

# TRANSPORT FOR NSW (TfNSW)

## QA SPECIFICATION R204

### PROPERTY ADJUSTMENTS

#### NOTICE

This document is a Transport for NSW QA Specification. It has been developed for use with roadworks and bridgeworks contracts let by Transport for NSW or by local councils in NSW. It is not suitable for any other purpose and must not be used for any other purpose or in any other context.

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#### REVISION REGISTER

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
Ed 1/Rev 0		First issue	GM, IC	12.03.10
Ed 1/Rev 1	3.1 1.8 4 4, 6, 10, 11 11 Annex M	G38 added as alternative to G39. Clause heading amended Sub-clauses rearranged and reworded. Reminder in <i>NOTES TO TENDER DOCUMENTER</i> that, depending on clauses adopted, to include other specs in tender documents and to reference them in Annex M. Clause rearranged and reworded. Sub-headings inserted. Reference specs amended, <i>NOTES TO TENDER DOCUMENTER</i> inserted	GM, IC	22.04.10
Ed 1/Rev 2	11.3 19 Annex M	Asphalt for driveways and carparks to comply with new spec R117 instead of AS 2150 and AS 2734. Commentary on asphalt for driveways and carparks rewritten. Reference to spec G35 deleted. Reference documents updated.	GM, IC	05.07.13
Ed 2/Rev 0	Global 1.1 1.2.4 1.2.5 1.2.6	Clauses rearranged and reworded to improve clarity. “Building Code of Australia” replaced by “National Construction Code”. Previously clause 1.3. Clause on frequency of testing moved here from previous clause L2.1 and amended to accord with standard clause. Previously clause 1.2.4.	DCS	27.10.17
Ed 2/Rev 0 (cont'd)	1.3	Previously part of clause 1.2.4.		

<b>Ed/Rev Number</b>	<b>Clause Number</b>	<b>Description of Revision</b>	<b>Authorised By</b>	<b>Date</b>
	2  2.1, 2.2, 2.3, 2.4, 2.5 and 2.6  13  19  Annex L  Annex M	New clause, grouping together previous clauses from elsewhere.  Previously clause 2, 1.7, 1.8, 1.5, 1.6 and 1.4 respectively.  Steelwork requirements amended and made consistent with spec B201.  New clause incorporating previous clause 19 and 20.  Clause reworded to improve clarity.  Referenced documents updated.		
Ed 2/Rev 1	11.1        Annex M	Clause reference to spec R173 changed to spec R54 to accord with change of spec reference number for “General Concrete Paving”.  Referenced documents updated.	MCQ	30.09.19
Ed 2/Rev 2	Global	References to “Roads and Maritime Services” or “RMS” changed to “Transport for NSW” or “TfNSW” respectively.	DCS	22.06.20

## GUIDE NOTES

(Not Part of Contract Document)

### GENERAL

This specification has been necessarily made broad enough to cover most situations envisaged to be encountered in property adjustment works and clauses have been included for common property adjustment activities.

However, because property adjustment works will differ significantly from project to project, this specification **must be customised individually for each contract**. Clauses that are not appropriate for the property adjustments works in individual projects must be modified or replaced by new clauses to cater for job specific requirements, or deleted completely.

It may be easier to retain the original clause numbering, and for clauses that are deleted completely, the words “Not Used” should be inserted against the clause number.

The following notes should be taken into account in the customisation of TfNSW R204:

- (i) Property adjustments may include works which is subject to the requirements of the relevant local government authority. For example, council stormwater policies may include requirements for the detention of stormwater and, if an existing detention system is to be disturbed, modifications to this Specification must comply with council policies.
- (ii) TfNSW model specifications may not be appropriate for the scale and nature of the works for property adjustments and therefore a draft clause for earthworks appropriate for Property Adjustments, for example, is included in this Specification. Prepare new clauses if necessary.
- (iii) NATSPEC worksections have been suggested as an option in some clauses. For other building work which is not covered by TfNSW model Specifications, the use of NATSPEC may be considered. NATSPEC is widely used for government financed building work in NSW and Contractors carrying out property adjustment works should be familiar with its use. TfNSW does not currently subscribe to NATSPEC but may do so in the future.
- (iv) When Australian Standards or other Standards are referenced, it is essential to check that the works is covered by the Standard and that any job specific requirements (the grade of steel, for example) are specified in the Specifications or on the Drawings.

List the properties requiring adjustment in Pay Items in Annexure R204/B, MEASUREMENT AND PAYMENT. Measurement may be a Lump Sum for each property, or individual Lump Sums for each main item of work within each property.

Unused Annexures may be used to include other additional details where required and appropriate.

Guidance is provided throughout the document as boxed text in *italics* font. After completing the customisation, delete the boxed texts and these Guide Notes, check the pagination of the whole document and insert page breaks if necessary to achieve continuity within Clauses. Then return to CONTENTS page to highlight and automatically update the page numbering. Update also the LAST PAGE number at the end of the CONTENTS table.





# PROPERTY ADJUSTMENTS

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VERSION FOR: DATE:
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## FOREWORD

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### REVISIONS TO PREVIOUS VERSION

This document has been revised from Specification TfNSW R204 Edition 2 Revision 1.

All revisions to the previous version (other than minor editorial and project specific changes) are indicated by a vertical line in the margin as shown here, except when it is a new edition and the text has been extensively rewritten.

### PROJECT SPECIFIC CHANGES

Any project specific changes are 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~~.



# TfNSW QA SPECIFICATION R204

## PROPERTY ADJUSTMENTS

### 1 GENERAL

#### 1.1 SCOPE

This Specification sets out the requirements for various items of work on non-TfNSW owned properties necessitated by new road construction or road widening works.

All works must comply with the National Construction Code and the requirements of the local government authority.

#### 1.2 STRUCTURE OF THE SPECIFICATION

This Specification includes a series of annexures that detail additional requirements.

##### 1.2.1 Project Specific Requirements

Project specific details of work are shown in Annexure R204/A.

##### 1.2.2 Measurement and Payment

The method of measurement and payment is detailed in Annexure R204/B.

##### 1.2.3 Schedules of HOLD POINTS, WITNESS POINTS and Identified Records

The schedules in Annexure R204/C list the **HOLD POINTS** and **WITNESS POINTS** that must be observed. Refer to Specification TfNSW Q for the definitions of **HOLD POINTS** and **WITNESS POINTS**.

The records listed in Annexure R204/C are **Identified Records** for the purposes of TfNSW Q Annexure Q/E.

##### 1.2.4 Planning Documents

The PROJECT QUALITY PLAN must include each of the documents and requirements listed in Annexure R204/D and must be implemented.

In all cases where this Specification refers to the manufacturer's recommendations, these must be included in the PROJECT QUALITY PLAN.

##### 1.2.5 Frequency of Testing

The Inspection and Test Plan must nominate the proposed frequency of testing to verify conformity of the item, which must not be less than the frequency specified in Annexure R204/L. Where a minimum frequency is not specified, nominate an appropriate frequency. Frequency of testing must conform to the requirements of TfNSW Q.

You may propose to the Principal a reduced minimum frequency of testing. The proposal must be supported by a statistical analysis verifying consistent process capability and product characteristics. The Principal may vary or restore the specified minimum frequency of testing, either provisionally or permanently, at any time.

### **1.2.6 Referenced Documents**

Unless specified otherwise, the applicable issue of a referenced document, other than a TfNSW Specification, must be 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.

Standards, specifications and test methods are referred to in abbreviated form (e.g. AS 2350). For convenience, the full titles are given in Annexure R204/M.

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*When a referenced document is deleted from the contents within the main body of this specification, the subject referenced document must also be deleted from the list of referenced documents in Annexure R204/M.*

## **1.3 DEFINITIONS**

The terms “you” and “your” mean “the Contractor” and “the Contractor’s” respectively.

## **2 COMMON GENERAL REQUIREMENTS**

### **2.1 SETTING OUT**

Identify property boundaries and set out all works in accordance with Specification TfNSW G71. The Principal will provide the information required to set out the adjusted property boundaries.

### **2.2 PROGRAM**

Plan the property adjustment works to minimise the duration when work is carried out on each property and consequent impact on the property and other site activities. Coordinate the property adjustments work with other roadworks being carried out concurrently.

Where necessary, carry out the property adjustment works in stages.

Submit to the Principal a detailed construction program for work on each individual property, their relation to each other, and to the overall Contract Program.

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*The documenter may specify in this clause any specific timing and staging requirements for property adjustments.*

## **2.3 NOTICE TO PROPERTY OCCUPANTS**

Give at least 7 days written notice of your intention to commence works at any property to the property owner or, where the property is under the control of a managing agent, to that agent and to the occupants of the property. Include in the notice the intended date of commencement of works and the name and telephone number of the contact person responsible for the property adjustment works.

Submit a copy of the notice to the Principal together with your construction program (if not already submitted) and details of any proposed temporary works.

### **HOLD POINT**

Process Held: Commencement of work on a property.

Submission Details: A copy of notice to the property owner (or managing agent) and occupant of intention to commence work, construction programs and details of any proposed temporary works, at least 7 days prior to the date of commencement.

Release of Hold Point: The Principal will consider the submitted documents prior to authorising the release of the Hold Point.

## **2.4 MINIMISE IMPACT ON OCCUPANTS**

Carry out the property adjustment works in a manner which will minimise the impact on the occupants of the property. Where it is necessary to obstruct access, negotiate with the property owners or their representatives to determine the acceptable periods of obstruction.

Do not park vehicles or store materials on the property unless agreed to in writing by the owner and/or occupants. Do not use the services or facilities of the property such as power and toilets without the written permission of the owner and/or occupants.

Do not occupy more areas of the property than is necessary to carry out the work.

Carry out all property adjustment works under the Contract within the boundaries of the relevant property except for modifications of connections to utilities serving the property.

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*Where property adjustments include works outside the boundaries of the property (for example, work on a shop awning), make appropriate changes to this clause.*

Provide fences and signage to ensure security and prevent unauthorised access. Maintain security at the property to a standard that is equivalent to that in place before the start of works.

## **2.5 UTILITIES**

### **2.5.1 Existing Utility Services**

The information provided on the Drawings or elsewhere in the documents regarding the locations of existing public utilities or private services is approximate only and in some cases may be inaccurate or incomplete. The Principal accepts no responsibility for, and does not guarantee or make any

representations as to the accuracy of the information. Make such further enquiries and investigations as are required for your own purposes.

Attention is directed to the possible existence of underground or otherwise hidden utilities or private services not shown on the Drawings, or at locations or elevations different from those shown on the Drawings. Ascertain the exact location of each underground or hidden private service prior to doing any work that may damage such utility or service.

If any existing or proposed utility or private service conflicts with the location or elevation of any item of construction shown on the Drawings, notify the Principal of such conflict. A conflict is not considered to exist unless an existing service occupies the same space as that intended for the item to be constructed or minimum clearances will be infringed. Any variation to the work required will be determined in accordance with the relevant provisions of the Contract.

Where your method of working results in additional adjustments deemed necessary by any utility authority, arrange for and bear all costs in relation to those additional adjustments, notwithstanding that the Principal may have approved the method of working.

### **2.5.2 Interruptions to Supply of Utility Services**

Minimise any interruptions to the supply of any utility or private services to the property. Where supply interruption is unavoidable, negotiate with the occupants to determine an acceptable period of interruption.

Where directed by the Principal, or when the interruption must extend overnight or adversely affect the operations of a business, provide temporary service for the duration of the interruption.

## **2.6 REQUESTS BY PROPERTY OWNER FOR ADDITIONAL WORKS**

Refer any requests by property owners for additional or variation to the property adjustment works to the Principal. Do not carry out any such works without the Principal's written instructions.

### **HOLD POINT**

Process Held: Additional or variation to property adjustment works requested by property owners.

Submission Details: Details of the additional works requested, and its cost and time implications, at least 7 days prior to the scheduled date of commencing any work affected by the request.

Release of Hold Point: The Principal will consider the submitted documents, discuss the matter with the property owner and will instruct you whether or not to proceed with the additional work prior to authorising the release of the Hold Point.

## **3 SITE CLEARING**

### **3.1 ENVIRONMENTAL PROTECTION**

Comply with the requirements of Specification TfNSW G38 for soil and water management.

### **3.2 REMOVAL AND TRANSPLANTING OF TREES**

Where shown on the Drawings to be removed, remove the trees, including their stumps, with minimum disturbance to the surrounding areas. Backfill the holes remaining after trees and stumps have been grubbed using soils similar to the surrounding material and compact to at least the relative compaction of the surrounding material.

If transplanting of trees and shrubs is required, transplant them in a manner appropriate to their size and species and the season of the year.

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*When plants to be transplanted have been identified, more specific requirements should be provided. The requirements may be ascertained by seeking advice from an experienced horticulturalist or arborist.*

All transplanting must be carried out by competent Landscape Tradesperson/s with experience in landscape construction and planting and supervised by your Landscape Supervisor, who must possess the NSW TAFE Landscape Trade Certificate or equivalent as a minimum qualification.

### **3.3 FIXTURES TO BE RETAINED**

Unfasten and remove any fixtures, including outside furniture to be retained, from areas in and around the parts of the property affected by the works. Pack and store them either on- or off-site in a secure place protected from vermin, weather or other deleterious influences.

Preserve existing fences, structures, landscape or other site features, trees and other vegetation not requiring adjustments.

## **4 DEMOLITION**

*NOTES TO TENDER DOCUMENTER: (Delete boxed texts after drafting R204)*

*Three options are shown below. Choose the option which is most appropriate for the type of demolition work required or write a new clause.*

*Demolition of a heritage structure (where consent from the Department of Planning has been given) may require special wording to this clause, such as requirements for archival recording, carrying out archaeological investigations and preparation of reports.*

*Ensure that the Drawings show the scope of demolition works. Where partial demolition is required, indicate the extent of the demolition and the works required at the parts of the structures to be preserved (for example, weatherproofing or propping). If drawings of the structures to be demolished are available, include such Drawings in the Tender Documents as part of the information provided to tenderers.*

*List any materials which are to be retained and any requirements for their retention.*

*Where footings (including pile footings) need not be completely removed, specify the depth or level below which the footings may remain.*

**Option 1**, for demolition work involving demolition of sheds or similar minor structures where no hazardous materials are expected and no demolition licence is required:

Remove completely any structures specified to be demolished, including the footings. Backfill any depression created as a result of the demolition up to the level of the adjacent ground. Place the backfill in layers of 150 mm deep and compact to the relative compaction of the material in the surrounding ground, unless specified otherwise.

Dispose of the demolition materials legally in accordance with EPA's Waste Classification Guidelines.

**Option 2**, for moderate scale demolition work where no hazardous materials are expected and no demolition licence is required:

Demolition of structures must comply with AS 2601.

Remove completely any structures specified to be demolished, including the footings. Backfill any depression created as a result of the demolition up to the level of the adjacent ground. Place the backfill in layers of 150 mm deep and compact to the relative compaction of the material in the surrounding ground, unless specified otherwise.

Submit a Work Method Statement to the Principal before commencing work.

Dispose of the demolition materials legally in accordance with EPA's Waste Classification Guidelines.

*Consider including a HOLD POINT regarding submission of the Work Method Statement. If included, list this HOLD POINT in Annexure R204/C.*

*Appendix B of AS 2601 includes information on contractual considerations.*

**Option 3**, for demolition of major structures or where hazardous materials are known or expected to be present and/or a demolition licence is required:

Demolish the structures in accordance with Specification TfNSW B341.

*If this clause is adopted, include TfNSW B341 in the Tender Documents and list TfNSW B341 in Annexure R204/M.*

*Specify any additional project specific requirements for the structures to be demolished in G1 and B341 and complete Annexure B341/A. If TfNSW G1 is applicable, include TfNSW G1 in the Tender Documents and list TfNSW G1 in Annexure R204/M.*

*Demolition licensing requirements are outlined in the front Guide Notes for TfNSW B341. Different licensing requirements may be applicable for different structures to be demolished. Refer to Guide Notes in TfNSW B341 regarding the completion of project specific requirements in TfNSW B341.*



## **5 EARTHWORKS**

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*Two options are shown below. Choose the option which suits the property adjustment work or write a new clause.*

***Option 1**, for small scale earthworks where minor structures up to the size of a single story residence and walls retaining up to 0.9 metres of soil are to be built: This clause should be amended if necessary to cater for project specific requirements.*

### **5.1 TOPSOIL**

Strip topsoil from all areas of cut and fill. Stockpile sufficient topsoil for reuse on the property or roadworks and dispose of the remainder.

### **5.2 EXCAVATION**

Carry out your excavation such that the working area is adequately drained at all times, including where necessary a sump and a pump to keep the excavation dry.

For footings, excavate to the levels shown on the Drawings. Use excavation methods which will not cause damage to adjacent property. Remove any loose material and clean the floor. Fill the space of any over-excavation with concrete of the same strength as that specified for the footing.

Where possible, reuse the excavated materials as fill within the property, or in adjacent roadworks, or disposed of them legally.

Remove any unsuitable material from the floor of the excavation to the extent directed by the Principal and replace with suitable fill material in layers compacted in accordance with Clause 5.3.2. Replace any areas of over excavation with suitable material at your own cost.

If the excavated area is not intended for any footing, the entire area of the floor must be loosened by ripping to a minimum depth of 300 mm below the designed floor level. The maximum dimension of particles in the ripped zone must not exceed 100 mm.

Areas under residential building slabs must be prepared to the requirements of AS 2870.

Excavate the batters to the gradients shown on the Drawings or as directed by the Principal. Neatly round the tops of the batters.

### **5.3 FILL**

#### **5.3.1 Fill Material**

Before placing any fill, remove any unsuitable material from the foundation area and replace in layers compacted in accordance with Clause 5.3.2.

Loosen the area by ripping to a minimum depth of 300 mm and, where fill is to be placed against any areas, terrace the areas with a slope steeper than 10(H) : 1(V). Terraces must be at least 1 m wide and at least 300 mm deep. Recompact to the standard specified in Clause 5.3.2. Trim the extremities of the excavation to blend smoothly with the adjacent areas.

Fill must be uncontaminated earth or rock material, free from vegetation or refuse, obtained from excavations within the Works or, where authorised by the Principal, may be supplemented with borrow or imported material. Maximum particle size must not exceed 100 mm.

### **5.3.2 Compaction**

Place and compact in layers not exceeding 150 mm compacted thickness unless it can be demonstrated that the plant used can achieve the required compaction with thicker layers.

Unless shown otherwise on the Drawings, the minimum relative compaction, tested in accordance with TfNSW T166, must be as shown below:

Residential Lots, except under driveways	95.0%
Commercial Lots	98.0%
Driveways for light traffic:	
more than 300 mm below top of earthworks	95.0%
top 300 mm	98.0%

Trim the surface of the designed finished earthworks levels to a tolerance of + 10 mm or – 30 mm. Trim the extremities of the fill to blend smoothly with the adjacent areas.

## **5.4 INSPECTION AND TESTING**

Inspection and testing of earthworks must comply with the guidelines for Level 1 inspection and testing contained in AS 3798.

**Option 2**, for moderate scale earthworks where structures larger than single story residences or walls retaining more than 1.2 m are to be erected:

*Either use the following wording:*

Carry out site preparation and earthworks in accordance with NATSPEC Worksections 0221 and 0222.

*and include NATSPEC Worksections 0221 and 0222 in the Tender Documents*

*or*

*insert specifications prepared by the designers.*

## 6 STORMWATER DRAINAGE

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*For small scale stormwater drainage installations for residential properties, this clause may be applicable. For larger scale stormwater drainage for property adjustment work, delete the wording below and refer to Specification TfNSW R11.*

*If TfNSW R11 is applicable, include TfNSW R11 in the Tender Documents and list TfNSW R11 in Annexure R204/M.*

The scope of works includes connection to the local drainage system. Where necessary, construct a kerb outlet, headwall, pit or other means of connection.

Install stormwater drainage in accordance with AS/NZS 3500.5, the requirements of the local government authority and the requirements as specified in Table R204.1.

**Table R204.1 – Stormwater Drainage Components**

Component	Standard	Requirement
Pipes to kerb outlet under footway.	AS 1163	Minimum grade C250, minimum thickness 5 mm, galvanized inside and out to AS/NZS 4680 or AS/NZS 4792.
Covers and grates	AS 3996	(i) Class B at areas other than driveways or parking areas in residential premises, and (ii) Class C at driveways and car parking areas in residential premises unless specified otherwise. Classes for commercial premises as specified.

## 7 CONCRETE

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

### **SMALL SCALE BUILDING MODIFICATION WORKS**

*Clauses 7, 8, 9, 12, 13 and 14 have been prepared for small scale building modification works only.*

*Choose the clauses which are appropriate for the building modification works under the Contract and make appropriate project specific changes. For building modification works not covered by Clauses 7, 8, 9, 12, 13 and 14, prepare new clauses.*

*Clauses 7 and 8 may be applicable in conjunction with Clause 10, Retaining Walls.*

Concrete must comply with Specification TfNSW R53. Concrete must be of strength grade S32 with 20 mm aggregate, unless shown otherwise on the Drawings.

Prior to commencing your concrete works, submit the name of the Concrete Supervisor with details of qualifications and experience in concreting work to the Principal for approval.

<b>HOLD POINT</b>	
Process Held:	Each placement of concrete.
Submission Details:	At least 4 working hours prior to the proposed commencement of placing concrete (unless otherwise allowed by the Principal), submit to the Principal a Certificate of Conformity, endorsed by the Concrete Supervisor, in respect of formwork and reinforcement. This certificate is to be accompanied by verification checklists and other details showing conformity with the Drawings and this Specification.
Release of Hold Point:	The Principal will consider the submitted documents and may carry out further surveillance and audit, prior to authorising the release of the Hold Point.

## 8 MASONRY

Materials for masonry must comply with the requirements as specified in Table R204.2.

**Table R204.2 – Materials for Masonry**

<b>Material</b>	<b>Standard</b>	<b>Requirement</b>
Masonry units	AS/NZS 4455	Properties as specified. Units at least 7 days old. Units for reinforced concrete blockwork with a characteristic unconfined compressive strength of 15 MPa unless specified otherwise.
Mortar	AS 3700	Cement complying with Specification TfNSW 3211. Class M2 mortar for brickwork unless specified otherwise. Class M3 mortar for reinforced blockwork unless specified otherwise.
Grout	AS 3700	Cement complying with TfNSW 3211.
Flashings and damp-proof courses	AS/NZS 2904	As specified.
Wall ties	AS 2699.1	Grade 316 stainless steel.
Reinforcement	AS/NZS 4671	As specified.

Carry out blocklaying in accordance with AS 3700.

Unless shown otherwise on the Drawings, use stretcher bond construction. Perpendis must be vertically aligned in alternate courses.

Seek advice from the Principal if the preferred face of single-leaf masonry is not shown on the Drawings. Do not commence the relevant work until advice is received from the Principal.

Provide straight joints between new masonry and existing structures. Do not tooth new masonry into existing structures.

Unless shown otherwise on the Drawings or required to match existing structures, provide rods in accordance with Table R204.3.

**Table R204.3 – Rods Required for Masonry**

<b>Unit Height</b>	<b>Courses/600 mm</b>
75 mm	7
90 mm	6
190 mm	3

## 9 FOOTINGS

At least 2 working days prior to the placing of blinding layer for footings, submit a report from a Chartered Professional Engineer with membership of Engineers Australia (or equivalent) practising in the field of geotechnical engineering, verifying that the foundation material complies with the bearing capacity requirements shown on the Drawings.

### **HOLD POINT**

Process Held: Placement of concrete blinding layer.

Submission Details: At least 2 working days prior to placing concrete blinding layer, submit a report from a Chartered Professional Engineer with membership of Engineers Australia (or equivalent) practising in the field of geotechnical engineering, verifying that the foundation material complies with the bearing capacity requirements shown on the Drawings.

Release of Hold Point: The Principal will consider the submitted documents and assess the suitability of the foundation material prior to authorising the release of the Hold Point.

Concrete for footings must be in accordance with Clause 7.

## 10 RETAINING WALLS

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*As there are many types of retaining walls, the text below is intended as an example only.*

*Where aggressive soils exist or the environment is harsh, concrete for retaining walls must comply with Specification TfNSW B80 instead of Specification TfNSW R53 and Clause 7 must be appropriately amended.*

*If TfNSW B80 is applicable, include TfNSW B80 in the Tender Documents and list TfNSW B80 in Annexure R204/M.*

Concrete and masonry for retaining walls must comply with Clauses 7 and 8 respectively.

Footings for retaining walls must comply with Clause 9.

Provide expansion joints, weepholes, waterproof membrane, subsoil drainage and backfill as shown on the Drawings.

## **11 DRIVEWAYS, FOOTPATHS, RAMPS AND STAIRS**

Driveway crossings of the footpaths in the road reserve adjacent to the property do not form part of Property Adjustment works.

### **11.1 CONCRETE DRIVEWAYS, FOOTPATHS, RAMPS AND STAIRS**

Construct concrete and patterned concrete driveways, footpaths, ramps and stairs in accordance with the Drawings and Specifications TfNSW R53 and TfNSW R54.

Unless shown otherwise on the Drawings, the concrete must be of strength grade N32 with 20 mm aggregate.

### **11.2 SEGMENTAL PAVER DRIVEWAYS**

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*Segmental pavers may be installed on a sand or mortar bed. The following paragraphs are applicable to a sand bed system. A suitable edge restraint such as sawn timber or concrete edging must be as shown on the Drawings or as specified in this clause.*

Construct segmental paver driveways as shown on the Drawings.

Lay, trim and compact the subbase before placing the pavers.

Provide a compacted sand bed of a well-graded sand with a maximum grain size of 4.75 mm and with less than 10% passing a 75 micron sieve. Fill the joints with sand, with a maximum grain size of 2.36 mm and less than 10% passing a 75 micron sieve. Repeat compaction and joint filling until all joints are filled. Remove excess sand by sweeping.

Pavers must comply with AS/NZS 4455 and the requirements shown in Table R204.4:

**Table R204.4 – Pavers**

<b>Property</b>	<b>Requirement</b>
Material	
Shape	
Thickness	
Colour	
Texture	
Slip resistance	In accordance with AS/NZS 3661.2

### **11.3 ASPHALT DRIVEWAYS AND CARPARKS**

Construct asphalt driveways and carparks in accordance with the details shown on the Drawings.

Supply, lay and compact asphalt in accordance with Specification TfNSW R117.

Construct the subbase and base courses in accordance with Specification TfNSW R71.

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*For unbound subbase and base courses, complete Annexure R71/A to show project specific requirements.*

*Consult with Road Pavements and Geotechnology Section on the appropriate types of asphalt to be used for driveways and carparks.*

*Complete Annexure R117/A to show project specific requirements.*

## **12 TIMBERWORK**

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*This clause covers the basic requirements of timberwork for residential property only. Documenter should make project specific changes if necessary.*

Materials for timberwork must comply with the requirements as specified in Table R204.5:

**Table R204.5 – Timberwork Materials**

<b>Material</b>	<b>Standard</b>	<b>Requirement</b>
Timber	AS 1684.2, AS 1810, AS 2796.1, AS 2796.2, AS 2082, AS 2858, AS 4785.1, AS 4785.2	All timber to be seasoned. Timber dimensions and other properties as specified.
Nails	AS 2334	As specified.
Bolts, nuts and washers	AS 1111.1, AS 1111.2, AS 1112.3, AS 1237.1, AS 1237.2, AS 1275 AS/NZS 1390	Hot-dip galvanized in accordance with AS 1214. Classes as specified.
Timber fasteners and connectors		Hot-dip galvanized and tested in accordance with AS 1649.
Wood screws		Zinc coated steel unless specified otherwise.

All timber to be painted must be primed on all surfaces on completion of preparatory work and before installation.

Member sizes must comply with the requirements of the tables in the appropriate Supplements to AS 1684.2.

Timber species must be as shown on the Drawings. Where no species is specified, choose an appropriate species based on the tables in the appropriate Supplements to AS 1684.2, the advice in Appendix C of AS 1684.2 and the natural durability rating shown in Appendix H of AS 1684.2.

Do not use preservative treated timber unless approved by the Principal. If approved, carry out preservative treatment using a vacuum/pressure autoclave process in a State Forests of NSW approved facility. The preservative used must be free from lead, chromium or arsenic.

Address the hazards associated with timber preservatives and treated timber in accordance with Specification TfNSW G22. Comply with AS 5605 and the Code of Practice for the Safe Handling of Timber Preservatives and Treated Timber published by NSW WorkCover.

After treatment, do not re-saw, dress, plane or otherwise alter the dimensions of the timber.

## **13 STEELWORK**

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*In building works, a distinction is often made between steelwork and metalwork. Steelwork is for structural purposes and metalwork includes steel, aluminium and stainless steel items such as handrails and balustrades which may need to be both structurally sound and aesthetically pleasing.*

*This clause is an example only which may be applicable to simpler types of steelwork and metalwork comprising steel items only.*

*It should be noted that the requirements for steel and aluminium handrails for stairs and ramps are specified in Clause 15.*



Steelwork components must comply with the requirements as specified in Table R204.6:

**Table R204.6 – Steelwork Components**

<b>Component</b>	<b>Standard</b>	<b>Requirement</b>
Steel plate	AS/NZS 3678	Grade 300L0Z15 unless specified otherwise.
Steel bars and sections	AS/NZS 3679.1	Grade 300L0 unless specified otherwise.
Steel hollow sections	AS 1163	Grade C450L0 unless specified otherwise (minimum grade C250L0).
Bolts, nuts and washers	TfNSW B240 and AS/NZS 5131	Protective treated in accordance with TfNSW B240. Classes as specified.

Fabricate steelwork to the details shown on the Drawings in accordance with Specification TfNSW B201 Construction Category CC2, unless noted otherwise on the Drawings.

All components must be hot-dip galvanized in accordance with Specification TfNSW B201 after fabrication.

## **14 PAINTING**

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*This clause is an example only which is applicable to painting of new exterior dressed timber at locations not affected by severe climatic conditions.*

*For other types of painting, prepare a new clause.*

*When preparing a painting clause, refer to AS/NZS 2311, the AS 3730 series and the Australian Paint Approval Scheme (APAS) web site.*

*Specify requirements on the following and any other issues if necessary:*

- (i) Inspection of existing surfaces to be painted before the commencement of work.*
- (ii) Preparation and treatment of existing surfaces.*
- (iii) Notification to the Principal of any serious defects detected on the existing surfaces to be painted.*
- (iv) The time periods for curing or drying of materials such as concrete before the application of paint.*

The painting systems to be used are shown on the Drawings. Treat all paint products as hazardous products. Comply with TfNSW G22 and the recommendations in AS/NZS 2311.

All paints and associated materials must be compatible and comply with the relevant Australian Standards and APAS Specifications. Use a semi gloss latex paint formulated for exterior use on all exposed building surfaces. The colour of paint must either:

- (i) match that of the adjacent existing building elements;
- (ii) be as shown on the Drawings; or
- (iii) be nominated by the owner.

Where the owner's nomination is required, obtain this nomination from the owner in writing and submit it to the Principal for approval.

Deliver all paint materials to the Site in undamaged and unopened containers with labels intact and store at a clean, dry and well ventilated area. Use materials in the order of delivery.

Prepare timber by rounding all exposed sharp corners, applying stopping and filling to all holes and other depressions and sanding to provide smooth surfaces. Prepare other materials as recommended by the paint manufacturer. Apply sealers, primers and undercoats in accordance with the manufacturer's recommendations.

The number of finishing coats must be as recommended by the manufacturer, unless further coats are required to provide a satisfactory finish.

Remove and make good any overpainting or spillages from adjacent surfaces.

## **15 HANDRAILS**

Fabricate and install handrails in accordance with AS 1657.

Test handrails at the frequency shown in Annexure R204/L.

### **WITNESS POINT**

Process Witnessed: Testing of handrail.

Submission Details: At least seven days written notice of intention to test completed handrails.

## **16 FENCES**

Supply and erect fences of the types shown on the Drawings and in accordance with Specification TfNSW R201. Where the provisions of this Specification are in conflict with those of TfNSW R201, the provisions of this Specification apply.

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*There are many types of fence and the types of fence for Property Adjustment may not be covered in TfNSW R201. For the types of fence not covered in TfNSW R201, specify the requirements in this clause or in TfNSW R201.*

*Gates should be shown on the Drawings. Hinge types and latches should be defined.*

## **17 LANDSCAPING**

Landscaping works in property adjustments must be supervised by your Landscape Supervisor, who must possess the NSW TAFE Landscape Trade Certificate or equivalent as a minimum qualification.

Imported topsoil must be a weed-free “organic type” soil mix that conforms to AS 4419 and suitable for the culture of plant material in landscape areas. It must:

- (a) be of a friable porous nature;
- (b) contain no refuse or materials toxic to plant growth;
- (c) contain no stumps, roots, clay lump or stones larger than 25 mm in size;
- (d) have an organic content of at least 15% to 20% by mass as determined by the method specified in AS 1289 D1.1 Part D;
- (e) have a pH in the range of 5 to 6.5 when tested in accordance with Test Method TfNSW T123;
- (f) have a soluble salt content not exceeding 0.06% by mass;
- (g) be suitable for phosphorus sensitive plants; and
- (h) be free of weed and weed refuse material.

Spread topsoil to a minimum depth of 50 mm under turf and 150 mm in garden beds. The surface of the topsoil must smoothly follow the contours of the ground.

Turf must be of the same species as that of adjacent lawns on the property. Lay to provide a smooth transition to adjacent lawns or paved areas and an even surface free of areas where water could pond. Water the turf immediately after laying and continue watering every second day for two weeks. Replace any areas of turf which appear to be dying at the end of two weeks and continue watering for a further two weeks. Continue this process until the turf is established.

Supply all plants in tubes, unless shown otherwise on the Drawings. Use appropriate fertilisers and mulch around the plants with similar mulch to that used elsewhere in the garden. Carry out maintenance watering for a period of 3 months from the date of completion of planting or until Actual Completion, whichever occurs first. Replace at your own expense any dead plants or plants nominated by the Principal as unsatisfactory and reinstate any disturbed areas.

## **18 MISCELLANEOUS ITEMS**

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*Specify requirements for minor works such as relocation of letter boxes, street numbers, garden lockers and ornaments.*

## **19 CLEAN UP AND SURVEY**

### **19.1 CLEAN UP**

Recycle, reuse or legally dispose of all surplus material, rubbish and other debris resulting from the property adjustment work in accordance with the requirements of Specification TfNSW G36.

### **19.2 SURVEY ON COMPLETION**

Where so specified in Annexure R204/A, arrange for a survey in accordance with TfNSW G71 to verify that there are no encroachments and to verify that all required setbacks have been observed.

Carry out any survey required by the local Government Authority.

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*Items requiring survey by the local Government Authority include detention basin volumes and other works on stormwater drainage.*

Provide a copy of the surveyor's report to the Principal.

**ANNEXURE R204/A – DETAILS OF WORK**

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after customising Annexure R204/A)*

*Where “Yes / No” options are shown below, delete whichever is not applicable.*

**A1 SURVEY ON COMPLETION OF PROPERTY ADJUSTMENTS**

<b>Clause</b>	<b>Description</b>	<b>Requirement</b>
20	Survey required on completion of Works to check for any encroachments and verification that all setbacks have been observed	Yes / No

List of properties requiring survey:

- (a)
- (b)

**A2 SUMMARY OF PROPERTY ADJUSTMENT WORKS**

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*The documenter may include a summary of property adjustment works in Annexure R204/A. For items of property adjustments which must comply with other specifications, the documenter is to indicate the specifications with which the works must comply.*

*For items of work which will be paid for under the relevant items in other specifications, the documenter may put asterisks against such items and add a note stating that asterisks indicate work that will be paid for under other TfNSW specifications.*

*A suggested paragraph to be provided before the summary of property adjustments works is given below:*

*“The scope of the property adjustments works at each property is detailed on the Drawings and broadly summarised in the following table. Cross-references to other TfNSW specifications indicate the standard of work required for particular construction activities. Asterisks against items of work indicate work that will be paid for under other TfNSW specifications. All work that does not have an asterisk against it will be paid for under TfNSW R204 and no further payment will be made under other Specifications.”*

## **ANNEXURE R204/B – MEASUREMENT AND PAYMENT**

Payment will be made for all activities associated with completing the work detailed in this Specification (except for items with an asterisk against it in Annexure R204/A) in accordance with the following Pay Items.

Unless specified otherwise, the Pay Items cover work within the relevant property, work on boundary fences and work to connect utilities (including stormwater drainage) to the nearest connection point on public land.

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 Work Under the Contract.

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*Usually property adjustments works are detailed on the Drawings. A summary of property adjustments works may be provided in Annexure R204/A.*

*The documenter may provide separate Lump Sum items to cover the property adjustments works of individual properties. The Lump Sum items will cover all property adjustments works shown on the Drawings except for items asterisked in Annexure R204/A which will be paid for under other relevant TfNSW specifications.*

### **Pay Item R204P1      Property Adjustments**

This is a Lump sum item for each property, as listed below:

#### **Pay Item R204P1.1**

#### **Pay Item R204P1.2**

## **ANNEXURE R204/C – SCHEDULES OF HOLD POINTS, WITNESS POINTS AND IDENTIFIED RECORDS**

Refer to Clause 1.2.3.

### **C1 SCHEDULE OF HOLD POINTS AND WITNESS POINTS**

<b>Clause</b>	<b>Type</b>	<b>Description</b>
2.3	Hold	Submission of notice of work commencement and other details
2.6	Hold	Additional or variation to property adjustment work requested by property owner
7	Hold	Each placement of concrete
9	Hold	Placement of concrete blinding layer for footing
15	Witness	Testing of handrails

### **C2 SCHEDULE OF IDENTIFIED RECORDS**

The records listed below are Identified Records for the purposes of TfNSW Q Annexure Q/E.

<b>Clause</b>	<b>Description of Identified Record</b>
7	Certificate of Conformity in respect of formwork and reinforcement
9	Report from a Chartered Professional Engineer practising in the field of geotechnical engineering verifying that the foundation material complies with the bearing capacity requirements shown on the Drawings
20	Surveyor's report on encroachments and setbacks
Annexure R204/L	Test certificates

**ANNEXURE R204/D – PLANNING DOCUMENTS**

Refer to Clause 1.3.

The following documents are a summary of documents that must be included in the PROJECT QUALITY PLAN. The requirements of this Specification and others included in the Contract must be reviewed to determine additional documentation requirements.

<b>Clause</b>	<b>Description</b>
1.6	Detailed construction programs for each individual property, their relation to each other, and to the overall Contract Program.
4	Work Method Statement for demolition works.
	Other Work Method Statements as appropriate.

**ANNEXURES R204/E TO R204/K – (NOT USED)****ANNEXURE R204/L – MINIMUM FREQUENCY OF TESTING****L1 GENERAL**

Where testing is specified in this Specification or in a referenced TfNSW specification, carry out the required tests at the specified minimum frequency of testing and submit the associated certificates of compliance including the test reports.

**L2 HANDRAILS**

At least one load test in accordance with AS 1657 must be carried out for each handrail type. Where a handrail is supported on posts, at least one post must be tested.

Where fixing methods vary, at least one test of a handrail and post must be undertaken for each fixing method.

Submit a copy of test certificates to the Principal.



**ANNEXURE R204/M – REFERENCED DOCUMENTS**

Refer to Clause 1.2.4.

**TfNSW Specifications**

TfNSW G22	Work Health and Safety (Construction Work)
TfNSW G36	Environmental Protection
TfNSW G38	Soil and Water Management
TfNSW G71	Construction Surveys
TfNSW Q	Quality Management System
TfNSW R53	Concrete for General Works
TfNSW R54	General Concrete Paving
TfNSW R71	Construction of Unbound and Modified Pavement Course
TfNSW R117	Light Duty Dense Graded Asphalt
TfNSW R201	Fencing
TfNSW B201	Steelwork for Bridges
TfNSW B240	Steel Fasteners
TfNSW 3211	Cements, Binders and Fillers

*NOTES TO TENDER DOCUMENTER: (Delete this boxed text after drafting R204)*

*Depending on the clauses adopted, the following specifications may also be required:  
(delete those that are not applicable)*

<i>TfNSW G1</i>	<i>Job Specific Requirements</i>
<i>TfNSW R11</i>	<i>Stormwater Drainage</i>
<i>TfNSW R179</i>	<i>Landscape Planting</i>
<i>TfNSW B80</i>	<i>Concrete Work for Bridges</i>
<i>TfNSW B341</i>	<i>Demolition of Existing Structure</i>

**TfNSW Test Methods**

TfNSW T166	Determination of Relative Compaction
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**Australian Standards**

AS 1111	ISO metric hexagon bolts and screws – Product grade C
AS 1111.1	Bolts
AS 1111.2	Screws
AS 1112.3	ISO metric hexagon nuts – Product grade C
AS 1163	Structural steel hollow sections
AS 1214	Hot-dip galvanized coatings on threaded fasteners (ISO metric coarse thread series)

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AS 1237	Plain washers for metric bolts, screws and nuts for general purposes
AS 1237.1	General plan
AS 1237.2	Tolerances
AS 1275	Metric screw threads for fasteners
AS/NZS 1390	Cup head bolts with ISO metric course pitch threads
AS 1649	Timber – Methods of test for mechanical fasteners and connectors – Basic working loads and characteristic strengths
AS 1657	Fixed platforms, walkways, stairways and ladders – Design, construction and installation.
AS 1684.2	Residential timber-framed construction – Non-cyclonic areas
AS 1810	Timber – Seasoned cypress pine – Milled products
AS 2082	Timber – Hardwood – Visually stress-graded for structural purposes
AS/NZS 2311	Guide to the painting of buildings
AS 2334	Steel nails – Metric series
AS 2601	The demolition of structures
AS 2699.1	Built-in components for masonry construction – Wall ties
AS 2796	Timber – Hardwood – Sawn and milled products
AS 2796.1	Product specification
AS 2796.2	Grade description
AS 2858	Timber – Softwood – Visually graded for structural purposes
AS 2870	Residential slabs and footings – Construction
AS 2904	Damp proof courses and flashings
AS/NZS 3500.5	Plumbing and drainage – Housing installations
AS/NZS 3661.2	Slip resistance of pedestrian surfaces – Guide to the reduction of slip hazards
AS 3678	Structural Steel – Hot-rolled plates, floorplates and slabs
AS 3679.1	Structural steel – Hot-rolled bars and sections
AS 3700	Masonry structures
AS 3798	Guidelines on earthworks for commercial and residential developments
AS 3996	Access covers and grates
AS 4419	Soil for landscaping and garden use
AS/NZS 4455	Masonry units, pavers, flags and segmental retaining wall units
AS/NZS 4671	Steel reinforcing materials
AS/NZS 4680	Hot-dip galvanized (zinc) coatings on fabricated ferrous items
AS 4785	Timber – Softwood – Sawn and milled products
AS 4785.1	Product specification
AS 4785.2	Grade description
AS/NZS 4792	Hot-dip galvanized (zinc) coatings ferrous hollow sections, applied by a continuous or a specialised process

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AS/NZS 5131	Structural steelwork – Fabrication and erection
AS 5605	Guide to the use of preservative-treated timber

**SafeWork NSW Code of Practice**

Safe Handling of Timber Preservatives and Treated Timber

**Australian Building Codes Board**

National Construction Code

**APAS (Australian Paint Approval Scheme) Specifications**

Refer to <http://www.apas.gov.au/SpecList.asp> for a list of current APAS specifications.