIUM COMBI FV

LOT1 DP 520904
992 GREENDALE RD, GREENDALE
ASSOCIATE DETAILS

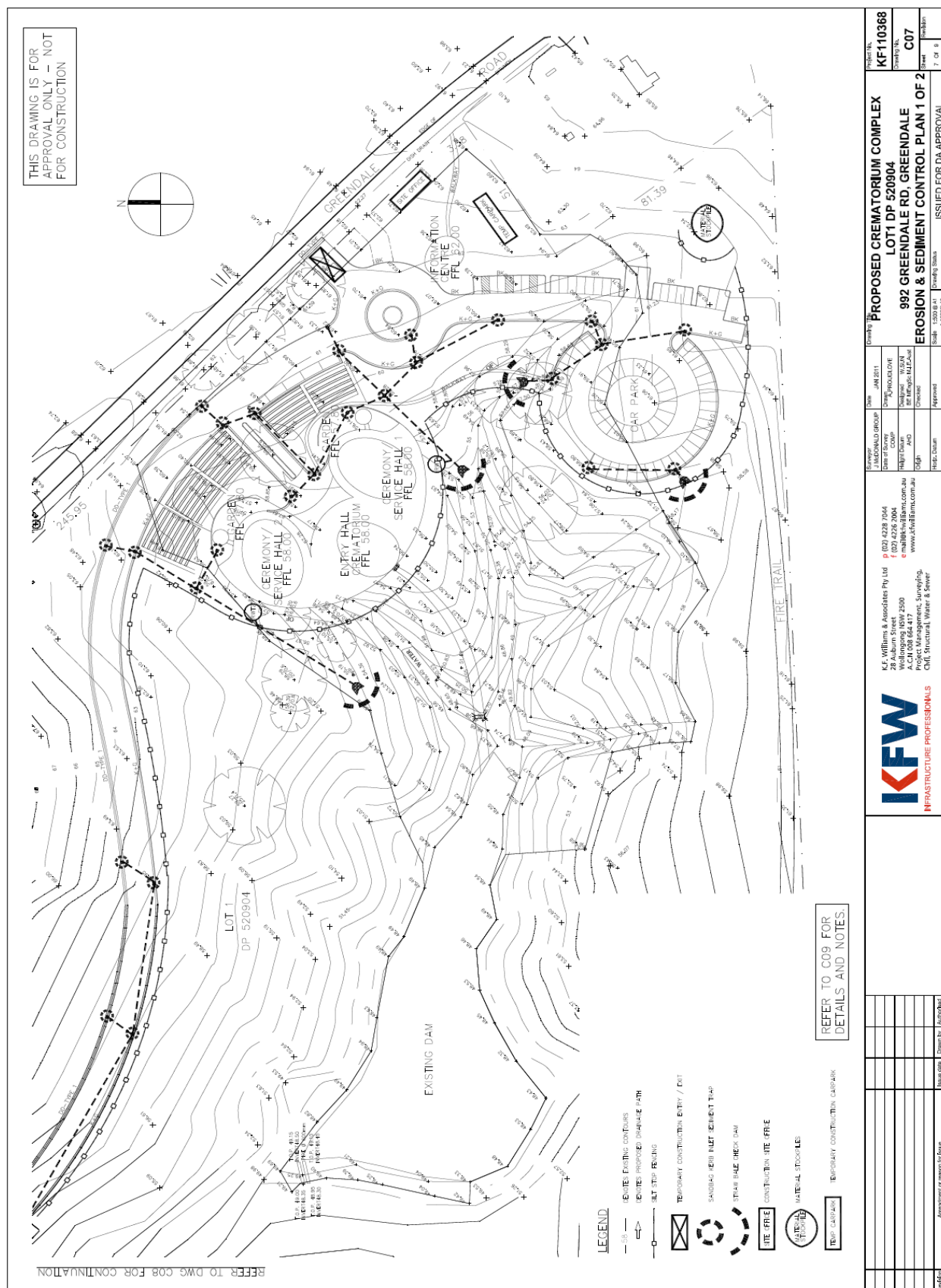
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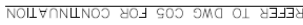
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10

SEDIMENT & EROSION CONTROL PLAN



CUT & FILL PLANS

[illegible]

REFER TO C06 FOR BULK
EARTHWORKS DETAILS.

K.F. Williams & Associates Pty Ltd
28 Auburn Street
Wollongong NSW 2500
A.C.N 008 664 417
Project Management, Surveying,
Civil, Structural, Water & Sewer

THE PROPOSED CREMATORIUM COMPLEX
LOT1 DP 520904
992 GREENDALE RD, GREENDALE
CUT & FILL PLAN 1 OF 2

5502 @ A1 1/20/2016 AS	Drawing Status	ISSUED FOR DA APPROVAL
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ISSUED FOR DA APPROVAL



23.0
FOOTING CONTOURS
FOOTING LEVEL
PROPOSED FINISH FLOOR LEVEL
BULK EXTERIORWORKS LEVELS
PROPOSED 360 X 300 CHAIRS
134P R.000 UIC
PROPOSED BILLING PLATFORM
BILLING PAD

[illegible]

PLANNING CONTROLS:

Section 79C of the Environment Planning and Assessment Act 1979 (EPA & A Act) outlines the matters that a consent authority must consider when determining a Development Application. The subject Development Application has been assessed against the relevant heads of consideration pursuant to Section 79C of the EP& A Act.

The planning controls that relate to the proposed development are:

1. Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
2. Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean Catchment
3. State Environmental Planning Policy No. 44-Koala Habitat Protection
4. State Environmental Planning Policy No.55-Remediation of Land
5. State Environmental Planning Policy-(Major Development) 2005
6. State Environmental Planning Policy-(Infrastructure) 2007
7. Liverpool Local Environmental Plan 2008
8. Liverpool Development Control Plan 2008
9. Liverpool Contributions Plan-Rural Areas

An assessment of the proposed development under the planning controls is provided below as follows:

1. Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The Commonwealth Department of Sustainability, Environment, Water, Population and Communities have considered the proposal under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and advised that the proposed action does not constitute a controlled action. This means that no further assessment and approval is required under the EPBC Act.

2. State Regional Environmental Plan No. 20-Hawkesbury-Nepean (Deemed State Policy)

The main aim of this plan as prescribed by Clause 3 is to protect the environment of the Hawkesbury-Nepean River system by ensuring that the impacts of future land uses are considered in a regional context.

Clause 6 of the subject plan prescribes specific policy statements and strategies for protecting the environment of the Hawkesbury-Nepean River system. Specific policy statements and strategies has been identified for agriculture on rural lands, water

quality and flora and fauna as well as cultural heritage. These are outlined and assessed in detail below:

2.1 Agriculture on rural lands

Clause 6(8) prescribes:

Policy:

Agriculture must be planned and managed to minimise adverse environmental impacts and be protected from adverse impacts of other forms of development.

Strategies:

- (a) *Give priority to agricultural production in rural zones,*
- (b) *Ensure the zone objectives and minimum lots sizes support the continued agricultural use and of any other rural land that is currently sustaining agricultural production.*
- (c) *Incorporate effective separation between intensive agriculture and adjoining uses to mitigate noise, odour and other forms of proposed development.*
- (d) *Consider the ability of the site to sustain over the long term the development concerned.*
- (e) *Consider the likely effect of the development concerned on fish breeding, nursery areas, commercial and recreational fishing and oyster farming.*

Compliance with this policy statement and strategy is outlined in detail below:

(a) Give priority to agricultural production in rural zones,

The above strategy concerns giving priority to agricultural production in rural zones and protecting the agricultural potential of rural land. It should be noted that the zoning of the land (RU1) permits agricultural uses with development consent and that a number of non-agricultural uses are also permitted in the zone including crematoriums, cemeteries, places of worship, health care consulting rooms and community facilities.

Given the above, it is considered that it is not the intention of the strategy to retain every lot in the RU1 zone for only agricultural uses nor does the strategy prescribe that agriculture is the only suitable land use for RU1.

In any case, the bulk of the site consists of dense bushland and is not suitable for viable agriculture use.

(b) Ensure the zone objectives and minimum lots sizes support the continued agricultural use and of any other rural land that is currently sustaining agricultural production.

The above strategy is directed at the zone objectives and minimum lot sizes prescribed by Liverpool Local Environmental Plan 2008. This strategy does not require any further consideration in relation to the subject Development Application.

(c) *Incorporate effective separation between intensive agriculture and adjoining uses to mitigate noise, odour and other forms of proposed development.*

Strategy (c) identifies the need for buffer distances for noise, odour and visual impacts between intensive agriculture and proposed developments.

Properties directly adjoining the site have no known intensive agricultural. The directly adjoining property uses consist of cemeteries, (Catholic Cemetery) places of worship (Free Church of Tonga) and residential (Conversion of former St Marks Church to dwelling) rather than agricultural uses.

It is also considered that the development of a proposed crematorium on the subject site would not preclude any future intensive agricultural development in the vicinity of the subject site any more than existing residential dwellings when taking into consideration specified separation distances for intensive agricultural uses as specified by DCP 2008 – Part 5 which requires 200m separation distance.

It is therefore considered that the proposed use of the site as a crematorium would not have any adverse impacts on the agricultural development potential on agricultural potential in the locality as a consequence of its development.

(d) *Consider the ability of the site to sustain over the long term the development concerned.*

The site can sustain the development over the longer term subject to compliance with supporting reports submitted with the Development Application.

(e) *Consider the likely effect of the development concerned on fish breeding, nursery areas, commercial and recreational fishing and oyster farming.*

The crematorium and temple/meditation building are located some 500 and 300 metres respectively from the Nepean River. Odour and air pollution consultants advise that there will be no adverse impacts upon the air quality generated by the proposal and there is no foreseen contamination of natural waterways as addressed further in this report. Subject to imposition of stormwater controls conditions recommended by the Office of Water and other Council conditions ensuring that post-development flows do not exceed pre-development flows and water sensitive design, no adverse impacts are foreseen upon fish breeding, nursery areas, commercial and recreational fishing and oyster farming.

2.2 Water Quality

Clause 6(3) prescribes:

Policy: Future development must not prejudice the achievement of the goals of use of the river for primary contact recreation (being recreational activities involving direct water contact, such as swimming) and aquatic ecosystem protection in the river system. If the quality of the receiving waters does not currently allow these uses, the current water quality must be maintained, or improved, so as not to jeopardise the achievement of the goals in the future. When water quality goals are set by the Government these are to be the goals to be achieved under this policy.

Strategy:

- (a) *Quantify, and assess the likely impact of, any predicted increase in pollutant loads on receiving waters.*
- (b) *Consider the need to ensure that water quality goals for primary contact recreation and aquatic ecosystem protection are achieved and monitored.*
- (c) *Approve development involving primary contact recreation or the withdrawal of water from the river for human contact (not involving water treatment), such as showers, only in locations where water quality is suitable (regardless of water temperature).*
- (d) *Do not carry out development involving on-site disposal of sewage effluent if it will adversely affect the water quality of the river or groundwater. Have due regard to the nature and size of the site.*
- (e) *Develop in accordance with the land capability of the site and do not cause land degradation.*
- (f) *Consider the need for an Erosion and Sediment Control Plan (to be in place at the commencement of development) where the development concerned involves the disturbance of soil.*
- (g) *Minimise or eliminate point source and diffuse source pollution by the use of best management practices.*
- (h) *Site and orientate development appropriately to ensure bank stability. Plant appropriate native vegetation along banks of the river and tributaries of the river, but not so as to prevent or inhibit the growth of aquatic plants in the river, and consider the need for a buffer of native vegetation.*
- (i) *Consider the impact of the removal of water from the river or from groundwater sources associated with the development concerned.*
- (j) *Protect the habitat of native aquatic plants.*

Compliance with this policy statement and relevant strategies are outlined in detail below:

- (a) ***Quantify, and assess the likely impact of, any predicted increase in pollutant loads on receiving waters.***

The proposed stormwater drainage concept for the development has been designed to incorporate stormwater treatment measures that achieves the objectives of relevant Council measures (specifically Liverpool DCP 2008 Part 1.1), Water Sensitive Design and Ecological Sustainable Design.

The stormwater concept plan has been reviewed and assessed by the Office of Water and Council's Land Development Engineer who concurs with the results and finds the stormwater concept plan is satisfactory subject to conditions of consent. A draft condition of consent requiring that stormwater management solution for the development achieves the objectives of post-development pollutant loads. Specifically the water quality will be improved via the use of water sensitive design measures compared to the pre-development scenario and downstream sub catchments will benefit from the proposed development.

In this regard, stormwater runoff generated by the development will not increase pollutant loads on receiving waters of the Nepean River, subject to conditions of consent.

- (d) ***Do not carry out development involving on-site disposal of sewage effluent if it will adversely affect the water quality of the river or groundwater. Have due regard to the nature and size of the site.***

The above strategy concerns the environmental impact of the on-site disposal of sewage.

As identified previously within this report, a detailed waste water management report accompanies the Development Application. This report has been prepared by Storm Consulting in accordance with relevant Department of Local Government Guidelines and Australian Standards. The report advises that on-site waste water can be appropriately treated on site using a secondary treatment system coupled with shallow sub-surface drip irrigation, located in the south western portion of the site given this area is cleared of vegetation. A disposal area of 2700m² and a back up area of 2700m² is provided for the development in this location. Based on nutrient balance calculations, the development also provides for an absorption area of 5000m² to manage nutrient loads.

Storm Consulting have plotted a suitable location for the disposal of secondary effluent which satisfies recommended buffer distances described in the Environmental Health and Protection Guidelines (Silver Book). Storm Consulting advise that there is at least 10,000m² of disposal area readily available over the site which is located in the south western portion of the site. The disposal area is located more than 100 metres from the banks of the Hawkesbury-Nepean River and complies with the Guidelines for On-Site Sewage Management for Single Households which recommends a minimum 100m buffer to permanent surface waters.

Council's Environment & Health Section has reviewed the Waste Water Treatment Report and advised that the proposed treatment methods are satisfactory subject to imposition of a draft condition requiring submission of a Section 68 Application.

3. State Environmental Planning Policy No. 44-Koala Habitat Protection

The subject site has an area greater than 1 hectare and accordingly the proposal is subject to consideration under the provisions of SEPP 44. No evidence of Koalas was identified on site by the applicant's Flora & Fauna Consultant and neither were any preferred Koala feed trees identified on the subject land. The subject land contains neither potential nor core Koala Habitat and no impacts to the species are anticipated.

4. State Environmental Planning Policy No.55-Remediation of land

Clause 7 of the State Environmental Planning Policy No. 55 - Remediation of Land requires Council to consider whether land is contaminated prior to granting consent to the carrying out of any development on that land.

Should the land be contaminated Council must be satisfied that the land is suitable in a contaminated state for the proposed use. If the land requires remediation to be undertaken to make the land suitable for the proposed use, Council must be satisfied that the land will be remediated before the land is used for that purpose.

A detailed Stage 1 Preliminary Contamination Assessment Report prepared by Hayes Environmental Consulting Pty Ltd finds that the subject site has low potential for contamination and is therefore not likely to pose a significant risk of harm to human health or the environment. The assessment has determined that the site can be considered suitable for the proposed use.

5. State Environmental Planning Policy-(Major Development) 2005

The proposal constitutes a 'Major Development' under clause 13B (1)(a) of State Environmental Planning Policy (Major Development) 2005 as the development incorporates 'a place of worship' and has a capital investment value in excess of \$5 million. On this basis the proposal requires determination by the Joint Regional Planning Panel.

6. State Environmental Planning Policy-(Infrastructure) 2007

The proposed development is subject to Clause 104 of the Infrastructure SEPP given the development proposes the generation of potentially 200 or more motor vehicles.

Accordingly the development was referred to the Roads and Traffic Authority for comment who advised it had no objection but also advised that Council should consider the cumulative impacts of the proposal on Greendale Road given there are presently three (3) other Development Applications under consideration by Council for Cemeteries at 31, 41 and 331 Greendale Road.

At the time of writing this report, Council Officers had requested significant additional information from the applicant of No.41 Greendale Road and it appeared that the proposal may not proceed.

Council engaged an Independent Traffic Consultant to undertake a cumulative traffic assessment of the proposed crematorium along with two cemeteries proposed at 321 and 31 Greendale Road which are located to the east of the subject site. Nos 321 and 31 and for which Development Applications had been lodged around the approximate time as the Crematorium Development Application.

The combined peak hour traffic generation of the proposed crematorium along with proposed cemeteries at 31 and 321 Greendale Road on a typical day and on special occasions (such as mothers day) was calculated as shown in the table below:

Cemetery DA site in Greendale Road	No. of burial plots	Typical peak hourly generation (based upon a maximum of 2 services per hour at any on-site crematorium and chapel) at 100% capacity (50% inbound; 50% outbound)	Estimated "worst case" peak hourly generation (e.g. Mothers Day weekend) at 100% capacity (50% inbound; 50% outbound)
No. 992	10,000	66 vehicle trips / hr	300 vehicle trips / hr
No. 321	70,000 (but limited to 25,000 on a life cycle visitation rate)	165 vehicle trips / hr	750 vehicle trips / hr
No. 31	6,150	40 vehicle trips / hr	185 vehicle trips / hr

Cumulative Traffic east of 31 Greendale Road, Bringelly (based on 80% of traffic approaching/ departing these sites from/ to the east)	217 (i.e. 271 x 0.8)	988 (i.e. 1235 x 0.8)
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Based on the above table, Council's independent Traffic Engineer advised that the existing level of service (LoS) is presently "A", representing GOOD conditions due to the recorded peak hourly flow of 80 vehicles per hour (two way). Over a 30 year time horizon with a typical Sydney average growth rate of 2% p.a, the background traffic increase equates to a base flow of 145 vehicles per hour, which still represents LoS "A" conditions.

Council's independent Traffic Engineer has advised that combined with the addition of 217 vehicles per hour to the estimated Yr 2040, yields a future cumulative traffic flow of 362 vehicles per hour, which still represents LoS "A" conditions for a typical day.

The addition of 988 vehicles per hour to the estimated Yr 2040 flow on a weekend day yields a cumulative traffic flow of 1043 vehicles per hour, which represents a LoS "C" conditions for special occasion days. Level of "C" is acceptable under RTA level of service requirements.

On this basis, Council's Independent Traffic Engineering Consultant has advised that the cumulative impacts of the three cemeteries on Greendale Road can be accommodated during both a typical day and special occasion day for a forecast 30 year horizon.

Council's Independent Traffic Engineering Consultant recommended that a Traffic Management Plan is implemented to accommodate the estimated worst case traffic and parking demand for the proposed cemetery at 321 Greendale Road, given the higher traffic generation volumes.

7. State Environmental Planning Policy No. 33-Hazardous & Offensive Development

Comment:

The primary aim of SEPP 33 is to determine whether a development is a hazardous or offensive industry and consider measures proposed to be employed to reduce the impact of the development are taken into account

At the request of Council, the applicant has submitted a SEPP 33 assessment of the proposal which advises that the gas operations do not constitute a 'potentially hazardous industry' and therefore a preliminary hazard analysis is not required.

The LPG tank serving the crematorium is proposed to be located approximately 23 metres to the south east of the building which is in excess of the minimum 6.6 metres setback requirement from a place of worship or an area where people can congregate. The LPG tank capacity caters for 2700 Mj/ hr demand for gas on average, requiring a tank with a capacity of 7.5 kilo litres. The number of gas

deliveries per month will be one, delivered by a table top single axle rigid truck (18 metres in length).

As the LPG tank is greater than 5000 litres of flammable liquid, a dangerous goods licence is required from Workcover NSW. A Draft condition of consent has been imposed requiring the applicant to obtain a Dangerous Goods Licence.

8. Liverpool Local Environmental Plan 2008

8.1 Permissibility

The subject land is zoned 'RU1 Primary Production zone' under Liverpool Local Environmental Plan 2008. The proposed development uses defined as '*crematorium*', '*cemetery*' and '*place of public worship*' under Liverpool Local Environmental Plan 2008 are permissible uses in the prevailing RU1 Primary Production zone with consent. The proposal also incorporates an ancillary accommodation component in the form of the dormitory accommodation.

The definitions of the uses are listed below:

crematorium means a building in which deceased persons or pets are cremated, and includes a funeral chapel.

cemetery means a building or place for the interment of deceased persons or their ashes.

place of public worship means a building or place used for the purpose of religious worship by a congregation or religious group, whether or not the building or place is also used for counselling, social events, instruction or religious training.

It is considered that the development satisfies the above definitions and it therefore constitutes permissible land uses. It is also considered that the associated dormitory accommodation for grieving relatives is ancillary and incidental to the dominant 'crematorium' use.

8.2 Objectives of the RU1 Primary Production zone

The objectives of the RU1- Primary Production zone are as follows:

- (a) *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- (b) *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- (c) *To minimise the fragmentation and alienation of resource lands.*
- (d) *To minimise conflict between land uses within the zone and land uses within adjoining zones.*
- (e) *To ensure that development does not unreasonably increase the demand for public services or public facilities.*
- (f) *To ensure that development does not hinder the development or operation of an airport on Commonwealth land in Badgery's Creek.*
- (g) *To preserve bushland, wildlife corridors and natural habitat.*

It is considered that the development is not inconsistent with the above stated objectives, in particular objectives (d), (e) and (g). The design, siting and operation of the proposed development is unlikely to impact on the amenity of the locality thus

reducing the potential for land use conflict. A draft deferred commencement consent condition has been imposed requiring submission of a Vegetation Management Plan which will restore and conserve the remnant Cumberland Plain Woodland on the site enhancing the biodiversity for the locality. A Vegetation Management Plan will also assist in the recovery and ongoing management of habitat for the Cumberland Land Snail which was surveyed on site.

It is considered that the applicable zone objectives are secured as demonstrated below:

(a) To encourage sustainable primary industry production by maintaining and enhancing the natural resource base and (b) to encourage diversity in primary industry enterprises and systems appropriate for the area.

Both objectives (a) and (b) seek to promote the use of rural land for sustainable primary industry production. It is noted that the zoning of the land (RU1) permits agricultural uses and primary industry with development consent and that a number of non-agricultural uses are also permitted in the zone including crematorium, cemeteries, places of public worship, health care consulting rooms and community facilities.

Given the above, it is considered that it is not the intention of the objective to retain every lot in the RU1 zone for only agricultural or primary production uses nor does the zoning objectives prescribe that agriculture is the only suitable land use for RU1.

(c) To minimise the fragmentation and alienation of resource lands.

It is acknowledged that the operation and use of the subject site is for the long term. Given the operation and life of the development it is unlikely that the subject site will be redeveloped in the future and used for primary production and agricultural uses given the environmental constraints of the site. In this regard, the proposal would alienate the subject land from being used for primary production. However the site is not suitable for agricultural pursuits and it's not considered that the development would result in alienation of any land within the wider community for primary production.

(d) To minimise conflict between land uses within the zone and land uses within adjoining zones.

Objective (d) seeks to permit development which is compatible with the amenity of the area, thus minimising the potential for land use conflict. In this regard amenity is considered in terms of:

- Scale, bulk, design, height, siting and landscaping
- Operation;
- Traffic generation and car parking;
- Noise, dust, light and odour nuisance;
- Privacy; and
- Overshadowing.

Scale, bulk, design, height, siting and landscaping

Siting

The development involves construction of two distinct (2) building clusters. The stage 1 crematorium and associated ceremony halls are sited on the north eastern portion

of the site and the stage 2 temple/meditation complex with ancillary dormitories is sited over the north western portion.

The setback of the development from Greendale Road varies from 20 metres at the closest point where the information centre is sited to 64 metres where the crematorium is sited. The service halls are setback 41 and 44 metres and the Temple/meditation centre is setback approximately 80 metres.

The temple is sited approximately 80 metres from the western boundary of St Marks Cottage and the crematorium complex is sited approximately 120 metres from the eastern boundary to St Marks Cottage. The crematorium is setback 70 metres from the Greendale Catholic Cemetery boundary to the east.

On this basis there is generally a high degree of separation from the proposed buildings to surrounding properties and it is considered that the proposed development provides adequate buffers along the boundaries which provides suitable opportunities for landscaping which will reduce the potential for visual privacy impacts as a consequence of the development. The frontage of the site is also intended to be densely landscaped to assist in screening the visual impacts of the development.

In this regard it is considered that the siting of the development is appropriate.

Scale, bulk, design and height

The crematorium component of the development presents as modern A symmetrical cone like shaped buildings which are clustered into one complex and are linked via a large entry hall that wraps around the individual buildings. The frontage comprises curved articulated buildings with modern masonry wall finishes in earth toned colours.

It is considered that the bulk and scale of the development has been minimised via a variety of measures, including, the rounded and articulated frontage of the development which softens the development's visual impact, staggered setbacks to Greendale Road ranging from 41 metres to 64 metres for the crematorium. The staggering effect combined with the slope of the site away from Greendale Road assist to reduce the extent of the building expanse that is visible from Greendale Road. The use of neutral earth toned colours and the densely landscaped frontage of the site to Greendale Road will also assist to reduce the impact of the development. From analysis of the streetscape elevation to Greendale Road, it is primarily the roofs of the buildings that will be visible from Greendale Road.

It is acknowledged that the design of the proposal is not traditional of rural development however given its public use there should be opportunity allowed for variation in the building form and style. The building is considered to display architectural merit and the building bulk and scale is considered satisfactory.

Height

The crematorium and ceremonial halls have a height of 9.2 metres measured from the top of the buildings roofs to the natural ground level at the southern rear of the building where the site slopes away and the lowest point of the building exists. At the northern frontage of the site, where the development is visible to Greendale Road, the complex has a maximum height of 7.0 metres however the height does range from a minimum of 5.7 metres.

The crematorium does incorporate two flues at the southern rear of the building which have a height of 8.5 metres and are 2.4 x 0.8 metres in width and depth. The flues, combined with the height of the building, establishes a maximum building height of 14 metres measured from the southern rear of the building where the site slopes away. The northern Greendale Road frontage of the building, incorporating the flues, has a total height of 11.3 metres.

The building height at the frontage of the development is greater than Council's 8.5 metre requirement under the Liverpool Development Control Plan 2008 however it is not excessive and is considered in keeping with heights of other rural buildings in the general area.

Landscaping

The Development Application is accompanied by a concept landscape design for the site. The frontage of the development to Greendale Road is proposed to be landscaped with a 5 metre wide hedge/planter bed with timber edging that will be planted with native trees, shrubs and groundcover species at a density of 1 plant per m². Local native species are proposed to be used with a dense growth habit to ensure a dense screen is achieved. The plant species proposed consist of a variety of natives ranging from Lomandra Grass with a height of 1 metre, shrubs with a mature height of 2-3 metres and small trees with a height of 6 metres. The trees are proposed to be planted 1 per 2 lineal metres. The landscaping within the front setback also seeks to retain the existing remnant vegetation as well as proposed new plantings.

The depth of the landscaping buffer along the frontage of the site to Greendale Road ranges from a minimum 6.5 metres to approximately 16 metres on the western side of the entry road and up to 20 metres in front of the information centre building.

To compensate for vegetation clearing, rehabilitation of Cumberland Plain Woodland is proposed on the higher north western portion of the property between the crematorium complex and the temple/meditation building which is predominantly cleared. The rehabilitation/offsetting will be undertaken in accordance with a future Vegetation Management Plan for the site, which has been imposed as a draft deferred commencement condition of consent.

In consideration of all of the above, it is considered that the concept landscape design is appropriate for the site and the locality considering the use of native species.

Operation

The following operational components are noted for the development as outlined within the Statement of Environmental Effects accompanying the development application:

- The hours of operation for the proposed crematorium are from 8am to 5pm, Monday to Friday and 9am to 5pm Saturday and Sunday.
- The crematorium provides space for two bodies at any one time with 4 to 6 ceremonies per day forecast to occur.
- The number of staff proposed is 10 to 12 for the crematorium and 5-8 for the Temple.
- The dormitories will operate Monday to Sunday 24hrs.

A condition of consent has been imposed in the draft determination notice requiring the preparation and implementation of an operational management plan in accordance

with all of the operational conditions contained within draft determination notice and recommendations contained within the specialist reports accompanying the development application, particularly odour, air quality and acoustic assessments undertaken.

Based on all of the above, it is considered that the operation of the development is not likely to result in any land use conflict.

Traffic generation and car parking

The applicant has submitted a detailed Traffic and Parking Impact Assessment Report prepared by Hermanote Traffic Consultants which estimates that the proposal will have a peak traffic generation rate of 66 vehicles per hour at maximum capacity which is based on assessment of two existing cemeteries at Pine Grove Memorial Park (Minchinbury) and the Forest Lawn Cemetery (Leppington). However on special and rare occasions and during high profile funerals, the traffic generation rate may be doubled up to 300 vehicles per hour. As there is no traffic generation rate for cemeteries or crematoriums under the RTA Guide for Traffic Generating Development, the applicant's traffic consultant has modelled likely traffic and parking generation on Pine Grove Memorial Park and Forest Lawn Cemetery.

Council's Traffic Engineer has advised that there is available capacity within the local and regional road network to service the additional traffic generated by the development and it is considered to be of low impact on existing flows of Greendale Road and is unlikely to alter the level of service (LOS) of Greendale Road. Council's Traffic Engineer also considers that the proposed type CHR intersection treatment will provide a safe intersection for vehicles to access and egress the site.

Based on adequate available capacity within the road system and the proposed intersection upgrading, the proposal is not inappropriate.

Odour, Air, Noise, and light nuisance

Odour and Air Quality

A detailed Air Quality and Odour Impact Report prepared by Advanced Envirosafe Consultants Pty Ltd has been submitted with the Development Application. The report addresses emission limits specified in Schedule 7 of the Protection of the Environment Operations Act (Clean Air) Regulation 2002 and also addresses key pollutants specified in the Air NEPMs and the NSW air quality standards and goals.

The odour report models the impacts of the development using Ausplume Version 6 which measures odour and pollutant modelling covering all the pollutants, including Nitrogen Oxides, Carbon Monoxide, Particulate Matter, Sulphur Dioxide, Mercury, Hydrogen Fluoride, Hydrogen Chloride, Dioxins and Furans and Odour. The results of the impact assessment show that the concentrations of key pollutants that have been predicted are all under the Impact Department of Environment and Climate Change (DECC) Assessment Criteria, and most significantly under.

The results show that the impact of the identified pollutants will be negligible on the surrounding environment if the cremator is maintained and operated in a fit and proper manner. Given the low emission rates of heavy metals and PAHs noted in the EMEP/EEA emissions inventory guideline, the report advises that it is unlikely that the criteria limit will be ever exceeded for any of those compounds.

Based on industry and best practices, the Odour and Air Quality Impact Assessment Report recommends the following measures to keep the odour and other air emissions to the minimum level practically possible:

- *Maintaining the crematorium building under slight negative pressure to prevent escape of odours and other pollutants during breakdowns.*
- *The proponent should be encouraged to develop an Environmental Contingency Plan in case of an inadvertent stoppage of the incinerator during the cremation process.*
- *The proponent should be encouraged to develop an Environmental Contingency Plan in case of an inadvertent stoppage of the incinerator during the cremation process.*
 - *The cremator should be of dual chamber type and should consistently maintain a temperature of at least 850 degrees for a residence time of at least 2 seconds in the secondary chamber to ensure effective pollution control.*
 - *Odour and Pollutant testing be carried out in the first three months to confirm that the odour and pollutant modelling results are consistent with practice as well as to continue compliance.*
 - *The proponent is encouraged to market caskets that do not use chlorinated organics during their manufacture as an environmentally friendly option for the customers.*
 - *A exhaust stack height of 12m measured from the base of the cremator floor, a stack exit temperature of at least 150 degrees centigrade and an exhaust velocity of 15m/s should be maintained at all times. A review of the existing cremator building design should be carried out and compliance with the "USEPA Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for the Stack Height Regulations) should be achieved.*
 - *The proponent should be required to continuously monitor opacity, flue gas oxygen and carbon dioxide level as well as the flue gas temperature for at least 85% of the operating time. In addition, the cremator should be equipped with sufficient process control capability to keep pollution to an absolute minimum.*
 - *A full set of operating manuals should be available in the cremator building and training should be provided to the operators for optimal performance and routine trouble shooting.*
 - *It is recommended that the proponent obtain sufficient level of warranty from the supplier of the cremator to ensure effective incineration. A list of criteria could be used for this purpose.*

Council's Environment and Health Section has advised that the odour impact, air quality, particles and smoke emission generated from the crematorium should be managed satisfactorily providing the requirements in Section 5 of the report are complied with and that all recommendations are implemented as per the report prepared by Advanced EnviroSafe Pty Ltd report.

The Air Quality and Odour Impact Report submitted with the Development Application was also reviewed by the Department of Environment, Climate Change and Water who advised that the report appeared to be generally consistent with its requirements.

In consideration of all of the above, the proposed development is unlikely to generate any odour nuisance or air pollution.

Noise

Acoustic Services Pty Ltd conducted noise monitoring to determine the existing background noise levels in the vicinity of the site and determine likely noise source impacts generated from the proposal on surrounding properties. The acoustic report has also undertaken an assessment of aircraft noise impact generated from the proposed Commonwealth Badgery's Creek airport.

The acoustic report identified the mechanical blower of the crematorium as the main noise producing article and makes the following recommendations:

- Attenuators must be used in the crematorium to reduce the noise level to 45dB(A)
- Time restrictions of during day time hours must be adhered to
- That all recommendations for noise minimising be implemented during building phase.
- All sound producing plant, equipment, machinery mechanical ventilation systems or refrigeration systems shall be acoustically attenuated so that the noise emitted does not exceed LA eq sound pressure level of 5dB (A) above the background noise level.
- The mechanical ventilation system in isolation and in association with other mechanical ventilation equipment, when in operation shall not be audible within a habitable room in any other residential premises before 7am and after 10pm Monday to Friday and before 8am and 10pm Saturday, Sunday and Public holidays.
- The daytime level from any noise source shall not exceed LAeq of 47dB(A) at any residential boundary.

In order to address the impacts of the proposed Commonwealth Badgery's Creek airport, the acoustic report makes the following recommendations:

- Use of acoustic rated windows and glass, doors, skylights, external walls, and building insulation to address potential noise impacts from the Federal Government's Badgerys Creek Airport should it proceed
- That the development conform with AS 2021-2000

It is noted that the dormitory accommodation component of the development is sited in the 25-30 ANEF and not within the 30-35 ANEF. The dormitory accommodation is also only for temporary use. On this basis, the acoustic impacts of the proposed Badgerys Creek Airport upon the development are satisfactory. A draft condition has been imposed requiring the development to comply with AS 2021-2000-Aircraft Noise Intrusion-Building Siting and Construction.

Council's Environmental Health Officer has concurred with the modelling and approach used within the acoustic assessment and it is considered that the proposed development is unlikely to adversely impact on the amenity of the locality in relation to noise generation. The recommendations contained within the acoustic report have been included in the conditions contained within the draft determination notice.

Light

No lighting details have been submitted with the application. In order to alleviate any potential for adverse impacts on neighbouring properties in regards to lighting, a condition of consent requiring the preparation of a lighting plan is imposed. General lighting for the cemetery should be limited to vehicle entrance/exit points, building entrances and car parking areas for security and surveillance reasons. Any required light is to be “low level” lighting to avoid glare and light spill.

Privacy

The use of the adjoining properties surrounding the site may be affected by privacy impacts associated with the use of the proposed development. In determining the potential for privacy implications the siting of the buildings and car parking areas and dwellings of adjoining properties have been taken into consideration.

The nearest dwelling to the site that has potential for privacy impacts is the St Marks Cottage which is located approximately 120 metres away from the crematorium complex and 105 metres from the temple and dormitory accommodation.

Given the extensive setbacks of the proposed buildings and car parking areas to the adjoining St Marks cottage and the proposed landscaping design for the site, which will screen the car parking towards St Marks cottage, it is considered that the proposed development will not adversely impact on the privacy of adjoining properties.

Overshadowing

Given the high degree of separation, the proposed crematorium and temple/meditation building will not result in any overshadowing on adjoining neighbours.

Conclusion

In consideration of all of the points above, it is considered that the proposed crematorium and associated temple/ meditation centre are unlikely to adversely impact on the amenity of the neighbouring properties nor the locality. Thus, land use conflict is unlikely to occur. Appropriate operational conditions have been imposed within the draft determination notice to mitigate against any potential impacts. On this basis, it is considered that the proposed development is generally consistent with objective (d).

(e) To ensure that development does not unreasonably increase the demand for public services or public facilities.

In relation to objective (e), the intent of the objective is to ensure that any new development does not create an unreasonable demand for public services. Public services are taken to include physical infrastructure such as roads, sewer and drainage.

It is considered that the development is not inconsistent with objective (e).

Road infrastructure

The Traffic and Parking Assessment Report accompanying the Development Application and Council's Traffic Engineer concluded that traffic generated by the proposed development can be accommodated within the existing road capacity and accordingly there will be minimal impact on the local road network subject to

intersection upgrading requirements to the proposed driveway at Greendale Road recommended by Council's Traffic Engineer.

For this reason it is considered that the proposal will not have any adverse impacts on the road infrastructure of the locality.

Drainage

The Development Application is accompanied by a stormwater drainage concept plan which has been assessed by the Office of Water who has issued General Terms of Approval which have been imposed in the draft determination notice. The site drains away from the Greendale Road frontage towards the Nepean River and will not adversely impact drainage upon Greendale Road.

Waste Water Treatment

The Development Application is accompanied by waste water assessment report prepared by Storm Consulting which details that sewage for the development is to be managed through the installation of an on-site waste water system which is to treat effluent to the required NSW Health standards.

Council's Environmental Health Officers have assessed the waste water disposal details and advised that they are satisfactory. Should this Development Application be approved, both a Section 68 approval to install and operate is required for the on-site sewerage management system in accordance with the Local Government Act. Appropriate conditions have been imposed.

Given all of the above, it is considered that the development will not place an unreasonable demand on public services.

(f) To ensure that development does not hinder the development or operation of an airport on Commonwealth land in Badgery's Creek.

The proposed Badgery's Creek airport site is located approximately 4.8 kilometres to the north east of the subject site and the site is affected by the identified 25-30 and 30-35 ANEF Australian Noise Exposure Forecasts.

The applicant submitted a detailed acoustic report prepared by Acoustic Services Pty Ltd with the proposal which addresses impacts from the proposed Badgery's Creek airport.

The report concludes that noise created by aircraft over-flights will be acceptable inside the proposed development subject to provision of building insulation measures which Council's Environmental Health Section has concurred with. A draft condition has been imposed requiring compliance with the acoustic report recommendations.

(g) To preserve bushland, wildlife corridors and natural habitat.

Objective (g) seeks to preserve bushland, wildlife corridors and natural habitat on the land. The subject site is identified as being environmentally significant land pursuant to Clause 7.6 of Liverpool Local Environmental Plan 2008. As such the Development Application is supported by a Flora and Fauna Survey including a Seven-Part Test.

It is considered that the Flora and Fauna report accompanying the Development Application adequately demonstrate that the development will not adversely impact on

flora and fauna species subject to recommendations including the preparation of a Vegetation Management Plan.

The matter of Flora and Fauna impacts is addressed in detail later in this report.

8.3 Relevant LEP Requirements

Clause 4.3-Height

There is no height standard for the site under the LEP provisions.

Clause 4.4-Floor space Ratio

There is no floor space ratio standard for the site under the LEP provisions.

Clause 5.10-Heritage Conservation

Heritage

The site is listed as containing a local heritage item known as the Shadforth Monument (former pioneers monument) - item No. 24 on the basis it was understood to contain the Shadforth Monument. It was re-located in 1980 from the St Mark's Anglican Church site nearby after the sale of the church and conversion of the cemetery. However it has subsequently been discovered that the monument is in fact located within the Greendale Road reserve and on Council property.



Shadforth Monument view from Greendale Road

There are also two heritage items immediately adjoining the site - Items 25 and 26 being a private dwelling (former St Mark's Anglican Church group) and Greendale Roman Catholic Cemetery.



St Marks Cottage



Greendale Catholic Cemetery

The Development Application is accompanied by a Heritage Impact Statement prepared by Rod Howard & Associates Pty Ltd which concludes that the proposal will have relatively little direct detrimental heritage impacts upon the significance of the identified heritage items in its vicinity, and potentially little adverse impacts upon the rural character of the surrounding environment.

Council's Heritage Officer has considered the Heritage Impact Statement and advised that the proposed development will conserve the significant fabric of the Shadforth Monument as well as the former St Mark's Anglican Church Group and Greendale Roman Catholic Cemetery. The development is not considered to intrude into the curtilage of the former St Mark's Anglican Church Group or Greendale Roman Catholic Cemetery. The proposed use is considered sympathetic to the

historical use of adjacent heritage places which incorporate churches, cemeteries and memorials from the 19th century. Existing views to and from the Shadforth Monument will not be obstructed by the proposal. Similarly primary views to the two other adjacent items would be retained by the development.

The use of landscaping screening measures around the development will also assist to reduce its visual impact.

On this basis the proposal will not detrimentally impact the Shadforth Monument, the adjoining St Mark's Anglican Church Group site or the Roman Catholic Cemetery. It is noted that the original proposal submitted with the Development Application proposed a second permanent access close to the Shadforth Monument to service the temple component of the development, which has subsequently been deleted and had potential to impact on the heritage qualities of the Shadforth Monument.

Aboriginal Archaeology

A Preliminary Aboriginal Archaeology Report was submitted with the amended proposal to Council which concluded that no registered Aboriginal sites were identified on the site during background research and no Aboriginal objects, or deposits with potential to contain Aboriginal objects or sites were identified during a site inspection of the subject land. Accordingly the proposed development is considered to have low Aboriginal archaeological potential and there is a low risk that Aboriginal objects or sites exist on the subject land. Council's Heritage Officer has reviewed the report and concurred with the report findings. There is no further investigation warranted.

Clause 5.11-Bushfire Hazard

The site is *'bushfire prone land'* and the proposal constitutes a *'special fire protection purpose'*. The NSW RFS has issued a Bushfire Safety Authority for the proposal and a draft condition of consent has been imposed requiring compliance with the Bushfire Safety Authority.

Clause 7.6-Environmentally Sensitive Land

Clause 7.6 Environmentally significant land requires the consent authority to consider the significance of vegetation, the sensitivity of the land and the impact of development on the environment.

The site contains environmentally sensitive land along the boundary with the Nepean River and also in the north western portion of the site. The site contains the TSC Act listed critically endangered ecological community, Cumberland Plain Woodland and the endangered ecological community, Shale/Sandstone Transition Forest, which would be affected by the proposed development. The endangered fauna species, Regent Honeyeater and Cumberland Land Snail, have also been detected at the subject site and the vulnerable Square-tailed Kite, Powerful Owl, Gang-gang Cockatoo, Grey-headed Flying-fox, Eastern Freetail-bat, Greater Broad-nosed Bat, Eastern Bentwing-bat are considered likely to occur.

As identified earlier, the Development Application is supported by a Flora and Fauna Survey, Seven-Part Test. The Flora and Fauna Report advises that the main impacts on the biodiversity of the subject site will arise from the clearing of native vegetation required for construction of the crematorium, temple and associated gardens and parking. The Flora and fauna Report estimates that the proposed action will directly

remove approximately 0.014 hectares (140m²) of Cumberland Plain Woodland and 0.41ha of Shale/Sandstone Transition Forest. A further 1.82 ha of Shale/Sandstone Transition Forest will be affected by the required NSW Rural Fire Services Asset Protection Zone surrounding the development.

The Flora and Fauna Report submitted with the Development Application advises that two Regent Honeyeaters were detected on site inhabiting mistletoe and host Grey Box trees in the upper part of the site and environs. The trees inhabited by these birds and the site's stand of Grey Box Woodland will be retained. Given this, and that the species is only likely to inhabit the site on a sporadic basis, the Flora and Fauna Report considers that it is unlikely that the proposal would lead to a long-term decrease in the size of the population.

The Flora and Fauna Report advises that the loss of Shale/Sandstone Transition Forest is proposed to be offset at a ratio of 2:1. This would result in the rehabilitation/revegetation of around 4ha of Shale/Sandstone Transition Forest. This will involve the planting out of currently cleared areas within the site, particularly the north western portion, with locally occurring native plant species consistent with the soils on which these areas are located as well as undertaking planting within retained vegetation in order to consolidate it.

The Flora and Fauna Report advises that given the retention of almost all of the subject site's Cumberland Plain Woodland and most of the Shale/Sandstone Transition Forest and fauna habitat on site, it is considered that the proposed action is unlikely to have a significant effect on threatened species, populations or communities, or their habitats. It is considered that a Species Impact Statement is not required.

In consideration of all of the above, it is considered that the proposed development will not adversely impact on flora and fauna species. Council's Natural Resource Officer has advised that the Flora and Fauna Report findings and recommendations are acceptable and requested that a Vegetation Management Plan is prepared and accordingly a Deferred Commencement Consent condition has been imposed requiring submission of a Vegetation Management Plan prior to the consent becoming operational.

Conditions of consent included in the draft determination notice also include a requirement that the final detailed landscape plan submitted for the proposal is consistent with all of the actions contained within the Vegetation Management Plan. It is also recommended that a Bushfire Management Plan is prepared concurrently with the VMP to ensure that bushfire hazard reduction is undertaken in accordance with VMP objectives.

On this basis, the Development Application adequately addresses and satisfies both the objectives and relevant matters of consideration prescribed by Clause 7.6.

Clause 7.7-Acid Sulphate Soils

The site is not mapped as containing acid sulphate soils although Storm Consulting has advised that parts of the site display acid sulphate soils. To address the matter a draft condition of consent has been imposed requiring preparation of an acid sulphate soils management report prior to release of a Construction Certificate.

Clause 7.8-Flood Planning

The lower western portion of the property adjacent to the Nepean River is partially affected by flooding under 1% Annual Exceedance Probability (AEP) event.

However, the proposed buildings are located outside the 1% AEP flood extent. The 1% AEP flood level in the vicinity of the property is 46.1m Australian Height Datum (AHD). Council's Flooding Section have no objection subject to conditions. The buildings are proposed to be constructed at RL 57 and 58.

Clause 7.9-Foreshore Building Line

The site is bounded by a foreshore building line of 30 metres to the Nepean River however the proposed development is extensively setback from the river and no development is proposed within the foreshore building line.

Clause 7.18-Development in areas subject to potential aircraft noise

The land is subject to potential airport noise and is within the ANEF contours between 25-30 and 30-35. A detailed acoustic report addresses the impact of the proposal in respect to Badgery's Creek airport which concludes that noise created by aircraft over-flights will be acceptable inside the proposed development subject to insulation measures being incorporated into the buildings. Council's Environmental Health Section has concurred with the findings and recommendations of the report.