

P O Box 40 -651
Upper Hutt 5140

Phone (04) 526-7711
Cell 021- 427.347
Email ian@irgroup.co.nz
Web www.irgroup.co.nz



TKKM O Tamaki Nui A Rua

Roll Growth Classrooms

Prepared for:
TKKM O Tamaki A Rua
36 Makirakiri Road
Dannevirke

Ian Rattray Building Consultant

Tender Summary for TKKM O Tamaki Nui A Rua

New Roll Growth Classrooms

Main Contractor Name:

	Trade	Contractor	Price
1	Preliminary & General		
2	Carpentry		
3	Roofing		
4	Electrical / Data		
5	Joinery		
6	Aluminium Joinery		
7	Flooring		
8	Painting		
9	Heating		
10	Plumbing & Drainage		
11	Structural Steel/Metal Work		
		SubTotal	
		Contractors Margin	
	Monetary Allowances	Alterations to fire alarm system	\$ 5,000.00
	Contingency	\$ 20,000.00	\$ 20,000.00
		Total Tender Sum	
		GST	
		Total Tender Sum Inc GST	

Please Complete this form and submit with your tender

TKKM O Tamaki Nui A Rua: **Roll Growth Classrooms**

Scope of Work

This contract is for construction of a new classroom block at Block A, and a new classroom block, classroom extension & new entry way at Block B, including decks and covered verandahs and associated work as described below at TKKM O Tamaki Nui A Rua, 36 Makirakiri Road, Dannevirke.

Construction to be as detailed in the attached drawings.

Drawings and Scope of Work to be read in conjunction the attached Kevin O'Connor & Associates engineering report and details, and the attached Holmes Fire fire engineering strategy.

All work is to be carried out to the best of trade practise and in accordance with all relevant standards, manufacturers instructions and the NZ Building Code.

Construction to be as detailed in the attached drawings.

Please check all dimensions on site.

Allow to complete the following items of work:

Demolition at A:

- Provide temporary hoardings at locations shown in drawings.
- Remove trees & vegetation from western end of building.
- Remove section of steps at deck as indicated.
- Remove aluminium windows, (A/W3), keep windows for reuse.
- Remove section of exterior wall to allow for new sliding doors as indicated.
- Remove heat pump & outdoor inverter unit, keep items for reuse.
- Remove whiteboard as shown, keep for reuse.
- Remove window in corridor to allow for new doors.
- Removed section of roof & framing to allow for new work as indicated in drawings.
- Remove all demolition material and debris from site.

Demolition at B:

- Removed section of roof & framing at northern end of building & over existing entry to allow for new work as indicated in drawings.
- Remove exterior and interior walls at locations shown in drawings.
- Remove sections of exterior cladding at locations shown in drawings.
- Remove section of exterior walls at existing porch area.

- Remove section of decking as indicated in drawings.
- Remove joinery unit from location in kitchen as shown, keep unit for reuse.
- Remove various doors and windows at locations shown in drawings, keep doors & windows for reuse as indicated in drawings.
- Remove all demolition material and debris from site.

**NEW WORK FOR BLOCK A NEW CLASSROOM & COVERED DECK,
BLOCK B NEW CLASSROOM, CLASSROOM EXTENSION ,NEW ENTRY
& COVERED DECKING.**

Carpentry:

- Construct new sub-floor framing at classrooms and new decking at locations shown & as detailed in drawings using H3.2 joists & H3.2 bearers on 125x125 H5 timber piles.
- Construct new reinforced concrete slab & footings at new entry as described in the drawings and as detailed in the attached engineer's report; (concrete strength to be 20mpa).
- New flooring to be 21mm Ecoply ply wood T&G sheeting.
- Construct new verandahs over new decks in location shown & detailed in drawings using 90x90 H5 timber posts supporting new verandah H3.2 beams and H3.2 rafters.
- Construct roof framing to new classrooms using manufactured timber trusses at 900mm crs, with 70x45 H1.2 timber purlins at 900mm crs over. Truss manufacture to provide design certificate for trusses and fixings to top plate. Design to be for very high wind zone.
- Construct roof framing to classroom extension at Block B using a 200x45 LVL hySPAN rafters & fly rafters at 600 crs, with 70x45 H1.2 timber purlins at 900mm crs over.
- Construct roof framing to new entry at Block B using a 300x36 hySPAN LVL ridge beam with 190x45 H1.2 rafters at 600 crs, with 70x45 H1.2 timber purlins at 900mm crs over.
- Allow to provide 40mm galvanised hand rails at locations shown at new decking.
- Construct new interior and exterior walls at locations shown in drawings using H1.2 timber framing at 400 crs, including timber lintels above doors, windows and openings as indicated in drawings. Fit additional dwangs as required for upstands, light fittings, hardware, and the like.
- Allow to infill exterior walls where windows & doors have been remove using new H3.2 framing and interior linings & exterior cladding to suit.
- Allow to make good areas affected by demolition as necessary.
- Supply & install new steel portal frame at new entry and new steel ridge beam at classroom extension as described in the drawings and as detailed in the attached engineer's report.
- Exterior wall linings to be James Hardie Axon panel 133 Grained cladding over CLD cavity battens over Thermakraft Watergate Plus building wrap over James Hardie RAB Board 6mm ridged air barrier.

- Allow to provide new timber exterior decorative panels at locations shown & as detailed in drawings.
- New roof cladding to be 0.55 gauge Steel & Tube Colorsteel Endura Custom Orb long run corrugated roofing, complete with associated fixings and accessories. Provide Thermokraft Covertek 405 fire retardant roof underlay. Roofing to be installed in accordance with manufactures instructions, (roofing colour to match existing).
- Verandah roofing at Block A to be Steel & Tube Topglass FR fire retardant translucent corrugated roofing over Thermakraft safety mesh.
- Allow to fit new flashing to existing sky lights at B Block as indicated in drawings.
- Supply and install 60mm R1.4 EXPOL polystyrene under floor insulation throughout new work as indicated.
- Supply and install new Batts, or similar approved, insulation to exterior walls & ceilings throughout new work before fitting of new linings, (wall insulation to be R2.8, ceiling insulation to be R3.6).
- Allow to provide new interior wall linings as detailed in drawings using Autex Composition Board, 9mm ply wood and Gib Board and with new timber trim, (details to match existing linings on site).
- Ceiling linings to be 13mm Gib Board with Daiken Dai Lotone ribbed acoustic ceiling tiles over.
- Allow to line the inside of the south wall of the new classroom at Block A with 2 layers of 19mm Gib Fyrelite to achieve a fire rating of 120/120/120. Gib Fyrelite to be installed in accordance with manufacture instructions. Also refer to the attached fire engineering strategy report.
- Provide EXIT signs at entry doors as shown in drawings & the attached fire report.
- Supply & install new aluminium windows at locations shown & as detailed in drawings, (A/W1, A/W2, B/W3, B/W4, B/W5 & B/W6). Allow to reuse existing windows A/W3, B/W1 & B/W2; Allow to provide new opening sashes to windows A/W3, B/W1 & B/W2 as indicated in drawings.
- Supply & install new aluminium doors at locations shown & as detailed in drawings, (A/D1, A/D2, A/D3, A/D4, B/D9 & B/D11).
Supply & install a new p.q. solid core interior door, B/D10, at location shown.
Allow to reuse existing doors B/D1, B/D2, B/D3, B/D4, B/D5, B/D6, B/D7 & B/D8.
- Supply & install new aluminium glazed panel to suit opening at end of deck at Block A as detailed in drawings.
- Allow to supply & install a new servery between kitchen and Teaching Space 3 in Block B at location shown in drawings. Servery to match existing.
- Allow to relocate existing joinery cabinet in Block B kitchen as indicated in drawings.
- Supply & install new wall mounted work bench WB1 and wall mounted sink bench SB1 as detailed in drawings.

- Supply & install new joinery units U1, U2, U3, U4 & C1 as detailed in drawings.

Electrical

- Allow to run power to new electrical distribution boards at locations shown in the new classrooms at Blocks A & B.
- Supply & install new Thorne College fluorescent light fittings and Tuff Lite exterior light fittings at locations shown in drawings, with associated light switches and wiring to suit.
- Supply & install exterior security light fittings with daylight sensors & motion detectors in locations shown.
- Supply and install new PIR sensors throughout new at locations shown & connect to schools existing security system.
- Supply & fit new power points & data outlets in locations shown.
- Supply & install new fire alarm call points at exit doors and exterior alarm bell at locations shown & as indicated in drawings. Allow to connect to school existing fire alarm system.
- Run new wiring in wall cavities/ceilings before new linings are fitted.
- **NOTE:**
*For all new light circuits, a 30mA RCD must be used for protection.
 Ensure that all electrical work is undertaken in accordance with Ministry of Education Electrical Installation: Standard for Schools document; version 1.6 - October 2015.*

Plumbing and Drainage

- Provide new gully traps, uPVC sewer drains & wastes as indicated in drawings and connect to existing drainage as shown on drawings.
- Allow to run water supply from existing supply and connect to new fixtures & fittings as indicated in drawings.
- Supply & install a Rheem 312025 25 ltr under bench hot water cylinders at locations as shown and run hot water supply to fixtures & fitting as indicated in drawings.
 - Connect cold water supply to hot water cylinders in accordance with NZ Building Code G12 and manufacturer's instructions with all necessary pressure reducing and limiting valves, non return valve, cold water expansion valve, stop cock, temperature and pressure relief valve.
 Fit tempering valve set to 45 degrees centigrade and run warm water supply to sinks.
- Supply & install new Mercer Questo stainless steel sinks with Methven Celeste or similar single lever mixers to new sink bench units in Blocks A & B as indicated in drawings.
- Allow to supply and install spouting, complete with fittings and downpipes and connect to existing stormwater drainage as shown in drawings.

Heating

- Supply & install a new ASTG24LFC Fujitsu Hiwall Premier heat pump interior units with out door inverter units on 100mm concrete pads at locations indicated in drawings, heat pumps to be installed in accordance with manufacture's instructions.

Floor Finishes

Block A-

- Supply and install new Floor Space Kinetic carpet tiles in new classroom & break-out space.
- Supply and install new Autex Widetrack carpet at entry doors as shown in drawings.
- Supply and install new Tarkett Granit vinyl flooring at area in break-out space as shown in drawings, (vinyl to be coved to 150mm).

Block B-

- Supply and install new Floor Space Kinetic carpet tiles in Teaching Spaces 1, 2 & 3, Common Area, Quiet Space and Teachers Work Space
- Supply and install new Autex Widetrack carpet at entry doors as shown in drawings.
- Supply and install new Tarkett Granit vinyl flooring in kitchen and areas in Teaching Spaces 1 & 3 as shown in drawings, (vinyl to be coved to 150mm).

Painting

- Interior

New work & areas affected by demolition

- Allow to paint Gib Board linings; and allow to clear finish timber skirtings, architraves, scotias and dado rails.

- Exterior

New work & areas affected by demolition.

- Allow to paint new exterior cladding, new timber base boards, eaves linings, fascia boards, barge boards, timber window & door facings, decorative panels and all new miscellaneous timber trim.

Paint colours to match existing.

All rubbish and debris to be removed from site upon completion of work.

Door Hardware

- a) Door Hinges Hang exterior doors on 100 mm broad butts with fixed pins; 4 butts to each door. Hang internal doors on 100 mm LP bronzed steel butts, 3 butts per door.
- b) Locks Fit on all external aluminium doors, Lockwood 3582XT Vestibule Set, and on all timber doors Lockwood 3572WT, (L or R to suit handing), mortise locks with handles 1m from floor. Provide extended striker plates to all outward opening doors to master door facings. Provide 3 keys for each lock.
- c) Door closers Fit on new external doors to classroom doors, a Schlage LCN M4040 heavy duty door closer with Steel Grey finish. Fit in accordance with manufacturer's instructions.
- e) Hold-Back Hooks Fix to each external door Sopers Macindoe SPDH 81SL wall mount door holder. Fix to each internal door fitted with a door closer a cp hook and eye.
- f) Door Stops Fix behind each internal door D & W 1404 spring loaded door stops to prevent doors or hardware striking walls.
- g) Furniture All door furniture shall be Legge Pacific Alpha 500 with scp finish.

Preliminary and General

1) Extent of Work

Refer to the attached page(s).

2) General

The following documents shall form part of the Contract:

- a) The attached Ministry of Education Conditions of Contract.
- b) The accompanying Tender Forms.
- c) The accompanying Specification.
- d) The accompanying Drawings with any subsequent Drawings.
- e) Any written correspondence, instructions and variations issued subsequent to the signing of the contract.
- f) The letter of acceptance.
- g) Any written notice to tenderers recording adjustments to drawings and or specification prior to the signing of the contract.

3) Examine the Site

Tenderers shall examine the site and building before tendering. The submitting of a tender will be taken as an indication that the tenderer has visited the site and made himself familiar with any matters that might affect the fulfilment of his part of the contract and has made due allowance in his tender for these. No consideration shall be granted for any misunderstandings as to the work to be performed or the materials used.

4) Temporary Services

Water

The contractor may draw water from the employers existing reticulation.

Latrine

The contractor may use an existing toilet at the discretion of the employer, and must keep it in a clean and tidy condition.

Electric Power

The contractor may use the existing power supply during the course of the contract, unless special loadings are required, in which case the contractor shall make the necessary arrangements and pay all costs.

5) Work Programme

The successful contractor is to arrange with the school and supervisor, approved dates and times within the specified time when work can be actioned.

6) Insurances

As per the conditions of contract, the Contractor is to carry a General Public Liability Insurance policy with a minimum cover of \$2,000,000.00.

The contractor shall insure separately the Contractors Plant and Equipment.

7) Noise

No radio or other noise not strictly associated with the works shall be audible in any room outside the contractors working and storage area.

8) Scaffolding and Hoarding

The contractor shall provide for the erection of all necessary gantries, cranes, staging, ladders, moving sections, chutes and any other scaffolding to permit the proper and efficient erection of the work.

9) Dimensions and Setting Out

Check and confirm all building dimensions on site. The contractor shall accept full responsibility for the final dimensions. All work shall be set out accurately and in accordance with the plans. Any errors shall be made good at the contractors expense.

10) Existing Services

Any damage incurred to existing services shall be made good to the supervisors approval and at no cost to the employer.

11) Care of the Site

The contractor shall regularly remove all debris, rubbish, and surplus materials, including that of subcontractors as they accumulate. The site shall be as tidy as possible at all times.

Upon completion of the contract works, the contractor shall take down and remove all plant, gear, temporary work, rubbish, debris and surplus materials from the site, and make good.

At the conclusion of the contract, the contractor shall leave the site in such a condition, as new, and to the supervisors approval.

12) Workmanship

Workmanship shall be consistent with good trade practice to produce sound and well finished work, and to the requirements and standards demanded by the supervisor.

13) New Zealand Standards

It is the sole responsibility of the main contractor to ensure that the complete contract works are executed according to the relevant New Zealand standards, and local and national regulations.

14) Protection

The contractor shall be held responsible for the protection of persons or property in the immediate vicinity of, or liable to be affected by his operations. To that end, he shall provide a suitable temporary fence around the entire construction zone, at a minimum orange plastic safety mesh supported on tensioned wire over waratah stays and all necessary coverings, guards and the like, and display suitable and sufficient warning notices. The fences and signs shall be maintained throughout the contract.

15) Bylaws and Regulations

The whole of the operations shall be carried out in compliance with regulations of all public bodies having jurisdiction in the matter, and the contractor shall pay all and any fees which may be payable in respect thereof.

16) Labour and Materials

The contractor is to supply all labour, plant and sundry items as later detailed which are the best of their respective kinds.

Only first class tradesman are to be employed on this contract and any defective or improper workmanship shall be reinstated by the contractor in an approved manner at the contractors expense.

17) Damage

The Contractor shall be responsible for the loss or damage which may be caused to the property of the employer in his carrying out of this contract and the contractor shall make good such loss or damage at his own expense, to the satisfaction of the employer.

18) Behaviour Generally

Any behaviour by workers on the site that could be considered sexist, racist, obscene or beyond the limits of normal, acceptable behaviour will not be tolerated.

The supervisor reserves the right to exclude any such offending persons from the site area.

Wherever possible, contact between workers and school children should be kept to an absolute minimum. If the contractor finds that the school children are being a nuisance within the building site area, he is to notify the supervisor and the principal immediately in order that steps be taken to remedy the situation.

Under no circumstances whatsoever is the contractor and or employees thereof, permitted to have physical contact with, admonish or discipline any children that may from time to time enter the site area and or act in a manner that is a nuisance to the contractor and his staff. Report any such incidence to the principal immediately.

19) Smoking

Smoking is not permitted on any school site unless in a designated area as indicated by each individual school.

20) Foreman

The contractor shall provide at all times an efficient foreman who shall have the power to receive and carry out the instructions of the supervisor or his agent.

21) Compliance Certificate

The contractor shall complete the enclosed compliance certificate, stating that the all work carried out in the execution of the contract works by all contractors involved in such work, has been carried out in accordance with the contract documentation. This certificate shall be delivered to the employer or his agent before the issuing of the completion certificate.

22) Health & Safety In Employment Act

The contractor shall confirm in writing to the employer or his agent that all practical steps have been taken to ensure the requirements of the Health & Safety in Employment Act are complied with, in particular the contractor is required to:

- a) Provide and maintain a safe working environment.
- b) Provide and maintain facilities for the safety and health of employees at work.
- c) Ensure that machinery and equipment in the work place is designed, made, set up, and maintained to be safe.
- d) Ensure that employees are not exposed to hazards in the course of performing their work.
- e) Develop procedures for dealing with emergencies that may arise while employees are at work.

A copy of the Contractors Health and Safety Policy shall be kept on site in a prominent position at all times.

The Contractor is required to seek a copy of the owners health and safety policy and make himself aware of any hazards that may be present on the site.

23) Defects Liability Period

The defects liability period is 12 months.

Complete all defects liability and remedial work identified by the supervisor within the time period stated.

A Maintenance retention of 5% of the contract sum may be held by the employer to cover the work required over this period. The retention will be released upon final completion at the end of the maintenance period.

24) Building Consent Fees

The building consent shall be uplifted and paid for by the employer prior to the awarding of this contract. **Tenderers do not need to allow for building consent fees in their tender price.**

25) Liaison with the Territorial Authority During the Contract

It shall be the responsibility of the main contractor to liaise fully with the local Territorial Authority (TA) on all matters that require the involvement of the TA during the execution of this contract. This shall include for example, notifying the TA when the following work is ready for inspection:

- Foundations
- Pre-lining
- Plumbing and drainage
- Completions.

The main contractor is also to inform the TA any variations that may have arisen during the contract. The main contractor is to inform the supervisor when the TA inspections are to be carried out.

It shall be the responsibility of the main contractor to secure a Code Compliance Certificate from the TA upon completion of the work.

26) Asbestos

The contractor is required to immediately notify the supervisor, if the presence of asbestos is suspected or detected during construction.

27) Contractors Animals

Due to a number of problems having been experienced in the past in relation to contractors pets, particularly dogs, on site during the course of the project, The Ministry of Education Central South Office requests that all contractors and related persons refrain from bringing animals on to the school site at all times during the contract.

28) Police Vetting

As a result of an amendment to The Education Act 1989, Boards of Trustees are now required to obtain a police vet from the NZ Teachers Council on all persons working on a school site that are not registered teachers.

This requirement applies to all contractors and their employees who will be on site regularly, as well as your subcontractors and their employees.

You will be required to furnish a list of all workers that will be on site throughout the execution of the work, and distribute Police vet forms to these persons and return the forms to the school to enable the vetting process to be completed.

Any person who turns up on site to work and is not on the list will not be allowed on site.

All information received by the school will be treated in the strictest confidence and will be held in a secure file by the school.

Carpentry

1) References

Refer to the general conditions of contract and the preliminary and general sections of the contract documents which are equally binding on this trade section.

Read this trade section of the specification with all other contract documents.

2) Scope of Work

Refer to the extent of work section of this specification.

3) General

- 1) Supply all gear and materials necessary to carry out the Works.
- 2) Use all new materials the best of their respective kinds. Make no substitutions for materials specified with out the supervisors approval.
- 3) Set out the Works symmetrically unless stated otherwise.

4) Workmanship

Use workmanship and materials in accordance with the best trade practice by competent tradesman conforming with the relevant New Zealand Standards. Carry out all work in accordance with The New Zealand Building Code, Acceptable Solutions E2/AS1 & E3/AS1, and any relevant manufacturers instructions.

5) Timber Grading

- 1) Timber to grades in accordance with NZS 3604: 2011 and NZS 3631:1988
- 2) Use dry timber with the following equilibrium moisture content:

a)	External	Sawn Timber	20% average max 22% at 17.5 deg c.
		Machine gauged	19% average max 22% at 17.5 deg c.
b)	Internal	Sawn	18% average max 20% at 17.5 deg c.
		Dressed	12% average

max 15% at 17.5 deg c.

6) Timber framing

- 1) Unless otherwise detailed, timber framing to comply with NZS 3604:2011. Generally all framing to be H1.2 SG8 grade Pinus Radiata. Studs for walls up to 2.4 m high: 90 x 45 studs @ 600 centres.
- 2) Dpc to be fitted between all concrete and timber.
- 3) Dwangs to be provided @ 800 crs max to all timber framed walls. Fit additional dwangs as required for upstands, joinery units, light fittings, hardware, and the like.
- 4) Provide all lintels, trimmers and blocking in accordance with NZS 3604:3011

7) Exterior Timber

- 1) Use H3.2 SG8 grade framing grade pinus radiata for all exposed exterior timber.
- 2) Use H5 SG8 grade framing grade pinus radiata for all timber in contact with the ground.

8) Exterior Finishing Timber

Use finger jointed or clear H3.1 SG8 grade pinus radiata for all exterior finishing timbers. Profiles to match existing where necessary.

9) Interior Finishing Timber

- 1) Finishing timber to match existing except where noted otherwise.
- 2) Use selected or Dressing A Rimu for all clear finished interior trim unless noted otherwise.
- 3) Use selected, clear or finger jointed pinus radiata or MDF for all painted interior trim.

10) Fixings

- 1) Nail fix timber work in accordance with NZS 3604:2011.
- 2) Punch all finishing nail fixings and leave ready for stopping.

- 3) Use non ferrous or galvanised fixings for exposed external timber work.
- 4) All hardware is to fixed with appropriate fixings of matching finish to the item being fixed. Use non ferrous screws in external situations.
- 5) Use galvanised fixings where fitting into concrete.

11) Priming

Preprime all surfaces of exterior painted timberwork prior to fixing. Prime all cuts and joints as necessary.

12) Building paper

Fix fire resistant breather type building paper complying with NZS 2295:2006 over exterior framed surfaces in accordance with NZS 3604:2011

13) Exterior Cladding

Exterior wall cladding to be James Hardie Axon Panel cladding on James Hardie CLD cavity battens over Thermakraft Watergate Plus building paper over James Hardie RAB Board 6mm rigid air barrier. Supply, store and fix in accordance with the manufacturers instructions.

14) Interior Linings

As per extent of work or to match existing as required, supply, store and fix in accordance with manufacturers instructions.

Structural Steelwork

1) General

The Preliminary and General section of the specification shall be read in conjunction with and shall apply to this section of the specification.

2) Extent of Work

This section of the specification includes the supply of all plant, equipment, materials, and labour that is needed to complete the fabrication and erection of the structural steelwork as specified and shown on the drawings. All structural Steel support posts and associated brackets and fixings. All to be finished in hot dipped galvanised coatings.

3) Standards

The requirements of the following standard specifications shall apply unless noted otherwise in this section of the specification.

BS	4 : Pt1 : 1980	Structural Steel - hot rolled sections.
AS	1250 : 1981	Steel structures.
AS	1538 : 1974	Cold formed steel structures.
AS	1650 : 1981	Galvanised Coatings.
NZS	3404 : 1989	Design of steel structures.
BS	4360 : 1986	Weldable structural steels.
NZS	4701 : 1981	Metal arc welding of steel structures.
NZS	4711 : 1984	Qualification tests for arc welders.
NZS	4781 : 1973	Safety in welding and cutting.
BS	4848 : Pt2 : 1975	Hot rolled structural steel - hollow .

4) Materials and Workmanship

a) Materials

All materials shall be the best of their respective types and shall be free from all defects. The materials shall conform in every respect with the specified standards.

Steel shall conform with BS 4360 : 1990

Sections shall conform with BS 4 : Part 2 : 1975

Cold Rolled sections shall conform with AS 1538 : 1974

All other components, such as bolts, nuts, washers, rivets and the like shall conform with NZS 3404 : 1977

- b) Workmanship
The workmanship shall conform to the best modern practice and shall conform in every respect with the specified standards NZS 3404 : 19977 and AS 1250:1981.

The work shall be performed by experienced, competent and certified tradeworkers, who shall produce high quality work that when completed is free from defects and is plumb and true.

5) Fabrication

- a) Bolting
Contact surfaces at bolted connections shall match accurately and shall be free from dirt, loose scale, burrs and other defects.

Standard Specification for Roofing in Corrugated Colorsteel

1) Site

All tenderers shall visit the site of the proposed works before submitting their tenders as no extra payment will be authorised on the grounds of insufficient knowledge of existing buildings and services.

2) Access

The contractor shall restrict access by his own, his subcontractors and his suppliers vehicles to the main school entrance, unless otherwise notified by the employer.

3) Order of work

The work shall be carried out in stages so that a minimum of roof is exposed to the weather at any one time.

4) Building Paper

Prior to fixing the new roofing materials, cover the timber roof structure with new standard weight building paper, laid horizontally with a minimum lap of 150mm well tacked down.

5) Corrugated Coil Coated Steel Roofing

Provide and fix 'Colorsteel Endura' (or as directed in the Extent of Work attached) continuously coil coated steel roofing in accordance with the manufacturers instructions.

Alternative brands may be considered with prior approval of the employer.

a) Material

Corrugated iron shall be .55mm BMT grade G250 with Zinalum galvanised coating.

b) Fixing

Corrugated roofing shall be fixed with 65 x 4mm dia. 'weather seal' pre-painted or similar approved hot dip galvanised spiral shanked nails or self drilling screws as specified in the Extent of Work. Nails shall be spaced to leave one corrugation between fixings at the end of sheets and two corrugations between fixings at all other purlins below the ridge and above the eaves. Fix sheets with one and a half corrugations side lap. Stainless Steel fixings required with Zinalume.

Sheets shall be in single lengths where possible, but where joints are necessary they shall be lapped 300mm.

The 'colorsteel' shall be inspected when it arrives on site by the contractor and the supervisor, damaged or unsatisfactory sheets will not be accepted.

6) Workmanship

a) General

All work shall be carried out by tradesman experienced in sheet metal work, more particularly in the handling, fixing and flashing of the materials specified. The workman should be equipped with adequate tools and equipment to ensure a first class job.

Fix all roofing and accessories strictly in accordance with the manufacturers instructions. Where such instructions conflict with this specification seek clarification with the supervisor before proceeding.

b) Handling

Care is to be taken when handling colorsteel.

Products are to be lifted directly into position and must not be dragged or slid over rough surfaces or other colorsteel products.

All workers employed on roofing jobs must wear suitable rubber soled footwear and all tools and ladders must be suitably protected from damaging the painted surfaces.

Long lengths of roofing iron are to be lifted by crane directly on to the roof. The use of a lifting boom is recommended.

Any damage to the 'colorsteel' caused by failure to follow these procedures shall be replaced at the contractors expense.

c) Storage

Products delivered to the site must be stored off the ground in sheltered positions. Where undercover storage is not practical or where products are lifted in bundles directly on to the roof, they must be covered with a loose fitting tarpaulin until ready for use. Plastic covers must not be used.

If for any reason the products become wet, they must be separated to allow drainage and air circulation. Timber fillets

must be kiln dried seasoned timber. Treated timber must not be used

Contact with wet cement is to be avoided.

d) Sealants

Under no circumstances shall 'colorsteel' be joined by soldering, welding or brazing.

Joints shall be made using an approved type of blind rivet and sealant.

Sealant shall be approved transparent, neutral curing silicone rubber type.

Surfaces must be clean, dry and free from oil.

The sparing use of a solvent such as Toluol or xylol is recommended, sealant should be applied the same day the surface is cleaned.

Sealants should be laid in a continuous 3mm wide line covering the fastening holes and finished as soon as possible after application.

Excess sealant is to be removed before it cures. Remove all rivet shanks and drillings following the completion of the work.

Refer to the colorsteel technical bulletin No. 5.

e) Cutting and Drilling

Colorsteel products shall be cut or drilled with the colour side down where ever possible. Products should be cut using sharp tin snips or a power saw fitted with a friction blade.

f) Flashings and Roof Penetrations (see section 10 for lead on Zinc alum)

All flashings and roof penetrations shall be manufactured from coil coated materials and in long lengths where available.

To all ridge and hips fix lead edged ridging to follow the line of the roof with the lead moulded down into the corrugations. Seal all joints as above.

Where required sheet lead shall be used. All lead edging and all sheet lead shall be primed on all surfaces before fixing. Exterior

surfaces shall be painted with Colorsteel touch up paint, colour to match roof.

On roof penetrations 'aquaseal' type flashings shall be used. Aluminium shall be painted to match the roofing.

7) Cleaning Up

To prevent Staining or the surface it is essential that all metal off cuts, filings, fastener shanks etc, are removed from the work area as work progresses. A soft broom may be used, followed by hosing down at the end of each day. Removal of particles from gutters is also important to prevent premature corrosion.

8) Completion

On completion of new roofing etc, fit all new flashings required to make the roofs completely watertight.

9) Guarantee

The contractor shall furnish a written guarantee in the form required by the employer that the roofing will remain weatherproof for a period of five years after the expiry date of the maintenance period. This guarantee shall cover the making good of any defects which may appear and rectifying any damage to the interior or exterior of the building due to defective materials or workmanship.

10) Lead and Zinc alum Coatings

Avoid using lead flashings in contact with zinc alum products as excessive corrosion will occur. Use an alternative product such as "flashgard" or fully encapsulate the lead in an approved paint system.

Concrete, Reinforcing Steel & Blockwork Masonry

1) References

Refer to the general conditions of contract and the preliminary and general sections of the contract documents which are equally binding on this trade section.

Read this trade section of the specification with all other contract documents.

2) Scope of Work

Refer to the extent of work section of this specification.

3) General

- 1) Supply all gear and materials necessary to carry out the Works.
- 2) Use all new materials the best of their respective kinds. Make no substitutions for materials specified with out the supervisors approval.
- 3) Set out the Works symmetrically unless stated otherwise.

4) Workmanship

Use workmanship and materials in accordance with the best trade practice by competent tradesman conforming with the relevant New Zealand Standards. Carry out all work in accordance with The New Zealand Building Code, and any relevant manufacturers instructions.

5) Concrete & Reinforcing Steel

- 5.1 All concrete construction shall comply with NZS 3109:1997
- 5.2 Concrete shall be special grade in accordance with NZS 3604:2011, having a compressive strength at 28 days using standard cured 300 x 150mm diameter cylinders of:
20MPa Floor slabs
- 5.3 All concrete shall be water cured for a minimum period of seven days
- 5.4 All concrete shall be vibrated using an immersion type mechanical vibrator to fully consolidate the concrete and to release all entrapped air. Do not over vibrate the concrete.
- 5.5 Concrete surface finishes shall comply with NZS3114:1987 and shall be:
- | | | |
|-------------|-----------|----|
| Foundations | concealed | F1 |
| | revealed | F3 |

Floor slabs	formed	F3
	unformed	U2 + Kelly float
Columns & beams	formed	F5
	unformed	U3
Precast panels	formed	F3
	unformed	U2 + Kelly float

- 5.6 The contractor shall allow to accurately position, level and secure all bolts, weld plates, inserts, pipes etc, before pouring concrete.
- 5.7 Use an approved release agent for all formwork.
- 5.8 The floor slab shall be cut where detailed within 36 hours using a 30 x 5 mm cut. The reinforcing mesh or steel shall not be cut unless detailed otherwise.
- 5.9 Reinforcing steel shall be round and deformed Grade 300 MPa mild steel (R or D) or Grade 430MPa high yield steel bars (HD) complying with NZS 4671:2011
- 5.10 Reinforcing mesh shall be Grade 485 MPa high yield welded steel wire mesh complying with NZS 4671:2011 or Grade 430 Ductile steel wire mesh complying with NZS 4671:2011.
- 5.11 All bends, laps and covers to the reinforcing steel and mesh shall comply with NZS 3101.1 & 2:2006.
- 5.12 Reinforcing steel and mesh shall be tied at each intersection with black sort mild steel wire, with the ends turned away from the concrete surface.
- 5.13 Reinforcing steel and mesh shall be supported on plastic chairs or formed concrete chairs at spacings appropriate to the bar or mesh size to maintain the specified concrete cover.
- 5.14 Provide a 0.25 mm Polyethylene damp proof membrane, with all joints lapped 150 mm and fully taped, to the underside of the floor slab and foundations where detailed.

6) Blockwork Masonry

- 6.1 All blockwork masonry construction shall comply with NZS 4210:2001
- 6.2 The construction of blockwork masonry works shall be carried out by competent, experienced tradesmen who shall be fully conversant with the detailed provisions of NZS 4210:2001.
- 6.3 Concrete blocks shall be 20.00 series blocks unless stated otherwise on the drawings.
- 6.4 Blocks shall be open-end bond beam units wherever possible, with the bottom course laid upside down. Provide clean-out openings of at least 100 x 75 mm at each vertical reinforcing starter bar.
- 6.5 Grout spaces shall be cleaned out before grout is poured to remove any mortar from reinforcing bars, protruding mortar into cells and carities and all mortar droppings and other loose material.
- 6.6 Mortar joints shall be concave tooled to a depth not exceeding 6 mm and burnished after initial stiffening has occurred. Mortar joints shall not be raked off.
- 6.7 Grout shall have a minimum compression strength of 17.5 MPa at 28 days using standard cured 300 x 150 dia. cylinders.
- 6.8 Grout shall have a spread value within the range 450 to 530 mm.
- 6.9 Grout shall completely fill all cells and cavities unless stated otherwise on the drawings.
- 6.10 Grout shall be vibrated using a mechanical vibrator to fully consolidate the grout in each cell and cavity.
- 6.11 Provide a waterproofing additive to the mortar and grout in accordance with the manufacturers recommendations.
- 6.12 Grouting shall be carried out using the high lift grouting with expansive additive method for pours up to a maximum height of 3.6 m.
- 6.13 The expansive additive shall be Darexpan as supplied by W R Grace (NZ) Ltd or an approved equivalent, with the dose rate as recommended by the manufacturer. The additive shall be mixed with the grout immediately prior to placing the grout in the blockwork masonry.

- 6.14 After filling and waiting for the grout expansion to take place, the wall top shall be locally recompact by troweling, or a weighted restraining board shall be left in place on top of the wall immediately after grouting for a least 4 hours.
- 6.15 The tops of the grouted walls shall be protected in order to prevent too rapid drying during hot or drying weather or winds.

Plumbing

1) References

Refer to the general conditions of contract and the preliminary and general sections of the contract documents which are equally binding on this trade section.

Read this trade section of the specification with all other contract documents.

2) Scope of Work

Refer to the extent of work section of this specification.

3) General

- 1) Supply all gear and materials necessary to carry out the Works.
- 2) Use all new materials the best of their respective kinds. Make no substitutions for materials specified with out the supervisors approval.

4) Workmanship

Use workmanship and materials in accordance with the best trade practice by competent tradesman conforming with the relevant New Zealand Standards. Carry out all work in accordance with The New Zealand Building Code, Acceptable Solution G13/AS1 & G13/AS2, any relevant manufacturers instructions, and local and national authority requirements.

5) Existing Services

The existing services are poorly recorded. Exercise extreme care during excavations. Any underground services broken or damaged during excavation shall be rectified at this subcontractors expense.

6) As Laid Plan

A completion certificate for this contract cannot be issued until a scaled services 'As - Laid' plan has been deposited with the supervisor.

7) Materials

Provide all materials fittings and plant and allow for all fixing. Piping shall be as follows:

- a) *Rigid PVC Piping:* Shall be Garnite, Novapipe or equal approved, confirming to NZS 7648/1987.
- b) *Copper Piping:* Shall all be seamless drawn copper conforming to NZS 3501:1976 All hot water reticulation lines shall be run in copper and insulated with plumbers felt or an equal approved lagging.
- c) *Polybutylene Piping:* Shall be in accordance with the New Zealand Building Code Acceptable Solution G12/AS1 & NZS 2642:2008
Only these fittings are acceptable.

8) General Requirements

- a) When non-copper pipes pass through concrete foundations, slab or paving, provide and install rigid PVC sleeves, to give a minimum 12mm clearance around the pipe.
- b) Underground piping shall be buried not less than 450mm in the ground.
- c) Conceal all piping within the building.
- d) Where pipes emerge from framing and are exposed, they shall change to chrome plated copper with equivalent flanges.
- e) Water supply lines to other fittings shall not be less than 12mm.
- f) All piping in the building shall be copper or polybutylene. All hot water reticulation shall be run in lagged copper.

Plumbing:

Please note the 65mm minimum below floor level pipe sizing requirements of Unvented Branch Drains.

Water Services shall comply with New Zealand Building Code Clause **G12/AS1 Water Services**.

The following requirements for the new hot water cylinder shall be met:

1. The hot water cylinder relief valves shall discharge to the adjacent gully trap in an approved manner positions. The pipe work shall not discharge into any galvanised steel tray or pipework.
2. The cylinders shall be installed to comply with the manufacturer's instructions and recommendations and the NZBC Clause G12 Water Supplies.
3. Provide permanent unrestricted visual and physical access to the cylinder, the control and relief valves, and to the tundish drain for the valves.
4. Seismic restraints are to be installed to the HWC, including tensioning brackets.

The delivery hot water temperature at any sanitary fixture used for personal hygiene shall be controlled not to exceed 45 degrees C. This shall be via an approved tempering valve.

Hot water pipework shall be thermally insulated to comply with the requirements of **Energy Efficiency H1/AS1 Clause 5.0 Hot Water Systems**.

Storm water downpipes and drainage shall comply with the New Zealand Building Code Clause **E1/AS1 Surface Water**.

Pipework materials:

All drains, wastes and vents in Upvc.

All hot and cold water services in polybutylene or copper. Cooper pipework shall be installed for hot water 1 meter to and from the hot water cylinder to comply with G1/AS1.

All storm water in Upvc.

Ventilation:

All spaces are naturally ventilated.

HOT WATER SUPPLY

1. General.

Mains pressure hot water shall be supplied to the mains pressure hot water cylinder as indicated in drawings. Water heaters, pipe work and valving shall be as specified below and installed in accordance with NZBC G12/AS1 or AS/NZS 3500.4:2003.

2. Hot Water Cylinder.

Provide and install the specified hot water cylinder pre-wired with element, thermostat and energy cut-off device.

3. Temperature Requirements

The hot water cylinder shall be set at a minimum temperature of 65°C. Temperature gauges shall be installed on the HWC. Personal hygiene fixtures (i.e. wash hand basins, showers & sinks) shall have their temperature controlled to 45°C with group tempering valves positioned at the HWC, as indicated in drawings.

4. HWC Valve Set.

The 25mm valve set to the HWC shall include isolating valve, non-return valve, 500kPa pressure limiting valve, 700kPa expansion control valve, drain valve and maintenance isolating valves.

5. Isolation Valves

The isolation valves as noted on the drawing shall be sized in the correct diameter according to the pipe size and shall be of the ball valve kind. An additional isolation valve shall be positioned immediately prior to the water heater to enable the valve train to be removed without draining the water heater.

6. Tempering Valves.

45°C tempered hot water supplies are required to all personal hygiene fixtures. This will be achieved using separate RMC TVA75HF 20mm tempering valves. The flow rate of the fixtures fed by each tempering valves shall not exceed the flow rate of the valves. The tempering valves shall be independently supported and tested on their maximum temperature.

7. Expansion Control Valve.

A matched 700 kPa 15mm cold water expansion control valve (ECV) shall be installed on all valve vented water heaters in accordance with the manufactures installation instructions. A 15mm copper or fusiotherm drain shall extend downwards to discharge above the PVC safe tray waste or other

safe location as indicated in the drawings.

8. Seismic Restraint

Secure HWC to wall with two earthquake resisting galvanised steel straps in accordance with G12/AS1.

9. Safe Tray

All hot water cylinders shall be installed on a safe tray of compatible material, which shall drain to the combined TPR discharge waste.

10. Hot Water Pipework.

The hot water supply pipework shall be copper or fusiotherm and shall be concealed unless specifically denoted otherwise on the drawings. Pipe work shall rise and fall to fixtures within the wall cavities or ducts. Pipework shall not be surface mounted.

11. Pipework Insulation

All hot water pipework from the cylinder to the fixtures and at the cylinder shall be insulated with Rockwool or similar with a minimum thickness of 25mm. All joints and cut tube shall be taped and closed up without gaps.

12. Testing

Water supply services shall be completed in a manner to allow testing sections. All new water supply pipework is to be tested to a pressure of 1500 kPa for 30 minutes or as specified by the PPR manufacture prior the the enclosure of the work. All testing procedures shall be documented and made available on request to the territorial authorities, or project manager. All detected defects, leaks, water hammer etc. shall be remedied prior to proceeding. All pressure tests shall be witnessed by the project manager.

Electrical

1) References

Refer to the general conditions of contract and the preliminary and general sections of the contract documents which are equally binding on this trade section.

Read this trade section of the specification with all other contract documents.

2) Scope of Work

Refer to the extent of work section of the specification.

3) General

- 1) Supply all gear and materials necessary to carry out the Works.
- 2) Use all new materials the best of their respective kinds. Make no substitutions for materials specified with out the supervisors approval.

4) Existing Services

The existing services are poorly recorded. Exercise extreme care during excavations and work to existing buildings . Any underground or internal services broken or damaged during excavation and or other work shall be rectified at this subcontractors expense.

5) Earthing

Earth continuity conductors shall be installed with the wiring to all outlets.

6) Workmanship and Regulations

a) The electrician shall visit the site in order to understand the nature and scope of the work. No claims will be allowed on the grounds of insufficient knowledge of existing conditions.

b) The electrical installation shall be carried out in strict accordance with the New Zealand Electrical Regulations and Codes of Practice 1993, and interpretations and amendments thereto, the rules of the Fire Underwriters Association, notwithstanding any omissions herein, and to the complete satisfaction of the local power board's inspector and the supervisor.

c) All wiring shall be concealed, unless otherwise stated, and only new, first class materials and workmanship will be allowed.

d) The electrician shall obtain all necessary permits for the work and allow to pay all associated charges.

e) The electrician shall visit the site and accurately assess the size of the existing main, submains, and all other cables required to complete the wiring in accordance with this specification and to comply with the local body and national regulations.

f) The complete electrical system shall be checked by the local authority power supplier on completion of the contract. Any wiring not accepted and passed shall be replaced by the electrician at no extra cost.

g) The electrician shall carry out all necessary cutting away, drilling etc. When cutting into timber only sufficient to permit the bare entry of the wiring is to be removed. No joists are to be cut away for cables **more than 100mm out from a support**, except with the approval of the supervisor.

h) All stainless steel bench tops are to be earthed.

7) Wiring

Wiring of sub-circuits shall be TPS insulated cables. All cables shall be concealed in wall, ceiling and floor cavities.

Wire to plug sockets	- 3x 2.5mm ² and earthed.
Wire to lights	- 3x 1.5mm ² and earthed.
Wire to electric heaters	- 3x 2.5mm ² and earthed.

8) School Class Change / Evacuation System

Allow to reticulate the existing school class change / evacuation bell system to the new reloc classrooms. Allow to fit two external bells on site where directed.

Drainage

1) References

Refer to the general conditions of contract and the preliminary and general sections of the contract documents which are equally binding on this trade section.

Read this trade section of the specification with all other contract documents.

2) Scope of Work

Refer to the extent of work section of this specification.

3) General

- 1) Supply all gear and materials necessary to carry out the Works.
- 2) Use all new materials the best of their respective kinds. Make no substitutions for materials specified with out the supervisors approval.

4) Workmanship

Use workmanship and materials in accordance with the best trade practice by competent tradesman conforming with the relevant New Zealand Standards. Carry out all work in accordance with The New Zealand Building Code, Acceptable Solution G13/AS1 & G13/AS2, any relevant manufacturers instructions, and local and national authority requirements.

5) Existing Services

The existing services are poorly recorded. Exercise extreme care during excavations. Any underground services broken or damaged during excavation shall be rectified at this subcontractors expense.

6) As Laid Plan

A completion certificate for this contract cannot be issued until a scaled services 'As - Laid' plan has been deposited with the supervisor.

Drainage Sub-Contractor is to accurately record a drainage 'As - Laid' plan and hand to the supervisor at the time of back filling.

7) Materials

Shall be UPVC 'Terrain' , 'Garnite', or equal approved complying with NZS 1260:1996 and 7649:1988. Joints shall be made with solvent welded joints or rubber ring joints complying with BS 2494. Jointing to be in accordance with manufactures instructions. Associated fittings shall match the material of the main pipe used.

8) Drains

It is the Drain layers responsibility to accurately and correctly size the pipes as required by the regulations. All fittings shall be inspection fittings, at not more than 9 metre intervals for sanitary pipes and not more than 15 metre intervals for storm water pipes.

Run all new drainage lines as shown and / or as required by the regulations.

9) Gully Traps

Shall be proprietary uPVC units complying with NZS 7649:1988. The tops of gully traps shall finish 75mm above finished ground level. Protect all gully traps with concrete D -type surrounds or neatly haunched. Set gullies in 75mm of concrete and provide removable metal or uPVC gratings as applicable.

Wastes shall discharge below the gratings in all cases.

10) Inspection Eyes

Construct and provide all inspection eyes in positions as required by the regulations and / or by-laws.

11) Jointing

Jointing to be in accordance with manufactures instructions.

Cutting of uPVC pipe shall be at right angles, with a fine toothed saw. The end shall be chamfered at 15 degrees for half the wall thickness. All burrs shall be removed.

Mark the pipe end with a pencil, to the depth of the socket joint, then clean the end of the pipe and rubber ring seal, check the seal is properly seated, apply lubricant and insert the pipe.

12) Excavation

All excavation work shall be carried out in accordance with the construction regulations and under direct control of a person familiar

with the health and safety act and the contractors health and safety policy.

Excavation for trenches shall be taken out in accordance with the longitudinal section, and by open cut. Trenches shall be of sufficient width and depth to permit de-watering, bedding and pipe jointing.

Trenches in stable country may be opened a maximum of 60m in advance of pipe laying, but this allowable advance distance may be reduced at the discretion of the supervisor. Excavation for all manholes and other structures shall be such as to leave adequate space for toms, bracing and extraction of timbers.

The side of the excavation shall be kept below the metal foundation by using pumps or similar appliance designed for this purpose. Under no circumstances shall the water be allowed to enter the sewer drain.

13) Bedding

Unless otherwise instructed, all bedding shall be type D shown in NZS 4452:1986 appendix c. Granular bedding shall be between 5 to 10 mm in size, placed and compacted as detailed in NZS 4452:1986. The pipe shall be laid on the bedding material such that it is straight, laid to grade and free from distortion. Bedding material shall then be used and compacted up each side of the pipe and covering the pipe. Care shall be taken when placing and compacting back fill to prevent distortion of the pipe.

If pipe bedding stated is concrete then refer to the supervisor for instructions.

14) Pipe laying

All pipe shall be laid in accordance with manufacturers instructions. Pipe laying shall begin at the lower end of the pipeline and shall be constructed with sockets pointing up hill. The pipe may be assembled outside the trench and carefully placed into position. In the case of solvent cement joints leave for thirty minutes to dry before moving.

Each pipe shall be accurately set to line and grade and in straight lines between changes of line and grade.

15) Extra Fittings

Any fittings that are not shown on the drawings or mentioned in the Specification and which are required to complete the drainage system in accordance with the regulations, shall be provided by the drainage contractor as part of his contract. No extras will be allowed under this heading.

16) Completion

On completion leave the whole of the drainage system in perfect working order.

Reinstate any damage cause by the execution of the work.

All trenches in grass areas shall be top soiled 10mm and grassed.

All trenches in hard surface areas shall be neatly saw cut against existing paving and re surfaced to match.

Remove all excess materials and sweep the entire area to leave the site in a neat tidy condition.

Standard Specification

Floor Finishes

1. General

All floor finishes specified in the extent of work shall be applied only by flooring contractors skilled in the particular Finish concerned. Allow to apply these finishes to the areas shown in the drawings or as scheduled below.

Prior to commencing flooring work ensure that all surfaces to which floor coverings or finishes are being applied are made smooth, clean and suitable prepared to receive the floor finish.

Carry out all associated sanding, stopping and filling as necessary

2. Protection and Damage

Protect the finished floors against damage due to any of the contract work operations and protect against all floor traffic. Any damage to the finished floor surface shall be made good to the supervisor's satisfaction at the contractor's expense.

3. Guarantees

The contractor shall furnish to the client a written guarantee for each type of floor finish covering workmanship and materials. Material guarantees shall be a minimum of five (5) years from the date of completion. The workmanship guarantee shall be for a minimum period of three years from the date of completion.

4. Floor Sanding

Machine sand floors to a smooth even surface.

5. Adhesive

The adhesives shall be only those as recommended by the Flooring Manufacturer.

6. Coving

Provide a PVC cove bead for vinyl flooring, any carpet coving may be cut and a separate piece used for wall upstands.

7. Clean Up

Clean up all floor surfaces on completion of the contract. Remove all adhesive marks off adjacent surfaces, such as walls, skirtings, fittings etc. Where sanding has taken place thoroughly vacuum all surfaces in the room to remove any dust caused by the sanding process.

8. PVC Flooring

PVC flooring shall be as detailed in the extent of work. Lay in accordance with the manufacturer instructions. Vinyl in the same area should be from the same batch. Check vinyl rolls before installation. Seam weld all joints with a hot air gun and matching welding rod. On completion clean down and machine scour, spray with a light water / detergent mixture then buff to a high polish.

9. Carpet Flooring

Carpets shall be direct stuck & laid in accordance with manufacturers instructions, using approved adhesive.

Carpet in a room must be from the same dye batch and roll. Lay carpet with pile in continuous direction following arrows printed on the underside of the carpet. Overlay each seam by 40mm and cut through both layers of carpet to ensure perfect seaming. Roll with a hand roller to ensure bonding of adhesive.

All work shall be free of bulges, lifting edges, staining, damage and other defects.

Finish junctions with other flooring with naplock pinless binder bars. Thoroughly vacuum after laying is completed.

10. Removal of Existing Floor Coverings and Floor Preparation

The contractor is responsible for the removal of all existing floor coverings where applicable and disposal of said covering off site.

Where new coverings are going over old T&G flooring the contractor is to ensure that all existing floors are sound and free from loose, springy or squeaky boards. Generally inspect all flooring and punch, screw, stop and sand any surface irregularities and prepare to receive new flooring.

For vinyl flooring laid over T&G flooring provide 4.75 standard hardboard underlay stapled with 25mm plated staples at 100mm to the edge of the sheets and 150mm centres elsewhere. Staples should be at least 12mm from sheet edges. Allow a 2mm gap between sheets and 3mm gap around at room perimeter. Sand all joints level.

PAINTING

1) General

Refer to all the general and specific conditions, the tender drawings and preliminaries section of this specification, all of which shall apply to this section of the works.

2) Extent of works

Refer to the extent of work section of the specification.

3) Colours

Colours will be selected during the contract, generally to match the existing School colour scheme.

4) Workmanship and materials

All painting shall be in accordance with good sound trade practice, in accordance with NZS 2311:2009, and only premium grade paint systems are permitted. The only paint products approved for this contract are for paints manufactured by **Resene** and **ICI Dulux**. Unless prior dispensation is given for an alternative manufacturers product, all tenderers must price this work using paints supplied by either Resene or Dulux.

Only first class premium paints may be used on these contract works and all paint brought on to the site must be in the original manufacturers tins and must be available for inspection by the supervisor at all times during the contract. The supervisor reserves the right to take samples for testing. Any materials which do not conform to the manufacturer's formulae or the requirements of this specification will be rejected.

Unless specified otherwise all paint materials shall be lead free. An exception may be for galvanised steel priming, unless specified lead free for roof water collection areas.

All paint materials in thermal areas shall be of a suitable formula.

a) Paint systems

It is intended that, unless specified otherwise a "paint system" is used on all works involved in this contract. That is, only the same manufacturer's primer, undercoat and finishing coats are to be used in any given situation. Use the correct type of each as recommended by the manufacturer for the materials to be

painted and their situation. The painting for this contract shall require the application of a complete "paint system"

b) Cutting In

Only first class cutting in work will be accepted on this contract. The requirement for, and the importance of, a top class cutting in job cannot be stressed enough. It is therefore brought to the attention of all tenderer in this specific clause and reiterated that any poor cutting in work will be completely rejected by the supervisor and the work will be required to be completely redone.

c) Protection of work

Take adequate precautions during and after painting operations to protect your own work, and the work of other trades and adjacent existing surfaces, from damage or disfigurement, The Contractor must ensure adequate protection for all grassed, concrete or sealed areas during preparation, mixing and application, including cleaning and washing of brushes and applicators.

The contractor must ensure that all brick veneer work is adequately protected from the possibility of paint damage.

Provide pans or trays in which to keep materials and carry out all necessary floor and wall protection, for both new and existing areas.

External work shall not be done during frosty or inclement weather and in the likelihood of frost, work in shaded positions shall cease at least four hours before sunset.

Protect factory finishes from paint disfiguration.

Protect floor finishes from paint spillage or disfiguration. Any paint damaged by frost, rain, and dust or through inadequate protection shall be rubbed down and recoated at the painter's expense.

Any damage done to persons or property by the painting contractor or his workmen during the progress of the contract is to be made good at the expense of this contractor.

d) Conditions when paint is not to be applied

Paint is not to be applied when any one of the following conditions exist:

- The surface is less than 5 degrees Celsius above dew point.
- The ambient air temperature is below 5 degrees Celsius, or 10 degrees Celsius in the case of water based paints.
- The relative humidity exceeds 85%.
- There is moisture or ice on the substrate.
- If any of the above are likely to occur before the paint dries.
- Any condition stipulated by the paint manufacturer more restrictive than above.

5) **Colours**

The colour scheme will be chosen before the contract starts and forwarded to all tenderers.

Tenderers are to note that all work to be painted **white**, will require:

- **three** finishing coats over the undercoat.

6) **Preparation of surfaces**

It shall be the responsibility of the painter to ensure that all surfaces, including surfaces of each successive coat, are in a suitable condition to produce a first class job. Apply "Moss & Mould Killer" to areas where required, wash down and apply such sealers, neutralisers, etc., as are necessary and in accordance with sound trade practice, Similarly wash or brush down prepared surfaces immediately before painting to effectively remove dust, deposits or loose material. Such preparatory work being deemed to form part of this contract.

No paint shall be applied to damp surfaces. All timbers exposed to view or contact by the hand shall be smooth finished and the painter shall not apply to such surfaces if still rough.

It shall be the responsibility of this sub-contractor to make good, to the supervisor's satisfaction, any paint failures or blemishes caused by insufficient or incorrect preparation of surfaces to be painted.

Where appropriate all existing wallpaper shall be stripped off in preparation for the new wallpaper. Prepare the existing wall surface to recommended trade practice.

7) Cleaning down of existing surfaces

Where existing surfaces require re-painting in this contract, the following conditions shall also apply:

a) Generally

Rigid attention must be paid to the "PREPARATION OF SURFACES" clause as above. Existing surfaces shall be repaired as called for and the painter must allow for filling as required.

Remove sufficient to provide a good key for new paint. Prime any existing bare timber or steel shown up by old paint removal.

b) Removal of moss and mould infestation

This must be applied to any porous surface, the contractor must ensure that all moss and mould is removed prior to the application of any paint system.

Treat all infested areas with Resene, or equal approved, Moss and Mould Killer, at a rate of 100 grams to 1 litre of clean water, or as required by the alternative manufacturer. Leave for 48 hours to achieve a full kill, then wash down the affected surfaces.

c) Sanding

The use of disk sanding equipment is not permitted on this contract.

8) Priming

a) Generally

Prime all faces, edges backs, joints and abutting surfaces of all exterior finishing timbers.

b) Galvanised steel

Thoroughly degrease all surfaces before priming. Apply "Galvo One" or equal approved, steel primer.

c) Other priming

Shall be as recommended by the manufacturer of the finishing paint.

9) Undercoats

Undercoats shall be the same brand as the finishing coats and shall be as recommended by the manufacturer of the finishing paints for use with his paint in the situations specified. **Tint the undercoats to closely match the colour of the finishing coats to give additional covering power to paint.** Undercoats on exterior, exposed more than 8 weeks to weather, shall be sanded down and recoated without extra charge. The minimum number of paint coats required in each particular case is specified in later clauses, but not withstanding this, undercoats shall be sufficient to provide a full bodied, even colouration to the finished job.

10) Application of paint

a) Exterior Painting

Shall be applied by BRUSH ONLY. Airless spraying is **NOT** permitted.

b) Interior Painting

The undercoat shall be applied by BRUSH ONLY. The finishing coat may be applied by brush or roller.

11) Painting schedule

a) Timber Doors

NOTE: Both the tops and bottoms of all doors are to be painted.

Prime (if new):	One coat of pigmented sealer
Undercoat:	One coat of alkyd undercoat
Paint:	Two coats of satin enamel

b) Door and Window Frames and/or Liners

Prime:	One coat of pigmented sealer
Undercoat:	One coat of alkyd undercoat
Paint:	Three coats of gloss enamel (white)

c) Exterior Sheathing and Concrete Blocks and C P Plaster Finishes

Prime: One coat of exterior acrylic primer
Paint: Two coats of exterior acrylic "Lumbersider"

d) Existing Galvanised Steel Roofs, Flashings, Spouting, Downpipes & Metalwork

Refer to previous clauses for the preparation of existing surfaces. Ensure all rust, blisters and loose or perished paint has been removed. Recoat in zinc rich paint any ungalvanised metal exposed during preparation.

Prime: One coat of galvanised steel primer
Paint: Two coats of exterior full gloss acrylic or enamel

e) Painted Metalwork

Prime: One coat of galvanised steel primer
Paint: Two coats of exterior full gloss enamel
(3 coats if white)

f) Exterior Trim, Facings etc.

Prime: One coat of exterior acrylic primer
Undercoat: One coat of exterior acrylic undercoat
Paint: Two coats of exterior acrylic paint

g) Gibraltar Board

Sealer: One coat of Gib Sealer
Undercoat: One coat of acrylic undercoat
Paint: Two coats of acrylic (satin)
Three coats for white ceilings (matt)

h) Particle Board Linings

Undercoat: One coat of sealer
Paint: Three coats of clear polyurethane

k) All Interior Finishing Trim and Hardboard Linings

Prime: One coat of acrylic primer (satin)
Paint: Two coats of acrylic (satin)

12) Left over paint

All cans of partially used paint left over at the completion of the contract shall become the property of the Board of Trustees. The contractor shall clearly label each can with the paint colour and the block on which the paint was used.

Hand all left over paint to the school caretaker at the completion of the contract. This paint shall be available for use by the contractor at the conclusion of the maintenance period if it is required.

13) Completion

Clean all glass, flooring, fittings etc. of any paint spots and leave the site in a clean and tidy condition.