Nan Hai Pu Tuo Temple

Cactus Canyon Road Sellicks Hill nolan RumsBY

Prepared for:

Nan Hai Pu Tuo Temple of Australia Inc

September 2011

Response Document

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1. Introduction

This response document has been prepared pursuant to Section 46D(7) of the Development Act 1993. It addresses matters raised during the consultation phase of the project proper (as detailed in the Development Report prepared by Hames Sharley dated September 2010) as well as detailing amendments and additional information stemming from those responses received. In particular, this Response Document provides further documentation and support via additional studies undertaken by experts in response to key matters raised by referral agencies including matters of traffic/access, wastewater, stormwater and acoustics. These additional investigations and findings have resulted in minor alterations to various elements of the proposal although the essential nature of the proposal remains unchanged.

By way of background, this report:

- provides an overview of the process to date;
- identifies the additional information provided and amendments made to the original proposal;
- responds to submissions made from prescribed agencies and bodies; and
- responds to other matters raised in the public submissions.

So as to avoid any confusion as to the proposal plans now presented, all plans previously submitted should be considered as superseded and replaced, in their entirety, by a new package of plans and documentation accompanying this Response Document.

2. Overview of Process to Date

In December 2008, the Minister for Urban Development and Planning declared a proposal to establish the Nan Hai Pu Tuo Temple and associated facilities on land located in the vicinity of Cactus Canyon Road in the area known as Sellicks Hill, a major development under Section 46(1) of the Development Act 1993.

In July 2009, the Development Assessment Commission issued its Guidelines for the preparation of a Development Report detailing the proposal.

In September 2010, the Development Report was made available for public consultation and for review and comment by relevant agencies and bodies. A public meeting was held on 13 October 2010.

Following the completion of the consultation period, the proponent has sought additional advice and undertaken further investigations to respond to matters raised in the submissions. In total, some 98 submissions were received plus 9 from prescribed agencies and bodies (including a combined response from several agencies on behalf of the Environment and Conservation Portfolio).

Of the public submissions received, some 31 expressed support for the proposal, (including 5 expressing support but with some concerns) and 67 were opposed (including some strongly opposed) to the proposal.

With respect to comments received from prescribed agencies and bodies further investigations have been undertaken to address those matters. In many instances, matters raised by these agencies and bodies were also identified or queried by members of the public in their submissions. To this end, resolution of some key matters to the satisfaction of agencies and bodies also addresses concerns expressed in some public submissions. It is, however, accepted that some representors may not view compliance with some regulated standards as satisfying their concerns.

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3. Context and Key Issues

The context within which the proposal sits has influenced the key design, visual and functional elements which, collectively, comprise the cultural and religious significance of the proposal. The subject land is presently in use as accommodation for nuns of the Nan Hai Pu Tuo Temple, including accommodation, shrine, productive gardens and communal eating areas.

For the past 14 years, the land has been progressively developed by the resident nuns to reflect the principles of self sufficiency in accordance with the Buddhist beliefs. The land features formal plantings, extensive vegetable gardens, some 3500m2 of orchards and quiet areas for prayer and meditation. An existing prayer area (comprising a shrine, drum and bell) is used daily by the nuns.

All elements of these existing activities are to remain in new and/or extended buildings and spaces. The existing activities are part of a large Buddhist community with facilities in Emerald, Victoria and Wollongong, New South Wales.

The subject land sits within a rural landscape, beyond the township of Sellicks Beach. It is backdropped by steeply rolling hills, with frontage to the coast. It is separated from the adjacent urban areas by the deeply formed "Cactus Canyon". Its location relative to Sellicks Beach would make it a "peri urban" locality although its immediate environs establish a primarily rural and agricultural landscape character which is, in turn, reflected in its Primary Industry zoning.

The key issues raised in the submission centred on the following:

- appropriateness of the land for the proposed use;
- appropriateness of the land given the height and scale of key elements (in particular the female Buddha Statue and the taller Pagoda);
- access and parking concerns;
- wastewater treatment concerns;
- acoustic impact of the bell and drum.

Matters of engineering (wastewater, stormwater, access and parking and acoustics) are addressed in the appended documents.

The issue of impacts from a visual and land use perspective *per se* are more subjective and, to a large degree, a matter of personal opinion and perception. To this end, while it is a "given" that parts of the built form will be visible from certain aspects and at certain distances (and some elements more prominently than others), the degree to which this is considered acceptable (or appropriate) differs between individuals, as demonstrated in the varying opinions expressed in the submissions received. This issue is addressed further in this document.

An issue referenced in many submissions related to a lack of clarity in the plans provided and noted some discrepancies in the report. Some of these concerns were driven by the poor level of scale and reproduction of plans, others correctly note some contradictions within the report. These matters are clarified throughout this document. Clearly, however, from an administrative perspective, a copy of this Response Document (and the previous Development Report) must, by necessity, include plans in reduced format.

No response has been provided to submissions expressing views of a purely religious nature.

A summary of submissions is found at Appendix B.

The description and documentation provided herein comprises the proposal.

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4. The Proposal and Amendments

The proposal remains essentially unchanged with respect to overall design, siting, built form and function. The inherent features of built form (including the Temple proper, Pagodas and Statues) remain, although the amended plans provide clarity with respect to scale, colour and finishes. The heights of key structures as detailed in the Development Report remains, namely:

- the Temple achieves a maximum height at the "main" shrine of 18m to the apex (ridgeline) of the steeply sloping roof element. Shrines surrounding the "main" shrine are smaller in scale and form ranging from 9m to 11m;
- the Pagoda is to stand 35m in height;
- the female Buddha Statue is to stand 18m in height; and
- the nine Pagodas comprising the Chinese Memorial Gardens are to stand 3.5m high.

The Temple itself comprises a collection of built form and open to the air elements forming in total a rectangular area of some 740m². This area includes the existing residence and communal eating/kitchen area which is to be extended as part of the proposal. Over half of the Temple area comprises paved courtyards and landscaping. The placement of the Temple proper and the key Statue and shrine elements respond to Feng Shui principles following a clear axis which links critical elements. The Pagoda, sitting outside of the Temple, is also critically sited to respond to this axis. Similarly, the form and height of these structures are critical to Buddhist principles and the resultant significance of the elements.

The retreat units, similarly, remain essentially unchanged although further detail is now presented with respect to design, layout and siting which result in minor alterations (as detailed in Appendix A).

The Chinese Memorial Gardens, located towards the north western corner of the site, again remain unchanged although clarification is provided with respect to the aerial imagery (Swastika form) initially shown on the proposal plans.

The form of the primary car park has been marginally changed to better respond to site contours however its general location remains as previously proposed. The area allocated to parking (for both cars and buses) has been increased to accommodate additional vehicles and to clearly define bus parking areas.

The **proposal plans** have been amended to incorporate specific detail with respect to the following:

Access and Parking

- clarification and further detail regarding the new access road into the site off Cactus Canyon Road;
- detailed junction/road works on Main South Road;
- deletion of the access road along the northern boundary leading to the Chinese Memorial Gardens;
- deletion of the parking area at the Chinese Memorial Gardens; and
- increased car and bus parking in the primary car park, including minor alterations to design and siting and incorporating a drop off zone and disabled parking.

Wastewater Treatment and Disposal

- identification of intended method of wastewater treatment;
- siting and design of collection, treatment and disposal areas;

Stormwater/Overland Flows

- clarification of stormwater retention and detention areas; and
- identification of areas/methods of erosion central control;

Landscaping

• further refinement of landscape Master Plan based upon amended site plan.

Building Form/Finishes

- clarification of built form appearance and finishes; and
- design/siting and refinement of the accommodation units.

The proposal has also been amended to 'reduce' the site of the development proper from the whole of the subject land to that northern most portion which encompasses all built form and functional elements of the Temple. No works are proposed south-south east of the proposed car parking area in the extended coastal fronting portion of the land. This area was previously denoted as comprising Stages 3, 4 and 5 comprising of primarily, landscaping works and a new internal access road.

The amended plans now comprising the proposal are reproduced at A3 in Appendix A. Full size plans are also submitted separately. These plans comprise:

No.	Version	Subtitle	Format
22036_S01	1.0	Site Storyboard	A1
22036_S02	1.0	Location Plan	A1
22036_S03	1.0	Site Plan	A1
22036_S04	1.0	Floor Plan	A1
22036_S05	1.0	South West Elevation	A1
22036_S06	1.0	North East Elevation	A1
22036_S07	1.0	North West & South East Elevations	A1
22036_S08	1.0	Longitudinal Section	A1
22036_S09	1.0	Landscape Master Plan	A1
22036_S10	1.0	Perspective View 01	A1
22036_S11	1.0	Perspective View 02	A1
22036_S12	1.0	Accommodation Type Plans	A4
22036_S13	1.0	Chinese Memorial Garden Plan & Elevation	A4
22036_S14	1.0	Survey	A1

This Response Document also includes detailed reports prepared following submissions with respect to:

- acoustic impacts;
- wastewater treatment;
- stormwater collection and disposal; and
- road junction design, car parking and access.

The following documents are referenced in this report as follows:

•	Architectural Drawings/Plans	Tectvs	Appendix A
•	Summary of Submissions	Various	Appendix B
•	Acoustic Assessment	Sonus Acoustic	Appendix C
•	Wastewater and Stormwater	FMG Engineers	Appendix D
•	Access, Traffic and Parking	MFY Traffic Engineers	Appendix E

5. Response to Submissions – Impacts and Effects

5.1 Environmental/Management Matters

5.1.1 Wastewater Management

The Issue

The Environment Protection Authority (EPA) Agency submission, as well as numerous public submissions, identified the need for a detailed wastewater (effluent treatment and disposal) proposal taking into consideration the specific circumstances of the site, namely:

- areas of notable slope and existing erosion lines;
- sandy (permeable) soil;
- proximity to coast; and
- fluctuating usage patterns and peaks.

The Development Report outlined two options likely to be suited to the requirements of the proposal. The EPA sought further investigations and supporting documentation leading to the identification of the proposed method of treatment. It is noted (and confirmed by SA Health) that any final system requires approval prior to installation.

The Response

The detailed engineering investigations recommend the use of an Evaporation Transpiration Bed system (ETA) designed in accordance with ASNZS 1547.2000. The system entails the use of differently sized septic tanks servicing the peak load Temple facilities and the more consistent and reduced load retreat units. Both systems gravity feed to a balancing tank (with alarm monitored pump systems) for disposal via the ETA system located adjacent the car parking area.

The ETA system comprises a system of 2m wide swale like trenches carrying a perforated pipe protected by a geofabric filter cloth and sitting in sand and gravel based surrounds. The swales are mounded above ground using sand dressed with top soil and grassed. The "strips" of land between the lines of swales are planted with appropriate vegetation. Both of these elements assist in the transpiration process and ensure the underground system remains, effectively, invisible on the landscape save the establishment of narrow corridors of vegetation.

The use of pressure dosing valves and flow distributers control the effective operation of the system. Flow levels at the balancing tank provide warning in the unlikely event of overflow allowing for effluent removal via tanker.

The system has been selected, designed and sited having regard to soil profiles, bed rock, water table location, varying and peak flows, land slope and proximity to site features including the coast, gullies and potential ephemeral water courses and drainage lines. Noting that the soils on the site are not conducive to conventional septic irrigation and are unable to adequately address extreme fluctuations in loading, the proposed ETA system represents an environmentally sustainable solution which also entails significantly less reliance upon electricity and reduced maintenance requirements for year round operation. The ETA system does not allow for "holding" of reclaimed waste water for targeted irrigation, however, the swale system provides for irrigation via formalised plantings which will further enhance the amenity of the landscape.

The engineering report prepared by FMG Engineers detailing the proposed waste water system in terms of selection, design, performance and siting/location is found at Appendix D.

5.1.2 Stormwater

The Issue

Concern was raised in some submissions and by the EPA as to the proposed methods of stormwater management, and the appropriate address of WSUD principles and features. Issues of stormwater runoff, pre and post construction flows, (including possible impacts upon the land) and water quality targets were highlighted.

The Response

A detailed assessment of stormwater impacts having regard to site water usage (domestic and irrigation) and water capture (including storage, retention and detention) has been undertaken by FMG Engineers. The assessment addresses the basis for rainfall collection, storage requirements and usage rates associated with the day to day operations of the Temple and retreat units. Calculations confirm that the roof catchment exceeds the day to day water requirements of the proposal (including irrigation), with overflow/surplus water being directed to appropriately designed retention and detention basins located to the west of the retreat units and the car park.

Whilst the water balance confirms that the usage requirements of residents on the site can be more than adequately addressed, it is virtually impossible to predict the usage rates associated with visitors with regard to drinking water and toilet flushing. However, it is apparent that a significant excess catchment is available, with increased usage simply limiting the volume of water being directed to the overflow retention and detention basins or, alternatively, by replacing the 34% of captured water (650KL/Year) with bore water. In any event, given the multiple water supply options available to the site (rainfall, mains and bore) there exist numerous permutations available to ensure adequate supply of potable water for drinking purposes for all visitors to the site (noting that an option always remains that bottled water could be made available).

The pre and post development stormwater flows have been assessed along with water quality objectives vis-a-vis WSUD principles and pollutant composition as per the EPA Performance Objectives. The proposal satisfies these requirements as detailed in the FMG Report at Appendix D.

5.1.3 Hazards/Risks

The Issue

The EPA notes the proposed change of land use from Agricultural to a "sensitive use" and flags possible issues associated with site contamination. Contamination can be associated with localised and intensive higher risk agricultural activities such as dips, spray races, waste water irrigation, burial and the like. A site audit is sought with respect to potential contamination from these and allied sources.

The Response

Since the preparation of those comments, the EPA advises that a change of process has now occurred regarding land previously used for agricultural purposes and that, as a result, only a Site History Report is required.

To date, such report has not been completed although the following matters are highlighted and confirm that no reasonable expectation of contamination can be expected and that the proposal, in effect, does not introduce a change of use to the extent that any concerns should be expected. In particular, the following factors are highlighted:

• only a fraction of the total site is to be used for a "sensitive use", which area is, in the main, the area presently supporting the existing "sensitive use" comprising the nuns house, associated structures, gardens and surrounds.

- no agricultural practices have occurred on the land the subject to this proposal in at least the 14 year period that the nuns have been resident on the site
- comprehensive soil testing and visual assessment of the land has occurred in the preparation of reports for this proposal. No visual evidence exists of any structures, pits, sites or areas of past disturbance which might indicate the past use of intensive agricultural practices.

Notwithstanding the above, and the assertion that in fact no change of use is in fact proposed, further investigations can be undertaken in accordance with the Site History Report guidelines. It is requested that such works, if required, be the subject of a Reserved Matter.

5.1.4 Utilities

The Issue

SA Water notes the existing water connection and advises any second connection (or upsizing of the existing) may not be supported. No sewerage services are available to the land.

The Response

On-site treatment and disposal is proposed as per Appendix D (as detailed in Section 5.1.1).

No augmentation of existing SA Water supply is sought. The existing facilities are presently serviced by bore water, reticulated water and stored roof catchment rain water. The proposal will:

- utilise roof catchment via tanks for potable water supplies;
- retain the existing reticulated supply as needs for backup purposes only (although this is not envisaged);
- utilise treated wastewater for garden, orchard and landscape areas; and
- utilise bore water (or surplus roof catchment water) for vegetable garden areas.

A water balance model prepared by FMG Engineers (Appendix D) confirms the adequacy of supply to accommodate the day to day and peak requirements of the proposal.

5.1.5 Pests and Plants

The Issue

The Department of Environment and Natural Resources (DENR) note changes/corrections to terminology, species identification, reporting procedures and notification requirements for Category 1, 2 and 3 plants and suggest the inclusion of specific indigenous native plants along the coast line.

The Response

The proposal has been amended to exclude any works/activities both along the coast line proper and in the central and southern portion of the total site. However, the Landscape Master Plan and subsequent detailed planting schedules will incorporate appropriate species as supported by DENR, appropriately categorised for possible notification requirements.

The following changes to terminology are accepted:

- "declared" plants instead of proclaimed plants; and
- the Natural Resource Management (NRM) is now the relevant agency dealing with "pests and plants".

The notification periods for categories are accepted, namely:

Category 1 - 24 hours to NRM Board

Category 2	-	3 days to NRM Board
Category 3	-	7 days to NRM Board

The proponent is agreeable to undertaking a site survey of locally indigenous native species at the appropriate time specified by DENR.

5.1.6 Bushfire

The Issue

Some submissions raised issues with respect to bushfire management and safety of adjoining properties

The Response.

The whole of the subject land falls within a High Risk Bushfire Area as detailed within the Development Plan. The Ministers Code (Undertaking Development in Bushfire Protection Areas) prescribes the design, siting and access requirements associated with development in Bushfire Risk Areas, along with Objectives and Principles within the Development Plan.

The proposed Temple sits on the edge of the High Bushfire Risk Area, adjacent areas of High and General Bushfire Risk in the adjoining City of Onkaparinga (across Cactus Canyon). The land proposed to be used by the Temple is primarily open and unvegetated, save primarily rows of trees (planted by the nuns), orchards and lower scaled "domestic" type gardens. The land as a whole (as is also evident on surrounding land parcels and throughout the non-urban areas of the locality) contains minimal vegetation of note due to a long history of grazing and, no doubt, its exposed coastal location.

In accordance with Code requirements, the proposal provides all necessary access and turning areas suitable for fire services vehicles, with plantings maintaining the required distance from dwellings. The width and form of all internal roadways meet the specified requirements (minimum 3m width and all weather seal), and on site water storage. The proposal itself generates no increased risk of fire hazard itself and can adequately address all necessary on site requirements.

5.2 Access, Traffic and Car Parking

5.2.1 Main South Road/Cactus Canyon Road Access Arrangements

The Issue

The Department for Transport, Energy and Infrastructure (DTEI) and others note the circumstances of the existing junction of Cactus Canyon Road with Main South Road. So as to confirm that appropriate access arrangements on/off Main South Road can be achieved, a detailed traffic analysis and concept junction design was sought.

The Response

MFY and Associates have undertaken a SIDRA modelling analysis of the road junction using a range of directional attendance scenarios, peak attendance estimates and forecast traffic volumes on Main South Road. The analysis confirms that "even in the worst case scenario whereby half of the expected daily attendance all arrive within the same hour, Main South road will still have available spare capacity, with the junction of Cactus Canyon Road operating efficiently". The expected daily (worst case) traffic numbers are based upon:

- 1000 visitors travelling two per car = 500 cars;
- two-way traffic movement per car = 1000 vehicle movements (each car enters and leaves the site); and
- 50% of these movements occurring in a one hour timeframe.

This scenario is by no means envisaged, it does however demonstrate the clear capacity of the road network and junction to accommodate the proposal.

As sought by DTEI, a concept road and junction plan has been prepared identifying the nature of treatment required so as to facilitate appropriate access on to and off of Main South Road and Cactus Canyon Road. This design is detailed at Figure 5 of Appendix E.

The treatments consist of:

- constructing a "level" section of road at the junction with Main South Road for a distance of approximately 15m to enable a bus to be positioned at the junction and be able to easily accelerate to join the traffic stream, rather than having to contend with an incline as currently exists;
- sealing the section of Cactus Canyon Road (from its junction with Main South Road to a point just north of the access to the Temple, to DTEI and Council requirements);
- maintain connections to the Cactus Canyon Road to existing tracks on the land to the south of the junction;
- any other civil related works to establish appropriate road grades to connect to existing levels; and
- an intersection of sufficient width to accommodate simultaneous turning movements.

Further works may be required following a detailed engineering survey. The proponent confirms its acceptance to participating in a Development Agreement with DTEI with respect to works required.

The concept plan was forwarded to DTEI for comment prior to the finalisation of the MFY Report. Initial comments received have been responded to by separate attachment in that report (Appendix E).

5.2.2 Site Access Arrangements

The Issue

Specific reference was made by SA Water regarding any future use of the existing private access road on the adjoining lot 8 (FP 14547). This road is presently used by the Temple to gain access to its existing facilities approaching Cactus Canyon Road and, on occasion, to gain access to the southern-most portion of the land. SA Water has a registered Right-of-Way (R.O.W) over this road with resultant security and liability obligations (access to a pump station is provided off this access road). Concern was also expressed about the level of repair of the lower (southern-most) section of this road and future access by persons attending the Temple land by foot, bicycle or vehicle, particularly with regard to gully crossings.

The Response

The proposal plans provide for the establishment of a new access point onto Cactus Canyon Road. Whilst some minor design adjustments have been made, this remains the primary intended access point to the land. As a result, no use of the existing access road on the neighbour's property is proposed (or required) as part of this proposal.

Further, the proposal has been amended to exclude any use of, or works within, the southern portion of the land (south of the proposed Temple car park) – these areas were marked on the original "overall site plan" as Stages 3, 4 and 5 and include the construction of a new access road within the subject land extending from the car park to (near) the southern boundary of the site. The road was to run on the "inside" of the subject lands property boundary, roughly parallel to the neighbour's access road. This is no longer the case. Similarly, no other means of access is proposed to this area (via either foot or bicycle). The proponent acknowledges the nature of

terrain in this area and will, as needs, consult with the adjoining owner in the event of any access requirements, although such would not be related to any aspect of this proposal. In effect, no person attending the Temple will either use the neighbour's road nor the subject land south of the proposed car park. Consideration from the neighbour will be sought for limited use of the very "top" section of that road (as is presently the situation) pending the creation of the new access point (this matter is outside of the scope of the proposal).

5.2.3 Other Internal Access Roads

The Issue

Concern was expressed by residents to the north, and in particular the only abutting resident to the north-east, as to the location of the road approaching the northern boundary providing vehicular access to the Chinese Memorial Gardens car park.

The Response

The proposal has been amended to delete the access road approaching the northern/northeastern boundary of the site providing access to the memorial gardens. As a result, the car park at the Chinese Memorial Gardens has also been removed.

The Chinese Memorial Gardens is a place for quiet contemplation and meditation. Access will be via a 4.5m wide pedestrian pathway leading from the Pagoda. A small number of motorised "golf carts" will be available for use by the elderly or people with mobility limitations. The carts will be housed near the Temple in an existing shed. The pathway width meets the necessary design standards to enable two carts travelling in opposite directions to pass without impeding foot traffic or jeopardising safety of any user of the path.

As a result, the proposal now removes the previously proposed access point off Cactus Canyon Road at the northern end of the site, with all traffic associated with visitors to the Temple both entering and exiting the site at the eastern access point (closest to Main South Road).

5.2.4 Car Parking

The Issue

DTEI, and others, sought confirmation of car parking demand and provision having regard to expected visitation rates. Some concern was expressed regarding parking at the Chinese Memorial Gardens.

The Response

The previous plans provided for 120 car parking and 2-3 bus parking spaces within the public parking area. A further 40 cars were able to be accommodated, if required, along the kerbside of the internal road network and/or within the bus parking area.

The plans have been amended to provide for a total of 150 formalised car parking spaces (100 spaces plus 50 space overflow) and 4 buses.

It is anticipated that, outside of the 20 special calendar days per year, where 1000 visitors may attend the land, no more than 300 people would be expected to attend the land on any day. As there is no "prescribed" or "designated" gathering time or service associated with attending the Temple, visitors are expected to "come and go" throughout the course of any day. As such, at no time would all daily visitors arrive, or be at, the Temple at any one time.

The MFY report at Appendix E calculates car parking provision based upon a "worst case" scenario of 500 persons being on site at any one time (50% of 1000 people on the special calendar days). Using the Development Plan rate of one car park per 5 seats (noting that there are no "seats" *per se* and no formalised seating occasion or event), a total of 100 car parking spaces would be required. Using a more conservative rate of 1 car per 3 seats (or people) which

is a widely accepted standard for parking generation for development such as a restaurant or where a "crowd" might be expected, and accepting that a special calendar day will likely include the use of buses, parking requirements would be satisfied – 4 buses @ 50 people each = 200 people + 300 people @ 1 car per 3 people = 100 car parks. The provision of 150 car parks plus 4 bus parks would satisfy peak demand on special calendar days and, therefore, satisfy parking demand on all other "lower attendance" days.

To recap:

- there are 20 special calendar days a year which may draw up to 1000 people;
- special calendar days would see many arriving by bus;
- a "typical" day would see no more than 300 people attending the land;
- attendance at the site occurs throughout the day as there is no prescribed or organised time at which people need to be at the site (people will "come and go" throughout the day);
- under any use scenario (special calendar day or typical day) no more than 50% of people would be expected to be on the site at the same time;
- a conservative rate of 1 car per 3 people would demand 100 car park spaces for 300 people;
- the use of 4 buses on special calendar days would accommodate 200 persons;
- a total of 150 car parking spaces and 4 bus spaces are provided within the designated car parking area.

The plans have also been amended to delete road access to, and car parking at, the Chinese Memorial Gardens. Access is to be by foot or golf cart along a designated pathway.

5.3 Effects on Communities

5.3.1 Noise

The Issue

A number of submissions expressed concern regarding noise, in particular from the drum and bell. The proximity of the proposed access road to the Chinese Memorial Gardens, as well as general noise impacts associated with the use of the car park was noted.

The Response

Notwithstanding the EPA's advice that it did not believe any adverse acoustic outcomes would occur, the proponent has sought detailed advice from acoustic engineers, Sonus, so as to address the concerns raised in some submissions. The report prepared by Sonus (Appendix C) considers the impacts of noise associated with the use of the drum and bell, as well as noise associated with use of access roadways and car parking areas.

In undertaking its assessment, Sonus measured the existing noise levels on Main South Road (the ambient noise levels on site), noise generated by vehicles using the existing gravel roads and the noise generated by the use of the existing bell and drum located at the Temple and used at present by the nuns. Sonus notes the closest dwelling to the proposed main shrine area is located some 260 m to the north-east, and the closest dwelling to the Chinese Memorial Gardens is located some 200m to the north-east (although no traffic movement other than the odd golf cart would now occur at the Memorial Gardens).

The potential noise impacts were assessed by Sonus as follows:

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- noise levels were taken measuring the existing drum and bell on site (used by the nuns);
- the drum and bell is sounded only on special occasions and only then in the order of 2 to 3 times a day;
- special occasions are generally limited to the 20 special event days in the Buddhist calendar or in association with a visiting Master or senior member of the Monastery;
- the drum and bell are to be housed in structures with doors and windows.

The report concludes that noise from both the bell and drum and from traffic movement on the site readily meet the Environment Protection (Noise) Policy as well as the levels indicated in the relevant Yankalilla (DC) Development Plan. The report also notes that the bell and drum would continue to meet noise guidelines even if any doors or windows in the structures in which they are housed are open, and that the background noise of existing traffic on Main South Road is higher than what would be generated by the proposal having regard to impacts upon the nearest dwelling.

5.3.2 Landscaping (including Swastika emblem)

The Issue

DENR sought inclusion of additional locally indigenous species. Some submissions noted that vegetation would not assist in screening tall structures. Many expressed concern regarding the Swastika emblem at the Chinese Memorial Gardens.

The Response

As previously detailed, an amended landscape Master Plan has been prepared (Appendix A) to include additional appropriate plantings. The proponent will continue to liaise with DENR as to availability of plants, seed propagation and plant surveys across the site.

With respect to the emblem identified in many submissions as a "Swastika" denoting the Chinese Memorial Gardens, this imagery (as presented on the plan) is merely the identification of nine Pagodas with pathways linking each. In actual fact, the "image" has been incorrectly drawn in the reverse – a mirror image of that shown on the plan is the correct linkage of the Pagodas by pathways. Nonetheless, acknowledging the sensitivities of some, the plans have been amended such that this emblem or symbol is not graphically represented in plan form (as shown in Appendix A).

It is agreed that landscaping will do little to screen the taller structures from many vantage points. However, depending upon the elevation of the viewing point (where it is lower than the ground on which a structure is placed) intervening trees can indeed contribute to screening.

5.3.3 Visual

The Issue

By far the most common issue raised in the submissions was the impact of the proposed buildings and structures on the existing landscape character, most notably with respect to the height (and to some degree "Statue" form) of the various built form elements. Some submissions note that a reduced height of the key Pagoda and Statue elements would be less visually intrusive. Legibility of drawings/plans in reproduced A4 format, and some discrepancies in shown and scaled measurements, were of concern.

The Response

It is accepted that the reproduction of photocopied plans and drawings at A4 size in the Development Report did not assist readers in gaining a clear understanding of some elements of the proposal. The specified building heights, as detailed in the text of the Development Report, remain however correct. So as to more clearly depict the built form appearance and its scale relative to the surrounding landscape, new plans have been prepared utilising more detailed site survey information. Further, although scale reduced copies of these plans are again appended to

this report, full size plans have also been provided (see A1 plans on display boards provided to The Department for Planning and Local Government [DPLG]).

The proponent has considered the prospect of reducing the height of the key (and tallest) elements, namely the Pagoda (proposed at 35m) and the female Buddha Statue (proposed at 18m). However, the overall form, placement, scale and function of all elements of the site are integral to achieving the appropriate spiritual and cultural objectives of the Temple and the Buddhist faith. The principles of Feng Shui not only establish the primary axis upon which all elements must be placed, but also influences the scale of these elements so as to create the appropriate spiritual relationship between them. It is these principles which have not only placed certain structures in certain locations relative to each other, but have resulted in the proposed height of the Pagoda and the Statue. The main and secondary shrine buildings also draw upon these principles, resulting in a harmonious relationship between each building element and the landscape within which it sits.

It is agreed that the principles of Feng Shui are not referenced in any planning guidelines as being factors bearing upon matters of usual planning assessment. The proposal, however, is in part "unusual" for this very reason and a reflection of the appropriateness of assessing it outside of the usual process. To ignore the fact that these principles are integral to the design of the proposal would render the development unable to achieve part of its primary intent. Whilst some aspects of these principles may provide for a degree of flexibility, the proposal as presented represents a built form and juxtaposition of elements in keeping with the harmonious relationships sought by the proponent.

There is no dispute with those who note the visibility of elements of the proposal from various locations. However, the scale of the proposal (relative to both height and overall building footprint) must also be viewed in the context of the scale of the subject land (comprising part of the landscape within which they sit) and the viewing distance from which various elements can be seen.

The key elements of the Pagoda, at 35m, to the north of the Temple and the female Buddha, at 18m, located between the Temple and the Main South Road junction with Cactus Canyon Road are referenced in numerous submissions as being of primary concern. Although both of these elements will be visible from sections of Main South Road, (as will the Temple from several vantage points), they are isolated elements within the landscape.

That they are visible on the "outskirts" of the urban area from Main South Road is agreed, noting that, in views from the carriageway, the structures are not backdropped by the hills but by the somewhat distant coastal waters.

From the urban areas of Sellicks Beach, the tallest element (the Pagoda) is relatively slender in form (albeit of some height) and is indeed backdropped by the imposing hills which remain a dominant visual element, albeit punctuated by this vertical element. The Pagoda is located over 500m away from the nearest residence in Sellicks Beach – it will be visible but, at this scale, not imposing. It is nonetheless agreed it will be a new element in the landscape.

The female Buddha Statue (at 18m) is situated over 700m from the nearest residence at Sellicks Beach and, in part, screened by the roofline and structure of the Temple proper located between the Statue and viewing point. At this distance, the form of the statue would not be discernible for the relatively limited glimpses which are achieved through the intervening buildings.

In this context, the visual impact of the built form is considered neither overly intrusive nor unsightly or unattractive. The Temple, and all its distinctive elements, "is what it is" – it would seem nonsensical to suggest that the key elements (in particular the Statue or the traditional architectural style) of Buddhism should seek to look different. Similarly, colours traditional to that form are "part and parcel" of the proposal as a whole. In any event, the primary "gold" colour is ochre in origin, with other details used as trim and for embellishments.

Having regard to the vast scale of the landscape and the relative size and height of all elements of the proposal, the visual impact of the development is considered acceptable.

5.3.4 Aboriginal Heritage

The Issue

The Aboriginal Affairs and Reconciliation Division (AARD) of the Department of the Premier and Cabinet notes the existence of several "entries" for Aboriginal Heritage sites in the broader locality. A submission on behalf of the Ramindjeri Heritage Association disputes the recognition given to the Kaurna people in the Aboriginal Heritage Study.

The Response

The "entries" noted by AARD are those identified by the Aboriginal Heritage Consultant in her assessment of Aboriginal Heritage on behalf of the proponent for the subject proposal. No aspect of the proposal will impact these sites – the proponent is agreeable to adapting a Risk Management Schedule for pre construction works and upon completion in consultation with the designated Kaurna representatives.

The comments of the Ramindjeri Heritage Association are noted. However, having regard to the decision of the Native Title Tribunal (24 March 2011) regarding the Native Title Claim registered by the Association, it is considered that consultation with Kaurna people (as has occurred) is appropriate.

5.3.5 Cultural and Religious Beliefs

The Issue

The appropriateness of allowing a specific religious group not common to the region to establish a substantial Temple is questioned in many submissions. It is also notable that many are not opposed to the Buddhists *per se* but to the scale of their "icons", the disproportionate representation of the development relative to size of the Buddhist community, and question the need for a Temple in a predominantly Christian society.

The Response

Whilst many submissions support the "multicultural" expression of the proposal and take no dispute with Buddhism as a belief and a way of life, any precept that this expression must be limited (in any respect) to reflect predominant beliefs fails to understand the holistic nature of the belief and the intentions of the project.

Buddhism does not preclude people of other beliefs or faiths, nor does it seek to impose its beliefs upon others. It embraces a way of life adopting principles of sustainability, self sufficiency and awareness which is of interest to a wider section of the community than the spiritual expression of the doctrine. Temples elsewhere in Australia and overseas are visited by Buddhist and non Buddhists alike for quiet contemplation, educational purposes and simple "human interest". As a "highly placed" Temple in the South East Asian Region, it will undoubtedly attract people with interest in Buddhism from not only Adelaide, but elsewhere in Australia and the wider region.

5.3.6 Land Use Compatibility

The Issue

The proximity of Private Mines (PM) was noted by The Department of Primary Industries and Resources of South Australia (PIRSA) and one operator. A significant portion of the land falls within PM 19 (a non operating mine), with the future southerly expansion of Sellicks Quarry noted (PM 237). This quarry is long established and entails activities including blasting, crushing, screening and truck movements over a 24hr period. Concern has also been expressed by the quarry operator that the Pagoda may afford views over the screening mound developed to minimise views of the quarry and the proposal may be subject to impacts as the mine extends closer to the land.

The Response

The proposal has been amended to delete any works or activities within the southern and central portion of the land. Activities are confined to the northern most section only and no longer touch upon, in any way, the area encapsulated within PM 19.

With respect to issues of impacts, PIRSA notes that the proposed location of the Temple activities proper sit in excess of 500m from the boundary of the two PM's and that the EPA buffer separation guidelines suggest an advisory (ie non mandatory) separation guideline of 500m. Notwithstanding that PM 237 is presently in excess of 1600m from the site (as estimated by PIRSA) and that PM 19 is at present a non operating mine, it is acknowledge that mineral resources are located in the vicinity of the Temple site and that, in due course, possible impacts associated with the future operation of these mines may occur, as they would upon (potentially) the existing residents on the site and residents in the Sellicks Beach area. Any views which may be achievable from the Pagoda towards the quarry is not considered to be of any concern.

5.4 Tourism

The Issue

Economic benefits of tourism are overstated. Some submissions noted that little "added value" will be received by the local community.

The Response

Tourism SA notes that the assertion in the Development Report that "..the benefits are largely related to the tourism industry.." and considers this may "overstate" the contribution of the proposal to tourism.

The quoted statement relates to consideration of Economic Impacts. The assertion is correct on the basis that no other economic effects of any note are put forward. To this end the economic benefits of the proposal are indeed largely related to tourism, although there will be a contribution made as a result of construction workforce, purchase of materials, landscaping supplies and the like. The likely tourism "draw" of the proposal is not disputed by TSA.

The report also identified that, whilst indirect effects in other segments of the economy might be expected, such were not quantified as they are largely difficult to define. Indirect effects clearly will, however, stem from any increased visitation to the state by interstate and overseas visitors drawn to the Temple, as is clearly foreseeable if it is to proceed in the fashion proposed.

6. Response to Submissions – Planning Policy and Framework

6.1 Planning Framework

The Issue

Many submissions noted that the proposal failed to comply with the Development Plan insofar as those provisions applicable to the Primary Industry Zone apply. It was noted in several submissions that the proposal had previously been refused consent.

The Response

The planning framework within which the proposal sits exists specifically to accommodate the assessment of proposals which, by their very type, nature, scale, complexity or importance are considered to constitute a Major Project. Typically, they are not reasonably contemplated by the policy expressed within the Development Plan or require more stringent assessment than otherwise provided for.

The Development Plan establishes a zoning system where land uses are generally directed to a particular zone such that, with each zone achieving its primary objective, the social, housing, employment, educational, religious/spiritual, recreational and shopping needs of a community are met. However, this planned allocation of uses cannot foresee all types of land uses or the specific requirements of others. It is not surprising, therefore, that the proposal steps outside many of the provisions of the subject zone. The Major Projects assessment process, however, considers a wider range of issues and engages fully with all authorities and bodies to assist in the assessment process.

The framework within which the proposed Temple is being assessed has regard to the relevant Development Plan and the relevant version of the Planning Strategy (which now incorporates the 30 Year Plan for Greater Adelaide). It also considers the relative impacts of the proposal from a social, economic and environmental perspective.

Contrary to the belief of many submission writers, the proposal was not refused consent in the past. A previous application was withdrawn by the proponent.

6.2 The Development Plan

The Issue

Numerous submissions note that the proposal is non-complying within the Primary Industry Zone and fails to meet various provisions relating to land use, building height, setbacks etc. Several submissions suggest the land (and the broader locality) should have been zoned Hills Face rather than Primary Industry.

The Response

Elements of the proposal are indeed identified as non-complying within the Primary Industry zone by virtue, in part, of the "exclusionary" list which specifies all development as non-complying other than those specifically envisaged within the zone. Notwithstanding the existing lawful use of the land as a residence for Buddhist nuns, it is not disputed that the nature of the proposal (aside from any reasonable expansion of the nuns residence, as is proposed) *per se* was not envisaged within the subject zone. This is not surprising given that "Places of Worship" are typically located in urban areas and a zone focused on primary production does not anticipate more than one dwelling. What is relevant in an assessment of the proposal having regard to the Development Plan is:

- does the proposal jeopardise the likely attainment of the overall objectives of the zone; and
- does the Development Plan direct the proposal to a more appropriate zone (and if so why should it not be located there).

Notwithstanding its failure to comply with the primary land use objectives of the zone, the loss of this relatively small portion of land to primary production and related activities is inconsequential in the context of all other such zoned land being available for primary production. Further, only portion of the subject land is now proposed to form part of the Temple site, with existing grazing (occurring under a share arrangement at the southern end of the site) intended to continue. Finally, that land area which is to be used for non-primary production purposes is not presently in primary production use, nor has it been since at least the mid 1990's when the existing residence, orchard and gardens were established.

In effect, the proposal has no impact upon existing primary production. Further, the proposal does satisfy numerous other zone and Council Wide provisions having regard to matters of environmental protection, vegetation, water conservation, wastewater treatment and the like. Notwithstanding references in the submissions, the subject land does not fall within the Hills Face Zone, there is in fact no Hills Face Zone within the District Council of Yankalilla Development Plan. The Hills Face Zone within the City of Onkaparinga Development Plan sits east of Main South Road incorporating the existing quarry operations, due east of the subject land.

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6.3 Precedence

The Issue

Many submissions believe the proposal will set a precedent for further urban development in the area and/or support the establishment of other religious facilities under the Major Projects process.

The Response

The declaration by the Minister recognises the unique nature of the proposal at hand and in no way could be construed as "opening the door" for any form of development (religious or otherwise) to occur in any location. The Major Projects process is simply another planning process which may be adopted depending upon the circumstances of any particular proposal. As to the prospect of encouraging further urban development, the Planning Strategy sets the overarching framework for future development (represented most recently in the 30 Year Plan for Greater Adelaide) and will form the basis for growth directions. The existence, or otherwise, of the proposal on the land will play no role in "redefining" urban areas or future patterns of development.

7. Conclusions

The information detailed herein and the supporting expert reports address the key matters highlighted in the submissions received from both the public and via agency referrals. The proposal has been modified in many respects to address, where able, concerns raised, to clarify elements of the proposal as needs and to satisfy the technical requirements of relevant agencies and authorities.

This Response Document does not seek to "argue the point" with respect to some of the submissions made, rather its purpose is to respond to concerns raised through the public consultation period and to as needs, provide further detail with respect to various elements of the proposal including its operations and impacts. It is noted that many submissions made were in support of the proposal and that many others should be better satisfied having regard to the findings of additional expert investigations.

Appendix A

Architectural Drawings/Plans Tectvs



tectvs



Р Ю

> PROPOSED NAN HAI PU TUO TEMPLE CACTUS CANYON ROAD SELLICKS HILL

Scanned b&w copy only (not original version)











S02 LOCATION PLAN -

PROPOSED NAN HAI PU TUO TEMPLE IN SOUTH AUSTRALIA



PERROTT









ACCESS PATH TO CHINESE MEMORIAL GARDEN



PROPOSED NAN HAI PU TUO TEMPLE IN SOUTH AUSTRALIA

D TO ADELAIDE









PROPOSED NAN HAI PU TUO TEMPLE IN SOUTH AUSTRALIA

PERROTT LYON MATHIESON





PERROTTLYON MATHIESON



PROPOSED NAN HAI PU TUO TEMPLE IN SOUTH AUSTRALIA

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JULY 2011





PROPOSED NAN HAI PU TUO TEMPLE IN SOUTH AUSTRALIA



PERROTT LYON MATHIESON









DRUM TOWER FRONT SHRINE



STATUE

SIDE SHRINE



REAR SHRINE

WALKWAY

PAGODA

PROPOSED NAN HAI PU TUO TEMPLE IN SOUTH AUSTRALIA





BELL TOWER FRONT SHRINE



STATUE

MAIN SHRINE

SIDE SHRINE



PROPOSED NAN HAI PU TUO TEMPLE IN SOUTH AUSTRALIA



REAR SHRINE

WALKWAY

PAGODA

JULY 2011







Planting Module (typical) Each module measures $10m \times 10m = 100$ sqm

T Indigenous Tree*: 3 per module **S** Indigenous Shrub*: 8 per module

*All tubestock seedlings propagated from

SCHEDULE OF SPECIES (Dwg 2596/I)

Vegetation association S17 & Peppermint Box Woodlands **Vegetation survey:** definitive species selection should be informed by a site specific inventory of species identified as growing within the site.

Plant supply: locally grown tubestock from seed of local provenance; planted in modules as per detail this sheet.** Selections should seek to replicate local plant associations and to create a natural self sustaining ecosystem.

		Approx m	ature
Key	BOTANICAL NAME (Common Name)	Ht	Spr Qty
Can	νασ		
ТΙ	ACACIA PYCNANTHA Golden Wattle	3-6	4+
Т2	ALLOCASUARINA VERTICILLATA Drooping Sheoak	4-15	4+
Т3	CALLITRIS GRACILIS Southern Cypress Pine	4-8	6+
Τ4	EUCALYPTUS POROSA Mallee Box	8-10	8+
	SUPPLY: tubestock, local provenance		approx 675
Shru	ıb laver		
SI	ACACIA ACINACEA Wreath Wattle	1-4	3+
S2	ACACIA CUPULARIS Cup Wattle	2	2
S3	ADRIANA QUADRIPARTITA Coast Bitter-Bush	0.5-2	2
S4	NITARIA BILLARDIEREI Nitre Bush	0.6-2	3+
	SUPPLY: tubestock, local provenance		approx 1,800
Grou	ınd laver		
Au	AUSTRODANTHONIA CAESPITOSA Common Wallaby-Grass	0.1-1	0.8
At	ATRIPLEX SEMIBACCATA Berry Saltbush	0.3	+
Be	BEYERIA LESCHENAULTII Pale Turpentine Bush	0.5	Ι
Di	DIANELLA REVOLUTA v REVOLUTA Black-anther Flax-Lily	0.1-0.5	0.6+
Dc	DISPHYMA CRASSIFOLIUM ssp clavellatum Round-leaf Pigface	0.1	0.5
Ро	POA POIFORMIS Coast Tussock-Grass	0.2-0.9	0.7+
Th	THEMEDA TRIANDRA Kangaroo Grass	0.2-1.5	0.7+
	SUPPLY: tubestock, local provenance		approx 7,650

* Urban Biodiversity Unit, S.A. Dept of Environment & Natural Resources ** Total area = 22,500m² (2.25 Ha)

Land Management Note (2596/1)

Objectives: to manage the property to prevent further land degradation and to encourage a sustainable coastal environment

This Stage I Property Plan includes the following landcare implementation measures:

- Exclusion of grazing stock.

- **Regeneration** of native flora including grasses; emergent seedlings to be staked and protected.

- **New planting:** staged habitat plantations; approx 2.25 ha (~10,125 locally indigenous coastal tubestock).

- Weed & pest fauna control in consultation with D.E.N.R.

- Fire prevention: 30 m wide grass buffer along roadside; annual slashing; water retention ponds

Title

- **Erosion mitigation:** riparian plantations in gully heads; on-site water retention; earthworks appropriate for gully control; recycling of water for irrigation.

- Habitat: new plantations; property to be managed as a nature reserve.

- Compliance with all land management legislation.

LEGEND

— - — - — **Title boundary** (surveyed location) Stock-proof fence: post & 7 strand wire

Existing tree to remain

Existing tree to be removed

Proposed road

Proposed pedestrian path

New habitat plantation: exposed cliff tops Indigenous front-line coastal species as per schedule

New non-indigenous trees Traditional Chinese & ornamental garden species. Owner to ensure that each species is not, or does not, have the potential to become significant environmental weeds which may spread into the adjoining landscape.

Firebreak along road 30 metre width slashed grasses

Grass mowable

Stormwater retention pond Levee bank construction; overflow to nearest stream; water recycled for irrigation - to engineering detail.

Bio-retention Swale

Septic tank & effluent dispersal To engineering detail.

Landscape: Master Plan Project

Nan Hai Pu Tuo Temple Cactus Canyon Road Sellicks Beach South Australia

Client Nan Hai Pu Tuo Temple Inc. c/o Tectvs Pty Ltd 08 8410 5200

Date ||/08/|| **CAROL** Frank-MAS & associates ^{Scale} 1:1500 @ A1 Drawn H.A. Revision association with atthew.e.mcfall Landscape Architects 526 Hawthorn Road, Caulfield South Vic 3162 Dwg.No. T: 03 9596 2817 2596/1 E: cfm@bigpond.net.au



JULY 2011

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PROPOSED NAN HAI PU TUO TEMPLE IN SOUTH AUSTRALIA























PROPOSED NAN HAI PU TUO TEMPLE IN SOUTH AUSTRALIA

PREPARED BY CALDER HARRIS SURVEYORS PTY. LTD. A.C.N: 007 803 269 SUITE 3/95 KING WILLIAM ROAD UNLEY 5061 Ph. 272-1822 Fox 272-5007 Acc N440 Dkt MYPONGA 14 16-9-96

THE NAN HAI PU TUO TEMPLE OF AUSTRALIA INC. ALLOTMENT 9 IN FILED PLAN 14578 HUNDRED OF MYPONGA SITE DETAIL





JULY 2011
Appendix B

Summary of Submissions Various

Submis-	From	In Favour /		Response
sion No.		Against	Issues	
1	Inara Gehling	Opposed	Responsibility to improve and maintain roads;	5.2
			Precedent for the height and 'non-coastal' nature;	6.3
			Further information required regarding the frequency and volume of bell soundings;	5.3.1
			Need for confirmation of effluent disposal system;	5.1.1
			• Height;	5.3.3
			Question the actual location of Buddha;	-
			Possible deceptive image of indicative Pagoda;	-
			Colour - Inappropriate to Australian landscape;	5.3.3
			Local spiritual connection to landscape disregarded.	-
3	Ben Crowe	Opposed	Scale and 'unnatural' appearance;	5.3.3
			Inappropriate location;	5.3.3, 5.2.1
			Negative impact on landscape character;	5.3.3
			Precedence for religious groups.	6.3
4	Joseph Stephen	Opposed	Character of area - Height;	5.3.3
			Culture of Adelaide - Religious precedent.	5.3.5, 6.3
5	Hamilton McNicol	Opposed	Questions it's compliance with the Development Plan;	6.2
			Religious precedent;	5.3.5, 6.3
			Building style out of character;	5.3.3
6	Sylvia Ling	Opposed	Size not in accordance with requirements/Development Plan;	6.1
			Character;	5.3.3
			Religious precedent.	5.3.5, 6.3
7	Kerryn Lloyd	Opposed	Religious grounds.	-
8	Diana Grave	Opposed	Religious precedent.	5.3.5, 6.3
10	Moyra Dinsmor	Opposed	Religious grounds;	-
			Religious precedent;	5.3.5, 6.3
11	June Marks	Opposed	Character of area;	5.3.3
			Height and scale of elements.	5.3.3

12	Paul Davies	Opposed	Religious grounds;	-
			Character - Scale;	5.3.3
			Religious precedent.	6.3
13	Mr & Mrs Wuttke	Opposed	Visual impact – Height and colour;	5.3.3
			• Noise;	5.3.1
			Wastewater management;	5.1.1
			Aboriginal/ spiritual significance of location;	5.3.4
			Possible decline in property values;	-
			Traffic issues on Main South Road - Right turn possibly provoking a reduction of speed	
			limit/inconvenience to other users.	5.2.1
16	Rachel Underwood	Opposed	Doesn't meet planning guidelines/Development Plan;	6.2
			Height;	
			Out of character with area;	5.3.3
			Religious precedent.	6.3
17	Sandra Buckler	Opposed	Impact on natural landscape;	5.3.3
			Religious precedence.	6.3
20	Bob & Wendy Butcher	Opposed	Impact on natural landscape (height);	5.3.3
			Religious grounds;	-
			Noise from bells.	5.3.1
23	John Casey	Opposed with	Visual distraction to drivers - Limit height to 18m;	5.3.3, 5.2.1
		some possibility	Wastewater management.	5.1.1
		of compromise		
24	Thia Elliott	Opposed	Visual impact - Height should be limited to 2 storeys;	5.3.3
			• Traffic increase - safety risk from increased number of vehicles turning onto and off of main roads;	5.2.1
			Wastewater management.	5.1.1

25	Aileen Coates & John Coates	Opposed	Scale of retirement village;	6.1
			 Impact on landscape character - effect tourism; 	5.3.3
			Height - Distance that views will span;	5.3.3
			Aboriginal heritage;	5.3.4
			Wastewater treatment;	5.1.1
			Traffic increases;	5.2.1
			Inappropriate use of the swastika;	5.3.2
			Inconsistencies in the Development Report.	3
27	Ms Terry Haighton	Opposed	Religious grounds;	-
			Not needed - doesn't suit Australian population;	-
			Will cause traffic problems.	5.2.1, 5.2.2
30	Gareth Meeks	Opposed	Visual impact, will dominate landscape;	5.3.3
			Unnecessary;	-
			Religious precedent.	6.3
31	Unknown	Opposed	Religious grounds.	-
32	Dr Andrew Lothian	Opposed	 Visual impact on landscape - buildings and planting belts; 	5.3.3
			Height and Scale;	5.3.3
			Distance of view;	5.3.3
			The area should be included within the Hills Face Zone.	6.2
33	Carole & Ron Bradford	Opposed	Visual impact - landscape character.	5.3.3
34	Raya Bocian	Opposed	• Character;	5.3.3
			Religious precedent;	6.3
			Adverse visual effect	5.3.3
			Religious grounds - Unnecessary development in Adelaide.	-
35	Alison Ridley	Opposed	Building height and scale - Distance of views;	5.3.3
			Natural landscape;	5.3.3
			Religious precedent.	6.3
36	Graham Redman	Opposed	• Height;	5.3.3
			Impact on landscape character;	5.3.3
			Impact on views.	5.3.3

			Religious grounds - Not necessary in Adelaide;	-
			Precedent - Size;	6.3
			Area should be included within the Hills Face Zone.	6.2
37	Alison Woskett	Opposed	Visual impact on coastline;	5.3.3
			Size precedent;	6.3
			Area should be included within the Hills Face Zone.	6.2
38	Fiona Spurling	Opposed	Unsightly development backdropped by beautiful hills;	5.3.3
			Visual impact on views.	5.3.3
39	Gayle Foster	Opposed	Height - Should be maintained below 9m;	5.3.3
			Not compatible use - Primary Industry Zone; Zoning is inappropriate for this use;	6.1
			Noise;	5.3.1
			Visual impact on the landscape character;	5.3.3
			Colours inappropriate;	5.3.3
			Scale of development;	5.3.3
			Impact of traffic upon amenity;	5.3.1
			No increased traffic or changes to road network;	5.2.1
			Swastika symbol use;	5.3.2
			Visual perspectives are misleading;	5.3.3
			Require correct information - disproportionate images;	5.3.3
			Unacceptable visual impact on coastal environment;	5.3.3
			Tree screens unlikely to grow to suggested height;	5.3.3
			Existing building should be sufficient;	-
			Unknown effect on property values;	-
			Support the cause, but not the development as proposed;	-
			Inconsistencies in Development Report.	3
41	Joan Eisemann	Opposed	Symbol of obesity;	-
			Excessive building scale;	5.3.3
			Adverse effect on landscape character.	5.3.3
42	Stephani Burrell	Opposed	Non compliance with Development Plan;	6.2
			Excessive building height;	5.3.3
			Adverse effect on the landscape character.	5.3.3

43	Hans Ossa	Opposed	Zoning is incorrect for this use;	6.1
			Excessive building height an scale;	5.3.3
			Adverse visual effect on the landscape character;	5.3.3
			The colours are inappropriate;	5.3.3
			Wastewater treatment;	5.1.1
			Adverse traffic issues, particularly the access to South Road;	5.2.1
			Adverse acoustic issues;	5.3.1
45	Roy & Raelene Stratford	Opposed	Visual perspectives understate the potential impact;	5.3.3.
			Minimise scale to ensure it/their land doesn't become a 'look out';	5.3.3
			wastewater management;	5.1.1
			concerned that illegal beach access may ensue	-
			unsafe traffic access;	5.2.1
			Land management plan should be prepared addressing effluent disposal.	5.1.1
46	Maria Jusufi	Opposed	Inappropriate zoning;	6.1
			Excessive building height and scale;	5.3.3
			Adverse effect on landscape character;	5.3.3
			Inappropriate colour scheme;	5.3.3
			Wastewater treatment;	5.1.1
			Traffic management issues, including access arrangements;	5.1.1
			Adverse acoustic effects	5.3.1
47	D & J Klose	Opposed	Adverse effect on landscape character;	5.3.3
			Set a religious precedent	6.3
			Excessive bulk and scale;	5.3.3
			Need to preserve the current landscape;	5.3.3
			Adverse acoustic effects;	5.3.1
			Potential for addition erosion from uncaptured stormwater;	5.1.2
			Wastewater Treatment;	5.1.1
			Adverse visual impact;	53.3
			Potential for driver distraction;	5.2.1
			Vehicle access to the site;	5.2.1
			Swastika symbol inappropriate	5.3.2

48	Bryan & Lorraine Dunn	Opposed	Excessive bulk and scale	5.3.3
			Non complying in the Primary Industry Zone;	6.1
			Inappropriate colour scheme;	5.3.3
			Adverse visual effect on the landscape character;	5.3.3
			Wastewater treatment;	5.1.1
			Stormwater management;	5.1.2
			Acoustic effects;	5.3.1
			Traffic implications South Road, including the access	5.2.1
49	S Prance	Opposed	Adverse effect on landscape character	5.3.3
			 Excessive bulk and height of the buildings; 	5.3.3
			Wastewater treatment;	5.1.1
			Level of external audible noise level;	5.3.1
			Inappropriate colour scheme;	5.3.3
			Adverse effects from traffic generation;	5.2.1
			Concerns of the Ramindjeri people;	5.3.4
			Non compliance with Development Plan;	6.2
			Removal of the steps down to Cactus Canyon.	-
50	Heather Chambers	Opposed	Excessive building height;	5.3.3
			Adverse effect on landscape character;	5.3.3
			Adverse visual impact;	5.3.3
			Precedent for other religions;	6.3
			Area should be included within the Hills Face Zone for protection.	6.2
51	Evelyn Pheh	Opposed	Excessive building height;	5.3.3
			Adverse effect on landscape character;	5.3.3
			Adverse visual impact;	5.3.3
			Precedent for other religions;	6.3
			Area should be included within the Hills Face Zone for protection.	6.2
52	V.J. Andrews	Opposed	Excessive building height;	5.3.3
			Adverse effect on landscape character;	5.3.3
			Adverse visual impact;	5.3.3
			Precedent for other religions;	6.3
			Area should be included within the Hills Face Zone for protection.	6.2

53	Bruce Smith	Opposed	Inconsistencies in Development Report:	3
			Swastika symbol inappropriate:	5.3.2
			 Excessive building height of pagoda and statue: 	5.3.3
			Wastewater treatment:	5.1.1
			Acoustic effects:	
			 Location of Memorial Garden and accommodation must change. 	
54	Rosie Knott	Opposed	Inconsistencies in the Development Report;	3
			Non complying within the Primary Industry Zone;	6.1
			Does not conform with the Plan for Greater Adelaide;	6.1
			Precedent for inappropriate land use;	6.3
			 Bulk, scale and height of the development; 	5.3.3
			Inappropriate colour scheme;	5.3.3
			Adverse effect on the landscape character;	5.3.3
			 Vegetation will not screen the tall buildings adequately; 	5.3.3
			Outside the urban growth boundary;	6.1
			 Retirement village component at odds with zoning; 	6.1
			Wastewater treatment;	5.1.1
			Local soil configuration is fragile;	5.1.2
			Road safety concerns;	5.2.1
			 Economic and social benefits have been exaggerated; 	5.4
			 Back door approach to establishing a temple has commenced; 	6.1
			Religious institutions should not be given special status	-
			Question the economic benefit;	5.4
			Question the social benefit;	5.3.5
			 Counselling services incompatible with a tourist destination; 	-
			Inaccurate visitor rates and traffic data;	5.2
			Distraction to vehicles on South Road;	5.2.1
			Statue should be concealed within built form;	5.3.3
			Site coverage percentages are questioned;	-
			Need to show tank locations on the plan;	-
			Need to provide water balance detail;	5.1.2

58Simon LawryOpposedVisual and contextual inappropriateness; • Road safety, specifically road access; • Acoustic insues rising from the bell chiming; • Incorrect assumptions on increase in local business trade;5.3.158ImposedOpposedVisual and contextual inappropriateness; • Acoustic insues rising from the bell chiming; • Acoustic insues rising from the bell chiming; • Incorrect assumptions on increase in local business trade;5.3.1
58Simon LawryOpposed• Visual and contextual inappropriateness; • Road safety, specifically road access; • Acoustic issues rising from the bell chiming; • Incorrect assumptions on increase in local business trade;5.3.358Simon LawryOpposed• Visual and contextual inappropriateness; • Acoustic issues rising from the bell chiming; • Incorrect assumptions on increase in local business trade;5.3.3
58Simon LawryOpposed• Visual and contextual inappropriateness; • Road safety, specifically road access; • Acoustic issues rising from the bell chiming; • Incorrect assumptions on increase in local business trade;5.2.358Simon LawryOpposed• Visual and contextual inappropriateness; • Acoustic issues rising from the bell chiming; • Incorrect assumptions on increase in local business trade;5.2.1
58Simon LawryOpposed· Visual and contextual inappropriateness; · Road safety, specifically road access; · Acoustic issues rising from the bell chiming; · · ·
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58 Simon Lawry Opposed • Visual and contextual inappropriateness; 5.3.3 • Road safety, specifically road access; • Acoustic issues rising from the bell chiming; 5.3.1 • Incorrect assumptions on increase in local business trade; -
58 Simon Lawry Opposed • Visual and contextual inappropriateness; 5.3.3 • Road safety, specifically road access; • Road safety, specifically road access; 5.2.1 • Acoustic issues rising from the bell chiming; • Acoustic issues rising from the bell chiming; 5.3.1 • Incorrect assumptions on increase in local business trade; •
 Road safety, specifically road access; Acoustic issues rising from the bell chiming; Incorrect assumptions on increase in local business trade;
Acoustic issues rising from the bell chiming; Incorrect assumptions on increase in local business trade; -
Incorrect assumptions on increase in local business trade;
• Decline in property values in Sellicks Beach;
Precedent for development on coast. 6.3
59 Ruth Trigg Opposed • The Buddha statue and the pagoda are visually obtrusive; 5.3.3
Reduce the landscape value of the area as a result of the scale of these elements; 5.3.3
60 Ramindjeri Heritage Association Opposed • The land is identified as Kaurna land, however should be Ramindjeri; 5.3.4
The Development Report omits any reference to the Ramindjeri cultural 5.3.4
connection to the land; 5.3.4
The Ramindjeri people should have been consulted; 5.3.4
There should be no disturbance to the archaeological campsites; 5.3.4
The site is pivotal to the Tjirbuke Story and Sacred Landforms 5.3.4
61 Adrian McMahon Opposed • Proposal previously rejected by local government; 6.1
Non compliance with Development Plan; 6.2
Building height out of character with the area; 5.3.3
Adverse effect on landscape character; 5.3.3
Development precedent; 6.3
Not qualified to offer counselling services;
Inaccurate visitor numbers; 5.2
Traffic issues, including access; 5.2.1

62	Warwick Moyse	Opposed	Non complying development in Rural Zone;	6.1
			 The project is incongruous with the Fleurieu's tourist theme; 	-
			Detracts from the coastal scenery;	5.3.3
			Sellicks Beach does not contain the infrastructure to service the expected influx of tourists	-
			Tourist justification lacks rigour;	5.4
			 The community services proposed will inhibit professional services; 	-
			 Feng Shui is not a valid planning concern; 	-
			Retirement village is inappropriate in this location;	6.1
			Negative effect on visual amenity;	5.3.3
			 Inappropriate location to serve the religious intent; 	6.2
			 Such excessive infrastructure is a waste of resources; 	-
			 Shortcomings in Aboriginal Culture assessment; 	5.3.4
			Development precedent;	6.3
			Does not fit the criteria for 'Major Project'	6.1
63	Botten Levinson C/U Mrs Meegan	Opposed	Adverse effect on scenic amenity and landscape character;	5.3.3
	Osti,		At variance with the Development Plan provisions	6.2
			 Land use at serious variance (non complying) with Primary Industry Zone provisions 	6.1
			 Significant and detrimental visual impact (at odds with relevant DP provisions) 	6.1
			Inappropriate siting of the memorial gardens	-
			 Significant visual impact from client's land (and views) 	5.3.3
			Interfere with the coastal landscape	5.3.3
			Misrepresentation of proposed structures in plans	-
			Extent of visitation will be detrimental to clients use of the land	5.2.3
			Primary Industry Zone does not anticipate tourism development	6.1
			Inadequate provision of car parking	5.2.4
			Require further clarity on car parking design	5.2.4
			Insufficient car parking at memorial gardens	4
			 Problematic access (safety) arrangements Potential for bushfire risk 	5.1.6
			Wastewater disposal	5.1.1
			Lack of detail with respect to road works	5.2
			Lack of traffic report	5.2
			Client would be happy if memorial garden is relocated, traffic engineering advice is adopted,	
			bushfire safety report, wastewater management strategy	-

65	Unknown	Opposed	Seriously at variance with the guiding principles and objectives of the Development Plan	6.1
			Numerous structures are too tall	-
			Excessive number of dwellings	-
			Colours and materials are inappropriate	5.3.3
			Adverse impact on visual amenity	5.3.3
			Contrary to Coastal Zone provisions:	6.1
			Imposing built form providing adverse over looking	-
			Inadequate information relating to traffic and access	52
			Disregard for governing principles of the Development Plan	6.2
				0.2
			· (lack of understanding) is offensive	-
			Operational well is montioned, what is the datail associated with this?	-
			Operational well is mentioned, what is the detail associated with this?	-
				5.3.0, 5.3.3
66	Giles Walkley & Carol Shiels –	Opposed	Non compliant with respect to scale, character and materials in what is essentially a Hills Face	6.2
			Zone	5.3.3
			Adverse impact on the landscape character	-
			Development for developments sake	-
			Not beneficial to residents	6.3
			Non complying development and will set a precedent along the coastline	
67	Kirsty Shearer	Opposed	Adverse visual impact	5.3.3
			Increased number of tourists will have a deleterious effect	-
			Adverse effect on landscape character	5.3.3
			Excessive height of structures	5.3.3
			Increased impact on road network	5.2.1
			Access to the site is unsafe	5.2.1
			No mention of emergency service access	5.2
			Non conformance with Development Plan provisions	6.2
			'lack of understanding' is offensive	-
69	Jim & Barbara Elgar	Opposed	Out of character for the area	5.3.3
			An affront to the judeo-christian society	-

70	Andrea Herman	Opposed	Adverse visual impact	5.3.3
			Colours and materials out of character	5.3.3
			Adverse impact on landscape character	5.3.3
			Major visual impact from the coast	5.3.3
			Overemphasis of tourism effects	5.4
			 Traffic impacts relating to South Rd and access to the site 	5.2.1
			South Road indicated incorrectly	-
			 At variance with the Development Plan and will form a precedent 	6.3
			 Legal and statutory implications not detailed with respect to counselling and mediation 	-
			 Many other ways to espouse the virtues of the Buddhist faith 	-
			Excessive height of built form structures	5.3.3
			 No consideration of legal implications relating to a retirement village 	-
			Swastika symbol inappropriate on Australian soil	5.3.2
			Wastewater treatment strategy	5.1.1
			Land management plan is of benefit	-
			Lack of traffic detail	5.2.1
			Cost of infrastructure upgrade	-
			Elevations are deceptive	5.3.3
71	Dr Arthur Karagiannis	Opposed	 Non complying development with respect to the Development Plan 	6.1
			 Development in conflict with the South Australian Tourism Plan 	5.4
			Lack of clarity with respect to community services	-
			Feng shui is not a valid planning concern Retirement village should not be allowed	-
			Adverse visual impact	5.3.3
			Who pays for the infrastructure upgrade	-
			What is the burden on freshwater catchment	5.1.2
			 Council rejected previous project, so why was it granted major project status? 	-
			No consideration of aboriginal heritage	5.3.4
76	Colleen and Ron Tiller	Opposed	Adverse visual impact	5.3.3
			Out of place in Australian landscape	5.3.3
			Colours not in harmony with the landscape;	5.3.3
			Tourist benefit not accurate	5.4
			 Precedent for other imposing structures in prominent landscapes 	6.3

77	Hugh D.Magarey	Opposed	 Excessive height of pagoda; Adverse effect on landscape character; Adverse visual impact on the coast; Create a precedent for similar structures in coastal locations; 	5.3.3 5.3.3 5.3.3 6.3
			Safety of South Road.	5.2.1
78	John Hunt & Marg Sandow –	Opposed	 The project is not a major project and should not have been defined as such; Increased traffic risk on South Road; At variance with provisions of the Development Plan; Subject land is not part of Sellicks Beach; Retirement village not anticipated in the Primary Industry Zone; Negative impact on tourism; Adverse visual impact; Excessive bulk and scale; Out of character with Sellicks Beach; Approval of this project will precede future urban expansion; Seriously at variance with the Development Plan. 	6.1 5.2.1 6.1 - - 5.4 5.3.3 5.3.3 5.3.3 6.3 6.1
79	Friends of Willunga Basin –	Opposed	 Subject land is beyond the urban boundary Creation of precedent for other tourism development along the coast Adverse visual impact Adverse effect on landscape character At variance with zoning requirements of Development Plan Not compatible with adjoining residential areas Create a major traffic hazard on South Road Infrastructure is inadequate for anticipated number of visitors Confused whether it is a religious destination or tourism destination Inaccurate and inconsistent Development Report Plans are inaccurate No knowledge of statutory responsibilities with respect to counselling and 'safe house' Questioned whether consultation was undertaken with Dept of Education and the Police Temple would be an asset to the State, just not in this location Maximum number of people to be accommodated on site ('special focus Buddhist camps') Feng shui is not a valid planning argument Acoustic report required 	6.1 6.3 5/3/3 5.3.3 6.1 - 5.2.1 - - 3 4 - - 5.3.3 5.3.3 5.3.1

				222
			• Vegetation history inaccurate	3.2.2
			Require wastewater treatment plant	5.1.1
			No water should be discharged to Cactus Canyon Creek	5.1.2
			Lacking detail with respect to sustainability overview (overall tank storage)	5.1.2
			Misleading visual impact photos	-
			Reduce the height of the Pagoda	-
			Increase in greenhouse gas emissions as a result	-
			Car park would be an ugly scar on the landscape	5.3.3
			Will the temple pay Government rates?	-
			• Basing the visitation rates on the Wollongong temple is incorrect due to the higher portion of Asian	
			residents in the Greater Sydney area.	-
			No consultation with the Ramindjeri people	5.3.4
			Cultural heritage report is outdated	5.3.4
80	Shane and Jillian Ritchie	Opposed	Adverse visual impact	533
		oppood	Building height is excessive	533
			Swastika symbol inappropriate	532
			Should protect the Hills Face Zone	6.2
			Should not be teaching students about Buddhism in a Christian society	0.2
			No understanding of legal implications to undertaken counselling and domestic violence refuge	
			Insufficient public consultation	
				-
				-
81	Geoff Doecke	Opposed	Adverse visual impact	5.3.3
			Sets a precedent for destroying attractive coastal land	6.3
			Overstated economic benefits	-
			No cultural connection to the land	-
82	Bev Blackett	Opposed	Excessive scale of development	5.3.3
			Adverse effect on landscape character	5.3.3
83	Kandali Lawton	Opposed	• Adverse effect of scenic beauty of the nills face	5.3.3
			Inviore appropriate away from urban development	-
			I he scale is disproportionate to the religious diversity in the area	-
			Positioning of the Buddha is 'claiming' the area for Buddhism	-
84	Murray Young	Opposed	Non complying development	6.1

			Incongruent with Aust Tourism themes	5.4
			Will set precedent	6.3
			Retirement village should be in residential zone	6.1
			Aboriginal culture not fully addressed	5.3.4
			Not part of the wider community.	-
86	Brett Brown, Southern Quarries	Opposed	Incompatible with Quarry use	5.3.6
			Pagoda will provide a viewing platform in the quarry operation	-
87	Ashlee Palmer	Opposed	Additional community consultation required	-
88	Nancy McWaters	Opposed	Loss of natural beauty	5.3.3
			Adverse impact on landscape character	5.3.3
			Adverse visual impact	5.3.3
			Sellicks Hill should be declared as natural heritage	-
			Offensive to refer to the community as low income and ageing thereby not able to accept change	-
			Government's environmental objectives should be respected, as should be the wishes of the	-
			community	5.3.4
			Does not respect Aboriginal Heritage.	
89	Patricia Kelly & Ian Lowe	Opposed	Not contributing to local harmony	-
			Adverse effect on landscape character	5.3.3
			Excessive building height	5.3.3
			Adverse visual impact	5.3.3
			At variance with land use provisions of the zone	6.1
			Retirement village will form another suburb	-
			Set a precedent for similar buildings in a coastal location	6.3
			Should be declared a heritage site	-
			Development by stealth	6.3
			The development does not respect Australian values	-
			The end of cheap fuel will make tourism and travel more difficult	-
			Swastika is an inappropriate symbol for the Chinese Memorial Garden site	5.3.2
			Does not respect Aboriginal Heritage.	5.3.4

90	Wendy Newman	Opposed	 Adverse impact on landscape character Region is not socially or culturally identified with Buddhism Scale of the proposal is a statement of dominance and superiority Adverse visual impact An alternate location would not cause such social discord Reduce the development in scale to a domestic level 	5.3.3 - 5.3.3 5.3.3 - 5.3.3
2	Richard Cook	In Favour	Multi-cultural community will benefit.	
9	Margaret Coole	In Favour	 Cultural benefit; Aesthetic benefits. 	
14	Emma Sanders	In Favour	Positive influence on community.	
15	Angela Petagna	In Favour	Positive influence on community.	
18	Patricia Miles	In Favour	Positive influence on community;Will not be visually intrusive	
19	Lindy Warrell	In Favour	 Proposal is visionary Positive influence on the community; Tourism and Business benefits; Request for services to be offered in English to accommodate broader community. 	
21	Say Kean & Ah Chot Yong	In Favour	Need for temple;Will attract many people.	
22	SJ Wong via email:	In Favour	Improve the area	
26	Trudy Madeley	In Favour	Positive influence on community;No visual adverse impact.	
28	Marion Papworth	In Favour		
29	Mairi White	In Favour	Need for temple.	
31	Beady Kunz	In Favour	Positive influence on the community;Education benefits.	

40	Vince Baker	In Favour	 Social and economic benefits; Increased tourist activity; Will become part of he community. 	
44	Jonathon Breach	In Favour	 Appropriate scale; Harmonious design sensitive to the natural landscape; very familiar with temple at Woolongong; No traffic issue; Cultural benefit; Cultural and heritage landmark. 	
55	Chris Raff	In Favour	Improved social inclusion;Enhance the local environment	
56	So-Wan Li	In Favour	Positive for the SA public;Increased tourism	
57	Helen and Mark Hirsch	In Favour	Increased tourism	
68	South Australian Hang Gliding Association Inc C/U	In Favour	 Tourism benefits Can continue their operations 	
72	Kim Tan	In Favour	 Boost to the construction industry Enhanced tourist effect Positive impacts on the SA economy 	
73	Dr Chin Hian Chang	In Favour	Enhance SA's multicultural society	
75	Julie Li	In Favour	 Petition signed by 23 signatories supporting the proposal Provides benefit to the Buddhist community and Australia overall Enhance multiculturalism Promote education with respect to the Buddhist faith Enhance tourism 	

96	SA Tourism	In Favour	 The DR may overstate the likely tourism value Visitors likely to be day visitors, no provision for overnight accommodation in the development The likely number of asian day trippers has been double counted, the remaining figures are correct 	
105	Confidential	In Favour	Will enhance the district.	
64	Claudio and Deborah Galloni –	In favour with some comments	 Land use supported Excessive bulk, scale and height Not in accordance with relevant visual impact provisions of the Development Plan Misleading images of the impact Adverse effect on landscape character The building height is seriously at variance with the Development Plan guide (9.0m) Adverse impact on road network due to increased visitation Loss of viable primary production land Precedent for other hostels or large scale apartment buildings Akin to placing a ferris wheel on Uluru "preposterous" 	
85	Jeff Tate, CEO Onkaparinga	In favour with some concerns	 Akin to placing a terms wheel on Oluru "preposterous" Visual impact on Onkaparinga Coastline Scale and bulk acceptable when viewed from Onkaparinga Council There may be significant tourism benefits Traffic access safety concerns Non reflective materials should be used in construction to minimise sun glare 	- 5.3.3 - 5.4 5.2.1 5.3.3
14	Michael Pengilly	In favour with some concerns	 Height of Pagoda must be reduced by at least half; Statue to be relocated to reduce visibility; Can the number of buildings around the Temple be reduced; Noise from bells must meet EPA requirements; Wastewater requirements must be met; South Road access must meet DTEI requirements with costs borne by proponent; Use more natural building colours. 	5.3.3 5.3.3 5.3.3 5.3.1 5.1.1 5.2.1 5.3.3
15	A & C Mangos	In favour with some concerns	 Bells not to b heard at residence (conditioned if appropriate); proposal not visually intrusive; Traffic management on South Road to be fully addressed. 	5.2.1 - 5.2.1

99	Department of Transport, Energy and Infrastructure	In favour with comments and require-ments for further info	 Agrees to the concept in principle Do not support the proposed access arrangements Insufficient traffic analysis with respect to South Road Traffic analysis and concept junction design is to be undertaken by a suitably qualified traffic engineer and road safety auditor The car parking rates should be derived from a source, and be reviewed accordingly 	
102	102 EPA In support with • Note changes to terminology and treatment of pests; (1) Dept of Environment & Natural advices • Wastewater disposal to be considered; Resources • Use of native species supported and additional species identified; • Future vegetation survey suggested; • Long term management plan suggested. • Long term management plan suggested.		5.3.2 5.1.1 5.3.2 5.3.2 5.3.2	
	EPA (2) Dept for Water	Advisory	 Requires appropriate wastewater treatment system; Consideration of WSUD principles. 	5.1.1 5.1.2
	(3) EPA	Advisory	 Wastewater system to incorporate on-site reuse/irrigation; Investigate WWTP; Identify targets for stormwater quality and flow; Identify pre and post off-site flows (ARI); EMP to be endorsed prior to construction; No acoustic assessment considered necessary; Review possibility of site contamination. 	5.1.1 5.1.1 5.1.2 5.1.2 - 5.2.1 5.1.3
	(4) Zero Waste	Advisory	Waste strategy targets identified.	-
74	Corinne Garrett, Acting Chief Executive, District Council of Yankalilla	In Favour	 A minimum 160 car parking spaces and four bus parks Waste control systems to meet the relevant standards of the Dept of Health All traffic elements to accord with DTEI requirements Upgrade to infrastructure being borne by the applicant External colours of the buildings and structures should complement the surrounding landscape Landscaping to be indigenous to the area 	5.2 5.1.1 5.2.1 - 5.3.3 5.3.2
91	Dept for Families and Communities	No Comment		
92	Department of Premier and	No Comment		

	Cabinet			
93	SA Health	Advisory	 A formal approval for a wastewater treatment plant must be obtained prior to installation Onsite wastewater treatment system should be suitable to accommodate all permanent and transient residents and visitors An onsite wastewater management system approval should be obtained by the applicant prior to issuing development approval Any recycled water system for non-potable use within the development shall be designed and installed in accordance with the Australian Guidelines for Recycling Water 	
94	Dept of Further Education Employment Science and Technology	No Comment		
95	SA Water	Further Info Required	 There is no registered ROW over the private access road The proposed development should not include the existing private access road for vehicular, bicycle or pedestrian access An application for a second connection to water infrastructure requires approval, and it may not be granted consent SA Water would like to review the internal road design prior to issuing further comment Clarify movement patterns to the south of the site 	
97	Dept of Education &Children's Services	No Comment		
101	Aboriginal Affairs & Reconciliation Division (Dept of the Premier & Cabinet)	Advisory	 Confirm Native title; Map of known AARD sites provided 	5.3.5 5.3.5

Appendix C

Acoustic Assessment Sonus

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Nan Hai Pu Tuo Temple Cactus Canyon Road, Sellicks Beach

Environmental Noise Assessment

S3608C3 July 2011



INTRODUCTION

An environmental noise assessment has been made of the noise from the proposed Nan Hai Pu Tuo Temple, Cactus Canyon Road, Sellicks Beach. The proposal has "Major Development" status and comprises a temple or shrine complex, a pagoda, retreats and a Chinese Memorial Garden.

The assessment considers the noise from the development at the closest dwellings to the main shrine complex, and the Chinese Memorial Garden. The noise sources associated with the development comprise bells and drums used within the temple complex and car movements on private roads and within the car parks on the site.

The assessment has been based on:

- the proposed site layout and the information provided in the Development Report "978-0-7590-0198-5", dated September 2010;
- a site inspection and noise level measurements of bells and drums used within the existing Temple, conducted on the 11th of March, 2011;
- noise measurements of the existing ambient noise levels at site, conducted on the 11th of March, 2011;
- noise measurements of car movements on the existing gravel road at the site, conducted on the 11th of March, 2011; and,
- the understanding that:
 - the bells and drums will be located at ground floor within the designated bell and drum towers which have no openings (i.e., no untreated vents, all external doors or windows closed) when in use;
 - \circ the bells and/or drums may be used prior to 7am, as is currently the case; and,
 - the public car movements on site will generally only occur during the daytime¹ period;
 - the anticipated opening hours of the Temple and the Chinese Memorial Garden is between 9am and 5pm, everyday.

The proposed Temple and the closest dwelling to the northeast are both located in a rural setting with the acoustic environment generally dominated by noise from road traffic on Main South Road.

¹ The *Environment Protection (Noise) Policy 2007* which is used in this assessment defines the daytime period as the hours between 7am and 10pm.



CRITERIA

Development Plan

It is noted that the proposal has "Major Development" status. The Development Plan has been used to provide the noise related requirements for the proposal.

The proposed development and the closest dwelling are both located within a Primary Industry Zone of the District Council (DC) of Yankalilla Development Plan, while the dwellings within the Sellicks Beach residential area are located within a Residential Zone of the City of Onkaparinga Development Plan. The DC of Yankalilla Development Plan includes the following provisions which are relevant to the assessment:

Council Wide Principles of Development Control include:

12. Development should not detrimentally affect the amenity of its locality or cause nuisance to the community:(a) by the emission of noise

Primary Industry Zone Objectives include:

Objective 13: Prevention or minimisation of adverse impacts resulting from noise.

Primary Industry Zone Principles of Development Control include:

27. Development should take all reasonable and practicable noise reduction steps to prevent or minimise adverse impacts resulting from noise.

Environment Protection (Noise) Policy 2007

In the absence of objective criteria in the Development Plan, reference is made to the *Environment Protection (Noise) Policy 2007* (the Policy) to objectively assess the noise from the proposed Temple at the nearby dwellings. The Policy excludes the assessment of noise from "place of worship" to enable the use of short term noise sources such as church bells.



However, this proposal is to only use bells and drums within a building structure without openings and therefore, to provide a conservative approach, the stringent goal noise levels of the Policy have been applied. This approach is more stringent than that which might be applied to other places of worship and will ensure that the development does not detrimentally or adversely affect the amenity of the closest dwellings.

The Policy provides goal noise levels based on the Development Plan Zones in which the noise source (the development) and the noise receivers (the dwellings) are located. For development in a Primary Industry Zone, the Policy recommends the following day-time (7am to 10pm) and night-time (10pm to 7am) average goal noise levels (L_{eq}):

- 52 dB(A) during the day, and 45 dB(A) at night at a dwelling in a Primary Industry Zone;
- 50 dB(A) during the day, and 43 dB(A) at night at a dwelling in a Residential Zone.

The Policy also recommends a maximum instantaneous noise level (L_{max}) of no more than 60 dB(A) to be achieved at a dwelling in a Residential Zone from night-time activities at the site.

When measuring or predicting levels for comparison with the goal noise levels in the Policy, penalties may be applied to the average goal noise levels for each characteristic of tone, impulse, low frequency and modulation of the noise source. In this assessment, two components of noise are assessed; the noise from bells and drums within the Temple and the noise from car movements on site. Both components of noise are modulating in nature, with the noise from bells and drums having an additional characteristic of being tonal. Hence, a 5 dB(A) penalty for the noise from the use of bells and drums may be warranted.

It should be noted that the application of a penalty assumes that the noise source is a feature of the ambient noise environment when it is occurring. The predicted noise levels (refer to the assessment section of this report) associated with the use of the bells and drums inside the designated towers are extremely low, and therefore, the application of a penalty is a conservative approach.



Based on the zoning of the area, the development nature of the proposal, and the application of penalties for noise character, the applicable criteria for noise from the proposal are:

For the noise from bells and drums:

- 37 dB(A) L_{eq} at the dwelling in the Primary Industry Zone;
- 35 dB(A) L_{eq} at the dwellings in the Residential Zone;
- 60 dB(A) L_{max} at night, at the dwellings in the Residential Zone.

For the noise from car movements on site (day-time only):

- 47 dB(A) L_{eq} at the dwelling in the Primary Industry Zone;
- 45 dB(A) L_{eq} at the dwellings in the Residential Zone.

It is noted that the average goal noise levels applied to the proposal at the dwellings are more stringent than the allowable levels in the Policy for the operation of a domestic air conditioning unit in a residential area.



ASSESSMENT

The noise from the use of bells and drums at the proposed Temple, and from car movements and associated car park activity on site has been predicted at the following locations:

- the closest dwelling to the site, which is located approximately 260m northeast from the main shrine area and,
- the closest dwelling situated at the Sellicks Beach residential area, which is located approximately 200m northeast from the Chinese Memorial Garden, and approximately 600m north from the main shrine area.

Noise from the use of Bells and Drums

It is understood that the proposed Temple will utilise the bells and drums currently used in the existing Temple. The existing Temple is constructed as a lined sheet metal shed and is located closer to the dwellings than the proposed Temple.

A prediction of the noise levels at the dwellings from the use of bells and drums within the new bell and drum towers has been made based on the noise measurements taken during a demonstration of the use of the instruments. The prediction considers the instrument to be located on ground floor of the tower, and assumes a worst-case situation where the windows and doors of the towers are open when the bells or drums are used.

Based on the prediction, the noise levels from the use of bells and drums will be less than 25 dB(A) at all dwellings, which is well below the minimum criterion of 35 dB(A) of the Policy. The predicted maximum instantaneous noise level at the closest dwelling at Sellicks Beach residential area will be in the order of 36 dB(A) and will therefore also easily achieve the 60 dB(A) maximum instantaneous noise level criterion of the Policy.

It is noted that the noise from the use of bells and drums within the towers with the windows and doors open will easily achieve the minimum criterion of the Policy. With the windows and doors closed, the expected noise level at the closest residences will be further reduced, to an extent that the noise will likely be inaudible.



Noise from Car Movements on Site

A prediction of the noise levels at the dwellings from car movements on private roads and in car parks, and from any associated car park activity has been made based on the following:

- noise measurements of car movements on the existing gravel road on site;
- previous noise measurements of the associated car park activity such as closing of car doors, people talking, and cars idling, and;
- 25 car movements occurring on the private roads, including the road to the Chinese Memorial Garden, and within the car parks, in any 15 minute period during the daytime.

Based on the above, the prediction indicates that the noise level at the closest dwelling to the northeast will be in the order of 46 dB(A), while the noise level at the closest dwelling at Sellicks Beach residential area will in the order of 43 dB(A), therefore achieving the criteria of the Policy of 47 dB(A) and 45 dB(A) respectively.

In addition, it is noted that the main car park at the development site and the private access road linking the car park with Main South Road are located further away from the closest dwelling than Main South Road is from the dwelling. Therefore, notwithstanding compliance with the Policy, the closest dwelling is exposed to existing road traffic noise on Main South Road, which will serve to further reduce the influence of vehicle movements on the site.

Cumulative Noise

A prediction of the overall noise level at the dwellings with all noise sources or events considered above occurring simultaneously has been made. Based on the prediction, the noise levels at the dwellings will achieve the criteria recommended by the Policy.



CONCLUSION

An environmental noise assessment has been made of the noise from the proposed Nan Hai Pu Tuo Temple, Cactus Canyon Road, Sellicks Beach.

The assessment considers the noise at the closest dwellings to the north and northeast of the site from the use of bells and drums at the proposed Temple, from car movements on private roads and in car parks, and from the associated car park activity such as closing of car doors, people talking and cars idling.

Predictions of the noise from the proposal at the dwellings were made based on:

- noise measurements of the use of the bells and drums within the existing Temple, and car movements on an existing gravel road on site;
- previous noise measurements of activity associated with a car park;
- an understanding that the towers which houses the bells and drums will have no openings (i.e. no untreated vents, all external doors or windows closed) when the instruments are used;
- 25 car movements occurring in any 15 minute period during the anticipated opening hours (9am to 5pm).

The assessment has been made applying conservative assumptions to the criteria and predicted noise levels. The predicted noise levels associated with the use of the bells and drums represent low levels of noise, with the total predicted noise levels from the site achieving the stringent goal noise levels of the Policy.

Consequently, the proposed development would not detrimentally affect the amenity of its locality or cause nuisance to the community by the emission of noise, and would prevent or minimise any adverse impacts resulting from noise, and in doing so, achieve the relevant provisions in the DC of Yankalilla Development Plan.

Appendix D

Wastewater & Stormwater FMG Engineers



Job No: 108002

STORMWATER MANAGEMENT PLAN AND WASTEWATER REPORT

at CACTUS CANYON ROAD SELLICKS BEACH, SA

for

NAN HAI PU TUO TEMPLE



ADELAIDE | BRISBANE | MELBOURNE

Document Status

			Approved	for Issue	
Rev.		Author	Name	App'd	Date
А	Preliminary	SG		СН	18/07/11
В	For Approval	SG/NP		СН	22/07/11

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1 INTRODUCTION

FMG Engineering has been engaged by Tectvs Pty Ltd on behalf of the client to prepare a Stormwater Management Plan (SMP) for the proposed development at Cactus Canyon Road, Sellicks Beach. This SMP involves undertaking an assessment of the site hydrology to access stormwater runoff including roof runoff, collection and re-use. The assessment also includes detention of the stormwater if required.

This SMP has been prepared in accordance with the City of Onkaparinga standard requirements.

2 SITE LOCATION

The subject land is located within the City of Onkaparinga.

The subject land is identified as Allotment 201 in Deposited Plan 44979 in the area named Sellicks Hill Hundred of Myponga. The total site area of the subject land is 55.5 Hectares. The proposed development is situated along Cactus Canyon Road, Sellicks Beach.

The total area for the redevelopment is approximately 1.848 Hectares. This area consists of the roof area of approximately 5787 Sqm, paved area of approximately 12700 Sqm.

A copy of the concept stormwater management plan is attached as an Appendix A.

3 STORMWATER

3.1 HYDROLOGY

The Rational Method was used to determine the stormwater runoff and peak discharge of the proposed development for a 1 in 5 year ARI pre-developed storm event and 1 in 100 year ARI post-developed and attached as an Appendix B. The size of the detention basin is then estimated based on the maximum allowable discharge from the basin to be the pre-developed critical flow generated from 1 in 5 years ARI rainfall.

The Rational Method calculates the peak flow at a point and is dependent on the time of concentration. The peak flow is the product of the sum of the coefficient of runoff and area of catchment values of the contributing catchment and multiplied by the average intensity appropriate for the time of concentration. The time of concentration is defined as the travel time for flow from the most remote part of the catchment at the outlet, or the time taken from the start of the rainfall until all of the catchment is simultaneously contributing to the outlet. The critical storm duration is considered to be equivalent to the time of concentration.

The stormwater design undertaken included the stormwater runoff of the proposed development. The total catchment area of the proposed allotments is as above.

The stormwater analysis will consider the worst case scenario and thus the analysis will adopt a maximum coverage for the redevelopment.

The critical storm duration adopted for the modelling is based on the longest path of travel and slope of the site and considered approximately 5 minutes. The critical storm duration adopted for the modelling was 10 minutes based on Figure 5.3 – Overland flow travel (shallow sheet flow only) for Australian urban catchments from ARRB Special Report No. 34 Storm drainage design in small urban catchments: a handbook for Australian practice, John Argue. A copy of Figure 5.3 is included in Appendix C.

The parameters utilised for determining the volume of stormwater runoff and peak flows are as follows:

- Runoff Coefficient for pervious areas of 0.20 (Table 5.3 Basic Runoff Coefficients (C₁₀) For Various Developed Catchments from ARRB Special Report No. 34 Storm drainage design in small urban catchments: a handbook for Australian practice, John Argue. A copy of Table 5.3 is included in Appendix D.
- Runoff Coefficient for roof of 0.9 and impervious areas of 0.75.
- IFD rainfall was based on the actual rainfall intensity for Sellicks Beach area. A copy of the rainfall data is included in Appendix E.

The stormwater runoff calculations were based on the weighted runoff coefficients for the mixed developed catchments.

3.2 DRAINAGE MODEL RESULTS

The Rational Method was used to estimate the peak flows for the 5 year ARI pre-development flow and the 100 year ARI post development flow. It is estimated that approximately 281 m³ of detention capacity required for the entire re-development.

The stormwater analysis has taken into consideration that all roof stormwater runoff less than or equal to 1 in 20 year ARI storm from the residential dwellings will be collected into a retention tank. Roof stormwater above 1 in 20 year ARI will overflow to the surface and contribute to the surface runoff. The overflow from the retention basin is discharged to the detention basin via a suitable pipe and may be a sealed system. The size of the pipe is required to be at least the runoff generated by 1 in 20 years runoff from the roofs.

A copy of the drainage calculations is included in Appendix B.

3.3 WATER SENSITIVE URBAN DESIGN (WSUD) & RUNOFF QUALITY

The development is proposed to have bio-retention swales as shown on the stormwater management plan attached in Appendix A. The objective of the bio retention swale is to remove or reduce the pollutants from the runoff and the treated water is discharged to water body.

A guide to Water Sensitive Urban Design suggests that a bio-retention system is able to remove 73-90% of total suspended solids, 77-86% of total phosphorus and 70-75% of total nitrogen from the runoff.

The area where water is captured and drained through the kerb and gutter and underground pipe, a gross pollutant trap is proposed to treat the runoff as shown on stormwater management plan attached in Appendix A.

Apart from the removal of the pollutants from the runoff, bio-retention swales also reduce the runoff volume and thus mitigate the flooding to a reasonable extent.

4 WATER BALANCE

4.1 RAINFALL DATA & RUNOFF COLLECTED

Roof runoff water collection volume has been estimated based on historical average monthly rainfall data provided by the Bureau of Meteorology. The nearest rainfall data recording station was Myponga and the data from this station is used for the calculation. A copy of the rainfall data for Myponga is included in Appendix F.

The roof runoff water collected has been determined using the rainfall data and the proposed

building roof areas. The proposed development is consisted of the main Temple area and the retreats area. Separate calculations are carried out for both of the areas and are attached in Appendix G. The roof water collection from the main Temple is proposed to be collected into six 20 kl existing tanks and the overflows from these tanks is proposed to discharge to retention tank.

The calculation has been based on a total roof area of $4167m^2$ and $1620 m^2$ of main Temple area and retreats area respectively. These calculations have factored an 80% collection efficiency in accordance with the guidelines from enHealth 2004 – Guidance or Use of Rainwater Tanks and a loss of 2mm rain per month.

The rainfall data and results of the volume of roof runoff collected per month are attached in Appendix G.

4.2 SITE WATER USAGE

Normal site water usage comprises the following:

- Domestic use
- Irrigation

It is intended that, in an average year, all of these demands should be met by using stored roof runoff water. The water demand has been calculated based on the criteria set out below.

4.3 DOMESTIC USE

Based on research as indicated in *"The Advertiser"* dated the 21st of December 2008, the total consumption for every household is 191KL/year/household. The water usage components are summarised in *"Water Recycling in Australia – A Review Undertaken by the Australian Academy of Technological Sciences and Engineering, 2004"* A copy of the referenced consumption details in included in Appendix H. The household usage can be divided into the following components. It is considered that this development will use the water equivalent to 10 times the average household per year.



Water usage on an average household

Table 4 below summarises the water usage for the development. The on-site water reuse will take into the consideration of recycling the stormwater for all possible usage. Therefore, the total rainwater usage for this development is 1910KL/Year.

Table 1: Portion and Volume of Roof Runoff Usage

	Usage (Percentage)	Volume (KL/Year)
Irrigation	34%	650
Bathroom	26%	500
----------	-----	-----
Toilet	20%	380
Laundry	15%	290
Kitchen	5%	90

4.4 IRRIGATION

The irrigation use associated with the landscaping is 650 KL/ Year as per Table 1. This usage has been distributed over an irrigation season as indicated in Table 5 and in Appendix G. Only plants and trees are considered for the irrigation in the calculation.

Table 2: Irrigation Demand (%)

Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun
0%	0%	0%	8.3%	12.5%	12.5%	14.6%	14.6%	14.6%	14.6%	8.3%	0%

4.4.1 WATER BALANCE MODELLING

A water balance model has been prepared to identify the water storage for development based on the estimated monthly rainfall collected and the various on-site uses.

The monthly water balance for the development based on the site water usage outlined above is attached in Appendix G.

This modelling suggests that the retreats area has a runoff shortfall of 357 kl in a year however the main Temple area generates surplus of 559 kl during a year. Therefore net surplus storage basin of 202 kl is required at the end of the year usage as shown in Appendix G.

5 **RECOMMENDATIONS**

Based on the above discussion, it is recommended that a retention basin of minimum 202 m³ is required. It is considered that basin 2 as shown on stormwater management plan and attached in Appendix A to be used for the retention of the stormwater runoff. The capacity of the basin is estimated to be approximately 210 m³ at maximum water level of 114m.

Basin 1 is recommended to be used for the detention of stormwater. The calculation for the detention estimated that the maximum of 281 m^3 detention volume is required to be detained. It is estimated that approximately 151 I/s of pre-developed runoff is generated and therefore it is proposed to have 3 outlets from the basin with a capacity of each outlets to be approximately 50 I/s.

These retention and detention basins are also recommended to have a high flow weir of suitable size for the overflow of the runoff.

A suitable erosion protection measures is also recommended to be installed at the downstream side of the outlets and around the weirs.

Since the on-site usage of stormwater runoff is less than total runoff generated from the site, it is recommended that high flow pipe of suitable size is to be installed from retention basin to the detention basin. This pipe may be a sealed system to connect to these basins.

6 ON-SITE WASTEWATER

Further to comments from the Environmental Protection Authority, a design solution to be submitted to the Wastewater Management Section of The Department of Health has been documented. This design will comply with ASNZS 1547.2000, and will meet both agencies considerations for this aspect of the proposed development.

6.1.1 DESIGN CONSIDERATIONS

The proposed volume of wastewater to be generated is not large in terms of the scale of the development and actual area of the land holding. To implement efficient design, research of soils with an extensive bore hole logging program has been undertaken. A copy of the soil bore logs is attached in Appendix I. Whilst this confirms the soils are not conductive to conventional septic tanks and soakage trenching this also imposes limitations on the use of a package treatment plant, that even with flow balancing provision that this would require variations to areas of defined irrigation in both winter and summer months. These systems are not suited to extreme fluctuations in loading, and require extensive electricity and maintenance to be operated for twelve months of the year. Whilst offering a wastewater re-use solution this is of limited value given the scale of plant required for peak flow events, compared to the small volume of reclaimed water gained on an annual basis.

6.1.2 EFFECTIVE DESIGN SOLUTIONS

Given the extensive site, adequate land is available for a wastewater disposal field leaving a very small footprint on the property. Given the choice of position for potential wastewater disposal field sites, provision of setbacks from the sea, cliffs and gullies with potential water courses can be more than adequately met. Areas with moderate slope and soil profiles, not having bedrock or a water table before 1.2 metres have been established. Plan 108002-C002 defines a suitable area where criteria in excess of all Department of Health set back criteria for wastewater system approval can be met. Whilst the ETA beds form small scale grassed swales, the 2m area of soil between the beds are planted with vegetation which screens the installation. That planting also supports the transpiration process.

6.1.3 EFFECTIVE WASTEWATER MANAGEMENT

After careful consideration an Evaporation Transpiration Bed system (ETA) designed to comply with ASNZS 1547.2000 has been adopted. A typical detail of an ETA bed is included in Appendix J. These systems are recognised as providing an effective solution for effluent disposal for low permeable soils. As shown in Plan 108002-C002 they are designed with shallow mounds and allow vegetation to be established between the installations. A copy of the Wastewater Disposal System Plan 108002-C002/A is included in Appendix K. Features of the ETA system are seen in the profile of the installation which allows a significant reserve flow for peak loading in the voids above the beds. With the use of a vented flow balancing tank an effective wastewater balance can be established to offset the very high peak flow proposed with nominal flows for the balance of the year. The design of this system will also incorporate pressure dosed beds with even flow at the top of the distribution systems. Trenches will be evenly dosed and this will be controlled by a system of distribution valves. The advantage of these systems is that they lift the effluent to a higher soil profile, allowing evaporation potential and with very little inflow for large periods of time this will allow trenching to operate in optimum conditions for periods of high flow.

6.1.4 COLLECTION, PRIMARY TREATMENT AND RESERVE FLOW ALLOWANCE

The design of the collection system of the residential component will comply with criteria under Septic Tank Effluent Drainage Schemes "Design Criteria". The criteria used has been calculated for a maximum of 30 people per year with intermittent occupation. A gravity system is proposed to an isolated area and a 20,000 litre septic tank. Similarly for the temple for a maximum of 1000 people peak flow, a gravity collection system will be designed to flow to the same location and is proposed with a large scale septic tank and vented flow balancing tank. The pump system (also used for pressure dosing) would have dual pumps with 24 hour reserve flow and generator backup. The system would be monitored for flow levels and have an alarm system allowing for effluent removal by tanker in the highly unlikely event of overflow. In addition, a dedicated reserve area can be allocated specifically to allow for a larger area of beds should in the future this be advantageous to the promotion of vegetation on the site.

6.1.5 RECOMMENDATIONS

The wastewater system design is best practice for any wastewater system for disposal with soils of low permeability and high peak isolated usage rate. The volume of wastewater generated on the large area of land holding is minimal. This is demonstrated by the footprint area of the wastewater area which is isolated from sensitive natural resources on the site. The design of the wastewater system proposed will be submitted to the Department of Health for approval for which on-site wastewater management and approval criteria can be met.

C001 - Stormwater Management Plan



						I EGEND	
							LINEAR BIO-RETENTION S
AERNATION T						_ · _ · _ · _ · _ · _ · _	STORMWATER PIPE
							GRATED INLET PIT
CERTIFIED QUALITY MANAGEMENT SYSTEM	Α	PRELIMINARY ISSUE	22.07.2011	СВ	СН	K&G	KERB & GUTTER
IS 0 9 0 0 1	REV	DESCRIPTION	DATE	INIT	APP		

Detention Calculation

BASIN DESIGN

Project: Job No. Date	Cactus Canyon Road Sellicks Beach 108002 18/07/2011	ENGINEERING
Job No. Date	108002 18/07/2011	ENGINEERING

Q5 Undeveloped flow rate:

Area	1.848 ha		
			С
Total roof area	0.105 ha		0.9
Total paved area	0.399 ha		0.75
Pervious area	1.344 ha		0.2
Area	1.848 ha		
Equivalent Runoff Coefficient	0.36	CA =	0.66

1 in 5 years undeveloped peak flow

Тс	Intensity, I	Qin
(mins)	(mm/hr)	m³/s
5	82.3	0.151
6	76.4	0.141
10	61.1	0.112
20	43	0.079
30	34.1	0.063
60	22.1	0.041

Q100 Postdeveloped flow rate:

0.151

PEAK FLOW

			С
Total roof area	0.5787 ha		0.9
Total paved area	1.27 ha		0.75
Pervious area	0 ha		0.2
Area	1.848 ha		
Equivalent Runoff Coefficient	0.7973	CA =	1.4733 ha

Outflow Rate based on Q5 Pre-Developed

Allowable water from detention tanks (Peak undeveloped Flow from 1 in 5 years 0.1	0.151
-----------------------------------------------------------------------------------	-------

Detention calculation

Тс	Intensity, I	Qin	Qout	Q	VOLin	STORAGE VOL.
(mins)	(mm/hr)	m³/s	m³/s	Total	(m ³)	(m ³)
				m³/s		
5	187	0.765	0.151	0.614	184.15	184.15
6	173	0.708	0.151	0.557	200.36	200.36

10	137	0.561	0.151	0.409	245.53	245.53
20	94.3	0.386	0.151	0.234	281.36	281.36
30	73.7	0.302	0.151	0.150	270.28	270.28
45	56	0.229	0.151	0.078	209.84	209.84
60	47.1	0.193	0.151	0.041	148.66	148.66
90	35.2	0.144	0.151	-0.007	-40.00	-40.00

PEAK STORAGE REQUIRED

281.36 m³

APPENDIX C

Figure 5.3



Hence, same case in Penrith, N.S.W. (see example (see Figure 5.4)

Fig. 5.3 - Overland flow travel time (shallow sheet flow only) for Australian urban catchments

Section 5.3) tc=38+0.022(44-25)(27-38)=33 mins.

Table 5.3: Runoff Coefficient

TABLE5.3

BASIC RUNOFF COEFFICIENTS (Cre) FOR VARIOUS DEVELOPED CATCHMENT SURFACES

Septece Diassification		Northern Ausz, znnn			Southern Aust, rone		
First grade connected paved areas: - rootwaws 7 - roofs 3	C-10		0+90	5,0		0.90	
Second grade convected payed areas, e.g. - smaller carparks, i driveways, naved outdoor areas, etc.	Gio		0,75	C.10		0.75	
Unconnected paved areas) Pervious press: - mixed with paved areas; at in residential land; ote - major urban open space; areas, parks, etc.	C ₁₀		0.70	c _{no}	-	0.10	

Cto Values for Specified Land Uses

Study of aerial photographs, referred to above, reveals considerable variation in the paved/pervious distribution in such categories as industrial, commercial and certain types of residential accommodation, e.g. town house and strata-title developments.

31

APPENDIX E

Rainfall Intensity @ Sellicks Beach

Intensity-Frequency-Duration Table

Location: 35.325S 138.450E NEAR.. Sellicks Beach Issued: 7/7/2011

Average Recurrence Interval									
Duration	1 YEAR	2 YEARS	5 YEARS	10 YEARS	20 YEARS	50 YEARS	100 YEARS		
5Mins	44.4	59.8	82.3	99.0	122	157	187		
6Mins	41.4	55.7	76.4	91.8	113	145	173		
10Mins	33.3	44.7	61.1	73.2	89.9	115	137		
20Mins	23.8	31.7	43.0	51.2	62.5	79.5	94.3		
30Mins	19.0	25.3	34.1	40.4	49.2	62.3	73.7		
1Hr	12.5	16.6	22.1	26.1	31.7	40.0	47.1		
2Hrs	7.89	10.5	14.0	16.6	20.1	25.4	29.9		
3Hrs	5.98	7.97	10.7	12.7	15.4	19.5	23.0		
6Hrs	3.71	4.96	6.70	7.99	9.75	12.4	14.7		
12Hrs	2.31	3.08	4.17	4.96	6.04	7.68	9.10		
24Hrs	1.45	1.91	2.53	2.97	3.57	4.48	5.25		
48Hrs	.883	1.15	1.47	1.69	1.98	2.43	2.79		
72Hrs	.639	.830	1.04	1.18	1.37	1.66	1.89		

Rainfall intensity in mm/h for various durations and Average Recurrence Interval

(Raw data: 17.35, 3.23, 0.86, 34.99, 6.79, 1.49, skew=0.64, F2=4.47, F50=14.96)

© Australian Government, Bureau of Meteorology

APPENDIX F

Average Rainfall Data @ Myponga

>>



SEARCH SE

Weather & Warnings | Climate Information | Water Information | Radar | Learn About Meteorology

Climate statistics for Australian locations

Monthly climate statistics

All years of record

Site name: MYPONGA		Site number: 023738 Commenced: 1914 Map			ар										
Latitude: 35.39°S Lor	ngitude: 1	38.47°E	Eleva	tion: 216	m	Operatio	onal state	us: Open			\overline{Y}				
View: 🔘 Main s	statistics	All availa	able	Θ	Period:	Use all y	ears of d	ata		۹V	ସ୍ Text	size: 🍥	Normal) Large	9
Statistics	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Y	ears
Temperature															
Mean maximum temperature (°C)	26.	9 25.8	23.9	20.4	16.1	14.0	12.6	13.5	15.9	18.6	21.7	23.6	19.4	14	1954 1967
Highest temperature (°C)	4 0.	6 38.9	36.7	31.1	25.0	22.2	17.1	21.3	28.9	31.7	39.4	38.9	40.6	11	1957 1967
Date	19 Jan 1959	05 Feb 1967	07 Mar 1966	06 Apr 1958	04 May 1967	04 Jun 1957	26 Jul 1964	31 Aug 1965	29 Sep 1961	18 Oct 1961	30 Nov 1962	27 Dec 1961	19 Jan 1959		
Lowest maximum temperature (°C)	18.	3 16.7	16.1	12.8	10.3	8.3	8.9	7.8	9.4	10.6	12.8	14.4	7.8	11	1957 1967
Date	23 Jan 1967	01 Feb 1960	30 Mar 1967	20 Apr 1960	28 May 1963	21 Jun 1965	08 Jul 1959	11 Aug 1960	10 Sep 1958	02 Oct 1967	11 Nov 1965	01 Dec 1966	11 Aug 1960		
Decile 1 maximum temperature (°C)	Ð													9	1957 1967
Decile 9 maximum temperature(°C)	Ð													9	1957 1967
Mean number of days ≥ 30 ℃	8	8 6.8	3.6	0.4	0.0	0.0	0.0	0.0	0.0	0.5	3.6	5.6	29.3	11	1957 1967
Mean number of days ≥ 35 ℃	3.	8 2.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.2	9.0	11	1957 1967
Mean number of days \geq 40 °C	0.	3 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	11	1957 1967
Minimum temperature			1												
Mean minimum temperature (°C)	11.	6 11.8	9.8	7.5	6.4	4.6	4.3	4.6	5.3	6.6	8.2	9.8	7.5	13	1954 1967
Lowest temperature (℃)	2.	2 3.3	0.6	-2.5	-2.8	-5.0	-5.6	-2.9	-4.4	-1.6	-1.1	0.0	-5.6	11	1957 1967
Date	08 Jan 1957	23 Feb 1965	20 Mar 1967	16 Apr 1963	26 May 1967	16 Jun 1959	10 Jul 1959	08 Aug 1963	04 Sep 1959	04 Oct 1965	02 Nov 1960	07 Dec 1961	10 Jul 1959		
Highest minimum temperature (°C)	31.	1 22.5	18.9	17.7	16.1	14.4	11.1	12.8	14.4	19.3	19.7	18.9	31.1	11	1957 1967
Date	27 Jan 1961	28 Feb 1963	22 Mar 1963	24 Apr 1963	11 May 1967	11 Jun 1957	20 Jul 1962	12 Aug 1958	21 Sep 1963	07 Oct 1965	30 Nov 1962	21 Dec 1965	27 Jan 1961		
Decile 1 minimum temperature (°C)	Ð													9	1957 1967

Statistics	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Y	lears
Decile 9 minimum temperature (°C)														9	1957 1967
Mean number of days $\leq 2 ^{\circ} \! \mathbb{C}$	0.0	0.0	0.5	2.3	3.7	7.1	8.1	6.3	3.8	1.9	1.4	0.2	35.3	11	1957 1967
Mean number of days $\leq 0 \ ^{\circ}$ C	0.0	0.0	0.0	0.3	1.9	4.0	4.7	2.8	1.1	0.6	0.5	0.1	16.0	11	1957 1967
Ground surface temperature															
Mean daily ground minimum temperature ($^{\circ}C$)															
Lowest ground temperature (°C)															
Date															
Mean number of days ground min. temp. \leq -1 °C															

Statistics	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Y	ears
Rainfall															
Mean rainfall (mm)	23.3	27.7	24.5	55.9	92.6	111.5	113.6	96.6	84.0	59.8	38.4	30.7	758.6	91	1914 2011
Highest rainfall (mm)	133.7	145.5	87.3	179.6	211.0	289.9	275.7	168.0	185.2	162.6	136.0	106.2	1075.5	91	1914 2011
Date	1946	1946	1947	1983	1958	1916	1974	1996	1992	1949	1952	1993	1974		
Lowest rainfall (mm)	0.0	0.0	0.0	0.0	6.9	9.1	31.0	11.0	12.0	6.1	1.0	0.0	363.6	91	1914 2011
Date	2008	1991	1994	1993	1959	1914	1976	1914	2005	1914	1982	1979	1914		
Decile 1 rainfall (mm)	1.0	0.9	3.5	13.0	35.0	49.3	60.8	45.7	36.0	17.7	13.5	8.5	553.0	90	1914 2011
Decile 5 (median) rainfall (mm)	17.2	16.6	17.8	47.4	84.0	106.0	103.7	102.1	78.6	56.1	31.7	25.2	756.5	90	1914 2011
Decile 9 rainfall (mm)	48.7	64.0	53.8	114.9	159.4	185.2	186.0	138.8	136.2	107.5	76.4	63.1	978.0	90	1914 2011
Highest daily rainfall (mm)	59.7	85.9	58.4	66.5	95.8	109.2	88.0	46.2	63.5	56.0	56.4	54.0	109.2	86	1914 2011
Date	17 Jan 1946	09 Feb 1969	28 Mar 1947	17 Apr 1938	24 May 2003	07 Jun 1963	08 Jul 1993	15 Aug 1958	27 Sep 1929	31 Oct 1997	18 Nov 1964	14 Dec 1993	07 Jun 1963		
Mean number of days of rain	3.9	4.0	4.8	9.2	13.0	14.9	16.2	15.7	13.0	10.6	7.8	5.8	118.9	90	1914 2011
Mean number of days of rain \geq 1 mm	2.7	2.8	3.4	7.0	10.6	11.9	13.3	12.6	10.0	8.1	5.4	4.1	91.9	86	1914 2011
Mean number of days of rain \geq 10 mm	0.6	0.7	0.7	1.6	2.9	3.6	3.6	3.1	2.5	1.6	1.1	0.8	22.8	86	1914 2011
Mean number of days of rain $\ge 25 \text{ mm}$	0.2	0.2	0.1	0.3	0.7	0.8	0.6	0.5	0.5	0.4	0.1	0.2	4.6	86	1914 2011
Chatiatian		F .1		• • • •				.	0	0.1		D.	.		
Other daily elements	Jan	reb	war	Apr	мау	Jun	Jul	Aug	Sep	Oct	NOV	Dec	Annual	Y	ears

oluliolioo	oun	100	mai	יקה	inay	oun	oui	Aug	ocp	001	1101	DCC	Annual	 cuis
Other daily elements														
Mean daily wind run (km)														
Maximum wind gust speed (km/h)														
Date														
Mean daily sunshine (hours)														

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Y	ears
Mean daily solar exposure (MJ/m ²)	27.2	23.9	19.0	13.5	9.3	7.7	8.3	11.6	15.4	20.3	24.7	26.3	17.3	22	1990 2011
Mean number of clear days	8.6	5.7	4.9	3.8	2.5	3.0	2.1	2.5	4.0	2.9	3.4	4.8	48.2	11	1957 1967
Mean number of cloudy days	5.2	6.7	6.6	8.3	14.1	11.0	15.1	13.6	12.3	11.1	9.8	8.6	122.4	11	1957 1967
Mean daily evaporation (mm)															
Statistics	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Y	ears
9 am conditions															
Mean 9am temperature (°C)	21.5	20.4	18.7	15.4	11.9	9.8	8.6	9.8	12.2	14.4	17.0	18.8	14.9	14	1954 1967
Mean 9am wet-bulb temperature (°C)	15.6	15.3	14.4	12.4	10.2	8.5	7.5	8.4	9.9	11.4	12.9	14.1	11.7	14	1954 1967
Mean 9am dew-point temperature (°C)	10.6	10.5	10.4	9.2	8.3	6.8	6.0	6.7	7.4	8.4	9.0	9.9	8.6	11	1957 1967
Mean 9am relative humidity (%)	54	59	63	71	80	84	85	83	75	70	62	60	70	14	1954 1967
Mean 9am cloud cover (oktas)	3.6	4.4	4.4	4.7	5.4	5.4	5.9	5.6	5.2	5.6	5.1	4.8	5.0	14	1954 1967
Mean 9am wind speed (km/h)														9	1957 1967
Statistics	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Y	ears
3 pm conditions															
Mean 3pm temperature (°C)	24.5	23.9	22.0	18.6	15.0	13.0	11.5	12.5	14.7	16.6	19.8	20.9	17.8	14	1954 1967
Mean 3pm wet-bulb temperature (°C)	16.7	16.6	15.6	13.8	11.9	10.5	9.3	9.9	11.2	12.6	14.1	14.8	13.1	14	1954 1967
Mean 3pm dew-point temperature (°C)	10.2	10.2	10.0	9.0	8.6	7.8	6.9	7.1	7.7	8.6	9.1	9.5	8.7	11	1957 1967
Mean 3pm relative humidity (%)	44	47	50	58	67	73	75	71	66	62	54	51	60	14	1954 1967
Mean 3pm cloud cover (oktas)	2.8	3.5	3.8	4.8	5.6	5.2	5.7	5.6	5.1	5.1	4.5	3.9	4.6	13	1954 1967
Mean 3pm wind speed (km/h)														7	1957 1967
										rec	d = highest	value blu	e = lowest	value	

Product IDCJCM0034 Prepared at Thu 07 Jul 2011 02:33:21 AM EST

Monthly statistics are only included if there are more than 10 years of data. The number of years (provided in the 2nd last column of the table) may differ between elements if the observing program at the site changed. More detailed data for individual sites can be obtained by contacting the Bureau.

Related Links

- This page URL: http://www.bom.gov.au/climate/averages/tables/cw_023738_All.shtml
- Summary statistics and locational map for this site: http://www.bom.gov.au/climate/averages/tables/cw_023738.shtml
- About climate averages: http://www.bom.gov.au/climate/cdo/about/about-stats.shtml
- Data file (csv): http://www.bom.gov.au/clim_data/cdio/tables/text/IDCJCM0034_023738.csv
- Climate averages home page URL: http://www.bom.gov.au/climate/data/index.shtml
- Bureau of Meteorology website: http://www.bom.gov.au

APPENDIX G

Stormwater Re-use Calculation

The Nan Hai Pu Tuo Temple of Australia Inc

RAINWATER RUNOFF COLLECTION

		Roof A	rea, A _{roof} =	1620.00 m ²
	RAINFALL	Factor	Runoff	TOTAL RUNOFF
MONTH	NAIRNE	Rainfall	to Tank	TO TANKS
	(mm)	(mm)	(Litre)	(KL)
July	113.6	111.6	181	145
August	96.6	94.6	153	123
September	84	82	133	106
October	59.8	57.8	94	75
November	38.4	36.4	59	47
December	30.7	28.7	46	37
January	23.3	21.3	35	28
February	27.7	25.7	42	33
March	24.5	22.5	36	29
April	55.9	53.9	87	70
Мау	92.6	90.6	147	117
June	111.9	109.9	178	142
TOTAL	759	735		953

F		Irrigatio	n	D	omestic			WATER	
	Landscape	Distribution	Water demand	Domestic	Water demand		- I	BALANCE	MONTH
	(KL)	(%)	(m ³)	(KL)	(m ³)	(KL)		(KL)	
	0	0.00%	0.00	1260	105.00	105.00		39.63	July
	0	0.00%	0.00	1260	105.00	105.00		57.24	August
	0	0.00%	0.00	1260	105.00	105.00		58.51	September
	0	0.00%	0.00	1260	105.00	105.00		28.42	October
	0	0.00%	0.00	1260	105.00	105.00		-29.41	November
	0	0.00%	0.00	1260	105.00	105.00		-97.21	December
	0	0.00%	0.00	1260	105.00	105.00		-174.61	January
	0	0.00%	0.00	1260	105.00	105.00		-246.30	February
	0	0.00%	0.00	1260	105.00	105.00		-322.14	March
	0	0.00%	0.00	1260	105.00	105.00		-357.29	April
	0	0.00%	0.00	1260	105.00	105.00		-344.87	Мау
	0	0.00%	0.00	1260	105.00	105.00		-307.44	June
			0.00		1260.00	1260.00		-267.81	July 'Nxt Yr

DEMAND

	Usage	KL / Year /
	Percentage	Unit
Irrigation	0%	0
Bathroom	39%	496
Toilet	30%	382
Laundry	23%	286
Kitchen	8%	96
	4	1000



SUMMARY Water Balance for Irrigation and Domestic Uses		
Volume collected in Rainwater Tank:	59	m ³ (KL)
Total Supplementary volume required for Rainwater Tank:	358	m ³ (KL)
Adopt Rainwater Tank Size (or similiar approved)		(L)

Water Usage in Australia

Adelaidenow

The Advertiser, December 21, 2008: "Water Consumption down 30 percent." By Cara Jenkin

SOUTH Australian households each saved an average of 50,000 litres of water - the equivalent volume of an in-ground swimming pool - in the past year.

SA Water figures also show individuals are using 70 litres less water each a day compared with the 2003–04 financial year. Each household is now using an average of 191 kilolitres of water a year, a savings of 50 kilolitres on the average of 241 kilolitres in 2006–07.

Adelaide is on track to use even less water this financial year, with water usage since July more than 10gigalitres less than the 10-year average and 2gigalitres less than at this time last year. SA Water consumption data from 2007–08 reveals the average daily water use a person was 345 litres. Each resident was estimated to use 415 litres of water a day in 2003-04.

Total water consumption in the last financial year by SA Water users was 219gigalitres, 27gigalitres less than in 2003-04 and the lowest volume in the past five years. Water Security Minister Karlene Maywald said water restrictions were being reviewed monthly and would not yet have to be toughened. But she said the water situation remained critical.

"If domestic consumption stays within manageable levels, then the current restrictions should be able to be maintained," she said.

"South Australians are to be congratulated for their enormous effort to conserve water. Consumption has been reduced by nearly 30 per cent during 2008, compared with the last drought in 2002."

SA Water also reduced its take from the River Murray in the last financial year, using 186gigalitres from the river for 85 per cent of the total water supplied, compared with 223gigalitres the previous year.

Component of Water Use	Volume ML	Percentage of Total Consumption	Percentage of Residential Consumption
Residential Gardens	414,000	20.1%	34%
Toilet Flushing	244,000	11.8%	20%
Laundry	183,000	8.9%	15%
Bathroom	317,000	15.3%	26%
Kitchen	61,000	3.0%	5%
Total Residential	1,219,000	59.0%	100%
Industrial and commercial	437,000	21.2%	
Local government, parks, fire fighting	139,000	6.7%	
System losses	221,000	10.7%	
Customer meter errors	49,000	2.4%	
TOTAL	2.065.000	100%	

Table 1 Water Use in Australia's 22 largest Cities (Rathjen et al. 2003).

[&]quot;Water Recycling in Australia – A Review Undertaken by the Australian Academy of Technological Sciences and Engineering, 2004"

APPENDIX **I**

Soil Bore Logs

FMG ENGINEERING

SURFACE SOIL BORE LOG

Job : 108002-2 : 17/06/11 Sample Date

Site : Cactus Canyon Road SELLICKS BEACH SA 5174

Sample Method : RMPT

Horizon	Hole 1 Depth	Hole 2 Depth	Hole 3 Depth	Hole 4 Depth	Hole 5 Depth	Description	U/Symb	Moisture	Strength	Est Ipt	Av lpt
	(mm)	(mm)	(mm)	(mm)	(mm)						
А	0 -	0 -	0 -	0 -	0 -	SILT AND CLAYEY SAND - grey brown. Low plasticity.	SM - SC	Moist	Low	0.005	0.005
	150	100	200	200	100						
В		100 -			100 -	CLAY - orange red grey brown. Trace of sand. High	CH	Moist	High	0.025 -	0.028
		200			350	plasticity.				0.030	
BCa						SILTY SAND SANDY SILT - creamy yellow pale orange. Some	SM - ML	Damp	Low	0.000	0.000
						gravels. Non plastic. Highly calcareous.					
BCa1		200 -			350 -	SILTY SANDY CLAY - pale orange light brown. Some	CL - CI	Damp to	Medium	0.005 -	0.008
		500			950	gravels. Low to medium plasticity. Highly calcareous.		moist		0.010	
BCa2		500 -			950 -	SANDY SILTY CLAY - grey yellow brown cream in pockets.	CH	Moist	High	0.045	0.045
		900			1300	High plasticity. Highly calcareous.					
B1		900 -				CLAY - green mottled orange red. Trace of sand. Extra	CH	Moist	High	0.060	0.060
		1800				high plasticity.					
BCa3	150 -	1800 -			1300 -	LIMESTONE GRAVEL WITH SILTY SANDY CLAY IN SEAMS AND	ML	Damp to	Low	0.000 -	0.003
	1000	1900			1400	SOME SILTSTONE FRAGMENTS - grey yellow cream in		moist		0.005	
						pockets.					
С		1900 -	200 -	200 -	1400 -	SILTSTONE - yellow grey pale green. Fragmented pieces.	-	Damp	High	0.000	0.000
		2000	1200	600	2000						
Ys	6	67	1	1	27	Ys = Characteristic surface movement (mm)					

FMG ENGINEERING

SURFACE SOIL BORE LOG

Job : 108002-2 Sample Date : 17/06/11

Site : Cactus Canyon Road

Sample Method : RMPT

	•	

SELLICKS BEACH	SA	5174	

Horizon	Hole 6	Hole 7	Hole 8	Hole 9 Depth	Description	U/Symb	Moisture	Strength	Est lpt	Av Ipt
	(mm)	(mm)	(mm)	(mm)						
A	0 - 150	0 - 400	0 - 200	0 - 200	SILT AND CLAYEY SAND - grey brown. Low plasticity.	SM - SC	Moist	Low	0.005	0.005
В	150 - 550			200 - 550	CLAY - orange red grey brown. Trace of sand. High plasticity.	СН	Moist	High	0.025 - 0.030	0.028
BCa		400 - 1200	200 - 1300		SILTY SAND SANDY SILT - creamy yellow pale orange. Some gravels. Non plastic. Highly calcareous.	SM - ML	Damp	Low	0.000	0.000
BCa1	550 - 1600	1200 - 1800	1300 - 1800	550 - 1700	SILTY SANDY CLAY - pale orange light brown. Some gravels. Low to medium plasticity. Highly calcareous.	CL - CI	Damp to moist	Medium	0.005 - 0.010	0.008
BCa2	1600 - 2000	1800 - 2000	1800 - 2000		SANDY SILTY CLAY - grey yellow brown cream in pockets. High plasticity. Highly calcareous.	СН	Moist	High	0.045	0.045
B1					CLAY - green mottled orange red. Trace of sand. Extra high plasticity.	СН	Moist	High	0.060	0.060
BCa3				1700 - 2000	LIMESTONE GRAVEL WITH SILTY SANDY CLAY IN SEAMS AND SOME SILTSTONE FRAGMENTS - grey yellow cream in pockets.	ML	Damp to moist	Low	0.000 - 0.005	0.003
С					SILTSTONE - yellow grey pale green. Fragmented pieces.	-	Damp	High	0.000	0.000
Ys	59	38	37	21	Ys = Characteristic surface movement (mm)					

Ground water not encountered

Surface Suction Change : 1.2 pF Depth of Suction Change : 4.0 m

Typical Detail of ETA bed



N.P.

C002 – Wastewater Disposal System Plan



1ERNATION A						SCALE
Mes a						
CERTIFIED QUALITY MANAGEMENT SYSTEM	Α	PRELIMINARY ISSUE	22.06.2011	СВ	СН	
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C THIS DRAWING	S COPYF	IGHT TO FMG ENGINEERING. NO PART OF THIS DRAWING, INCLUDING THE WHOLE OF SAME SHALL BE USED FOR ANY OTHER PURPOSE,	NOR BY ANY OTHER T	HIRD PAP	RTY, WITH	HOUT THE PRIOR WRITTEN CONSENT OF FMG ENGINEERING.

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IAU 5174	JOB No. 108	002		REV.
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Appendix E

Access, Traffic & Parking MFY Traffic Engineers



Nan Hai Pu Tuo Temple Inc.

NAN HAI PU TUO TEMPLE SELLICKS BEACH

TRAFFIC AND PARKING ASSESSMENT

Traffic • Parking • Transport

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ABN 79 102 630 759

July 2011

11-0087



DOCUMENT ISSUE

Revision issue	Date	Description	Approved by
Rev A	29 June 2011	Final document	AJT
Rev B	5 July 2011	Comments added– for client review & clarification of highlighted text	AJT
Rev C	13 July 2011	Final including comments	AJT
Rev D	15 July 2011	Figure 5 amended	AJT

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1.0 INTRODUCTION

Murray F Young and Associates (MFY) has been engaged by Nan Hai Pu Tuo Temple Incorporated to advise on traffic and parking requirements associated with the proposed Buddhist temple development located on Cactus Canyon Road, Sellicks Beach.

The proposed temple at Sellicks Beach will be a temple of major significance and status in the hierarchy of Buddhist Temples worldwide.

There will be a number of events held at the temple once it is operational, as well as attendance for normal worship days.

It should be noted that attendance at the temple will be spread across the duration of a day, rather than all attendees being present at the one time. This will have a significant bearing on car park demand and traffic generation as discussed further within this report.

This project has received Major Project status, and has previously been placed on public consultation. This report also addresses the broad traffic related concerns that were raised through this process.



2.0 SUBJECT SITE

The subject site is already partially developed, and is currently being used as a small scale facility housing a minor number of residents following the Buddhist faith. Consequently, the number of movements to and from the site is minimal.

The site is located adjacent to Cactus Canyon Road, Sellicks Beach, which is accessed via Main South Road and covers some 55 hectares of land, with the Temple to be situated generally on the eastern portion of the site.

The site itself follows the natural surface contours, grading down towards the coastline. The eastern property boundary is some 6 m lower than the Main South Road level. A grade of approximately 1:9 is present across the site in the areas that are proposed for the temple site and parking areas.

The property to the south of the subject site also gains access to Cactus Canyon Road via two informal tracks, one of which is parallel to the boundary of the subject site and which is also used by SA Water to access a pumping station further to the south.

This track is currently used by members of the Buddhist community to access the existing facility, based on a "gentleman's agreement" with the neighbouring landowner.

The other track also heads south and follows the alignment of Main South Road, providing alternative access to the land, south of the subject site.

2.1 EXISTING ROAD NETWORK

Main South Road is an arterial road under the care and control of the Department for Transport, Energy and Infrastructure (DTEI). It provides the main connection between Adelaide and Kangaroo Island, via the ferry service from Cape Jervis. The road has a posted speed limit of 100 km/h applied to it.

Main South Road rises on grade through a cutting from the north to the junction with Cactus Canyon Road and continues to rise towards south.

An overtaking lane for southbound vehicles commences near the Cactus Canyon Road junction and extends some 1.2 km south.

Cactus Canyon Road is a local road under the care and control of the District Council of Yankalilla. The road provides access to the Temple site and another property to the north. The road is unsealed and given its nature, a 100 km/h default rural speed limit would apply, although this would be highly improbable to achieve given the nature of



the road, including the horizontal and vertical alignment. Cactus Canyon Road meets Main South Road on an incline of approximately 1 in 9.


3.0 PROPOSED DEVELOPMENT

The proposal is to create a significant Buddhist Temple on the site which will also incorporate on-site retreat style accommodation for up to 30 people.

The site will also contain a Chinese Memorial Garden in the north-western corner of the site, with the balance of the land predominantly treated as reserve/garden areas.

Access to the site will be via Cactus Canyon Road, with the internal roadway traversing the site on its southern boundary, before turning north and providing access to the proposed car park while continuing onto the residential area, to the north-west of the temple site.

An unsealed track will be provided from the access roadway to the Chinese Memorial Garden, generally on the northern boundary of the site, and will meander its way, following the contours of the site. The track will be sufficiently wide enough to enable golf carts and pedestrians to mix and pass one another safely. The golf carts will be used to transport the elderly or people with a disability between the temple and the garden areas.

Figure 1 provides an indicative plan of the proposed site features.



Figure 1: Site plan



4.0 PUBLIC CONSULTATION

This project was previously placed on public consultation in 2010, with some 100 submissions received.

In relation to the traffic matters raised in those submissions, these can be summarised into four broad categories:

- safety, including safe access to and from Main South Road;
- excess traffic generation and resultant impacts to the operation of Main South Road;
- traffic noise; and
- provision of car parking.

This report will address all but the noise issue, as this is a matter for an acoustic consultant.



5.0 TRAFFIC ASSESSMENT

5.1 TRAFFIC GENERATION RATES AND ASSUMPTIONS

Buddhist temples operate in a different manner when compared to other religious faiths with respect to attendance.

Christian based religions traditionally hold services at specific times on nominated days of the week (i.e. generally on a Sunday), whereas Buddhist's tend to be present on specific event days, with no specific set time for attendance – this can translate into a significant number of visitations within a day, although at any given time the peak attendance could be relatively low.

As a basis for the traffic generation associated with the proposed development, the following assumptions have been made:

- the maximum event at the temple will generate attendance of 1,000 people per day (a Special Event Day) – there are expected to be only 20 Special Event Days per year;
- an "average" attendance day would attract 300 people per day;
- any travel by passenger vehicle will be undertaken with a vehicle occupancy rate of 2.0 persons per vehicle, given the significant travel distance involved from the expected place of origin (i.e. Adelaide);
- four buses, with capacity for 50 people each, will be used to transport people to and from the site on Special Event Days; and
- the proportion of trips to and from the north will account for approximately 90% of all trips, with the balance directed to and from the south.

5.2 TRAFFIC IMPACT

The most recent turning count data at the junction of Main South Road and Sellicks Beach Road, which was undertaken in 2003 was provided by DTEI and indicates the Annual Average Daily Traffic (AADT) volume along Main South Road in the vicinity of Cactus Canyon Road (refer Appendix A).

This information has been used and a 1.0 % annual growth rate applied to approximate the predicted traffic volumes in the year 2031, resulting in a value of 4,230 vehicles per day (vpd). This figure has then been used in the assessment of the junction of Main South Road and Cactus Canyon Road.

Given the potential variability of the visitation rates associated with the temple, a sensitivity analysis has been undertaken to consider a range of arrival rates to the site.



This represents a "worst case" scenario, whereby all visitors to the site are considered to arrive by passenger vehicle, with a total number of vehicle movements of 1,000 vpd (two-way). Table 1 indicates the rates considered in the analysis.

% of total volume	Vehicles per hour	am	peak	pm peak	
arriving in peak	(two-way)	In	Out	In	Out
25	250	225	25	25	225
35	350	315	35	35	315
50	500	450	50	50	450

Table 1: Traffic volumes – various attendance scenarios

The junction was analysed using the SIDRA computer modelling package and the above turning volumes were used, with the peak flow along Main South Road assumed to be 10% of the AADT. The estimated 2031 volumes along Main South Road were used.

The resultant turning volumes are illustrated in Figures 2, 3 and 4 (for the 25 %, 35 % and 50% scenarios) and were modelled for the am and pm peak periods.



Figure 2: Forecast am and pm peak hour volumes accessing the Temple – 25% scenario



Figure 3: Forecast am and pm peak hour volumes accessing the Temple – 35% scenario





Figure 4: Forecast am and pm peak hour volumes accessing the Temple – 50% scenario

The results of the analysis are included in Appendix B and indicate that:

- even in the worst case scenario, whereby 50% of the expected daily traffic arrives in the am peak hour, the junction will operate at a Level of Service A (LoS A), except for the left and right turns from Main South Road which will operate at a LoS B. The 95th percentile back of queue on Main South Road is calculated to be 9.3 m in the am peak; and
- in the corresponding pm peak hour, both Main South Road approaches will operate at a Level of Service A, while Cactus Canyon Road will operate at a LoS B with a calculated 95th percentile back of queue of 20.1 m. No queuing is anticipated on either of the Main South Road approaches.

The capacity of a two-lane, two-way rural road is in the order of 1,750 vehicles per hour (vph) as indicated in Austroads *"Guide to Traffic Management – Part 3: Traffic Studies"*, albeit in reality higher volumes may be accommodated on the subject road.

Given this, even in the worst case scenario whereby half the expected daily attendance all arrive within the same hour, Main South Road will still have available spare capacity, with the junction of Cactus Canyon Road operating efficiently.



6.0 ROAD IMPROVEMENTS

Based on the warrants provided in Austroads "Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections", a channelised right-turn (CHR) treatment and a short left-turn treatment (AUL(s)) are warranted at the junction of Main South Road and Cactus Canyon Road.

These treatments have been incorporated into the analysis using the SIDRA model as described previously.

A concept plan is shown in Figure 5 (and included at a larger scale in Appendix C) which provides an indication of the extent of these treatments, and how this will be able to be incorporated into the existing southbound overtaking lane.



Figure 5: Proposed junction treatment – Main South Road and Cactus Canyon Road

Discussions have been held with officers from both DTEI and the District Council of Yankalilla in the preparation of the concept plan for both the Main South Road/Cactus Canyon Road junction and the access road junction with Cactus Canyon Road.

During the detailed design phase, it will be necessary to develop a design which provides the appropriate Safe Intersection Sight Distance (SISD) on both approaches along Main South Road, using a design speed of 110 km/h.

There may be a requirement to undertake some earthworks to the batters to the south-east of the junction adjacent to Main South Road, however, the extent of any required earthworks, including possible impacts on adjacent properties, will not be



able to be determined accurately until such time as an up-to-date detailed engineering survey is obtained and some preliminary road design undertaken. Notwithstanding this, preliminary on-site investigations indicate that the existing sight distance available is approaching what is required to achieve the SISD.

In addition to the works on Main South Road, improvements to Cactus Canyon Road will be required. These works will consist of, but not limited to:

- constructing a "level" section of road at the junction with Main South Road for a distance of approximately 15 m to enable a bus to be positioned at the junction and be able to easily accelerate to join the traffic stream, rather than having to contend with an incline as currently exists;
- sealing the section of Cactus Canyon Road from its junction with Main South Road to a point just north of the access to the Temple, to DTEI and Council requirements;
- maintain connections to the existing tracks on the land to the south of the junction;
- any other civil related works to establish appropriate road grades to connect to existing levels; and
- the intersection should be of sufficient width to accommodate simultaneous turning movements.



7.0 PARKING DEMAND

On-site parking for vehicles will relate to the peak patronage at any one time, albeit this will fluctuate given the variability of the arrival time and duration of stay. The District Council of Yankalilla's car parking requirements as set out in its Development Plan make mention of a "Place of Worship" requiring one space per five seats. The Buddhist Temple does not provide seating, but basing the number of spaces on one per five people, the maximum number of spaces, assuming full attendance of all people on a Special Event Day at the same time, would require a maximum of 200 spaces.

However, as per the assessment for the traffic generation, the patronage at Special Event Days will occur across a day and not all 1,000 people would be present on site at the same time. Therefore, the demand for parking will be significantly lower than 200 spaces.

Assuming a maximum simultaneous attendance of 500 people then using the Development Plan rate, 100 parking spaces would be required.

In any event, an irregular special event would not normally be the design scenario for parking. Typically parking for the 85th percentile event should be accommodated on the site.

On this basis, a regular attendance day would generate up to 300 persons. Even in the unlikely event that all 300 persons were on-site at one time, there would only be a demand for 60 spaces based on Council's Development Plan rate. The proposal will provide 100 parking spaces, with a further 50 spaces to be made available as an overflow parking area should it be required. Such a provision would essentially cater for parking for 750 persons on-site at any one time, based on Council's Development Plan rate. Such a peak is unlikely to occur.

Even if parking was generated at a rate of one space per three visitors and all 300 patrons on a regular day were to be on-site simultaneously (again an unlikely event), there would only be a peak demand for 100 spaces which will be matched by the proposed dedicated parking spaces, with a further 50 spaces available in the unlikely event that the demand exceeds the provision of the dedicated parking spaces.

In terms of facilities for the retreat style accommodation component, the development plan does not provide parking rates for this type of development, however it does provide a rate for a guest house, being one space per two beds. It is considered that this rate is suitable to assess the provision of parking for the retreat style accommodation component of the Temple development.

On this basis, 15 parking spaces would be required to be provided.



It is intended to provide a parking space adjacent to each building, resulting in a total of 10 spaces being provided. Should the demand for parking by guests staying in the retreat accommodation exceed this, then it is considered that additional parking will be catered for in the main car park area.

The above assessment identifies that there will be adequate parking, albeit it is not envisaged that the demand calculated will be realised for the proposal.

7.1 PARKING DESIGN

The current concept plans show provision for 100 formal spaces, 50 "overflow" parking spaces and provision for four coaches to park at the southern end of the site. Figure 6 provides indicates the proposed arrangement of the parking area.



Figure 6 – Proposed parking area within site



The proposed car park will comply with the Australian/New Zealand Standard, *Parking Facilities Part 1: Off-street car parking (AS/NZS 2890.1:2004)* in that:

- regular spaces will have a minimum width of 2.6 m;
- adjacent aisles will be at least 6.2 m wide (a number of aisles will be wider to accommodate larger vehicle (i.e. coach) movements); and
- spaces will be 5.4 m long.

There will be three spaces allocated for use by persons with a disability. These spaces will be 2.4 m wide with an adjacent 2.4 m wide shared space, in accordance with the requirements of Australian/New Zealand Standard, *Parking Facilities Part 6: Off-street parking for people with disabilities (AS/NZS 2890.6:2009)* and will be located adjacent to the access roadway, opposite the entrance to the Temple.

Given the existing slope of the natural surface of the site, attention will need to be given through the detailed design phase to ensure appropriate grades within the car park area are achieved.

The allowable grades are 1 in 20 measured parallel to the angle of parking and 1 in 16 measured in any other direction.



8.0 PEDESTRIAN PATHWAYS

The pedestrian pathway will commence from two points to the north and south of the proposed aged care facility and meander in a north-west direction toward the Chinese Memorial Garden.

The path is intended to be used by pedestrians and also be accessible to golf carts which will transport those people that are unable to walk the distance between the Garden and the Temple.

The path is proposed to be 4.4 m wide to enable two golf carts to pass, while still retaining an appropriate width for pedestrians.

Due to the steep slope of the existing site, particularly as it extends towards the coastline, careful consideration needs to be given to the grade of the pathway.

8.1 ALLOWABLE GRADIENTS

Austroads *"Guide to Road Design – Part 6A: Pedestrian and Cyclist Paths"* identifies the following in respect to grades:

- "Australian Standard AS 1428.1 2001 lists requirements for the design of sloped footpaths.
- Where the gradient is 1:33 level rest areas 1.2 m long should be provided at not greater than 25 m intervals whereas at 1:20 the interval should not exceed 15 m. Between gradients of 1:33 and 1:20 the interval should be interpolated. Landings are not required on gradients less than 1:33. Paths with a gradient steeper than 1:20 are to be considered as ramps for design purposes."

The proposed path to the Chinese Memorial Garden has been designed at a concept level with the intent of achieving grades greater than 1 in 33 generally, although at some points the grade of the sections will be 1 in 14 (in accordance with Australian Standard, *Design for access and mobility Part 1: General requirements for access — New building work (AS 1428.1–2009)*. These ramps will require hand rails and landings as set out in Section 10.3 of the Standard. Consideration will also need to be given to the ability for golf carts to travel on these paths, or if alternative paths may also be required, depending on grades.



9.0 SUMMARY

The proposed Nan Hai Pu Tuo Temple will attract relatively small number of attendees to the site at any one time on normal attendance days.

Even on special event days, while there may be up to 1,000 people visiting, the attendance will occur over the duration of a day, and hence the peak demand for parking and access will be relatively low.

Main South Road operates well within its capacity, and the introduction of vehicle movements associated with the Temple development will be able to be easily accommodated.

In addition, it is proposed to construct right-turn and left-turn lanes at the junction of Main South Road and Cactus Canyon Road. This junction treatment will enable vehicles travelling north or south along the main road to be relatively unimpeded, thereby retaining the efficiency of this key arterial road. Safety at the junction will also be improved by the provision of the turning lanes.

There will be 100 formal parking spaces provided, plus an additional four spaces for coaches and 50 informal "overflow" parking spaces, for those people accessing the Temple. An additional ten spaces will be provided for the retreat accommodation area to the north-west of the temple, as well as three spaces for people with disabilities.

The topography of the natural surface raises some challenges in achieving the appropriate grades within the internal car park, connecting roads and pathways proposed on the site. However, sufficient investigation of the proposed concept plan has been undertaken to ensure that appropriate grades will be able to be achieved during the detail design phase of the project.



APPENDIX A

DTEI TURNING COUNT DATA (2003) MAIN SOUTH ROAD AND SELLICKS BEACH ROAD

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PM Peak	Cars	9	164	44	-	3	11	7	146	0	29	-	2		
hour (15-15)	CV	2	10	0	0	0	0	0	22	0	2	0	0		
(01.01)	Total	8	174	44	-	3	1	7	168	0	31	-	2		
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way Flows	PM Pé	sak Hour		15:15	436	6		14:15	41		15:1	5	352	17:15 110	
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CV - Commercial Vehicles ZF - Zone Factor SF - Seasonal Factor AADT - Annual Average Daily Traffic



APPENDIX B

SIDRA ANALYSIS



File: Main South Rd - Cactus Canyon Rd.xls PRAM 25%

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File: Main South Rd - Cactus Canyon Rd.xls PRAM 35%

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File: Main South Rd - Cactus Canyon Rd.xls PRPM 35%

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APPENDIX C

PROPOSED INTERSECTION TREATMENT CONCEPT PLAN

Appendix B



AT/11-0087

27 July 2011

Ms Jeni Nolan Nolan Rumsby Planners 41 Glen Osmond Road EASTWOOD SA 5063



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ABN 70 102 630 750

Dear Jeni,

NAN HAI PU TUO TEMPLE - RESPONSE TO DTEI COMMENTS

I refer to the emailed comments received from the Department for Transport, Energy and Infrastructure (DTEI) Regional Planning Engineer, Mr Brian Gilbert, on 20 July 2011, in relation to a concept plan provided to him on 21 June 2011, and offer the following comments to the issues raised:

• "The Department will require the developer to enter into a developer agreement before we undertake any assessment and I will arrange a letter to be sent. Could you please let me know who the letter should be addressed to."

Noted – the developer will be prepared to enter into a Developer Agreement, once the project receives development approval.

• "The small scale and concept nature of the plan limits the comments that can be provided."

The plan provided is a concept only, and is intended to indicate the extent of the right-turn lane and how this would match into the existing commencement of the overtaking lane. It has been developed based on the requirements of the Austroads "Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections". The plan was provided in electronic PDF format and can be enlarged, or alternatively DTEI can request a plan in its preferred scale and this can be provided.

• "A level area will need to be provided at the exit point adequate enough to accommodate the largest vehicle expected to use the site."

Noted and it is intended to provide a level area that can accommodate the wheelbase of the largest vehicle expected to use the site (e.g. a bus/coach).

• "Sight distances will need to meet Austroads Guideline requirements for all entering and leaving movements. The curve to the south may limit sight distance for vehicle exiting the site. The crest to the north may also limit sight distance to the north. Consideration needs to be made for vehicles in the overtaking lane blocking sight distances to the south for right turning vehicles."



It is highlighted in the MFY report that sight lines will need to meet those set out in the Austroads Guidelines which will be further considered in the detail design phase.

• "Any olteration required to the guardfencing will mean that the altered guardfencing will need to be installed to current standards."

Noted – the altered guardfence will be reinstated to the current standard.

• "The stopping area just to the north of the proposed occess will need to be considered ond how this will be dealt with shown on any plans."

Noted – this is understood to be an area maintained by the Onkaparinga Council and the treatment of this area will be discussed with Council in the detail design phase.

• "There is no indicotion of the queue lengths that will be expected in the right turn lane and this will need to be considered."

The report prepared by MFY indicates that queues will be minimal (9.3 m on Main South Road), even in the "worst case" scenario, as calculated by the SIDRA intersection modelling program, and will not adversely impact on the operation of Main South Road.

• "The affect of this right turn lane on the effectiveness of the overtaking lane needs to be assessed and if necessary extension of the overtaking lane."

Based on the concept plan prepared it would appear that there is no impact on the existing overtaking lane and therefore extension of the lane is not considered necessary.

• "With regard to amendments to the existing plan to show the current linemarking layout the department will not be able to provide these at this time due to other priorities. The developer will need to orrange for the necessary plans for his development."

Noted, although clarification should be sought from DTEI as to the existing traffic control that should be used as the basis of the design – either that documented in the current approved DTEI plans, or what is currently marked on site. Further, the developer will not provide DTEI with a traffic control plan outside the scope of work required to implement the changes associated with the development.

Please do not hesitate to contact me if you require any further clarification.

Yours sincerely, MURRAY F YOUNG & ASSOCIATES

ANDREW TOWNSEND Senior Traffic Engineer

AT/11-0087

27 July 2011

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