
Table of Contents

1. INTRODUCTION	2
2. SUBMISSION REQUIREMENTS OVERVIEW	3
3. PLANS/DRAWINGS	4
4. SUPPORTING REPORT REQUIREMENTS	6
4.1. SITE ANALYSIS (SITE PLAN)	10
4.2. STATEMENT OF ENVIRONMENTAL EFFECTS	11
4.3. BUILDING SUSTAINABILITY RATING CERTIFICATE	13
4.4. LANDSCAPE PLANS	14
4.5. EROSION AND SEDIMENT CONTROL	26
4.6. STORMWATER AND DRAINAGE	28
4.7. WASTE MANAGEMENT	30
4.8. TRANSPORT AND TRAFFIC IMPACT ASSESSMENTS	37
4.9. WORKS TO TREES AND VEGETATION	43
4.10. BUSHFIRE ASSESSMENT REPORTS	47
4.11. FLOOD STUDY	47
4.12. SALINITY ANALYSIS	48
4.13. VISUAL IMPACT ASSESSMENT	49
4.14. HERITAGE	51
4.15. CONTAMINATION	57
4.16. NOISE IMPACT STATEMENT	61
4.17. REQUIREMENTS RELATING TO LAND STABILITY, EXCAVATION AND FILLING	61
4.18. WATER MANAGEMENT PLAN	63
4.19. DUST SUPPRESSION PLAN	63
4.20. ODOUR MANAGEMENT PLAN	64
4.21. SOCIAL IMPACT ASSESSMENT	65
4.22. ECONOMIC IMPACT/NEEDS ASSESSMENT	65
4.23. INFRASTRUCTURE DELIVERY PLAN	65
4.24. 3D MODELLING FOR DEVELOPMENT WITHIN ST MARYS TOWN CENTRE	67

F3 DA Submission Requirements

1. Introduction

This Appendix outlines the requirements for submission of supporting information with development applications. Not all applications will require all the supporting information listed in this section. Which reports are required will depend on the land use itself, the scale of the development, its location and the individual site features.

The distinction between minor and major development is discussed in Appendix F2 'Development Process'. In some cases, the scale of development or the nature of the proposed site will mean that what would normally be classed as minor development may be major development, and vice versa. If in doubt, please contact Council.

Table F3.1 in section 2 below outlines which information is likely to be required for different land uses in different areas. Applicants will need to be aware of site features and natural hazards (e.g. flooding, bushfire, vegetation, high visibility, etc) in order to determine whether a particular report or plan will be required. If in doubt, please contact Council.

2. Submission Requirements Overview

Table F3.1 shows the submission requirements for a number of different types of applications to Council.

Table F3.1

MATRIX OF INFORMATION TO ACCOMPANY APPLICATIONS	Residential Dwellings	Alteration and additions to residential dwellings	Garage, Outbuilding, Awning, Carport, etc	Farm Shed	Swimming Pool	Dual Occupancy/ Secondary Dwelling	Multi dwelling housing and residential flat buildings	Commercial / Industrial building	Alteration and additions to Commercial / Industrial	Demolition	Subdivision of Land	Septic tank	Advertising sign	Home business	Applicant Checklist	Council Checklist
	Site Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Floor Plan	✓	✓	✓	✓		✓	✓	✓	✓		✧	✓		✓		
Elevation Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓	❖		
Section Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✧	❖		
Specifications	❖	❖	❖	❖	❖	❖	❖	❖	❖	✓		✓	✧	❖		
Statement of Environmental Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✧	✓		
BASIX	✓	❖			❖	✓	✓									
Building Sustainability Rating Certificate	✓	✓				✓	✓	✧	✧		✧					
Shadow Diagrams	✧	✧				✧	✧	✧	✧							
Landscaping Plan	✧	✧	✧	✓		✓	✓	✓	✧		✓	✓				
Erosion / Sediment Control	✓	✓	✧	✧	✧	✓	✓	✓	✧	✓	✧	✧	✧			
Drainage Plan (Stormwater)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✧	✧	✓				

MATRIX OF INFORMATION TO ACCOMPANY APPLICATIONS	Residential Dwellings	Alteration and additions to residential dwellings	Garage, Outbuilding, Awning, Carport, etc	Farm Shed	Swimming Pool	Dual Occupancy/ Secondary Dwelling	Multi dwelling housing and residential flat buildings	Commercial / Industrial building	Alteration and additions to Commercial / Industrial	Demolition	Subdivision of Land	Septic tank	Advertising sign	Home business	Applicant Checklist	Council Checklist
	Site and Soil Assessment Report	❖	❖	❖			❖					❖	❖			
Waste Management Plan	✓	❖		❖	✓	✓	✓	✓	❖	✓				❖		
External Colour Schedule	✓	✓		✓		✓	✓	✓	✓							
Survey / Contour Plans	✓			❖		✓	✓	✓			✓					

- ✓ Indicates this information is required
- ❖ Indicates this information is required if you are applying for a Construction Certificate or Complying Development Certificate
- ❖ Indicates this information may be required

Certain applications may require the submission of additional information that has not been listed above. Council encourages you to consult prior to lodging your application. This ensures that many issues may be resolved before an application is lodged and that each application contains all necessary information to enable prompt processing by Council.

3. Plans/Drawings

Table F3.2 lists the types of plans and drawings likely to be required for minor and major development. A minimum of 6 complete sets of all plans and documents are required for the submission of applications.

Table F3.2

Ref.	Plan	Minor	Major	Comments/Other
1	CD with all Plans in PDF format	✓	✓	
3	Survey/contour Plan	✓	✓	If relevant
4	Site Plan	✓	✓	If relevant
5	Site Analysis	✓	✓	
	Local analysis		✧	
	Regional analysis		✧	
6	Floor Plans	✓	✓	If relevant
7	Section Plans	✓	✓	If relevant
8	Elevation Plans	✓	✓	If relevant
9	Demolition Plans	✓	✓	If relevant
10	Shadow Diagrams		✓	
11	Landscape Plan	✧	✓	If relevant
12	Specifications of Advertising Signage	✓	✓	If relevant
13	Specification of External Finishes	✓	✓	If relevant
14	Sample Board		✓	If relevant
15	Photomontages		✓	If relevant
16	Subdivision Plan		✓	If relevant
17	Model		✓	If relevant
18	Plant and Plant Rooms		✓	If relevant

✓ Indicates this information is required

✧ Indicates this information may be required

4. Supporting Report Requirements

Tables F3.3 and F3.4 list the types of reports likely to be required for minor and major development.

Table F3.3

Report	Minor	Major	Notes / Comments
Site Analysis (Site Plan)	✓	✓	Level of detail will vary depending on scale and/or complexity of development or site
Statement of Environmental Effects	✓	✓	Level of detail will vary depending on scale and/or complexity of development or site
Building Sustainability Rating Certificate <ul style="list-style-type: none"> • BASIX Certificate • Non-residential Development 	✓	✓ ✓	BASIX Certificate required for dwelling construction or alterations. Required for non residential development (including mixed use) over \$1 million.
Landscaping Information <ul style="list-style-type: none"> • Landscape Site Analysis Plan • Landscape Concept Plan • Landscape Detail Plan • Landscape Implementation Report • Landscape Maintenance Report • Landscape 3 Year Landscaping Report 	✓ ✧ ✧	✓ ✓ ✧ ✧ ✧	
Erosion and Sediment Control <ul style="list-style-type: none"> • Erosion and Sediment Control Plan • Additional Erosion and Sediment Control Measures 	✓	✓ ✓	Level of detail will vary depending on scale and/or complexity of development or site

Report	Minor	Major	Notes / Comments
Stormwater and Drainage <ul style="list-style-type: none"> • Drainage Plan (Stormwater) • Site and Soil Assessment Report • Stormwater and Drainage Report 	<ul style="list-style-type: none"> ✓ ✓ 	<ul style="list-style-type: none"> ✓ ✓ ✧ 	
Waste Management Plan	✓	✓	
Transport and Traffic Impact Assessments <ul style="list-style-type: none"> • Traffic Impact Statement • Traffic Report • Transport Management and Accessibility Plan (TMAP) 	<ul style="list-style-type: none"> ✧ 	<ul style="list-style-type: none"> ✓ ✧ ✧ 	

✓ Indicates report is required

✧ Indicates this information may be required

Certain applications may require the submission of additional information that has not been listed above. Council encourages you to consult prior to lodging your application. This ensures that many issues may be resolved before an application is lodged and that each application contains all necessary information to enable prompt processing by Council.

Table F3.4

Report	Minor	Major	Notes / Comments
The following reports are required if the site or development characteristics fit the necessary criteria. For example, if a site is on bushfire prone land, a bushfire assessment report will be required. If the proposal includes works to trees and vegetation then the relevant applications and reports will be required.			
Works to trees and vegetation <ul style="list-style-type: none"> • Tree Survey and Assessment Report • Arboricultural Survey Report • Tree Management Plan 	<ul style="list-style-type: none"> ✓ ✧ ✧ 	<ul style="list-style-type: none"> *✓ *✓ 	Information to be provided with applications for tree pruning / removal Certain works to trees and vegetation Where trees to be retained as part of development

Report	Minor	Major	Notes / Comments
<ul style="list-style-type: none"> Flora and Fauna Assessment Report Species Impact Statement 	*✓	*✓	<p>Information to be provided with development applications for works to any indigenous trees and vegetation</p> <p>*where Council determines works to trees and vegetation likely to impact threatened species, populations, ecological communities or habitats</p>
<p>Bushfire Assessment Reports</p> <ul style="list-style-type: none"> Non-integrated development Integrated development 	*✓	*✓	<p>*if site is bushfire prone land</p> <p>*if site is bushfire prone land</p>
Flood Study	*✓	*✓	*if site is affected by 1 in 100 ARI flood event
Salinity Analysis	*✓	*✓	*if site identified as subject to potential risk of salinity
Visual Impact Assessment	*✓	*✓	*if site is located in areas identified on Penrith LEP 2010 Scenic and Landscape Values Map or land zoned E1 or E2 on Penrith LEP 2010 Land Zoning Map
<p>Heritage</p> <ul style="list-style-type: none"> Heritage Impact Statement Heritage Conservation Management Plan Archival Record 	*✓	*✓	<p>*any development that would:</p> <ul style="list-style-type: none"> -affect a heritage item; -be carried out in a heritage conservation area; -affect a place of potential heritage significance; or -occur in the vicinity of a heritage item. <p>*where proposal could affect the significance of a heritage item, heritage conservation area or place of potential heritage significance</p> <p>*where proposal involves demolition or partial demolition of a heritage item, a place within a heritage conservation area or a potential place of heritage significance</p>

Report	Minor	Major	Notes / Comments
<ul style="list-style-type: none"> Archaeological Assessment Report Aboriginal Cultural Heritage Archaeological Survey Report 	*✓ ◇	*✓ ◇	<p>*where proposal involves disturbance or development of a heritage item listed as an <i>archaeological site</i> in Penrith LEP 2010</p> <p>*where proposal involves disturbance to the soil or construction works and the land is potentially archaeologically sensitive or has an area of 5 hectares or more</p>
<p>Contamination</p> <ul style="list-style-type: none"> Contamination Investigation Report / Preliminary Contamination Investigation (Stage 1) Detailed Contamination Site Investigation (Stage 2) Site Remedial Action Plan (Stage 3) Validation and site monitoring reports Site Audit (Contamination) Chemical Use and Storage Report 	◇ ◇ ◇ ◇ ◇	*✓ *✓ *✓ *✓ *✓ ◇	<p>*where contamination is, or may be, present</p> <p>*when preliminary investigation indicates land is contaminated or is, or was, formally used for a potentially contaminating activity</p> <p>*where remedial action is required</p> <p>*to confirm whether the clean-up objectives have been attained and whether further remediation or restrictions on land use are required</p> <p>*where independent review is required of site investigation, remediation or validation</p> <p>*if proposal involves storage of chemicals on the site</p>
Noise Impact Statement	*✓	*✓	*where proposal may be impacted by road, rail or aircraft noise and/or where proposal is potentially noise generating
<p>Land Stability, excavation and filling</p> <ul style="list-style-type: none"> Geotechnical report Landfill validation report 	*✓ *✓	*✓ *✓	<p>*where building is proposed on land with slope gradient higher than 15%</p> <p>*where proposal involves landfill</p>

Report	Minor	Major	Notes / Comments
Water Management Plan	✓	✓	Where application is for an industrial or rural land use that will increase the water needs of a particular area
Social Impact Assessment		✓	
Economic Impact Assessment		✓	Including child care centres over 40 places, major retail development
Environmental Impact Assessment	✧	✓	Major development (e.g. designated development) and development that may result in contamination
Urban Design Assessment		✓	
Local Analysis	✧	✓	
Regional Analysis	✧	✓	
Infrastructure Delivery Plan		✓	Required for new urban areas
3D Modelling		✧	Required for certain developments in St Marys Town Centre

✓ Indicates report is required

✧ Indicates this information may be required

Certain applications may require the submission of additional information that has not been listed above. Council encourages you to consult prior to lodging your application. This ensures that many issues may be resolved before an application is lodged and that each application contains all necessary information to enable prompt processing by Council.

4.1. Site Analysis (Site Plan)

A Site Analysis involves looking at the features of the site and the immediate surrounding area and, where possible, presenting the information in a diagram(s). This enables the opportunities and constraints to be identified and subsequent development to respond appropriately to the site characteristics. A Site Analysis should include the following minimum elements:

- 1) The site's dimensions and areas;
- 2) North point and the site's orientation (e.g. solar access);
- 3) Topography (with 0.5m to 1m contours);
- 4) Road, pedestrian and cycle access points;

- 5) Services and infrastructure (e.g. electricity poles, stormwater drainage lines, natural drainage, kerb crossings and easements);
- 6) Rights of way;
- 7) Views to and from the site (more detail is provided below);
- 8) Site overland flows and drainage patterns;
- 9) Geotechnical characteristics of the site and suitability for development;
- 10) Location of site in relation to shops, community facilities and transport;
- 11) Heritage items on site or on adjoining properties;
- 12) Form and character of adjacent and opposite buildings in the streetscape, including both sides of any street that the development fronts;
- 13) Location and use of any existing buildings or built features on the site;
- 14) Location and important characteristics of adjacent public, communal and private open spaces;
- 15) Location of significant vegetation on the site and on adjoining properties and all street trees;
- 16) Location of any significant noise sources on and in the vicinity of the site; and
- 17) Assessment of site contamination and/or remediation.

The Site Analysis includes the site and the immediate context - usually up to 50 or 100 metres in any direction from the site (depending on the scale of development, the proposed land uses and its impacts). The Site Analysis should include plan and section drawings of the existing features of the site at the same scale as the site and landscape plan.

Not all of the elements listed above will be relevant for every development or site. You are strongly recommended to contact Council's Development Services Unit to discuss the requirements for your proposal prior to lodging a development application.

4.2. Statement of Environmental Effects

A Statement of Environmental Effects (SEE) is a written document that supports the development application. It demonstrates that, as the applicant, you have considered what impact your development will have on the natural and built environment and how you propose to mitigate any negative effects. All developments will require a SEE, although the level of detail may vary according to the type of development. For most minor development, there is no need for the SEE to be prepared by a specialist.

A SEE should include, but is not limited to, the following:

An Assessment of Relevant Planning Controls

This section is important as it demonstrates how the proposal complies with relevant planning policies (including State Environmental Planning Policies (SEPPs), Local

Environmental Plans (LEPs), Development Control Plans (DCPs) and other relevant policies).

For each issue listed below, identify which policies apply to the site and describe how the proposal complies.

Site Suitability

- i) Identify flooding, drainage, landslip, mine subsidence, soil erosion, bushfire or any other risk.

Access and Traffic

- ii) Describe driveway access, manoeuvrability and pedestrian safety.
- iii) Discuss the suitability of the existing road network.
- iv) Describe the number of vehicle movements entering and exiting the site, including delivery trucks.
- v) Describe the number and location of parking spaces.

Streetscape and Design

- vi) Discuss how the design of the development has taken into consideration the existing streetscape.
- vii) Provide details of the proposed external finishes, including material type and colour.

Services

- viii) Discuss the availability of utility services such as power, water, sewer and telephone services.
- ix) Describe the method of sewerage effluent and stormwater disposal.

Privacy, Views and Overshadowing

- x) Provide shadow diagrams and explain how they satisfy Council's requirements for solar access.
- xi) Discuss how the proposal affects the views both from and into the site, from neighbouring properties, roads and any more distant elevated vantage points together with any measures to reduce the impact.

Social and Economic Effects

- xii) Discuss whether the development will have a positive or negative social impact on the locality. Provide proposed measures to address any negative impacts.
- xiii) Discuss what economic impact the development will have on the locality.

Flora and Fauna

- xiv) In relation to the Threatened Species Conservation Act, discuss the impact that the development will have any threatened or endangered species.

4.3. Building Sustainability Rating Certificate

4.3.1. Residential Development (BASIX Certificate)

A BASIX Certificate is required for all dwellings, including those dwellings in a mixed use development and serviced apartments intended or capable of being strata titled. Proposals for additions and/or alterations to an existing dwelling also need a BASIX Certificate.

The Building Sustainability Index (BASIX) is a web-based planning tool designed to assess the potential performance of residential buildings against a range of sustainability indices. Applicants can generate the BASIX Certificate only on the NSW Department of Planning BASIX website: www.basix.nsw.gov.au. For more information, phone the BASIX Help Line on 1300 650 908.

The applicant is required to submit the BASIX Certificate with the development application or Complying Development Certificate application. The BASIX Certificate and plans and/or specifications must be consistent. Plans and specifications must identify BASIX commitments fundamental to the design of the development (e.g. location and size of rainwater tanks, windows, heating and cooling systems). Inconsistencies may be resolved through amendment of plans and/or specifications or by submitting a new BASIX Certificate with commitments that match the rest of the application.

Like other development and building standards, BASIX commitments will be checked for installation and operation as part of the certification of completed building works. It should also be noted that as many BASIX commitments will involve the purchase and correct installation of building elements and materials, it is important to keep all receipts and certificates of installation for review by the certifying authority.

4.3.2. Non-residential Development

Non-residential developments including mixed use developments with a construction cost of \$1 million or more are to demonstrate a commitment to achieving no less than 4 stars under Green Star or 4.5 stars under the National Australian Built Environment Rating System.

The applicant is required to submit the rating certificate with the development application or Complying Development Certificate application. The plans and specifications must also identify the Green Star or NABERS commitments which will be checked by a professional building certifier during construction. Submitted plans or specifications and the certificate must be consistent. Inconsistencies may be resolved through amendment of plans and/or specifications or by submitting a new Certificate with commitments that match the rest of the application.

National Australian Built Environment Rating System (NABERS)

NABERS is a national rating system that measures the energy efficiency, water usage, waste management and indoor environment quality of a building or tenancy and its impact on the environment. NABERS provides a star rating based on a buildings actual operational performance. The rating takes into consideration:

- The climactic conditions in which the building operates
- The hours of its use

- The level of services it provides
- The energy sources it uses
- Its size and occupancy.

For more information, visit www.nabers.gov.au

Green Star

Green Star is an environmental rating scheme that provides formal accredited evaluation of the environmental design and achievements of buildings across nine categories (management, indoor environment quality, energy, transport, water, materials, land use and ecology, emissions and innovation). Green Star provides certified ratings of 4, 5 or 6 Stars. Information about Green Star is available from www.gbca.org.au/green-star.

The Green Star certification system was developed and is administered by the Green Building Council of Australia, a not-for-profit organisation.

4.4. Landscape Plans

All design work is to be undertaken to a level consistent with industry best practice and must meet the following requirements as a minimum. The degree of detail is to be relevant and appropriate to the scale of the development. The name, qualifications and membership details of the person or company preparing the plans is to be shown on each plan.

4.4.1. Landscape Site Analysis Plan

The purpose of a Landscape Site Analysis Plan is to ensure that key site planning issues are identified and are a part of the design process. For category 2 and 3 developments (see the Landscape Design Section of this Plan), the details of the site analysis are best depicted on a separate plan. In the case of category 1 proposals, this information can form part of the Landscape Concept Plan.

It is not sufficient to prepare a Landscape Site Analysis Plan and then ignore it during the design process. The Landscape Site Analysis Plan will have identified the opportunities and constraints of a particular site and the relevant surrounding area. The purpose of the Landscape Site Analysis Plan is to inform the design process. Some of the information will also form the basis for preparing management plans for vegetation, erosion and sedimentation control, stormwater and waste.

The following indicates the sort of information to be collected and presented in the Landscape Site Analysis Plan depending upon the site and the complexity of the proposal. Figure F3.1 provides an example.

1. Site survey

- a) Identifies the lot and its boundaries.

2. Plan information

- a) Scale of plan at 1:100 or 1:200 (use ONLY these scales) plus bar scale.
- b) North point.

- c) Name and qualifications of person preparing Landscape Site Analysis Plan.

3. Existing site features

- a) Location and uses of any existing buildings and structures on the site showing those to be removed and retained.
- b) Location and height of walls and fences built to the boundary.
- c) Heavily shaded areas from existing structures, mature trees or dominant landform, such as rock ledges.
- d) Archaeological and heritage sites.
- e) Any easements and rights-of-way and their restrictions.

4. Services

- a) Location of existing overhead and underground utility services (electricity, gas, telephone, water, sewer and stormwater drainage lines, inlets and collection points).

5. Use of adjacent land

- a) Location and uses of adjacent buildings and vegetation.
- b) Ridge levels and floor levels of adjacent buildings.
- c) Potential for overlooking into and from window openings in walls adjacent to the development site.
- d) Potential for shading on adjacent properties.
- e) Streetscape features and character (e.g. street trees, poles, kerb crossovers, bus stops) and street trees

6. Landform

- a) Height contours at regular intervals (and any relevant road benchmark) and areas of steep slope (20% or more).
- b) Existing natural features (e.g. cliffs, rock outcrops).
- c) Orientation of site (e.g. south-facing slope).

7. Soils

- a) Depth of topsoil and subsoil.
- b) pH (the level of soil acidity affects its performance).
- c) Condition - fertility, whether it has been compacted, cut or filled.
- d) Erosion problems, contamination or salinity.

8. Plants

- a) Existing established individual or stands of trees and vegetation with their height and spread, condition and common/botanical name – particularly note any trees listed as “Significant”.
- b) Existing ground levels around the base of trees.
- c) Extent and name of any weed infestation.
- d) Plants proposed to be removed.
- e) Plants proposed to be protected and retained.

9. Wildlife

- a) Any habitats on the site and nearby land.
- b) Fauna habitat possibilities (e.g. niches in rockeries, ponds for frogs, habitat plants (nectar for small birds)).

10. Climate

- a) Directions of pleasant and unpleasant summer and winter winds.
- b) Windbreaks and their likely permanence.
- c) Frost pockets.
- d) Shady areas.
- e) Direction and extremity of bushfire threat.

11. Water

- a) Sources of water flowing on to the site and the general quality of that water.
- b) Drainage patterns on the site, areas of concentrated runoff, ponding, possible flooding.
- c) Adjoining riparian zone, if within 40 metres of a waterway.
- d) Characteristics of the drainage system immediately downstream of the site (e.g. bushland creek or a constructed stormwater drainage channel).

12. Views and vistas

- a) Good and unsightly views into and from the site.
- b) Qualities of the site that are important in the view to and from the site (e.g. major trees).

4.4.2. Landscape Concept Plan

A Landscape Concept Plan is required for all category 2 and 3 developments and may also be required for some category 1 developments. It should express the developer's intent and ideas, and show how the proposed landscaping relates to the characteristics of the site and its setting.

The following information should be provided in the Landscape Concept Plan:

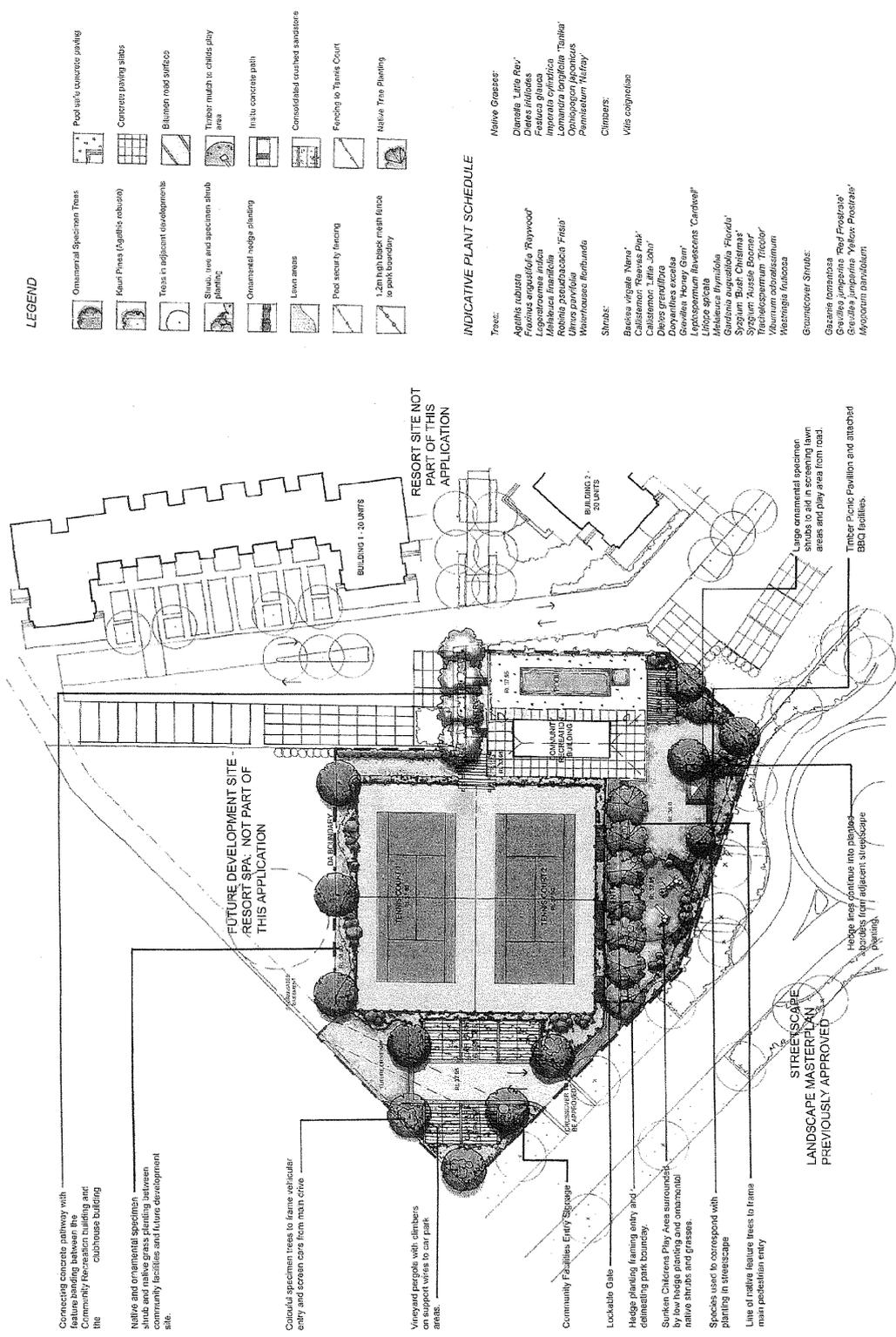
- a) A statement summarising the vision or concept of the design, existing and proposed character, relevant issues identified in the site analysis and other reports, and how the design responds to those issues for example heritage and access issues.
- b) All proposed areas to be landscaped including balconies, roof gardens, courtyards. Show general landscape materials, finishes and treatments (e.g. massed planting beds, specimen trees, paving, gravel, turf, water element, lighting, signage). Include notations linked to specific parts of the plan to explain purpose, function and character.
- c) Hard and soft landscaped areas showing contours, spot heights and finished levels, including retaining walls and fencing heights, types and colours.
- d) Existing trees to be retained including surveyed spot height at the base of the trunk, and numbered where relevant according with the arborist report. Also include the extent of tree protection zones and measures on the plan (refer to AS4970 Protection of Trees on Development Sites).
- e) Broad descriptions of proposed land modelling and areas of cut and fill. The plan must demonstrate that any proposed changes of level will not have an adverse effect on the plants and natural features to be retained.
- f) Description of landscape values being promoted (e.g. bushland habitat, temperature moderation, reduce runoff and increase infiltration, heritage, streetscape compatibility, etc.).
- g) Indicative planting scheme that includes an indicative schedule of tree, shrub and groundcover species to be used (include botanical and common name, mature height, spread of foliage and container size). Any species nominated for street trees should be listed separately.
- h) Specification notes for maintenance works (watering, weeding and fertilising of plants for successful establishment) including the proposed duration of the plant establishment period. Also proposed maintenance activities that will affect the appearance of plants such as hedging.
- i) Accessibility and universal design statement for open space areas, including compliance with relevant Australian Standards, seating types (including armrests and backs), ramps, kerb ramps etc.
- j) Existing trees that adjoin the site or may be affected by the development including existing trees to be removed.
- k) Landscape details (including cross sections and elevations) to indicate changes in level, walls, depth of planting media, preliminary construction details or any key components.
- l) Replacement strategy for failures in plant materials and built works.

- m) Erosion and sediment control details may need to be included depending upon the scale of the works.
- n) Submit any other related plans for the context eg. masterplans, precinct plans with other stages, circulation networks.

An example of a Landscape Concept Plan is included in Figure F3.2. Elevations and sections are recommended to illustrate design intent.

Figure F3.2

LANDSCAPE CONCEPT PLAN



4.4.3. Landscape Detail Plan

A Landscape Detail Plan is required for all Category 3 developments and may be required for some category 2 developments. When Council requires a Landscape Detail Plan the documentation is to be concise and detailed, suitable for tendering. The Landscape Detail Plan must be consistent with the Landscape Concept Plan approved as part of the development consent. For smaller developments, it may be appropriate for the Landscape Concept Plan to be combined with the Landscape Detail Plan.

All requirements listed to be shown on the Landscape Concept Plan, a Landscape Detail Plan should provide information on the following:

1. Site layout

- a) Details for special treatments (e.g. weed eradication, creek banks, mounding, roof gardens, extent or edge basement). Clearly define deepsoil and podium areas.
- b) Location of utility areas and screening details (e.g. garbage receptacle area, storage of recyclable waste, clothes drying area, letter boxes, play areas, common open space, staff recreation areas).
- c) Location and details of lighting and other outdoor fixtures (e.g. signs, furniture including street lighting and power poles).

2. Built structures

- a) Existing and proposed buildings and other structures (including finished levels and floor heights) including play equipment.
- b) Roadways, driveways, car parks, podiums and footpaths (including materials and finished levels). Particular attention should be paid to any areas proposed to meet Australian Standards on Disability Access.
- c) Existing and proposed walls, fences, gates and retaining walls (including materials, heights, colours and finished levels).
- d) Overshadowing caused by proposed built structures on existing site features and on adjacent land.

3. Plant selection

- a) Planting layout plan showing location of species and dimensions at maturity, including street trees, trees on adjacent properties, trees on site, shrubs, groundcovers, turf, etc.
- b) Planting schedule with botanical and common names, whether evergreen or deciduous and local/native/exotic species, container size, quantities, dimensions at maturity, spacing and staking and tying requirements for all species nominated.
- c) Schedule listing botanical and common names of trees to be removed, and trees to be retained.

4. Construction details

- a) Standard construction and detail drawings (e.g. sections through mass planting beds, tree planting, paths, steps, retaining walls and fencing).

- b) Detailing and location of all edge treatments (e.g. concrete, brick, timber).
- c) Any non-standard construction details to demonstrate how the design would be implemented.

Examples of Landscape Detail Plans are included in Figures F3.3 – F3.5.

Figure F3.3: Landscape Detail Plan (Single Residential)

LANDSCAPE DETAIL PLAN (SINGLE RESIDENTIAL)

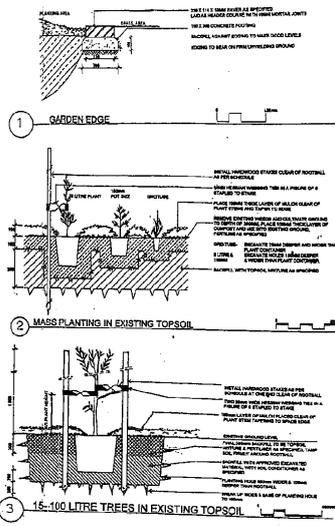
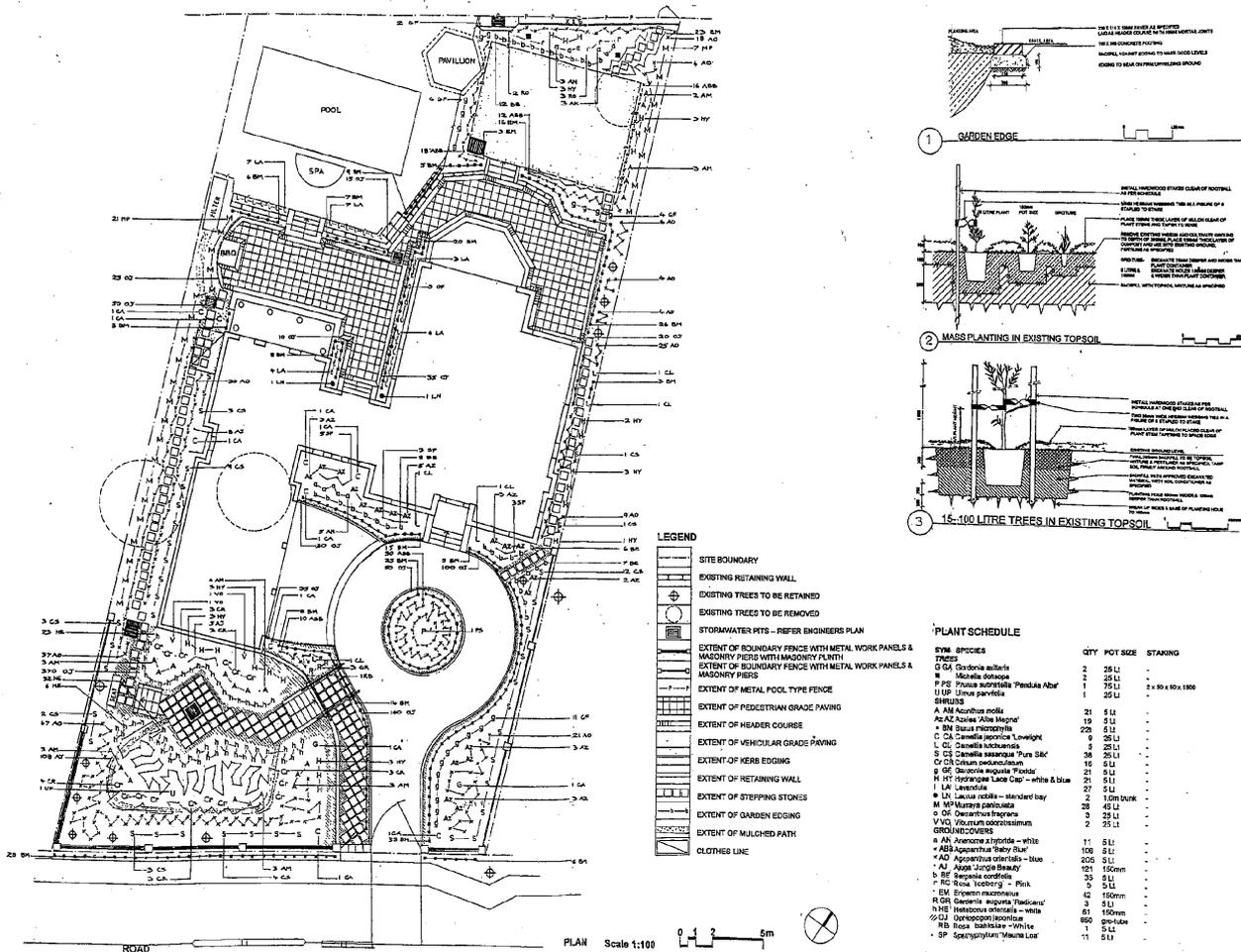
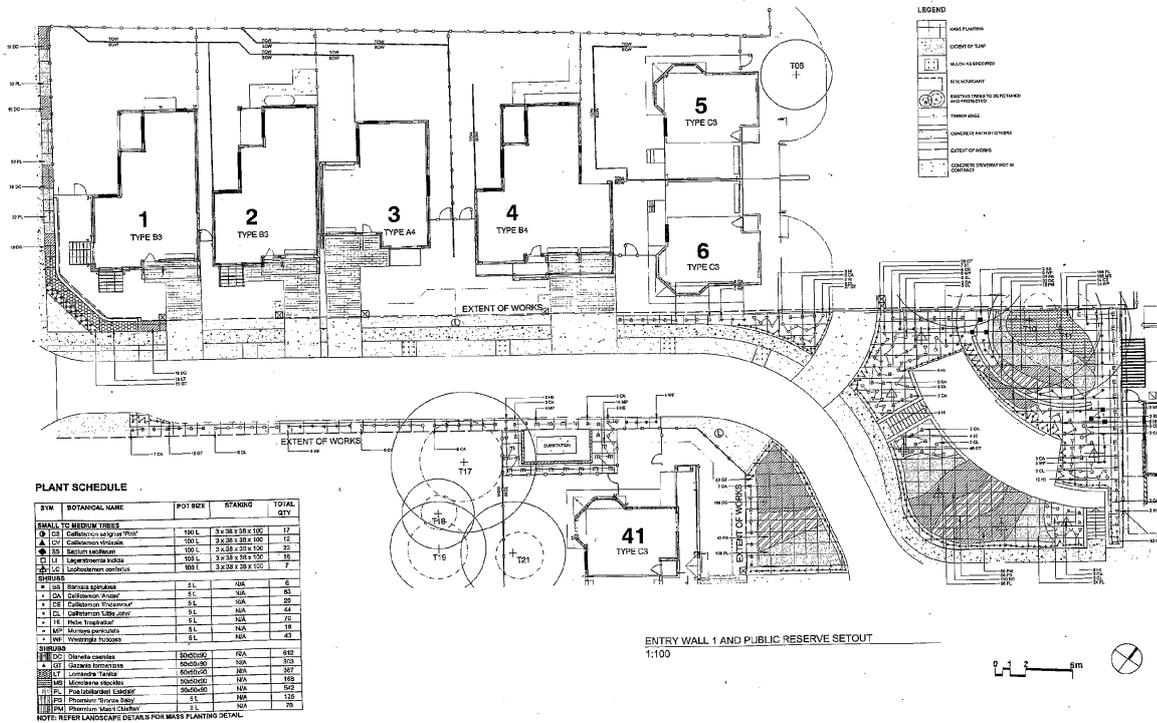
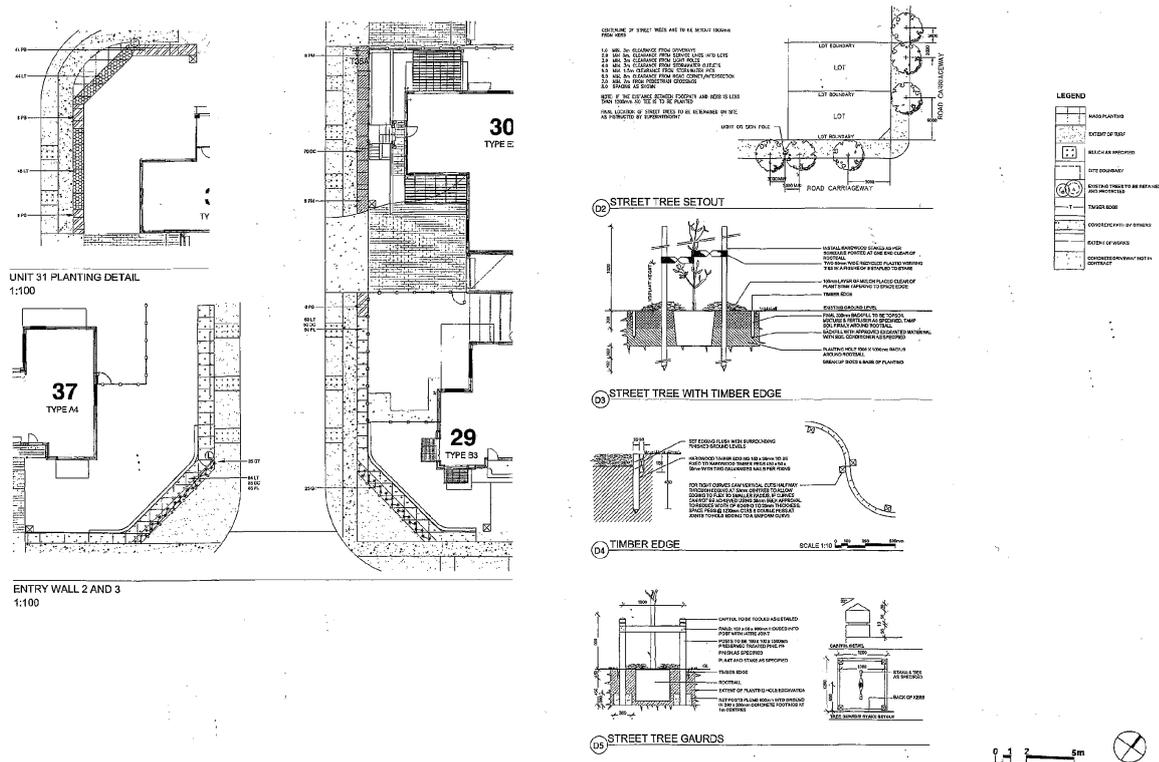


Figure F3.4: Landscape Detail Plan (Multi-Unit)

LANDSCAPE DETAIL PLAN (MULTI-UNIT)



LANDSCAPE DETAIL PLAN CONTINUED (MULTI-UNIT)



- d) A plant establishment period has been set, and its duration and name of contractor engaged to undertake the maintenance work.

No Occupation Certificate for the development will be issued prior to Council receiving this report. If Council is not the Principal Certifying Authority for the development, a copy of the Implementation Report is to be forwarded to Council.

4.4.5. Landscape Maintenance Report

Twelve months after the Principal Certifying Authority has issued an Occupation Certificate, a Landscape Maintenance Report is to be submitted to Council. This will provide written certification on whether the approved landscaping has been completed in accordance with the approved landscape plan and consent conditions. The Maintenance Report should also state whether the work has been completed in accordance with all relevant Australian Standards and that all plants are healthy with no evidence of die-back, stress, disease or loss.

4.4.6. Landscape 3 Year Landscaping Report

For larger and more visually significant developments, Council at its discretion may place a condition on the consent requiring that a report be provided to Council 3 years after the issuing of the Occupation Certificate. This report is to certify one of the following:

- a) Landscaping has matured and is in accordance with the original landscape approval.
- b) The landscaping has not matured in accordance with the original design philosophy and requires significant restoration. If this is the case, restoration plans are to be submitted to Council for approval and implemented at the expense of the property owners.

As a guide, developments that may have this condition placed upon the consent will generally be in visually significant locations or of a size that Council considers warrants ensuring that the landscaping is still thriving and in accordance with the original design philosophy.

4.5. Erosion and Sediment Control

An Erosion and Sediment Control Plan is required where any proposed land use or development activity involves:

- a) The disturbance of the existing ground surface or placement of fill thereon, and/or result in a change to the shape of the land; and
- b) Changes in the velocity and/or volume of water runoff entering directly or indirectly a natural waterbody, or flowing over the land.

4.5.1. Erosion and Sediment Control Plan

Erosion and Sediment Control Plans (ESCP) must include:

- 1) A drawing that clearly shows the site layout and, where appropriate, the approximate locations of best management practices and other matters listed in (2) and (3) below. Where these drawings are to scale, the scale should be at 1:500 or larger.

A narrative should accompany the drawing that describes how erosion control and soil and water management will be achieved on site, including ongoing maintenance of structures.

2) The following background information should be presented on the drawings(s):

- a) Location of site boundaries and adjoining roads;
- b) Approximate grades and indications of direction of fall;
- c) Approximate location of trees and other vegetation, showing items for removal or retention (consistent with any other plans attached to the application);
- d) Location of site access, proposed roads and other impervious areas (e.g. parking areas and site facilities);
- e) Existing and proposed drainage patterns with stormwater discharge points;
- f) North point and scale.

3) On the drawing or in a separate commentary, show how the various soil conservation measures will be carried out on site, including:

- a) Timing of works;
- b) Locations of areas where a protective ground cover will, as far as is practicable, be maintained;
- c) Access protection measures;
- d) Nature and extent of earthworks, including the amount of any cut and fill;
- e) Where applicable, the diversion of runoff from upslope lands around the disturbed areas;
- f) Location of all soil and other material stockpiles including topsoil storage, protection and reuse methodology;
- g) Location and type of proposed erosion and sediment control measures;
- h) Site rehabilitation proposals, including schedules;
- i) Frequency and nature of any maintenance program;
- j) Other site-specific soil or water conservation structures.

4.5.2. Additional Erosion and Sediment Control Measures for Large Sites

Where an application is for a site(s) over 2500m² and there will be substantial excavation, cut and/or fill, the applicant is required to include a number of additional measures in the Erosion and Sediment Control Plan:

- 1) Identify all areas likely to cause pollution of waterways from the transport of stormwater runoff containing sediment and silt, and implement appropriate devices to stop the risk of pollution.

- 2) Divert clean water around the construction site to prevent contamination.
- 3) Retain as much natural vegetation as possible and limit site disturbance.
- 4) Control stormwater that enters the construction site from upstream.
- 5) Divert stormwater from undisturbed upper slopes onto stable areas.
- 6) Retain and stockpile all excavated topsoil on site for future landscaping and to minimise risk of erosion.
- 7) Prevent sediment/silt from entering adjoining public or private property (especially drains) by installing sediment control devices at the low side of sites and wash down areas.
- 8) Provide a single, stabilised entry/exit point to the site.
- 9) Prevent sediment or building materials from reaching the road or Council's stormwater system. Remove sediment by sweeping, shovelling or sponging. Under no circumstances shall sediment be hosed.
- 10) Where a work zone permit over public property is applicable, ensure that appropriate debris control devices are implemented to prevent spillage of building materials into stormwater drains.
- 11) Compact all drainage lines when backfilling.
- 12) Connect downpipes to the stormwater system as early as possible.
- 13) Revegetate all disturbed areas, after on-site works are completed, in order to stabilise surface.
- 14) Maintain all sediment control devices during construction and earthworks to standards acceptable to Council.

4.6. Stormwater and Drainage

Relevant Stormwater Drainage Policy

Council has adopted the *Stormwater Drainage Specification for Building Developments*. This policy provides guidance to ensure ensure that stormwater drainage for building developments is designed to provide a robust, safe and low maintenance system to manage stormwater impacts on the drainage network and surrounding properties in a holistic manner that is incorporated aesthetically with the overall development.

This policy sets out the documentation that is required to be submitted to Council as part of the Development Application.

4.6.1. Drainage Plan

Where developments result in stormwater runoff, detailed stormwater management plans are required. The submission requirements are contained in Council's *Stormwater Drainage Specification for Building Developments*.

Stormwater design is an important consideration in planning a development and should be considered prior to determination of the final building layout and landscaping treatment.

A concept Stormwater Management Plan (SMP), prepared by a suitably qualified person shall be submitted with the Development Application. The SMP shall include a site drainage plan prepared in accordance with the checklist in Appendix A of Council's *Stormwater Drainage Specification for Building Developments*. The SMP shall also address Council's *Water Sensitive Urban Design Policy* and *Water Sensitive Urban Design Technical Guidelines*.

4.6.2. Stormwater and Drainage Report

A Stormwater and Drainage Report may be required for major development; or if the site is subject to flooding from adjacent or on site drainage channels; or if the site is affected by drainage constraints; or if the development proposes to divert a natural or artificial drainage line (including overland flow paths).

A Stormwater and Drainage Report must include:

- 1) A statement or justification as to why the proposed development is appropriate on flood prone land;
- 2) A survey of the site, with 1 metre contours;
- 3) A survey of the watercourse/drainage line (if applicable);
- 4) The estimated 1% Average Exceedance Probability flood level (or 1:100 ARI flood level); and
- 5) Demonstration that:
 - The development will not increase the drainage flow to other properties;
 - The quantity and velocity of runoff will not increase, post development; and
 - The buildings are sited away from the impact of any drainage overflow.
- Further details are contained in Council's *Stormwater Drainage Specification for Building Developments*.

4.6.3. On Site Detention Systems

An On Site Detention Systems Report is required for developments as specified in Council's *Stormwater Drainage Specification for Building Developments*. The system must be designed by a suitably qualified civil engineer and address the requirements of the DCP and Council's *Stormwater Drainage Specification for Building Developments*.

4.6.4. Site and Soil Assessment Report

A Site and Soil Assessment Report is required to be submitted for a new domestic 'Aerated Wastewater Treatment System' (AWTS) when:

- The buffer distances as referred to in the controls in the On Site Sewage Management subsection of Infrastructure and Services section are not provided;

- A subdivision application is being considered;
- The AWTS is proposed within an identified high risk area; e.g. when site slope exceeds 20% (refer to table in the On Site Sewage Management provisions of the Infrastructure and Services Section of this Plan); or
- An on-site SMS already exists on the site and a second system is proposed.

A Site and Soil Assessment Report is required to be submitted for all other types of on-site SMS. Section 4 of the 'Environmental and Health Protection Guidelines - On Site Sewage Management for Single Households' and AS/NZS 1547:2000 should be used as a guide. A model Site and Soil Assessment Report is included in Council's On-site Sewage Management and Greywater Reuse Policy.

4.7. Waste Management

4.7.1. Waste Management Plans

Waste Management Plans are required for any application for demolition, construction or change of use of buildings for rural, residential, commercial or industrial development, or subdivision. This includes alterations or additions of over 50% of the existing buildings. Waste Management Plans are also required for applications for a Complying Development Certificate.

Waste Management Plans must provide details of:

- a) The types and volumes of wastes and recyclables likely to be generated as a result of the development;
- b) How waste and recyclables will be stored and treated on site;
- c) How waste and recyclables are to be disposed of; and
- d) How ongoing waste management will operate once the development is complete.

Table F3.5 provides an outline of the details required on these plans, which are to accompany the development application.

Table F3.5

Proposed Development	Details Required on Plans
Demolition	<p>Areas to be excavated</p> <p>On-site sorting and storage areas</p> <p>Access for vehicles</p>

Proposed Development	Details Required on Plans
Construction	Areas to be excavated On-site sorting and storage areas Access for vehicles
Single Dwellings and Dual Occupancies	Location of waste storage and recycling areas
Multi-Unit Dwellings	Location and design for waste storage areas / facilities
Commercial Development	Location and design of waste storage areas / facilities Vehicular access
Industrial Development	Location and design of waste storage areas / facilities Vehicular access

4.7.2. Sample Waste Management Plans

The applicable sections of Tables F3.6 – F3.10 below must be completed and submitted with your development application for demolition, construction or use of a premise.

Table F3.6

OUTLINE OF THE PROPOSAL			
Site Address:		<i>162 Smith Street, Green Park</i>	
Name of Applicant:		<i>Joe Bloggs, Buildwell Construction</i>	
Address of Applicant:		<i>PO Box 101, Penrith NSW 2003</i>	
Phone:	<i>4732 1234</i>	Fax:	<i>4732 4321</i>
Buildings and other structures currently on the site:			
<i>3 bedroom brick house, concrete slab and driveway, timber fencing</i>			
Description of Proposal:			
<i>Two storey commercial building (with offices), built with a metal frame and brick construction</i>			
Applicant's Signature:		Date:	

Table F3.7: Demolition

Materials	Destination			
	Re-use and recycling		Disposal	
Material	Estimated Volume (m ² or m ³)	ON SITE Specify proposed reuse or on-site recycling	OFF-SITE Specify contractor and recycling outlet	Specify Contractor and Landfill Site
Excavation Material	200m ³	<i>Re-use top soil for landscaping and behind retaining walls</i>		<i>Remainder to XY landfill by JKL waste contractors</i>
Green waste	60 m ³	<i>Separated – some chipped for landscaping</i>	<i>Remainder to XYZ Landscape Suppliers for re-use</i>	<i>Stumps and large trunks separated and to Deep Gully Land Fill by JKL Waste Contractor</i>
Bricks	100 m ³	<i>Clean and reuse lime mortar bricks for footings. Broken bricks for internal wall</i>	<i>Concrete mortar bricks to KLM Crushing and Recycling Company</i>	<i>NIL</i>
Concrete	15 m ³	<i>Existing driveway to remain during construction</i>	<i>KLM Crushing and Recycling Company</i>	<i>NIL</i>
Timber – what kind? <i>Hardwood</i>	5 m ³	<i>Re-use for formwork and studwork. Chip remainder for use in landscaping.</i>	<i>To stockpile at EFG Transfer Station, by JKL Waste Contractor</i>	<i>NIL</i>
Plasterboard	3 m ³	<i>Break up and use in landscaping</i>		<i>Remainder to XY landfill by JKL waste contractors</i>

Materials	Destination			
	Re-use and recycling		Disposal	
Material	Estimated Volume (m ² or m ³)	ON SITE Specify proposed reuse or on-site recycling	OFF-SITE Specify contractor and recycling outlet	Specify Contractor and Landfill Site
Metals - What kind? <i>Aluminium</i>	<i>1 m³</i>		<i>FGH Metal Recyclers</i>	<i>NIL</i>
Other <i>Tiles/ Doors/ Windows</i>	<i>5 m³</i>	<i>Broken tiles used for access</i>	<i>S.T Second Hand Building Supplies</i>	<i>NIL</i>

Note: Details of on-site waste management should be provided on the plans accompanying your application (i.e. location of on-site storage areas / containers, vehicular access point, etc).

Table F3.8: Construction

Materials	Destination			
	Material	Estimated Volume (m ² or m ³)	Re-use and recycling	Disposal
ON SITE Specify proposed reuse or on-site recycling			OFF-SITE Specify contractor and recycling outlet	Specify Contractor and Landfill Site
Excavation Material		<i>See demolition section</i>		
Green waste		<i>See demolition section</i>		
Bricks	2 m ³		<i>KLM Crushing and Recycling Company</i>	<i>NIL</i>
Concrete	5 m ³		<i>KLM Crushing and Recycling Company</i>	<i>NIL</i>
Timber – what kind? <i>Hardwood</i>	3 m ³		<i>XYZ Landscape Suppliers for chipping and composting</i>	<i>NIL</i>
Plasterboard	1 m ³		<i>XYZ Landscape Suppliers</i>	<i>NIL</i>
Metals - What kind? <i>Aluminium</i>	3 m ³		<i>FGH Metal Recyclers</i>	
Other <i>Tiles/ Doors/ Windows</i>	1 m ³			<i>Deep Gully landfill by JKL Waste Contractor</i>

Note: Details of on-site waste management should be provided on the plans accompanying your application (i.e. location of on-site storage areas / containers, vehicular access point, etc).

Table F3.9: Ongoing use of a premise

Type of Waste To be Generated	Volume (m ³ or litres per week)	Proposed On-Site Storage and Treatment Facilities	Destination
<p>Recyclables</p> <ul style="list-style-type: none"> • office paper • retail paper / cardboard • glass, aluminium, steel, and plastic containers • wooden pallets • printer cartridges • plastic crates • ferrous and non-ferrous metals • wood/timber • vehicle batteries <p>Liquid Waste</p> <ul style="list-style-type: none"> • cooking oils • sump oil <p>Organic Waste</p> <ul style="list-style-type: none"> • food organics • garden organics <p>Medical Waste</p> <ul style="list-style-type: none"> • syringes, sharps • bandages and any blood or body fluid contaminated products <p>Other Waste</p> <ul style="list-style-type: none"> • food scraps etc • non recyclable plastics (i.e. wrapping) • non-recyclable retail wastes including fabrics, ceramics and contaminated paper and cardboard 	<p>Refer to waste generation rates in Appendix F4 Technical Information</p>	<p>Interim Storage</p> <ul style="list-style-type: none"> • separate storage bins for general waste and recyclables placed in strategic locations throughout the building (see location plan) • liquid wastes stored within sealed containers • all medical wastes stored in approved secured containers • garden organics removed by gardening contractor • food organics stored in water and vermin proof containers <p>Storage Prior to Collection</p> <ul style="list-style-type: none"> • central garbage and recycling bin storage bay/room for all users located adjacent to loading dock at rear of complex • shared garbage and recycling bin bays (residential units) provided in accordance with Councils requirements (see plans) • food and organic waste stored in refrigerated rooms if required • medical waste bins store in secure room or storage area • liquid waste and batteries stored in a suitably bunded area or location to secure accidental spillage • wooden pallets and plastic crates stored in loading dock area 	<p>Collection and Processing</p> <ul style="list-style-type: none"> • dry recyclables collected weekly by ABC Contractors for processing at the Disy Recycling Plant Sydney • general waste collected twice weekly by Dump Contractors for delivery to the Government landfill site at Western Creek • medical waste collected weekly by Med Contractors for incineration at the local hospital • cooking oils and motor vehicle oils collected by Liquid Recyclers for reprocessing into liquid gold • food organics collected twice weekly by Food Processors for processing and recovery of energy • garden organics delivered to XYZ composting plant • wood and plastic crates collected by the distributor for reuse • scrap metals collected weekly by Ferrous Contractors for recycling at their Bathurst Plant

Type of Waste To be Generated	Volume (m ³ or litres per week)	Proposed On-Site Storage and Treatment Facilities	Destination
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Note: Attach plans showing the location of waste storage and collection areas, and access routes for tenants and collection vehicles.

Table F3.10: Ongoing management of a premise

Describe how you intend to ensure the ongoing management of waste on-site
1. Interim waste storage areas and/or bins and communal waste storage areas and/or bins will be well signposted to ensure correct use.
2. Cleaning staff will be employed to transfer wastes and recyclables from the interim storage containers to the communal storage area and ensure that the storage bins and storage area is kept clean and in good order.
3. The company tenanting the premises will prepare an environmental management system addressing office and retail waste and recycling. This will include expectations and objectives for sorting and separating wastes.
4. An information kit will be provided to all tenants addressing office and retail wastes, their recycling requirements, and details of the location and operation of the waste storage area.
5. Waste audits will be conducted annually to determine waste output and to improve waste avoidance and resource recovery practices.

4.7.3. Waste Management Checklists

Checklist for Applicants

	Yes	No
Is the waste management plan completed?		
Are facilities available for the separation of wastes and recyclables?		
Has an area been allocated for the storage and collection of wastes?		
Are the waste storage and collection areas located so as to provide easy access for both occupants and collection services?		
Do your plans show details of on-site storage space for construction materials, waste materials and recyclables?		
Is the project planned to maximise the reuse of materials?		
Have arrangements been made for the ongoing management of waste?		

Checklist of Site Works

	Yes	No
Is the waste management plan acknowledged on-site?		
Are waste responsibilities clarified for all personnel and sub-contractors?		
Are works scheduled to minimise time between delivery and installation?		
Is the site planned and managed to minimise wastes?		
Have you arranged for the sale of recycled and salvaged materials?		
Are waste bins covered, sign-posted and properly used?		
Is site signage in place indicating environmental/waste commitment?		

4.8. Transport and Traffic Impact Assessments

4.8.1. Traffic Impact Statement

A Traffic Impact Statement is a simplified process of identification and assessment of relevant traffic impacts of a development. A Traffic Impact Statement may be required for any development proposal where traffic generation and impacts are minor, but have potential to adversely affect the surrounding areas. A Traffic Impact Statement may be prepared by anyone as long as it is of a suitable standard.

The information provided should reflect the size, type and location of the development as well as the relationship to surrounding developments and the adjacent transport network.

The following provides an outline of issues to be addressed in a Traffic Impact Statement:

- a) Traffic generation/attraction and trip distribution of the proposed development;
- b) Parking provisions appropriate to the development;
- c) Impact on road safety;
- d) Existing public transport services in the vicinity of the proposed development;
- e) Impact of generated traffic on key adjacent intersections, streets in the neighbourhood of the development, the environment and other major traffic generating development sites in close proximity;
- f) Existing parking supply and demand in the vicinity of the proposed development;
- g) Safety and efficiency of access between the site and the adjacent road network;
- h) Impact of traffic noise;
- i) Peak period traffic volumes and congestion levels at key adjacent intersections;
- j) Safety and efficiency of internal road layout, including service and parking areas;
- k) Existing proposals for improvements to the adjacent road network and hierarchy;
- l) AADT- annual average daily traffic. It is the estimated yearly total of traffic movements divided by 365; and
- m) Volumes and historical trends on key adjacent roads.

4.8.2. Traffic Report

A Traffic Report is an intermediate level of investigation and assessment of relevant traffic impacts of a proposed development. Development proposals of a size or capacity detailed in Column 2 of Schedule 3 of *State Environmental Planning Policy (Infrastructure) 2007* must be accompanied by a Traffic Report. Council may also require a Traffic Report for other development proposals whose scale, nature or type has potential to impact on transport and traffic.

The Traffic Report must detail the assessed impact of projected pedestrian, cycle and vehicular traffic associated with the proposal and include recommendations as to the extent and nature of the traffic facilities necessary to preserve or improve the safety and efficiency of the adjacent road system, especially on major roads.

The requirements for Traffic Studies and Reports are detailed in the NSW Roads and Traffic Authority "Guide to Traffic Generating Developments." The information provided should reflect the size, type and location of the development as well as the relationship to surrounding developments and the adjacent transport network. Reports should be prepared in accordance with the requirements of the "Guide to Traffic Generating Developments", an outline of which is provided in Table F3.11.

Table F3.11: Key issues in preparing traffic impact studies

Procedures & Key Parameters	Source	Check✓
<i>Brief description of the development</i>		
<i>Application and study process</i>		
Introduction		
<i>Background</i>		
<i>Scope of report</i>		
<i>The key issues and objectives of a traffic impact study</i>		
General Data Collection / Existing Conditions		
<i>Description of the Site and Proposed Activity</i>		
<i>Site location</i>		
Current land use characteristics (zoning) of the proposed site and land use in the vicinity	Development Consent Authority	
<i>Site access</i>		
<i>The Existing Traffic Conditions</i>		
Road hierarchy; including the identification of the classified road network (major and minor roads) which may be affected by the development proposal	Council / RTA	
Inventory of road widths, road conditions, traffic management and parking control	Council / RTA and Survey	
Current and proposed roadworks, traffic management works and bikeways	Council / RTA	
<i>Traffic Flows</i>		

Table F3.11 cont.

Procedures & Key Parameters	Source	Check✓
Commuter parking provision	State Rail / Cityrail / Survey	
<i>Pedestrian Network</i>		
Identify major pedestrian routes	Survey	
Pedestrian flows and potential conflicts with vehicles, particularly where such conflicts cause capacity constraint on either vehicular or pedestrian movement	Survey	
Pedestrian infrastructure	Survey	
<i>Proposed developments in the vicinity</i>		
Proposed Development		
<i>The Development</i>		
Plan reference, if plans not contained in study report		
Nature of development		
Gross floor areas of each component of development		
Projected number of employees/users/residents		
Hours and days of operations		
Staging and timing of development		
Selection of appropriate design vehicles for determining access and circulation requirements	Section 6	
<i>Access</i>		
Driveway location, including review of alternative locations	Sections 5, 6	
Sight distance of driveways and comparisons with stopping and desirable minimum sight distances	Section 6	
Service vehicle access	Section 6	
Analysis of projected queuing at entrances	Section 6	
Current access to site and comparison with proposed access		
Provision for access to, and by, public transport	Section 6	

Table F3.11 cont.

Procedures & Key Parameters	Source	Check✓
<i>Circulation</i>		
Proposed pattern of circulation	Section 6	
Internal road widths	Section 6	
Provision for bus movements	Section 6	
Service area layout		
<i>Parking</i>		
Proposed supply		
Parking provision recommended by State Government policy	RTA / DUAP	
Council code and local parking policies and plans	Council	
Parking layout		
Projected peak demand, based where appropriate on similar research reports and on surveys of similar developments;	Section 5	
Parking for Service / courier vehicles and bicycles	Section 5	
Impact of Proposed Development		
<i>Traffic generation during design periods</i>		
Daily and seasonal factors		
Pedestrian generation and movements		
<i>Traffic Distribution and Assignments</i>		
Hourly distribution of trips		
Assignments of these trips to the road system based where possible on development feasibility studies or on origin/ destination surveys undertaken at similar developments in the areas		
<i>Impact on Traffic Safety</i>		
Assessment of Road Safety Impact		
<i>Impact of Generated Traffic</i>		
Daily traffic flows and composition on key streets and their expected effect on the environment particularly in residential areas		

Table F3.11 cont.

Procedures & Key Parameters	Source	Check✓
Peak period volumes at key intersections and effect of generated traffic on congestion levels	Survey	
Impact of construction traffic during construction stages		
Other proposed developments in the vicinity their timing and likely impact, if known		
Assessment of traffic noise		
<i>Public Transport</i>		
Options for extensions and changes to bus routes and bus stops following discussions with the STA and or private bus operators	STA / Private Operators	
Provision for pedestrian access to bus stops		
<i>Recommended Works</i>		
Improvements to site access and circulation		
Improvements to roads, signals, roundabouts and other traffic management measures		
Improvements to pedestrian facilities		
Effect of recommended works on the operation of adjacent developments		
Effect of recommended works on public transport services including access to bus routes and bus stops		
Provision of LATM measures		
Funding of proposed improvement projects		
Noise attenuation measures		

4.8.3. Transport Management and Accessibility Plan

A Transport Management and Accessibility Plan (TMAP) is required to be submitted for all major developments. A TMAP is a comprehensive assessment of the transport impacts of a major site development or re-development proposal. The TMAP must identify a package of appropriate transport measures (including infrastructure, services and demand management initiatives) for the proposed development, to manage the demand for travel to and from the development, and reduce the demand for travel by private car and commercial vehicles. This should include maximising opportunities for public transport, cycleways and pedestrian paths that link to existing or planned community, recreational and business services and facilities.

The TMAP must be prepared by a suitably qualified and experienced person. The NSW Department of Transport and Roads and Traffic Authority's "Draft Interim Guidelines on Transport Management and Accessibility Plans" provides information of the requirements of TMAPs. The following information is taken from this document to provide an overview of the requirements for a TMAP.

1) Project Context

- a) Outline the strategic context; and
- b) Set objectives and targets/performance criteria. Objectives and targets should include the objectives of this DCP, particularly the general objectives of C10 'Transport, Access and Parking', the specific objectives of the Transport and Land Use Section of this Plan and any other relevant section.

1) Proposal

- a) Describe the proposed site;
- b) Describe the proposed development/land use and the potential future land uses; and
- c) Describe the current transport infrastructure context.

2) Initial Transport Assessment

- a) Outline the technical assessment assumptions; and
- b) Assess the existing travel patterns (including freight).

3) Transport Assessment of Proposal

- a) Determine an initial estimate of travel demand (person trips, freight trips or both);
- b) Estimate the distribution of generated trips between origins and destinations;
- c) Estimate likely modal split (including freight);
- d) Estimate the loads on transport infrastructure/services that serve the project study area;
- e) Analyse capacity/amenity/government policy implications and determine if desired transport system performance criteria are met;
- f) Identify feasible options (including transport and development design) to modify transport impacts; and
- g) Test options to meet objectives and targets.

4) TMAP and Agreement

- a) Identify appropriate measures, including infrastructure, services and policies; and
- b) Check options against objectives and targets, and cost effectiveness and agree on preferred option package.

5) Agreed Package

- a) Include consideration of funding, timing and evaluation.

6) Review of TMAP and Agreement

- a) At the time of development application and at an appropriate interval.

4.9. Works to Trees and Vegetation

Where trees or vegetation are proposed to be ringbarked, cut down, topped, lopped, removed, injured or wilfully destroyed, an assessment of the impact of that work must be carried out. This assessment will vary in scale and complexity depending on the location and extent of the works and whether the site contains any threatened species, population, ecological community or its habitat. Applicants are advised to consult with Council's

Development Services Unit or Tree Management Officer regarding the form of application (Tree Pruning/Removal Application or Development Application) and the level of information required.

4.9.1. Tree Survey and Assessment Report

A Tree Survey and Assessment Report is the minimum level of information to be provided for works to any tree or vegetation. The Tree Survey and Assessment Report is to be provided for a Tree pruning/removal application. A Tree Survey and Assessment Report must address the following matters:

- 1) The location and type of tree(s) or vegetation;
- 2) Details of the proposed works and the reasons for the works;
- 3) The health and condition of the tree(s) or vegetation, including its structural soundness and the condition of the root zone;
- 4) The aesthetic, scientific and/or historic importance of the tree(s) or vegetation;
- 5) The impact of the proposed work on the appearance, health or stability of the tree(s) or vegetation and the general amenity of the surrounding area, including any effect on the streetscape;
- 6) In the case of an application to remove a tree(s) or vegetation, whether pruning would be a more practicable and desirable alternative;
- 7) The risk of personal injury;
- 8) The risk of damage to buildings, structures or services;
- 9) The extent of other trees and vegetation on the property;
- 10) Whether the tree(s) or vegetation is habitat, a source of food or shelter, or used by fauna.

4.9.2. Arboricultural Survey Report (or Arborist Report)

All existing vegetation on the site should be noted on the landscape site analysis plan and in the landscape submission to Council. This includes all existing trees, bushland and shrubs of any prominence or value. However, in the case of large and/or significant trees or shrubs, a separate report should be prepared by a qualified consulting arborist. This report should include an Arboriculture Survey to provide detailed information on the trees present. Full detail of trees to be removed, as well as trees proposed for retention, should be given.

The report is to be prepared by an arborist. Arborists Reports on existing trees and shrubs taller than 5m are to include the following information, where appropriate:

- 1) Allocated survey number (to correlate with survey plan and identify location within site);
- 2) Species name and common name;
- 3) Trees/shrubs to be retained;

- 4) Trees/shrubs to be removed due to the proposed development;
- 5) Trees/shrubs to be removed due to death or disease;
- 6) Estimated height (to aid on-site identification and assessment of significance);
- 7) DBH (Diameter at Breast Height – to indicate tree maturity and allow estimation of lateral root spread);
- 8) Canopy spread (to allow assessment of any requirement to prune or likely impact of overshadowing);
- 9) Health and/or condition status;
- 10) Recommended TPZ (Tree Protection Zone) for trees, which are to be retained, if applicable. This is the minimum distance from the centre of any tree at which development should commence;
- 11) All trees on adjoining properties that are within 3m of the boundary of the proposed development; and
- 12) Where the proposed development will have a significant impact upon the future health and suitability for retention of other large or significant trees located on adjacent properties, but which are further away than 3m, their existence is to be noted and appropriate recommendations provided for their management.

Where the consulting arborist chooses to apply further information, such as a SULE rating, or comparative suitability scale, Council will give this due weight in an assessment of an application.

Council, in assessing development applications where tree removal is included, will consider the following:

- 1) The contribution that the tree makes to the visual landscape that it sits within, including streetscape and distant views;
- 2) If trees are proposed to be removed, whether the proposed development can be modified to retain the tree/s; and
- 3) Whether there are any special construction requirements near to or adjacent to any trees proposed to be retained on the development site.

If there are significant trees on the site, which are being retained, Council may require that these trees be valued by a consulting arborist using the Thyer Method of valuation. If this is the case, this information is to be submitted to Council along with a copy of the Thyer Tree Valuation Work sheet for each tree or group of trees as a part of the Arboricultural Survey Report.

It should be noted that Council generally encourages the retention of trees on development sites and encourages development proposals to be designed so as to minimise the need for tree removal, while ensuring the health of the trees which are retained. Council will consider the removal of trees on development sites in the following instances:

- 1) The applicant can demonstrate that it is not possible to modify the development to allow retention of the tree/s as the proposed development will become economically unviable.

- 2) The applicant can demonstrate that the trees are of such a size and scale that, if they were to be retained, they would not be compatible with the development.
- 3) The applicant can demonstrate that the health of the trees warrants their removal as they are posing a hazard or threat.
- 4) The applicant can demonstrate that the safe useful life expectancy of the tree is minimal.
- 5) The applicant can demonstrate that the tree makes minimal contribution to the streetscape.
- 6) The applicant can demonstrate that the tree or trees make minimal contribution to the landscape amenity of the locality or neighbouring properties.

4.9.3 Tree Management Plan

Where trees are proposed to be or are required to be retained as a part of a development, the Arboricultural Survey Report should also provide a comprehensive Tree Management Plan.

The Tree Management Plan is to be in place PRIOR to commencement of any site works. Site works includes the demolition of existing structures or the entrance onto site of any machinery for excavation, demolition or large scale rubbish removal.

4.9.4. Flora and Fauna Assessment Report including a Seven Part Test

Where vegetation works are proposed to any indigenous vegetation, a Flora and Fauna Assessment Report will, in most cases, also be required. The Flora and Fauna Assessment Report must be undertaken by a suitably qualified and experienced person; i.e. a person with tertiary qualifications in ecology, zoology or botany; with a minimum of 5 years experience in undertaking flora and fauna surveys and assessments; with a demonstrated knowledge of the flora and fauna that occurs in the Penrith local government area; and possessing appropriate licences or approvals under relevant legislation.

The assessment and report must be undertaken and prepared in accordance with the following guidelines:

- *Threatened Species Assessment Guidelines – The Assessment of Significance for TSC Act* (DECCW (OEH) 2007)
- Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft) (DEC, 2004)
- *Significant Impact Guidelines – Matters of National Environmental Significance for the EPBC Act* (Prepared by the Commonwealth Department of the Environment, Water, Heritage and the Arts, 2013).

The report must include as a minimum:

- 1) A written and mapped description of the plant and animal species present and their habitats;
- 2) A clear site plan showing, as a minimum, the proposed development and any associated APZ and Effluent Management Area, location of all vegetation and important site features, location of any vegetation to be removed.

- 3) A statement on whether any of the plant and animal species or their habitats are listed as threatened, endangered or vulnerable species or communities under the *Threatened Species Conservation Act 1995* and/or the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*;
- 4) A description of the proposed vegetation works and, if the works are to be undertaken as part of a proposed development, a description of the proposed development, including measures to mitigate adverse impacts;
- 5) An objective assessment to determine whether the proposed works and development are likely to significantly affect any threatened species, populations or ecological communities or their habitats. This assessment is required under section 5A of the *Environmental Planning and Assessment Act 1979*. Section 5A lists the factors that must be taken into account in making such a determination; and
- 6) Consideration of the likely impacts the proposed works or development may have on any potential use of the vegetation as a fauna movement corridor. Where relevant, consideration of the importance of any rural dams for fauna habitats. The location of any Asset Protection Zone or Effluent Management Area should also be considered by the assessment.

4.9.5. Species Impact Statement

A Species Impact Statement must be prepared by a suitably qualified and experienced person. It is required when Council has reviewed the flora and fauna assessment report and determined that the proposed works and/or proposed development are likely to have a significant effect on a threatened species, population or ecological community or its habitat. The species impact statement must be prepared in accordance with the requirements of the *Threatened Species Conservation Act 1995*. Before preparing a species impact statement, the requirements of the Office of Environment and Heritage and Council must be sought.

4.10. Bushfire Assessment Reports

Development applications on bush fire prone land must be accompanied by a Bush Fire Assessment Report. The Bush Fire Assessment Report must include all the information required by the Rural Fire Service's 2006 publication "Planning for Bush Fire Protection" (PBP).

4.11. Flood Study

A Flood Study will be required for any development on land which has been identified as fully or partially flood affected. A flood study must include:

- 1) A statement or justification as to why the proposed development is appropriate on flood prone land;
- 2) A survey of the site, with 1m contours;
- 3) A survey of the main watercourse (if applicable);
- 4) The estimated 1% Average Recurrence Interval (ARI) flood level;

- 5) Location of flood free access/egress, including spot points to demonstrate that the surface of the access is driveable in flood events;
- 6) Demonstration that:
 - a) The development will not increase the flood hazard or risk to other properties;
 - b) The structure of the proposed buildings will be adequate to deal with flooding situations;
 - c) The proposed building materials are suitable;
 - d) The buildings are sited in the optimum position to avoid flood waters and allow safe flood access for evacuation;
 - e) The proposed redevelopment will not expose any resident to unacceptable levels of risk, or any property to unreasonable damage; and
 - f) Any existing buildings comply with the Draft Flood Proofing Code.

Additionally, where filling of flood liable land is proposed, the Flood Study will need to demonstrate that:

- a) Flood levels are not increased by more than 0.1m by the proposed filling;
- b) Downstream velocities are not increased by more than 10% by the proposed filling;
- c) Proposed filling does not redistribute flows by more than 15%;
- d) The potential for cumulative effects of possible filling proposals in that area is minimal;
- e) There are alternative opportunities for flood storage;
- f) The development potential of surrounding properties is not adversely affected by the filling proposal;
- g) The flood liability of buildings on surrounding properties is not increased; and
- h) No local drainage flow/runoff problems are created by the filling.

The above criteria can only be addressed and satisfied by the submission of a detailed Flood Study by an appropriate consulting engineer. The Flood Study would involve both hydrologic and hydraulic analysis of the watercourse and the effects of the proposed filling on flood levels, flow velocities and distribution of flows.

4.12. Salinity Analysis

A Salinity Analysis is required if the site has been identified as subject to a salinity hazard, or if a preliminary investigation has indicated that the site is, or is likely to be, affected by salinity.

A Salinity Analysis must include:

- Results of the initial evaluation;

- Description of the landscape;
- Description of the soil profile;
- Soil chemical analyses;
- Soil aggressivity and sodicity (if relevant);
- The impact of the proposed development on the saline land or potentially saline land;
- The impact of the saline land or potentially saline land on the development; and
- A Remedial Action Plan, which details;
 - i) The remediation objectives;
 - ii) The process and standards by which the land will be remediated; and/or
 - iii) Mitigation measures required during the course of construction;
 - iv) Specific measures that will be undertaken to reduce the risk of salinity damage to property and structures.

Investigations and sampling for salinity are to be conducted in accordance with the requirements of “Site Investigations for Urban Salinity” (Department of Natural Resources).

The author of the Salinity Analysis must sign off on the project on completion of works and submit this to Council prior to an Occupation Certificate being issued, if required.

4.13. Visual Impact Assessment

New proposals on land identified in the LEP on the Scenic and Landscape Values Map or on land zoned E1 National Parks and Nature Reserves or E2 Environmental Conservation are required to submit a Visual Impact Assessment (VIA) with their development application. Depending on the nature of the development, the VIA is to be prepared by either the designer of the development or a suitably experienced and qualified professional.

Visual Impact Assessment Type 1 (VIA 1)

The following information is to be submitted when undertaking a VIA for Category 1 development:

- 1) Describe the existing visual landscape character of the site and surroundings, taking into consideration existing features such as: the natural landscape (e.g. ridgelines, hillsides, slopes, watercourses and vegetation); the built form (e.g. buildings and structures, roads and other infrastructure); and land use patterns (e.g. in rural areas, existing agricultural patterns and scale). Refer to Penrith City Council’s “Landscape Character Strategy” (2006).
- 2) Provide ground level photographs confirming the scenic prominence of the site and surrounding locality relative to public vantage points. Provide a map to indicate the location from where the photograph is taken and an arrow indicating the direction it was taken.

- 3) Identify the visual impacts and list the mitigation measures employed to reduce the visual impact of the development.
- 4) Superimpose a sketch of all components of the development (e.g. buildings, fences, driveways, dams and signage), as well as all mitigation measures (e.g. mature vegetation, colours and screens) onto at least three photo images taken from relevant viewpoints, to illustrate the appearance of the final development.

Visual Impact Assessment Type 2 (VIA 2)

The following information is to be submitted when undertaking a VIA for Category 2 development:

- 1) Baseline Study – Describe and map the existing visual landscape character and determine the objectives for managing visual landscape character. Refer to Penrith City Council's "Landscape Character Strategy" (2006). Describe and map the site and surroundings, taking into consideration existing features such as: the natural landscape (e.g. ridgelines, hillsides, slopes, watercourses and vegetation); the built form (e.g. buildings and structures, roads and other infrastructure); and land use patterns (e.g. in rural areas, existing agricultural patterns and scale).
- 2) Describe the proposed development:
 - a) Analyse, describe and illustrate the main visual components of the proposed development, particularly elements likely to be visible;
 - b) Describe what different development options (e.g. siting options, different building designs (including orientation, form, colours and materials) and landscape designs) have been considered;
 - c) Provide plans showing locations and the extent of major visual features. Include elevations of buildings and other major structures, showing elements such as height, colours and proposed materials; and
 - d) Where appropriate, include a projected timeline describing changes to the proposed development over a period of time.
- 3) Identify and evaluate the potential visual impacts:
 - a) Identify the views and likely viewers affected;
 - b) Identify and describe the likely changes to the visual landscape character and views; and
 - c) Evaluate the impacts showing the relationship between 'sensitivity' of the affected landscape (the extent to which the landscape is able to accommodate the type and scale of development without adverse effect on character or value) and 'magnitude' of the impact (a combination of extent, scale and duration of any impact).
- 4) Demonstrate visual mitigation measures:
 - a) Determine whether or not the proposed development meets the objectives for managing visual landscape character established in step a) above;
 - b) Identify measures that reduce the negative impacts and facilitate the positive impacts (e.g. layout; choice of site level; reduced proportions; reflectivity of colour of materials;

articulation; extent of cut and fill; visual buffers; and extent of vegetation removed and retained); and

- c) Demonstrate a commitment to implementation of the measures and, where relevant, submit a contingency plan should mitigation not be successful.
- 5) Provide a diagrammatic 'summary drawing' to show how all mitigation measures work together in response to the development.

Submission Material for VIA 1 and 2

Appropriate information should be submitted to support the visual impact assessment and may include:

- a) Succinct and understandable text;
- b) Illustrations that are closely linked to the text, including annotated maps, plans, overlays and photographs;
- c) Aerial photographs showing the site and surroundings, predominant patterns of land use, buildings, vegetation and gardens;
- d) Ground level photographs confirming the scenic prominence of the site and surrounding locality relative to public vantage points. Care should be taken in selecting viewpoints and the focal length of camera settings, so as to represent what the eye sees and not mislead interpretation. Panoramic views are best presented as a sequence of such photographs rather than a wide angle photo. A map should be provided to indicate the location from where the photograph is taken and an arrow indicating the direction it was taken;
- e) Measured surveys describing topography and natural features, and locating structures and services;
- f) Charts and tables to convey complex information and allow comparisons to be made (e.g. landscape data, impact magnitude and significance);
- g) Visualisations such as photo montages, video representations, 3D computer-generated models, with viewpoints selected with care;
- h) Specialist reports, such as an architectural concept report or a landscape concept plan.

Council may request additional specific information to assess the ability of a proposal to address the principles for protecting areas with scenic and landscape values, depending on the specific circumstances of the proposal and the site.

4.14. Heritage

4.14.1. Heritage Impact Statements

As a minimum, the following issues must be addressed in a Heritage Impact Statement:

- 1) **For development that would affect a heritage item:**

- a) The heritage significance of the item as part of the environmental heritage of Penrith;
- b) The impact that the proposed development will have on the heritage significance of the item and its setting, including any landscape or horticultural features;
- c) The measures proposed to conserve the heritage significance of the item and its setting;
- d) Whether any archaeological site or potential archaeological site would be adversely affected by the proposed development;
- e) The extent to which the carrying out of the proposed development would affect the form of any significant subdivision pattern; and
- f) The issues raised by any submission received in relation to the proposed development in response to the notification or advertising of the application.

2) For development that would be carried out in a heritage conservation area:

- a) The heritage significance of the heritage conservation area and the contribution which any building, work, relic, tree or place affected by the proposed development makes to this heritage significance;
- b) The impact that the proposed development would have on the heritage significance of the heritage conservation area;
- c) The compatibility of any proposed development with nearby original buildings and the character of the heritage conservation area, taking into account the size, form, scale, orientation, setbacks, materials and detailing of the proposed development;
- d) The measures proposed to conserve the significance to the heritage conservation area and its setting;
- e) Whether any landscape or horticultural features would be affected by the proposed development;
- f) Whether any archaeological site or potential archaeological site would be adversely affected by the proposed development;
- g) The extent to which carrying out of the proposal development in accordance with the consent would affect any historic subdivision pattern; and
- h) The issues raised by any submission received in relation to the proposed development in response to the notification or advertising of the application.

3) For development that would affect a place of potential heritage significance:

- a) The heritage significance of the place as part of the environmental heritage of Penrith;
- b) The impact that the proposed development will have on the heritage significance of the place and its setting, including any landscape or horticultural features;
- c) The measures proposed to conserve the heritage significance of the place and its setting;

- d) Whether any archaeological site or potential archaeological site would be adversely affected by the proposed development; and
- e) The extent to which carrying out of the proposal development in accordance with the consent would affect any historic subdivision pattern.

4) For development within the vicinity of a heritage item:

- a) A Heritage Impact Statement shall be lodged with a development application for buildings or works in the vicinity of a heritage item. This requirement extends to development that:
 - i) May have an impact on the setting of a heritage item, for example, by affecting a significant view to or from the item or by overshadowing; or
 - ii) May undermine or otherwise cause physical damage to a heritage item; or
 - iii) Will otherwise have any adverse impact on the heritage significance of a heritage item or of any heritage conservation area within which it is situated.
- b) As a minimum, the following issues must be addressed in the Heritage Impact Statement:
 - i) The impact of the proposed development on the heritage significance, visual curtilage and setting of the heritage item;
 - ii) Details of the size, shape and scale of, setbacks for, and the materials to be used in, any proposed buildings or works; and
 - iii) Details of any modification that would reduce the impact of the proposed development on the heritage significance of the heritage item.

4.14.2. Heritage Conservation Management Plan

A Heritage Conservation Management Plan may be required where a proposal could affect the significance of a heritage item, heritage conservation area or place of potential heritage significance. A Conservation Management Plan guides the future development and management of a heritage item, place or area in a way that protects its heritage significance. It not only identifies a preferred use for the item, place or area but also how any proposed changes will be implemented so that the maximum heritage significance is retained. As such, it provides a framework for investigating, assessing and managing the heritage significance of heritage items, places or areas.

The issues to be addressed in the Conservation Management Plan will vary depending on the heritage item and the proposed development. Conservation Management Plans must be prepared by a qualified heritage consultant in accordance with the guidelines of the NSW Heritage Office. The following is provided as a guide only on the information to be included in a Conservation Management Plan:

- a) An investigation of the heritage item's historical and geographical context, its history, fabric, research potential, and importance to the community;
- b) A statement of significance, of the nature, extent and degree of significance of the heritage item based on the documentary and physical evidence;

- c) A conservation policy, arising out of the statement of heritage significance, to guide current and future owners of the item on the development potential of the item and its ongoing maintenance. Constraints and opportunities should be identified;
- d) Examination of current proposals for reuse or development, and how they can best be achieved in accordance with the conservation policy. Where proposals may have an adverse impact on the heritage significance of the item, the need for such work must be justified. Where development proposals have not been finalised, several likely options are to be discussed;
- e) Recommendations for how the heritage item can best be managed bearing in mind those responsible and interested in its ongoing conservation. It is to include proposals to review the Conservation Management Plan and the item's maintenance.

4.14.3. Archival Recording Standards

Archival recording is required where demolition or partial demolition of a heritage item, a place within a heritage conservation area, or a potential place of heritage significance is proposed. The archival recording should be undertaken by a heritage consultant experienced in the preparation of an archival recording.

The following is a simple checklist of items that must be included in an archival recording. Additional information may be submitted if it adds to the understanding of the place.

- 1) Title page with subject, author, client, date and copyright;
- 2) Statement of why the record was made;
- 3) Outline history of the item and associated sites, structures and people;
- 4) Statement of heritage significance of the items using "Assessing Heritage Significance" by the NSW Heritage Office (2002);
- 5) Inventory of archival documents related to the item (e.g. company records, original drawings), when available;
- 6) Location plan showing the relationship to surrounding geographical features, structures, roads, vegetation etc. including a north point;
- 7) Base plans - Drafted or hand-drawn base plans shall be prepared and include:
 - a) Cross-references to photographs;
 - b) Names of the relevant features, structures and spaces; and
 - c) A north point.
- 8) Black and white photographic record - One set of 35mm black and white negatives labelled and cross-referenced to base plans and accompanied by informative catalogues are required. Two copies of proof sheets and select medium format prints showing important details shall be provided. Images shall include:
 - a) Views to and from the site (possibly from four compass points);
 - b) Views showing relationships to other relevant structures and landscape features;

- c) All external elevations;
- d) Views of all external and internal spaces (e.g. courtyards, rooms, roof spaces etc.); and
- e) External and internal details (e.g. joinery, construction joints, decorative features, paving types, etc.).

All photographic images shall be mounted and labelled.

- 9) Colour slides - Two copies mounted in archival stable slide pockets, clearly labelled and cross-referenced to base plans. Images shall include:

- a) Views to and from the site and/or the heritage item; and
- b) Views and details of external and internal colour schemes as appropriate.

Selected colour prints may be required. They should be mounted and labelled.

- 10) Measured Drawings - Appropriately scaled drawings printed on archival stable paper shall be provided. For a built item, this may include:

- a) Site plan (1:500 or 1:200);
- b) Floor plan/s (1:100 or 1:50);
- c) Elevations and sections (1:100 or 1:50);
- d) Roof plan/s (1:100 or 1:50);
- e) Ceiling and joinery details (1:20 or 1:10); and
- f) Machinery and services details (e.g. drainage lines).

- 11) Presentation - The archival recording shall be presented to Council as a single bound document preferably in A4 format. Large maps shall be folded and inserted as map pockets attached to the document. Similarly, all photographic images shall be fixed to the document and labelled. No unbound documents or loose supporting materials such as maps, plans, slides, negatives or prints are acceptable.

Two complete copies of the archival recording are required. However, one copy may not include a set of photographic negatives and colour slides. An additional copy of the whole recording must be submitted on electronic media in addition to the two required hard copies.

4.14.4. Archaeological Assessment Report

Archaeological Assessment Reports should contain sufficient data to stand alone; support documents should be unnecessary. They should demonstrate the process and results, providing information in a format that is useful as reference material. Archaeology is a specialised field and many activities, including excavation, must be undertaken or supervised by a trained archaeologist.

The content of an Archaeological Assessment Report will depend on the site and the purpose of the study. The NSW Heritage Branch of the Department of Planning is

responsible for developing best practice standards, policies and guidelines for the treatment and conservation of historical archaeological remains that are known or anticipated to exist in NSW. Advice should be sought from the Heritage Branch regarding specific requirements for archaeological assessments.

The following checklist provides a guide to likely minimum information requirements:

- a) Site or study area marked on a map;
- b) Relevant statutory controls/zonings;
- c) Author identification;
- d) Background to the assessment, including reference to previous reports;
- e) Outline of methodology employed;
- f) Sources consulted;
- g) An historical outline/summary;
- h) Analysis of physical evidence (possibly illustrated);
- i) Synthesis (possibly in graphic overlay form);
- j) Likelihood of archaeological remains occurring (known, potential, no archaeological features), may be presented graphically;
- k) Identification of research themes and questions (and how these were derived);
- l) Assessment of significance (statement of significance and/or graded zones);
- m) Identification of issues;
- n) Policy statement;
- o) Recommendations;
- p) Acknowledgments;
- q) Bibliography.

4.14.5. Aboriginal Cultural Heritage Archaeological Survey Report

An Aboriginal Cultural Heritage Archaeological Survey is required for development proposals on land identified as potentially archaeologically sensitive in the Culture and Heritage Section of this DCP. The Department of Environment, Climate Change and Water (DECCW) should be contacted for advice on survey needs and requirements. The following information is taken from the NSW National Parks and Wildlife Service "Aboriginal Cultural Heritage – Standards and Guidelines Kit" to provide an indication of the archaeological survey reporting requirements.

An Archaeological Survey Report must provide a full description of the development and its potential impact on the landscape and heritage resource. This should be a summary of both the impact history of the study area (previous land uses, previous impact assessments and

their results), and the potential impact of the proposed development on cultural heritage. It should include consideration of the impact of the development both during and after construction/implementation (i.e. many sites survive the construction of a development, only to be slowly degraded and disturbed by changes in land use over the longer term). The following information is required, as appropriate, to the specific type of development:

- a) The type of development proposed and how the proposed development is to be implemented;
- b) Flexibility of project design, timing and staging of the proposal; and
- c) Identification of direct and indirect impacts (both short and long term).
- d) The following is an indication of the requirements for a report:
- e) Introduction (including description of study area and proposed activity/development and a description of the impact);
- f) Experience/Qualifications;
- g) Aboriginal Values;
- h) Community Consultation (significance);
- i) Methodology (including details of field work);
- j) Photographs;
- k) Results (including discussion of the study area);
- l) Recommendations;
- m) References (other reports); and
- n) Maps (including maps of study area), glossary, appendices, plates, figures, etc.

4.15. Contamination

Advice on the reporting requirements for contaminated sites should be sought from the relevant state environment agency. The following information is taken from "Guidelines for Consultants Reporting on Contaminated Sites (1997)". Applicants should refer to this document for full information on reporting requirements.

4.15.1. Contamination Investigation Report / Preliminary Contamination Investigation (Stage 1)

The Preliminary Site Investigation Report should:

- a) Identify all past and present potentially contaminating activities;
- b) Identify potential contamination types;
- c) Discuss the site condition;

- d) Provide a preliminary assessment of site contamination; and
- e) Assess the need for further investigations.

An appraisal of the site history is fundamental to the preliminary assessment and may be used to assess potential site contamination. It is important to review and assess all relevant information about the site, including information obtained during a site inspection.

Where a complete site history clearly demonstrates that site activities have been non-contaminating, there may be no need for further investigation or site sampling.

However, where contaminating activities are suspected or known to have occurred, or if the site history is incomplete, it may be necessary to undertake a preliminary sampling and analysis program to assess the need for a detailed site investigation

4.15.2. Detailed Contamination Site Investigation (Stage 2)

The Detailed Site Investigation Report should give comprehensive information on:

- a) Issues raised in the preliminary investigation;
- b) The type, extent and level of contamination;
- c) and assess:
- d) Contaminant dispersal in air, surface water, groundwater, soil and dust;
- e) The potential effects of contaminants on public health, the environment and building structures;
- f) Where applicable, off-site impacts on soil, sediment and biota; and
- g) The adequacy and completeness of all information available to be used in making decisions on remediation.

If the results of the detailed site investigation indicate that the site poses unacceptable risks to human health or the environment – on-site or off-site, and under either the present or the proposed land use – then a remedial action plan needs to be prepared and implemented, and development consent obtained for these works.

4.15.3. Site Remedial Action Plan (Stage 3)

The Remedial Action Plan should:

- a) Set remediation goals that ensure the remediated site will be suitable for the proposed use and will pose no unacceptable risk to human health or to the environment;
- b) Document in detail all procedures and plans to be implemented to reduce risks to acceptable levels for the proposed site use;
- c) Establish the environmental safeguards required to complete the remediation in an environmentally acceptable manner; and

- d) Identify and include proof of the necessary approvals and licences required by regulatory authorities.

Once remedial work is complete, a report should be prepared detailing the site work conducted and regulatory decisions made.

4.15.4. Validation and Site Monitoring Reports

Reporting requirements are of two types: validation and, where appropriate, ongoing site monitoring.

Validation reporting

Where remedial action has been carried out, the site must be 'validated' to ensure that the objectives stated in the Remedial Action Plan have been achieved. A report detailing the results of the site validation is required.

The extent of validation required will depend on:

- a) The degree of contamination originally present;
- b) The type of remediation processes that have been carried out; and
- c) The proposed land use.

Validation must confirm statistically that the remediated site complies with the clean up criteria set for the site. For guidance, see the NSW EPA's "Contaminated Sites Sampling Design Guidelines". Where applicable, the US EPA's "Methods for Evaluating the Attainment of Cleanup Standards" (1989) can also be used.

The Validation Report must assess the results of the post-remediation testing against the clean-up criteria stated in the Remedial Action Plan. Where targets have not been achieved, reasons must be stated and additional site work proposed to achieve the original Remedial Action Plan objectives.

The Validation Report should also include information confirming that all DECCW and other regulatory authorities' conditions and approvals have been met. In particular, documentary evidence is needed to confirm that any disposal of soil off-site is done in accordance with the Remedial Action Plan.

Ongoing site monitoring reporting

Where full clean-up is not feasible, or on-site containment of contamination is proposed, the need for an ongoing monitoring program should be assessed. If a monitoring program is needed, it should detail the proposed monitoring strategy, parameters to be monitored, monitoring locations, frequency of monitoring, and reporting requirements.

4.15.5. Site Audit (Contamination)

In determining applications for development, Council may require an independent review (Site Audit) of any or all stages of the site investigation, remediation or validation process, conducted in accordance with the *Contaminated Land Management Act* ('CLM Act').

A Site Audit will lead to the provision of a Site Audit Statement, stating for what use the land is suitable, including any conditions that should be adhered to for that land use (e.g. to maintain capping). Only site auditors accredited by the DECCW under the CLM Act can issue site audit statements. A Site Audit Statement must be prepared in accordance with DECCW Guidelines for the NSW Site Auditor Scheme and must be in a prescribed form.

4.15.6. Chemical Use and Storage Report

A chemical use and storage report may be required if the development involves storage of chemicals on the site.

A chemical use and storage report will not be required when:

- a) The use of chemicals is for routine cleaning, and the chemicals to be used are of household or hospital grade;
- b) The total quantity of chemicals to be routinely used or stored on the site does not exceed 100 litres;
- c) The chemicals to be used or stored are not of sufficient acidity, alkalinity or strength to cause significant harm on skin contact, or to the environment if a spill were to occur;
- d) The application outlines the methods proposed to be used to minimise the potential for spills.

A chemical use and storage report will be required where chemicals are proposed to be stored on site or habitually used as part of a development which present a significant hazard to human health or the environment, and where those chemicals are required to be stored in quantities of greater than 100 litres.

A chemical storage and use report must include:

- 1) Detailed description of the use and all methods/procedures associated with the use of each chemical;
- 2) A floor plan of the subject premises depicting the dimensions of the building and indicating the internal layout of all equipment, storage and display areas;
- 3) A comprehensive list of all chemicals/goods and quantities proposed to be utilised and stored;
- 4) A spill response/management plan;
- 5) A description of the method of storage of chemicals/goods on the premises and the type of containment or packaging used including bunding or secondary containment precautions;
- 6) A description of the method of transportation of chemicals/goods to the premises including the size and nature of vehicles, proposed routes and frequency of delivery;
- 7) Details of the number of vehicles likely to be involved and the location of vehicle storage/standing areas;
- 8) Details of on-site water quality control; and

9) Details of waste treatment and transportation.

4.16. Noise Impact Statement

Where a Noise Impact Statement, prepared by a suitably qualified acoustic consultant, is required, it should include:

- 1) A description of the proposed development including plans and elevations. For rural development, this includes plans and elevations of any enclosures/external structures and descriptions of building construction and means of ventilation;
- 2) Details of local topography, existing and proposed buildings and exposed or shielded situations which may affect the results and any allowances made in this regard;
- 3) Relevant legislation, standards, guidelines and policies that have been applied;
- 4) Background noise measurements. For rural development, this includes details of existing daytime and night-time background levels and the means by which these levels were obtained;
- 5) Details of instruments and methodology used for noise measurements;
- 6) Noises level data for all major sources, in octave band levels where appropriate;
- 7) A site map showing noise sources, measurements, locations and noise receivers;
- 8) Noise criteria applied to the proposal;
- 9) Noise predictions for the proposed activity;
- 10) Consideration of any other significant or relevant acoustic information concerning the project;
- 11) A comparison of noise predictions against noise criteria. Where appropriate, this should include a comparison of the predicted noise levels with the relevant design criteria at each potentially sensitive receiver location considered;
- 12) A description of proposed mitigation measures, the resultant noise reduction likely, and an assessment of the feasibility and reasonableness of these measures;
- 13) A statement of opinion confirming how compliance with acoustic criteria requirements can be practically achieved; and
- 14) In situations where vibration is considered to be an issue, a suitable assessment of any vibration impacts.

4.17. Requirements relating to land stability, excavation and filling

Any development application that proposes excavation and/or filling, and therefore changes to the levels of a site, is required to clearly address the following:

- 1) Where the excavation and/or filling will occur on the site;
- 2) Justification for the need to change the land levels in terms of the overall development;
and
- 3) Any impacts from the changed land levels as a consequence of excavation and/or filling including potential impacts on groundwater levels, flow or quality.

4.17.1. Landfill Validation Report

A Landfill Validation Report is required where importation of fill is proposed. The report must be prepared by an appropriately qualified person and must include:

- 1) The property description of the source of the fill (hereafter called the subject property);
- 2) The site history of the subject property, including present and past land uses;
- 3) Results of any previous site investigations for contaminants on the subject property;
- 4) Present and past zonings of the subject property (e.g. industrial, agricultural or defence purposes);
- 5) Description of the present and past land uses of the land immediately adjacent to the subject property, including any information relating to potential or known contamination;
- 6) Proposed location and purpose for introducing fill onto a property;
- 7) Details of the transporters or contractors responsible for transporting the fill material from its source to its final and approved destination;
- 8) Level of finished fill and extent of proposed fill in relation to adjoining property;
- 9) Methods of controlling erosion and siltation;
- 10) Effect of fill on adjoining property, particularly in relation to water flow;
- 11) Compaction method;
- 12) Advice confirming that the proposed fill is suitable for the proposed use; and
- 13) Advice confirming that land-filling activities comply with relevant criteria and pose no unacceptable risk to human health or the environment.

Council may require a further detailed investigation to occur if contamination is, or may be, present in the fill material to prove that the fill material is suitable for the proposed use.

4.17.2. Geotechnical Report

A Geotechnical Report must be prepared by a suitably qualified consultant and is required where the existing slope on a site is greater than 15% (or the land is likely to be subject to any land stability issues); where on site effluent disposal is proposed (this may be addressed as part of the onsite effluent disposal supporting information); or where excavations are proposed that are likely to impact groundwater, including basement levels. A Geotechnical

Report may be required for other applications due to the characteristics of the particular site or the scale or nature of the development.

The requirements for Geotechnical Reports vary greatly in scope and extent depending on the scale and type of development and the specific characteristics of the site. As a guide, all geotechnical reports will include:

- 1) A description of the site and its existing geotechnical hazards/risks;
- 2) Details of the site substrata [or sub-surface conditions], relevant geological information, advice on groundwater seepage;
- 3) A risk assessment in accordance with the Australian Geomechanics Society [AGS] guidelines; and
- 4) Recommendations on the treatment of any identified hazards and design parameters and data for the construction of the development.

4.18. Water Management Plan

Any application for a new industrial or rural land use that requires the consent of Council and will increase the water needs of a particular area must submit a Water Management Plan which:

- 1) Estimates future water needs of the proposed development;
- 2) Indicates the proposed water source to meet those needs; and
- 3) Outlines water conservation measures to be implemented.

4.19. Dust Suppression Plan

A Dust Suppression Plan is an essential part of controlling dust problems from agriculture, construction and extraction activities. A Dust Suppression Plan should identify potential for dust generation and the control measures to be implemented to minimise dust.

Where a Dust Suppression Plan is required for a proposed development, the plan should include:

- 1) A site description of the existing site and the proposed development;
- 2) A site map showing:
 - a) North point and scale;
 - b) Property boundary, contours, existing landforms, prevailing wind directions and adjacent features;
 - c) All areas and vegetation to be retained or left undisturbed;
 - d) All areas and vegetation that will be disturbed;
 - e) Location of the proposed development/activity;

- f) Location of physical barriers, such as fencing and wind breaks;
 - g) Location of stockpiles and storage areas;
 - h) Traffic routes and stabilised site access/exit points; and
 - i) Any areas with potential for dust generation.
- 3) Details of the dust control measures, including:
- a) Timing of works;
 - b) Areas to remain vegetated, or be revegetated;
 - c) Wind breaks;
 - d) Coverings for stockpiles and transportation;
 - e) Frequency and location of water sprays;
 - f) Identifying wind speed limits for operations; and
 - g) Any other site or operational specific control measures.

4.20. Odour Management Plan

An Odour Management Plan identifies the range of measures to be used to minimise odour impacts. The factors contributing to odour generation are complex and vary according to the land use or industry producing the odour. Reference to industry specific guidelines and best practice is required. An Odour Management Plan should identify the potential for odour generation and impacts, and management protocols to minimise these.

Where an Odour Management Plan is required, the plan should include:

- 1) A description of the proposed development including plans and elevations. For rural development, this includes plans and elevations of any enclosures/external structures and descriptions of building construction and means of ventilation;
- 2) Details of the site characteristics (including topography, prevailing winds, adjacent land uses, location and proximity of neighbours);
- 3) Details of the odour that will be generated by the development, including offensiveness, intensity and frequency of odour emissions;
- 4) A site map showing odour sources;
- 5) A description of proposed mitigation measures, the resultant odour reduction likely, and an assessment of the feasibility and reasonableness of these measures; and
- 6) Details of relevant legislation, standards, guidelines and policies that have been applied.

4.21. Social Impact Assessment

A Social Impact Assessment will be required for all major development types which are likely to have a significant social impact on the existing community. For example, large subdivisions (residential or rural residential) or large housing developments.

A Social Impact Assessment must:

- 1) Identify the Community - Identify the existing community and the proposed future community. This will include a demographic assessment of existing and proposed communities;
- 2) Identify the Needs - Identify the needs of the community based on the assumptions made as part of 1) above. This includes health, recreation, education, employment, etc.;
- 3) Identify the Issues - Identify the issues that will impact on those communities and needs, particularly the ability of existing facilities to meet the needs of existing and proposed communities; and
- 4) Develop Recommendations and Mitigating Measures - Assess how the proposal will avoid or mitigate social impacts, including reference to any additional infrastructure proposed to be provided.

4.22. Economic Impact/Needs Assessment

An Economic Impact Assessment will be required for all development which may have an economic impact on similar uses in the surrounding area, including major retail development (traditional or bulky goods) and child care centres over 40 places.

An economic impact assessment must:

- 1) Identify the likely spheres of impact (traditional retail, bulky goods retail, child care centres, etc.);
- 2) Identify the likely extent of impact, based on proximity, similarity of service, etc.; and
- 3) Demonstrate that there is sufficient market for the proposed use or that the proposed use meets an unmet need in the area.

4.23. Infrastructure Delivery Plan

The preparation and submission of an Infrastructure Delivery Plan (IDP) is required for all new release areas. The IDP is required to identify all infrastructure, including civil works, utility services, community, social, cultural and recreational facilities, to service a new release area and establish a framework for its timely provision.

The IDP should include associated costing (including ongoing operating and maintenance costs) and estimated delivery timeframes for all infrastructure, with a commitment to providing services up front where they are required early in the life of new estates. Where possible, the IDP should demonstrate efficient use and/or extension of existing infrastructure. The IDP should explore opportunities for the delivery of innovative and

sustainable infrastructure, services, facilities and networks with adherence to the principles of social justice, equity and accessibility.

The IDP shall provide an accurate costing for all infrastructure to be provided and a delivery program with key pre-planning design and construction phases identified. The IDP shall incorporate relevant apportionment of costs where it is agreed those will be shared with other providers. The IDP will form the basis for the development of Section 94 Contributions Plans and/or Development Agreements, as well as agreements required to be entered into with the State Government and its agencies for the delivery of regional based facilities.

Specifically, the following infrastructure and services are to be identified and provided for in all new release areas:

- 1) A safe, efficient, and effective road system and cycleway/pedestrian network which links with existing and new infrastructure, public transport services, shopping centres, community facilities and recreation areas;
- 2) Public transport networks and systems which deliver effective access to major destinations and other transport mode connections. A Transport Management and Accessibility Plan (TMAP) (see 4.8.3 in this Appendix) will be required to identify public transport systems improvements generated by new release areas;
- 3) Underground routing of all utility services including gas, water, sewer, electricity and telecommunications (including broad-banding capability);
- 4) Planned development of infrastructure that meets local energy, water and sewer authority standards;
- 5) Modern telecommunication infrastructure with the capacity to support multiple telecommunications services, such as high-speed internet (including broad band), voice and data systems, and community intranets. Shared service corridors should have capacity to accommodate technology advancements and any increases in demand; and
- 6) Community, social, cultural, educational and recreational facilities to service the new community.

Further, the IDP must address the following matters:

- 1) Identify the estimated costs of community, cultural and recreational facilities and services and timeframes for delivery (e.g. relationship to housing production);
- 2) Develop strategies for the upfront provision of a baseline level of services and facilities to service the initial population. This includes a framework for the timely provision of social infrastructure including small-scale retail/convenience store, access to transport/bus services and open space/recreation areas, facilities and meeting places to support a healthy community (e.g. playgroups, parent groups, youth activities, seniors group, children services, medical, mail box, telephone, etc) to service the initial population;
- 3) Provide accurate costings for all infrastructure and identify a delivery program with key pre-planning design and construction phases. It shall also incorporate relevant apportionment of costs where it is agreed those will be shared with other providers;
- 4) Identify and cost all necessary maintenance requirements for infrastructure assets proposed to be transferred to Council for ownership and ongoing care including future replacement costs where necessary;

- 5) Identify the interim management and maintenance arrangements for infrastructure assets which will be retained in the short term by the developer pending transfer to Council; and
- 6) Develop Plans of Management consistent with the requirements of the Local Government Act for all open space areas proposed to be transferred to Council.

4.24 3D Modelling for Development within St Marys Town Centre

Council officers may request for any development in the St Marys Town Centre with an estimated cost greater than \$1 million, or development that exceeds two-storeys in height, or development that is in a prominent location, to be accompanied by a 3D file of the proposed development in the context of the St Marys Town Centre 3D Model.

The 3D Model will be used on the basis of a two-way sharing of data, with Council providing to the prospective developer, a 3D file extract of the relevant area from the Model in the early stages of design, in order to assist in design development.

Architects and developers will be informed at the initial enquiry stage of the 3D Model requirement and encouraged to contact Council's GIS Unit to arrange for the provision of an extract from the St Marys 3D Model, or to discuss technical issues.

The process will be the subject of a licence agreement between the developer and Council and will be subject to payment of the prescribed fee, both on the provision of the 3D Model extract and at the development application stage. The agreement will require that the developer import the digital 3D plans of the proposed development into the supplied model extract for submission with the development application. The computer file extract, with the proposed development included, would be imported back into the 3D Model to facilitate assessment of the proposal by Council's Development Services Unit, other Council officers, other interested persons and ultimately Council itself.

A fee for the use of this service will be negotiated.