

REFERRAL RESPONSE – TECHNICAL SERVICES

FILE NO: Development Applications/ 528/2016/1
ADDRESS: 13-15A Coolong Road Vacluse
PROPOSAL: Construction of a new single dwelling house including a swimming pool, ancillary structures & associated landscaping and siteworks
FROM: Mr L Chow
TO: Mr D Booth

1. ISSUES

- None

2. DOCUMENTATION

I refer to the following additional documents received for this report:

- Stormwater Disposal Concept Plans, prepared by ITM design, job numbered 16/103, drawing numbered referenced H-DA-00 to H-DA-03, revision C, dated 3 Apr 2017.
- Letter, prepared by Itm design, referenced File 16 -103 / let 1000.doc, dated 3 Apr 2017
- Preliminary Geotechnical Investigation Report, prepared by Aargus Pty Ltd, referenced GS6705-1B, dated 8 May 2017.
- Letter, prepared Aargus Pty Ltd, referenced GS6705-2A, dated 8 May 2017

3. ASSESSMENT

Comments have been prepared on the following. **Where Approval is recommended, Conditions of Consent follow at the end of the comments.**

a. Site Drainage comments

The submitted stormwater management concept plans prepared by Itm design, job numbered 16/103, drawing numbered referenced H-DA-00 to H-DA-03, revision C, dated 3 Apr 2017, have been reviewed.

Council's Technical Services Division is satisfied that all the outstanding stormwater drainage issues in TS referral response, dated 12 Apr 2017 have been addressed. As such, adequate provision has been made for the disposal of stormwater from the land it is proposed to develop and complies with the Section E2.2.5 of Woollahra DCP.

b. Geotechnical, Hydrogeological and/or Structural comments

A Preliminary Geotechnical Investigation Report, *prepared by Aargus Pty Ltd, , prepared by Aargus Pty Ltd, referenced GS6705-1B, dated 8 May 2017* has been submitted reviewed. The proposal involved excavation of approximately 3.2m to achieve the proposed lower ground level (RL 7.20m).

Although borehole drilling has not been carried out, the report indicates that based on the local experience and adjacent groundwater well information, observation made during the site work during inspection and DCP test results, the following inferred subsurface conditions are identified:

- a) Filling to depth 1.5m
- b) Sandy or Silty Clay to depths between 0.2m and 2.5m
- c) Sandstone bedrock

For groundwater, the report also indicates the following:

Based on the site walkover inspection, groundwater is inferred to be shallow and at sea level within the northern portion and it will be deeper within the southern portion. According to the Office of Water, NSW (Reference 3), standing groundwater may find at approximately 9.2m AHD.

The report made comments and recommendations on the following:

- Excavation conditions
- Vibration Control
- Stability of Basement Excavation
- Earth Pressure
- Foundation
- Groundwater Management
- Additional Geotechnical Investigation

It is noted from the report of the following:

Section 6.2

Geotechnical site investigation by borehole drilling together with rock coring would therefore be required to confirm the inferred underlying subsurface profiles, the strengths and degree of weathering of the soils and rock horizons as well as configuration of any bedding and defects that may be present in the rock horizons.

Section 7.5

*It should be noted that the parameters in Tables 4 (**Typical Geotechnical Design Parameters for Retaining Walls**) and 5 (**Typical Coefficients of Lateral Earth Pressure**) should not be used for design purposes until confirmation can be obtained from borehole drilling at the site*

Section 7.7

The results of the geotechnical desktop study and publically available information indicate that the natural groundwater levels may be present within this site in the form of seepage through the residual soils and/or defects in Sandstone bedrock.

It should be noted that groundwater levels may be associated with the adjacent sea level and could therefore vary as a result of tidal ranges and enter the excavation as rapid seepage depending on the shoring system adopted.

It would therefore be prudent to give consideration to suitable shoring methods and precautionary drainage measures in the design and construction of the proposed

development. It should also be noted that groundwater behaviour may be influenced by the seasonal variations in groundwater level resulting from heavy rainfall, flooding, damaged services, etc.

Council's Technical Services generally has no objection to the proposed works on technical grounds subject to the following:

1. The proposed lower ground floor level shall be fully tanked to ensure permanent dewatering is not required.
2. Prior to the issue of construction certificate, further geotechnical investigation should be prepared and undertaken by a Geotechnical Engineer familiar with the contents of this report. The further geotechnical investigation report shall consist of the following:
 - a) At least three (3) boreholes extending approximately 2m below proposed bulk excavation level shall be carried out, in order to confirm the inferred underlying subsurface profiles, the strengths and degree of weathering of the soils and rock horizons as well as configuration of any bedding and defects that may be present in the rock horizons.
 - b) A piezometer shall be installed in the borehole to assess the expected groundwater conditions during excavation in order to determine the suitable shoring methods and precautionary drainage measures in the design and construction of the proposed development.

Notwithstanding this, Council's Planning Officer is also to undertake an assessment of the proposed excavation against the relevant excavation objectives and controls prescribed under the LEP and DCP.

Conditions covering these matters as well as others identified by Council will be added accordingly.

4. RECOMMENDATION

Council's Development Engineer has determined that the proposal is satisfactory, subject to the following conditions:

A. General Conditions

A.5 Approved Plans & Supporting documents

Reference	Description	Author/Drawn	Date(s)
H-DA-00, H-DA-01, H-DA-02, H-DA-03, revision C	Stormwater Disposal Concept Plan	ITM Design	3 Apr 2017
	Driveway Longitudinal Section	Burley Katon Halliday Pty Ltd	16 Mar 2017
GS6705-1B	Preliminary Geotechnical Investigation Report	Aargus Pty Ltd	8 May 2017

A8 Ancillary Aspect of the Development (Repair Damaged Infrastructure)

B. Conditions which must be satisfied prior to the demolition of any building or construction

B.7 Public Road Assets prior to any work/demolition

C. Conditions which must be satisfied prior to the issue of any construction certificate

C.5 Payment of Security, Levies and Fees

Reference	Description	Author/Drawn	Date(s)
Property Damage Security Deposit (S138)	\$239,250.42	No	T115
Infrastructure Works Bond (S138)	\$6170.40	No	T113
Public Road/Footpath Infrastructure Inspection Fee (S138)	\$441.00	No	

C.13 Road and Public Domain Works – Council Approval Required

A separate application under Section 138 of the *Roads Act* 1993 is to be made to, and be approved by, Council for the following infrastructure works prior to the issuing of any Construction Certificate. The infrastructure works must be carried out at the applicant's expense:

- a) In the event that the existing vehicular crossing is damaged during construction works, a new 3.5m wide vehicular crossing, including the layback and gutter, shall be constructed in accordance with Council's standard driveway drawing RF2A.
- b) A design longitudinal surface profile for the proposed driveway must be generally in accordance with Driveway Longitudinal Section, prepared by Burley Katon Halliday Pty Ltd, dated 16 Mar 2017.
- c) Reinstatement of footpath, kerb and gutter to match existing.
- d) Where a grass verge exists, the balance of the area between the footpath and the kerb over the full frontage of the proposed development must be turfed. The grass verge must be constructed to contain a uniform minimum 75mm of friable growing medium and have a total cover of Couch turf.

Note: To ensure that this work is completed to Council's satisfaction, this consent by separate condition, may impose one or more Infrastructure Works Bonds.

Note: *Road* has the same meaning as in the *Roads Act* 1993.

Note: The intent of this condition is that the design of the road, footpaths, driveway crossings and public stormwater drainage works must be detailed and approved prior to the issue of any *Construction Certificate*. Changes in levels may arise from the detailed design of buildings, road, footpath, driveway crossing grades and stormwater. Changes required under *Roads Act* 1993 approvals may necessitate design and levels changes under this consent. This may in turn require the applicant to seek to amend this consent.

Note: See condition K24 in *Section K. Advising of this Consent titled Roads Act Application*.
Standard Condition: C13 (Autotext CC13)

C.25 Soil and Water Management Plan – Submissions & Approval

C.36 Professional Engineering Details

C.40 Geotechnical and Hydrogeological Design, Certification & Monitoring

The *Construction Certificate* plans and specification required to be submitted to the *Certifying Authority* pursuant to clause 139 of the *Regulation* must be accompanied by:

1. A further Geotechnical Investigation, undertaken by a Geotechnical Engineer familiar with the contents of the Preliminary Geotechnical Investigation Report, prepared by Aargus Pty Ltd, referenced GS6705-1B, dated 8 May 2017. This further geotechnical investigation shall consist of three (3) boreholes extending approximately 2m below proposed bulk excavation level in order to:
 - a) confirm the inferred underlying subsurface profiles, the strengths and degree of weathering of the soils and rock horizons as well as configuration of any bedding and defects that may be present in the rock horizons; and
 - b) assess the expected groundwater conditions during excavation via a piezometer installed in the borehole, in which the suitable shoring methods and precautionary drainage measures in the design and construction of the proposed development can be determined.
2. a *Geotechnical / Hydrogeological Monitoring Program* together with civil and structural engineering details for foundation retaining walls, footings, basement tanking, and subsoil drainage systems, as applicable, prepared by a *professional engineer*, who is suitably qualified and experienced in geotechnical and hydrogeological engineering. These details must be certified by the *professional engineer* to:
 - a) Provide appropriate support and retention to ensure there will be no ground settlement or movement, during excavation or after construction, sufficient to cause an adverse impact on adjoining property or public infrastructure.
 - b) Provide appropriate support and retention to ensure there will be no adverse impact on surrounding property or infrastructure as a result of changes in local hydrogeology (behaviour of groundwater).
 - c) Provide foundation tanking prior to excavation such that any temporary changes to the groundwater level, during construction, will be kept within the historical range of natural groundwater fluctuations. Where the historical range of natural groundwater fluctuations is unknown, the design must demonstrate that changes in the level of the natural water table, due to construction, will not exceed 0.3m at any time.
 - d) Provide tanking of all below ground structures to prevent the entry of all ground water such that they are fully tanked and no on-going dewatering of the site is required.
 - e) Provide a Geotechnical and Hydrogeological Monitoring Program that:

- Will detect any settlement associated with temporary and permanent works and structures;
- Will detect deflection or movement of temporary and permanent retaining structures (foundation walls, shoring bracing or the like);
- Will detect vibration in accordance with AS 2187.2-1993 Appendix J including acceptable velocity of vibration (peak particle velocity);
- Will detect groundwater changes calibrated against natural groundwater variations;
- Details the location and type of monitoring systems to be utilised;
- Details the preset acceptable limits for peak particle velocity and ground water fluctuations;
- Details recommended hold points to allow for the inspection and certification of geotechnical and hydro-geological measures by the professional engineer; and;
- Details a contingency plan.

Standard Condition: C40 (Autotext: CC40)

C.50 Stormwater Discharge to Harbour

C.51 Stormwater Management Plan (site >500m²)

The *Construction Certificate* plans and specifications, required by clause 139 of the *Regulation*, must include a *Stormwater Management Plan* for the site. The *Stormwater Management Plan* must detail:

- a) General design in accordance the stormwater management concept plans prepared by ITM design, job numbered 16/103, drawing numbered referenced H-DA-00 to H-DA-03, revision C, dated 3 Apr 2017, other than amended by this and other conditions;
- b) The modification or renewal of the existing seawall to provide increased marine habitat in accordance with NSW Office of Environment & Heritage publication '*Environmentally Friendly Seawalls*'.
- c) The discharge of stormwater, by direct connection, to Sydney Harbour;
- d) Compliance the objectives and performance requirements of the BCA;
- e) Any rainwater tank (See Note below) required by BASIX commitments including their overflow connection to the *Stormwater Drainage System*, and
- f) General compliance with the Council's Woollahra DCP 2015 Chapter E2 – Stormwater and Flood Risk Management.

Layout plan

A detailed drainage plan at a scale of 1:100 based on drainage calculations prepared in accordance with the Institute of Engineers Australia publication, *Australian Rainfall and Run-off*, 1987 edition or most current version thereof.

It must include:

- a) All pipe layouts, dimensions, grades, lengths and material specification,
- b) All stormwater treatments devices,
- c) All invert levels reduced to Australian Height Datum (AHD),
- d) Location and dimensions of all drainage pits,

- e) Point and method of connection to Councils drainage infrastructure, and
- f) Overland flow paths over impervious areas.

Subsoil Drainage

- a) Subsoil drainage details
- b) Clean out points
- c) Discharge point.

Note: This Condition is imposed to ensure that site stormwater is disposed of in a controlled and sustainable manner.

Note: The collection, storage and use of rainwater is to be in accordance with *Standards Australia HB230-2008 "Rainwater Tank Design and Installation Handbook"*.

Standard Condition: C.51 (Autotext CC51)

D. Conditions which must be satisfied prior to the commencement of any development work

D.4 Dilapidation Reports for existing Buildings

Dilapidation surveys must be conducted and dilapidation reports prepared by a *professional engineer* (structural) of all buildings on land whose title boundary abuts the site and of such further buildings located within the likely "zone of influence" of any excavation, dewatering and/or construction induced vibration.

These properties must include (but is not limited to):

- 11 Coolong Road, Vacluse; and
- 15B Coolong Road, Vacluse.

The dilapidation reports must be completed and submitted to *Council* with the *Notice of Commencement* prior to the commencement of any *development work*.

Where excavation of the site will extend below the level of any immediately adjoining building the *principal contractor* or *owner builder* must give the adjoining building owner(s) a copy of the dilapidation report for their building(s) and a copy of the *notice of commencement* required by s81A(2) of the *Act* not less than two (2) days prior to the commencement of any work.

Note: The reasons for this condition are:

- To provide a record of the condition of buildings prior to development being carried out
 - To encourage developers and its contractors to use construction techniques that will minimise the risk of damage to buildings on neighbouring land
- Also refer to the Dilapidation Report Advising for more information regarding this condition

Standard Condition: D4 (Autotext DD4)

D.5 Dilapidation Reports for Public Infrastructure

D.6 Adjoining buildings founded on loose foundation materials

D.7 Piezometers for the monitoring of Ground water Levels

The *principal contractor* must be provide one piezometers within the excavation area and a further one piezometers around the perimeter of the wall. The piezometers are to be installed to monitor groundwater levels before and during all dewatering works for the construction phase.

The Ground Water Levels monitoring wells and monitoring program must be maintained until the issue of the *Final Occupation Certificate*.

Ground Water Levels are to be regularly monitored during the course of the works as required by the Work Method Statement for the control of Ground Water Levels. Any damaged piezometers are to be replaced to allow uninterrupted monitoring.

Where there are any movements in the Ground Water Levels outside a safe range set by the Work Method Statement for the control of Ground Water Levels corrective action must be undertaken under the direction of the *professional engineer* (hydrological/geotechnical engineer).

Standard Condition: D7 (Autotext DD7)

D.9 Construction Management Plan

D.10 Work (Construction) Zone – Approval & Implementation

D.14 Erosion and Sediment Controls – Installation

E. Conditions which must be satisfied during any development work

E.3 Compliance with Construction Management Plan

E.7 Maintenance of Vehicular and Pedestrian Safety and Access

E.11 Maintenance of Environmental Controls

E.12 Compliance with Geotechnical/Hydrogeological Monitoring Program

E.13 Support of Adjoining Land Owners

E.14 Vibration Monitoring

E.15 Erosion and Sediment Controls – Maintenance

E.17 Disposal of Site Water during Construction

E.20 Check Surveys - boundary location, building location, building height, stormwater drainage system and flood protection measures relative to Australian Height Datum

E.24 Compliance with Council's Specification for Roadworks, Drainage and Miscellaneous Road Works

**F. Conditions which must be satisfied prior to any occupation or use of the building
(Part 4A of the Act and Part 8 Division 3 of the Regulation)**

F.7 Commissioning and Certification of Systems and Works

G. Conditions which must be satisfied prior to the issue of any Subdivision Certificate
Nil

H. Conditions which must be satisfied prior to the issue of a Final Occupation Certificate (s109C(1)(c))

H.13 Road Works (including footpaths)

H.14 Dilapidation Report for Public Infrastructure Works

H.20 Positive Covenant & Works-As-Executed Certification of Stormwater Systems

On completion of construction work, stormwater drainage works are to be certified by a *professional engineer* with Works-As-Executed drawings supplied to the PCA detailing:

- a) Compliance with conditions of development consent relating to stormwater;
- b) The structural adequacy of the rainwater tank;
- c) That the works have been constructed in accordance with the approved design and will provide the detention storage volume and attenuation in accordance with the submitted calculations;
- d) Pipe invert levels and surface levels to Australian Height Datum;
- e) Contours indicating the direction in which water will flow over land should the capacity of the pit be exceeded in a storm event exceeding design limits.
- f) A positive covenant pursuant to Section 88E of the *Conveyancing Act* 1919 must be created on the title of the subject property, providing for the indemnification of Council from any claims or actions and for the on-going maintenance of the rainwater tank and all the stormwater treatment systems, including any pumps and sumps incorporated in the development. The wording of the Instrument must be in accordance with Council's standard format and the Instrument must be registered at the Land Titles Office.

Note: The required wording of the Instrument can be downloaded from Council's web site www.woollahra.nsw.gov.au. The PCA must supply a copy of the WAE Plans to Council together with the *Final Occupation Certificate*. The *Final Occupation Certificate* must not be issued until this condition has been satisfied.

I. Conditions which must be satisfied during the ongoing use of the development

I.29 On-going Maintenance of the rainwater tank and stormwater treatment systems

The Owner(s) must in accordance with this condition and any positive covenant:

- a) Permit stormwater to be temporarily detained by the system;
- b) Keep the system clean and free of silt rubbish and debris;
- c) Maintain renew and repair as reasonably required from time to time the whole or part of the system so that it functions in a safe and efficient manner and in doing so complete the same within the time and in the manner reasonably specified in written notice issued by the Council;

- e) Carry out the matters referred to in paragraphs (b) and (c) at the Owners expense;
- f) Not make any alterations to the system or elements thereof without prior consent in writing of the Council and not interfere with the system or by its act or omission cause it to be interfered with so that it does not function or operate properly;
- g) Permit the Council or its authorised agents from time to time upon giving reasonable notice (but at anytime and without notice in the case of an emergency) to enter and inspect the land with regard to compliance with the requirements of this covenant;
- h) Comply with the terms of any written notice issued by Council in respect to the requirements of this clause within the time reasonably stated in the notice;
- i) Where the Owner fails to comply with the Owner's obligations under this covenant, permit the Council or its agents at all times and on reasonable notice at the Owner's cost to enter the land with equipment, machinery or otherwise to carry out the works required by those obligations;
- j) Indemnify the Council against all claims or actions and costs arising from those claims or actions which Council may suffer or incur in respect of the system and caused by an act or omission by the Owners in respect of the Owner's obligations under this condition.

This condition has been imposed to ensure that owners are aware of require maintenance requirements for their stormwater systems.

Note: This condition is supplementary to the owner(s) obligations and Council's rights under any positive covenant.

J. Miscellaneous Conditions

Nil

K. Advisings

K.23 Dilapidation Report

K.24 Roads Act Application

Leo Chow

Development Engineer

Date: 12 May 2017

REFERRAL RESPONSE – TECHNICAL SERVICES

FILE NO: Development Applications/ 528/2016/1
ADDRESS: 13 Coolong Road VAUCLUSE 2030
PROPOSAL: Construction of a new single dwelling house including a swimming pool, ancillary structures & associated landscaping and siteworks
FROM: Mr L Chow
TO: Mr D Booth

2. ISSUES

- Stormwater treatment
- Stormwater Discharge directly to Sydney Harbour

2. DOCUMENTATION

I refer to the following documents received for this report:

- Driveway Schemes, prepared by Burley Katon Halliday Pty Ltd, dated 16 Mar 2017.
- Driveway Schemes: Worst case edge: Internal Edge, prepared by Burley Katon Halliday Pty Ltd, dated 16 Mar 2017.

3. ASSESSMENT

Comments have been prepared on the following. **Where Approval is recommended, Conditions of Consent follow at the end of the comments.**

a. Site Drainage comments

No revised stormwater management concept plans have been submitted to Council. As such, site drainage issues listed on the previous referral correspondence, dated 6 Mar 2017 are still outstanding. These include:

Rain Gardens

The proposed development shall provide rain gardens in accordance with controls C4 – C6 of Section E2.2.3.

Stormwater treatment

Information shall be submitted to show the proposed gross pollutant trap (GPT) will satisfy the water quality targets indicated in control C7 of Section E2.2.3.

Discharge directly to Sydney Harbour

Written approval from the Waterways Authority to discharge stormwater into Sydney Harbour is required in accordance with C4 of Section E2.2.8.

In addition, the following issues shall be addressed:

- *The invert level of the drainage outlet and the outlet of the GPT shall be provided to ensure the GPT is protected from the backflow of foreshore inundation, such as tide.*
- *Maintenance access to the rainwater tank shall be shown on the plans.*
- *The existing outlet may require modification subject to the requirements of Property NSW (previously Sydney Harbour Foreshore Authority).*

b. Flooding & Overland Flow comments

The applicant is to modify or renew the existing seawall to provide increased marine habitat. Information about designing seawall is available from Council.

c. Vehicle Access & Accommodation comments

- The submitted Driveway Longitudinal Section Profile, prepared by Burley Katon Halliday Pty Ltd, dated 16 Mar 2017, has been reviewed and considered satisfactory. Condition will apply.
- Based upon the information from the submitted architectural plans and Driveway Longitudinal Section Profile, the *finished floor level of the garage entrance shown in the landscape plans and stormwater plans (RL 6.370m AHD) shall be revised to correspond with the architectural plans (RL 7.170m AHD)*

4. RECOMMENDATION

Council's Development Engineer has determined that insufficient information has been submitted to enable an assessment of the proposal. The following information is required before any further assessment of the application can be undertaken:

1. Revised stormwater management plan shall be submitted to Council to address the following:
 - a. *The proposed development shall provide rain gardens in accordance with controls C4 – C6 of Section E2.2.3.*
 - b. *Information shall be submitted to show the proposed gross pollutant trap (GPT) will satisfy the water quality targets indicated in control C7 of Section E2.2.3.*
 - c. *The invert level of the drainage outlet and the outlet of the GPT shall be provided to ensure the GPT is protected from the backflow of foreshore inundation, such as tide.*
 - d. *Maintenance access to the rainwater tank shall be shown on the plans.*
 - e. *The existing outlet may require modification subject to the requirements of Property NSW (previously Sydney Harbour Foreshore Authority).*

2. Written approval from the Waterways Authority to allow stormwater to discharge into Sydney Harbour.
 3. Modification or renewal of the existing seawall in according to '*How to make your Seawall more environmentally friendly*' from Sydney Metropolitan Catchment Management Authority to increase marine habitat.
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Leo Chow
Development Engineer

12 Apr 2017

REFERRAL RESPONSE – TECHNICAL SERVICES

FILE NO: Development Applications/ 528/2016/1
ADDRESS: 13 Coolong Road VAUCLUSE 2030
PROPOSAL: Construction of a new single dwelling house including a swimming pool, ancillary structures & associated landscaping and siteworks
FROM: Mr L Chow
TO: Mr D Booth

3. ISSUES

- Stormwater treatment
- Parking
- Gradients of internal driveway

2. DOCUMENTATION

I refer to the following documents received for this report:

- Statement of Environment Effects, prepared by Daintry Associates, referenced 475, dated 27 Nov 2017.
- Architectural Plans, prepared by Burley Katon Halliday Pty Ltd, referenced A.00.00-A.00.03; A.01.01-A.01.05; A.02.01-A.02.10, dated 16 Nov 2016.
- Survey Plans, prepared by Hill & Blume Pty Ltd, drawing numbered 58315001A-58315004A, dated 20May 2016.
- Stormwater Disposal Concept Plans, prepared by Itm design, job numbered 16/103, drawing numbered referenced H-DA-00 to H-DA-0, revision B, dated 28 Nov 2016.
- Preliminary Geotechnical Investigation Report, prepared by Aargus Pty Ltd, referenced GS6705-1A, dated 26 Oct 2016.

3. ASSESSMENT

Comments have been prepared on the following. **Where Approval is recommended, Conditions of Consent follow at the end of the comments.**

a. Site Drainage comments

The submitted stormwater management concept plans, prepared by ITM design, job numbered 16/103, drawing numbered referenced H-DA-00 to H-DA-0, revision B, dated 28 Nov 2016, do not comply with the following controls in Chapter E2 of Woollahra DCP 2015) and hence is not satisfactory:

1. Rain Gardens

- *The proposed development shall provide rain gardens in accordance with controls C4 – C6 of Section E2.2.3.*

2. *Stormwater treatment*

- *Information shall be submitted to show the proposed gross pollutant trap (GPT) will satisfy the water quality targets indicated in control C7 of Section E2.2.3.*

3. *Discharge directly to Sydney Harbour*

- *Written approval from the Waterways Authority to discharge stormwater into Sydney Harbour is required in accordance with C4 of Section E2.2.8.*

In addition, the following issues shall be addressed:

- *The invert level of the drainage outlet and the outlet of the GPT shall be provided to ensure the GPT is protected from the backflow of foreshore inundation, such as tide.*
- *Maintenance access to the rainwater tank shall be shown on the plans.*
- *The existing outlet may require modification subject to the requirements of Property NSW (previously Sydney Harbour Foreshore Authority).*

b. Flooding & Overland Flow comments

According to the comment provided by Council's Design Engineer (Drainage), the following conditions shall be applied (Doc 17/29949):

- *All habitual floor area is to be at or above the flood planning level of 3.17m AHD.*
- *The applicant is to modify or renew the existing seawall to provide increased marine habitat. Information about designing seawall is available from Council.*

c. Impacts on Council Infrastructure comments

New driveway 5.5m wide is to be constructed. All the existing crossings shall be removed and the driveway, footpath and kerb and gutter shall be restored accordingly. Conditions applied. Conditions applied.

d. Parking

Maximum number of parking spaces on site

According to Council's DCP 2015 Section E1.4.2, the maximum number of parking space on the site is to be two (2) parking spaces.

e. Vehicle Access & Accommodation comments

Inconsistent finished floor levels of the proposed turning area

The finished floor level of the proposed turning area shown on the architectural plans (RL 7.170m AHD) differs from the level the landscape plans and stormwater plans (RL 6.370m AHD). As such, this shall be clarified accordingly.

Driveway Profile – Prevention of Vehicle Scraping

AS 2890.1 (Off-street car parking) has a requirement to prevent vehicles scraping or bottoming. Changes in grade in excess of 12.5% algebraically (1 in 8) for summit

changes or 15% algebraically (1 in 6.7) for sag grade changes require the introduction of a transition between the main grade lines. Before approval can be granted, it must be ascertained whether the proposed driveway in this development meets all the requirement of AS 2890.1.

*A longitudinal surface profile for the proposed driveway must be submitted for assessment. **The driveway profile is to start from the road centreline and include the kerb and be along the worst case edge of the proposed driveway.** Gradients and transitions must be in accordance with AS 2890.1 (Off-street car parking). The driveway profile submitted to Council must be to (1:25) scale (for template checking purposes) and contain all relevant details: reduced levels, proposed design, grades, natural surface levels and distances.*

Consideration shall be given to ensure the existing footpath levels are to be maintained and cannot be altered without Council's approval.

The layback, crossing and street levels (where practicable) are to comply with Council's Standard Drawing RF2 "Standard Crossing & Layback"

f. Geotechnical, Hydrogeological and/or Structural comments

A Preliminary Geotechnical Investigation Report, prepared by Aargus Pty Ltd, referenced GS6705-1A, dated 26 Oct 2016 has been submitted in support of the application.

Section 5 of the report indicates the following:

No architectural drawings or documents were provided regarding the proposed development.

In addition, Section 7.9 of the report also made the following comments:

Following demolition of the existing buildings within the sites, at least three boreholes extending approximately 2m below proposed bulk excavation level should be carried out, in order to confirm the ground conditions, preliminary conclusions and recommendations presented in this report. It is recommended that a piezometer be installed in this borehole to assess the expected groundwater conditions during excavation. The geotechnical investigation should be undertaken by a Geotechnical Engineer familiar with the contents of this report.

It is noted that at the time of this assessment, the architectural drawings have already been prepared and the demolition of the existing buildings has also been carried out. In this regard, further geotechnical investigation is required and the geotechnical report shall be revised accordingly to include at least three boreholes extending approximately 2m below proposed bulk excavation level as suggested.

4. RECOMMENDATION

Council's Development Engineer has determined that insufficient information has been submitted to enable an assessment of the proposal. The following information is required before any further assessment of the application can be undertaken:

- Insufficient information to show compliance of stormwater treatment.
- Written approval from the Waterways Authority to allow stormwater to discharge into Sydney Harbour.
- Modification or renewal of the existing seawall.
- Submission of a longitudinal surface profile for the proposed driveway.

Note:

It is noted that Lot 1 DP 1186127 (a lot consisting of jetty) does not have direct pedestrian or vehicle access to public road.

Leo Chow
Development Assessment Engineer

6 Mar 2017