



## URBAN DESIGN

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IC-QA-PS381

<p>VERSION FOR: <i>Macquarie Park Bus Priority and Capacity Improvement Project - Stage 2</i> DATE: <i>November 2018 (RFT Issue)</i></p>
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## FOREWORD

### ROADS AND MARITIME SERVICES COPYRIGHT AND USE OF THIS DOCUMENT

Copyright in this document belongs to the Roads and Maritime Services of New South Wales.

#### **When this document forms part of a contract**

This document should be read with all the documents forming the Contract.

### PROJECT SPECIFIC CHANGES

Any project specific changes have been indicated in the following manner:

- (a) Text which is additional to the base document and which is included in the Specification is shown in bold italics e.g. ***Additional Text***.
- (b) Text which has been deleted from the base document and which is not included in the Specification is shown struck out e.g. ~~Deleted Text~~.

# **RMS SPECIFICATION PS381**

## **URBAN DESIGN**

### **1 INTRODUCTION**

#### **1.1 PROFESSIONAL SERVICES SPECIFICATION**

This specification is one of a set of Professional Services Specifications for detailed design. Refer to PS301.

#### **1.2 SCOPE & PROJECT DESCRIPTION**

This Specification sets out the requirements for an aspect of detailed design. It requires C72 Panel Deed for Professional Services or equivalent Professional Services Conditions of Contract.

##### **1.2.1 Project Specific Requirements**

Refer to Annexure PS381/A for Project Specific Requirements for Urban Design.

#### **1.3 PROJECT INTRODUCTION**

Refer to PS301 for Project Introduction details.

#### **1.4 STRUCTURE OF THE SPECIFICATION**

##### **1.4.1 Schedules of HOLD POINTS, WITNESS POINTS, DELIVERABLES, MEETINGS AND WORKSHOPS.**

The schedules in Annexure PS381/C list the **HOLD POINTS, WITNESS POINTS, DELIVERABLES, MEETINGS AND WORKSHOPS** that must be produced / observed. Refer to specification PS301 for definitions of **HOLD POINTS**.

##### **1.4.2 Design Reference Documents and Support Information.**

The schedules in Annexure PS381/M list the **ADDITIONAL DESIGN REFERENCE DOCUMENTS, REFERENCE DOCUMENTS & SUPPORTING INFORMATION** that apply to this Specification.

Unless otherwise specified the applicable issue of a referenced document, other than a RMS Specification, is the issue current at the date one week before the closing date for tenders, or where no issue is current at that date, the most recent issue.

#### **1.5 PROJECT BACKGROUND, STUDIES AND PROGRAMS**

Refer to Annexure PS381/A for details regarding the Project Background, Studies and Programs.

## **2 URBAN DESIGN (INCLUDING LANDSCAPE DESIGN REQUIREMENTS) AND LANDSCAPE CHARACTER AND VISUAL IMPACT ASSESSMENT**

### **2.1 OBJECTIVES**

- (i) To develop and present an integrated engineering and urban design outcome that:
  - a. Fits sensitively into the built, natural and community environments through which it passes, is well designed and contributes to the character and functioning of the area.
  - b. Contributes to the accessibility and connectivity of people within regions and communities.
  - c. Contributes to the overall quality of the public domain for the community and all road users.
- (ii) To further develop the project design, continuing to apply urban design objectives and principles and mitigating adverse impacts identified from the landscape character and visual impact assessments which were undertaken as part of the concept design phase.
- (iii) To develop detailed urban design drawings for the project (including but not limited to input on the detailed drawings for bridges, walls, other structures and landscape works).

### **2.2 DESIGN REFERENCE DOCUMENTS**

The detailed design must be developed in accordance with the policy and guidelines contained in the documents listed at Annexure PS381/M:

RMS will review the design proposals presented by the PSC against the principles and guidelines contained in the reference documents.

Good urban design means safe, robust and low maintenance, whilst deterring graffiti and vandalism. Intricate, complex outcomes and domestic scale approaches are not appropriate.

Urban design must be undertaken collaboratively with RMS and must be considered early in the detailed design phase, integrated into projects at the initiation phase and continued through the development, implementation and finalisation phases of projects.

### **2.3 GENERAL**

Refer to Annexure PS381/A for description of the proposed works.

The PSC must develop the detailed design as an integrated engineering/urban design outcome in accordance with the concept urban design and the policies and guidelines referenced in Clause 2.2.

Development of the detailed design must be undertaken in close consultation with RMS including regular direct contact between the RMS Centre for Urban Design and the PSC's urban design contractor. Any proposed changes to the design which result from this direct contact will be referred to the PSC and the RMS Project Delivery Manager for consideration by the wider project team.

The PSC must use an urban design consultant(s) registered at Category U on the Registration Scheme for Construction Industry contractors. The urban design team selected must include as a minimum landscape architecture and architecture professionals.

## **2.4 CONCEPT DESIGN**

The following tasks were carried out during the concept design phase:

- (i) a contextual analysis (including landscape character analysis), of the built, natural and community character, structure and functioning of the study area in accordance with Environmental Impact Assessment Practice Note: Guidelines for landscape character and visual impact assessment.
- (ii) development of urban design objectives and principles;
- (iii) a landscape character impact assessment and visual impact assessment;
- (iv) an urban design proposal including plans, sketches, drawings including a description of the development of the concept design and of any decisions which have been made to avoid or minimise general impacts, and to help fit the road into its built and natural setting.

The PSC must review the concept design information as listed above and provide comment and revision where appropriate. The PSC must use the concept design as a basis for the detailed design.

## **2.5 DETAILED DESIGN TASKS**

Following review of the concept design the PSC must carry out detailed design as described below:

### **2.5.1 General Requirements**

The PSC must ensure the detailed design is developed as an integrated urban design/ engineering outcome. In preparing the detailed design the following work is required as a minimum:

- A program of work including joint working meetings and workshops with urban designers and engineering teams.
- Confirmation and update of the assessment of the built, natural and community context of the area as developed in the concept design stage.
- Confirmation and update of the urban design objectives and subsequent urban design principles as developed in the concept design stage to govern the development of the detailed design.
- Draft urban design plans and sections as appropriate to illustrate the integrated project design, all of its elements (both structure and landscape works) and how it fits into the corridor and area.
- Collaborative development of engineering/urban design detail drawings illustrating all project design outcomes (in compliance with the objectives and principles) including walls, bridges, footpaths, fences and barriers, drainage features, tree and shrub planted areas, revegetated areas and grass areas.
- Detailed landscape design drawings, specifications management plan and landscape WHS plan and documents as described below.

<b>HOLD POINT</b>	
Process held:	Confirmation and update of urban design objectives and principles
Submission details:	As an appendix to the Project Familiarisation Report (refer PS301), submit a memorandum reviewing the contextual analysis and urban design objectives & principles identified during the concept design phase. The memo should either confirm that the concept design material is still adequate for use during detailed design or present revised principles and objectives and the revised analysis which underpins them.
Release of hold point	The RMS Representative will release the hold point following consideration of the above, and incorporation of RMS comments

<b>HOLD POINT</b>	
Process held:	<del>20</del> <b>50%</b> Detailed Design
Submission details:	Draft project plans and sections illustrating the integrated urban design/engineering project outcome including evidence of how these have been achieved collaboratively across all project disciplines.
Release of hold point	The RMS Representative will release the hold point following consideration of the above and incorporation of RMS comments

<b>HOLD POINT</b>	
Process held:	80% Detailed Design
Submission details:	Draft project plans and sections illustrating continued development of the integrated urban design/engineering project outcome including evidence of how these have been achieved collaboratively across all project disciplines.
Release of hold point	The RMS Representative will release the hold point following consideration of the above and incorporation of RMS comments

Annexure PS381/A contains details of drawing and model requirements.

The PSC may be required to participate in formal presentations to the local council(s) detailed in Table PS381.A1.

Feedback from the consultations is to be fully considered and incorporated into the urban design as required.



## **2.5.2 Landscape design**

### **2.5.2.1 Detail Requirements**

Development of the landscape design must be undertaken in consultation with the stakeholders listed in Annexure PS381.A4. It should be anticipated that presentation material will be required for this purpose. In conjunction with the consultations, the PSC is to develop and obtain RMS approval to a landscape design, which includes:

- Plans and details of vegetation to be retained and how it would be protected.
- Plan details of chosen species, planting areas and layouts, feature planting etc., with the rationale behind their selection.
- Requirements and details for revegetation during construction.
- Costing details.
- A planting schedule that includes, for each plant species: size required, development times, optimal time of year to plant, maximum plant heights and spread,
- A seeding schedule which includes, for each seed mix: seed viability characteristics, quantities required to be collected to meet the project needs, etc.

A turf schedule which includes for each turf type: quantity required

### **2.5.2.2 Management Plan**

The PSC must develop a landscape management plan in accordance with Appendix C of the Landscape Guideline which must cover:

- The initial maintenance covered by the construction contractor. These requirements are to be covered in the construction and tender documents. The maintenance of landscape works, implemented as part of the works outside of the road reserve for a period of three (3) years after the construction contractor's maintenance period has ended.
- A description of the ongoing maintenance requirements for landscape works within the road reserve for the life of the project.
- A description of how minimisation of the ongoing maintenance costs for landscape works has been achieved.
- The landscape design – WHS requirements.

### **2.5.2.3 Detailed landscape drawings and specifications**

Detailed landscape design drawings and specification documentation must illustrate and specify all relevant details including:

- Location and key plan.
- Plan views.
- Typical cross-sections.
- Planting layouts and details.
- Schedule of plant numbers required for each area to be planted.
- Irrigation layouts and details.
- Other hard landscape treatments and details.

Refer to Annexure PS381/A4 for elements to be included in drawing sets.

The PSC must determine the requirements for the landscape design and vegetation for inclusion in the relevant RMS QA specifications. Specific issues for consideration and inclusion include:

- Staged implementation requirements to screen sensitive areas and to assist with soil conservation and erosion control.
- Topsoil management practices, including weed contamination.
- A landscape design which will minimise ongoing maintenance costs.
- Independent verification

Refer to PS301 for any requirements for independent verification of detailed design work.

<b>HOLD POINT</b>	
Process held:	<del>20</del> <b>50%</b> Detailed design
Submission details:	Draft Landscape design construction plans, specifications and landscape management plan
	Draft Specification
Release of hold point	The RMS Representative will release the hold point following consideration of the landscape concept plan, incorporation of RMS comments and acceptance by stakeholders (e.g. community liaison group if appropriate).

<b>HOLD POINT</b>	
Process held:	80% Detailed design
Submission details:	Draft Landscape design construction plans, specifications and landscape management plan
Release of hold point	The RMS Representative will release the hold point following consideration of the landscape concept plan, incorporation of RMS comments and acceptance by stakeholders (e.g. community liaison group if appropriate).

<b>HOLD POINT</b>	
Process held:	Finalisation of Detailed design
Submission details:	Final Landscape design construction plans, specifications and landscape management plan
Release of hold point	The RMS Representative will release the hold point following consideration of the landscape concept plan, incorporation of RMS comments

### **2.5.3 Urban Design Report**

The PSC must prepare an urban design report (as part of the detailed design report) which must:

- (i) Include review comments on the Urban Concept Design including confirmation of the urban design principles and objectives including any proposed changes including reasons for proposed changes.
- (ii) Include the management plan as required by Clause 2.5.2.2.
- (iii) document all work carried out in accordance with the detailed design and submitted at key stages of the project, in the format defined in the EIA Practice Note EIA-N04: Guidelines for landscape character and visual impact assessment.
- (iv) include drawings, photographs, diagrams, plans, sections and 3-dimensional representations as required to adequately describe the project context, the design approach, the design proposal and its assessment.
- (v) not be overly wordy and repetitive. Diagrams and illustrations should not be described in text unless necessary. Tables, lists and explanatory diagrams should be used whenever possible. It should include a short executive summary.

The electronic copies for draft reports are to be provided in a MS Word format (compatible with Word 2010). Electronic copies of the final reports are to be provided in both MS Word format (compatible with Word 2010) and Adobe pdf format.

### **2.5.4 Multi Media Technology**

Any multi-media technology output required by the project for display or communication of urban design will be provided by the RMS Multi-Media Technologies Panel Contract. The PSC will contact the RMS Representative when multi-media technologies are required for the Project.

## ANNEXURE PS381/A – PROJECT SPECIFIC REQUIREMENTS

### A1 PROJECT DETAILS

Table PS381.A1 – Project Details

Project Name	<i>Macquarie Park Bus Priority and Capacity Improvement Project - Stage 2</i>
Project Number	<i>P.0023019</i>
Location	<i>Epping Road, Herring Road, Waterloo Road and Lane Cove Road, Macquarie Park</i>
Local Council	<i>Ryde Council</i>
Length (size) of the project	<i>MR 373 Epping Road to MR 162 Lane Cove Road via Herring Road (7486) and Waterloo Road at Macquarie Park and MR 162 Lane Cove Road from Waterloo Road to Epping Road. Project length approximately 2.8km.</i>
Project features	<ul style="list-style-type: none"> <li>• <i>Upgrade of the state and local road network in the Macquarie Park precinct to improve travel times and reliability for buses and for other road users</i></li> <li>• <i>3 new signalised intersections and upgrades to the existing signalised intersections</i></li> <li>• <i>Installation of bus lanes and road widening with improved pedestrian and cyclist crossing facilities at signalised intersections</i></li> <li>• <i>Partial (strip) property acquisitions along Herring Rd, Waterloo Road, Byfield St, Khartoum Rd and Lane Cove Rd to enable the road widening and intersection upgrade works</i></li> <li>• <i>Service relocations to allow kerb relocation and lane widening</i></li> </ul>

### A2 PROPOSED WORKS

*Refer PS301: Professional Services for Detailed Design Scope and Requirements, Annexure PS301/A for project details, background and project specific requirements.*

*Landscape and Urban Design Plans will be developed to include canopy tree planting and landscaping where necessary. The tree and landscape design will address the number of trees and landscape areas identified for removal in the REF, and assist in mitigating visual impacts of the project. RMS Centre for Urban Design and City of Ryde Council will need to be engaged early in the design development to ensure that Urban Design outcomes are addressed.*

*Replacement trees and landscaping must be selected in accordance with the RMS and City of Ryde Council specifications, standards, guidelines and policies.*

### A3 PROJECT BACKGROUND, STUDIES AND PROGRAMS

*Refer PS301: Professional Services for Detailed Design Scope and Requirements, Annexure PS301/A for project details, background and project specific requirements.*

**A4 STAKEHOLDERS**

*Refer PS301: Professional Services for Detailed Design Scope and Requirements, Annexure PS301/A for project stakeholders.*

**A5 DETAILED DESIGN DRAWING AND MODEL REQUIREMENTS****Table PS381.A4 – Detailed Design Requirements**

<b>Element (D=Drawing) (M=MX Model)</b>	<b>Drawing Stage 20 50% (D/M)</b>	<b>Drawing Stage 80% (D/M)</b>	<b>Drawing Stage 100% (D/M)</b>	<b>Comments</b>
<b>Landscape Design - Plan</b>				
North Point	D	D	D	
Bar Scale	D	D	D	
Town Names	D	D	D	
Road Names	D	D	D	
Road Alignment including lanes, kerbs, batters, embankments	D	D	D	
Bridge plans	D	D	D	
Culvert outlets	D	D	D	
Scour protection	D	D	D	
Barriers and Fences	D	D	D	
Site boundary	D	D	D	
Fauna Crossings	D	D	D	
Drainage swales	D	D	D	
Permanent Basins	D	D	D	
Existing vegetation to be retained	D	D	D	
Proposed mass planted areas	D	D	D	
Proposed individual tree planting	D	D	D	
Proposed Revegetation	D	D	D	
Lighting fixtures	D	D	D	
Contours	D	D	D	
Areas of exposed rock	D	D	D	
Proposed paved areas e.g. footpaths	D	D	D	
Proposed Buildings	D	D	D	
Retaining walls	D	D	D	
<b>Landscape Design – Elevation/Cross Section</b>				
Bar Scale	D	D	D	
Existing ground profile	D	D	D	

<b>Element (D=Drawing) (M=MX Model)</b>	<b>Drawing Stage 20 50% (D/M)</b>	<b>Drawing Stage 80% (D/M)</b>	<b>Drawing Stage 100% (D/M)</b>	<b>Comments</b>
Proposed ground profile	D	D	D	
Bridge Elevation/Section	D	D	D	
Barriers and Fences	D	D	D	
Site boundary	D	D	D	
Fauna Crossings	D	D	D	
Existing vegetation to be retained	D	D	D	
Proposed mass planted areas	D	D	D	
Proposed individual tree planting	D	D	D	
Proposed Revegetation	D	D	D	
Lighting fixtures	D	D	D	
Proposed paved areas e.g. footpaths	D	D	D	
Retaining walls	D	D	D	

## **ANNEXURE PS381/B – PAYMENT**

Payment will be made for all costs associated with completing the work detailed in this Specification in accordance with the Pay Item(s) in **PS301** Requirements.

Where no specific pay items are provided for a particular item of work, the costs associated with that item of work are deemed to be included in the rates and prices generally for the Works.

## ANNEXURE PS381/C – SCHEDULES OF HOLD POINTS, WITNESS POINTS, DELIVERABLES, MEETINGS AND WORKSHOPS

### C1 SCHEDULE OF HOLD POINTS AND WITNESS POINTS

The PSC must give the RMS Representative at least five working days written notice prior to reaching any hold point for which a release by the RMS Representative is required. Only items with a **Y** are required for this project.

**Table PS381.C1 – Hold Point Requirements**

Clause	Type	Description	Required
2	Hold	Review and confirmation of contextual analysis and urban design, principles & objectives	Y
2	Hold	<del>20</del> 50% Detailed design	Y
2	Hold	80% Detailed design	Y
2	Hold	Finalisation of detailed design	Y

### C2 SCHEDULE OF DELIVERABLES AND SUBMISSION DETAILS

The PSC must give the RMS Representative at least ten working days to review all deliverables identified in the table below. Only items with an **Y** are required for this project.

**Table PS381.C2 – Deliverables and Submission Details**

Clause	Description of Deliverables	Delivery timeframe	Required Y/N
2.5	Review comment on Concept Urban Design Reports	To be submitted with the Project Familiarisation Statement	Y
2.5	Urban design sketch plans and elevations	To be include in the <del>20</del> 50% and 80% submissions.	Y
2.5	Landscape Design specifications and management plan	To be included in the 80% submission and onwards.	Y

### C3 SCHEDULE OF MEETINGS REQUIRED

*Refer to PS301/A and PS301/C for meeting and workshop requirements and details. The landscape designer will be required to attend design meetings as required.*

**Table PS381.C3 – Meeting Requirements**

Clause	Description of Meetings	Required	Location	Minimum Expected Duration
	<i>Refer PS301/A and PS301/C</i>			



**C4 SCHEDULE OF WORKSHOPS REQUIRED**

*The landscape designer will not be required to attend the workshops below. However, any landscape actions required or impacts that affect the landscape design from the workshops must be co-ordinated with and fed back to the landscape designer by the PSC.*

**Table PS381.C4 – Workshop Requirements**

<b>Clause</b>	<b>Description of Workshops</b>	<b>Required</b>	<b>Location</b>	<b>Minimum Expected Duration</b>
	<del>Value Engineering Workshop</del>	N	<del>In consultation with RMS Representative</del>	
	<del>Constructability Workshop</del>	N	<del>In consultation with RMS Representative</del>	
	<del>Risk Workshop</del>	N	<del>In consultation with RMS Representative</del>	
	<del>HSID Workshop</del>	N	<del>In consultation with RMS Representative</del>	
	<del>Stakeholder Workshop</del>	N	<del>In consultation with RMS Representative</del>	

## **ANNEXURE PS381/D TO PS381/L – NOT USED**

## **ANNEXURE PS381/M – REFERENCE DOCUMENTS & SUPPORTING INFORMATION**

### **M1 DESIGN REFERENCE DOCUMENTS**

Refer to clause 1.4.2

*RMS Technical Directions and Quality Alerts*

*RMS Design Guides*

*RMS Standard Drawings*

*RMS Specifications*

*Austroads Guides*

*Australian Standards*

*Urban Design:*

*Beyond the Pavement: RMS Urban Design Policy, Procedures and Design Principles (2014),*

*Urban Design Reference documents including:*

- *EIA Practice Note EIA-N04: Guidelines for landscape character and visual impact assessment.*
- *Noise Wall Design Guideline.*
- *Bridge Aesthetics.*
- *Shotcrete Design Guideline.*
- *Landscape Guideline.*
- *Water Sensitive Urban Design Guideline*
- *Tunnel Guideline*

*For EIS projects, the SEARs*

*The Corridor Plan of Management or the Urban Design Framework relevant for the project corridor if available.*

*The project REF or EIS including the urban design working paper*

*All City of Ryde Specifications and Standards including:*

- *City of Ryde Stormwater and Floodplain Management, City of Ryde*
- *Council Stormwater and Floodplain Management Technical Manual*
- *City of Ryde Standard drawings*
- *City of Ryde, Macquarie Park Corridor, Public Domain Technical Manual*
- *City of Ryde Development Control Plan 2014 Part 8.3 Driveways*
- *City of Ryde Development Control Plan 2014 Part 8.5 Civil Works*
- *City of Ryde Tree Management Policy*

## **M2 REFERENCE DOCUMENTS**

Refer to clause 1.4.2

## **M3 SUPPORTING INFORMATION**

Refer to clause 1.4.2