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OLD MUNICIPAL CHAMBERS

REPAIR, RECONSTRUCTION & RESTORATION

OUTLINE SPECIFICATION **ISSUE: 31 MARCH 2017**

1.0 Introduction & General

This Outline Specification forms part of the Developed Design stage issue of architectural documents for cost estimating purposes. The design and repair strategy is a development of that described in the Feasibility Study Heritage Assessment report dated July 2016 that describes the cultural heritage significance of the Old Municipal Chambers (OMC) the earthquake damage, repair strategies and an assessment of the effects on the building's heritage values.

The Outline Specification describes the work and materials according to the component parts of the building and its elements. The outline specification is divided into two parts, the first for the FULL RESTORATION proposal, and the second for the STAGED RESTORATION proposal which is a partial completion of the repair, strengthening and reconstruction of the building deferring its final restoration to a future date.

The reference ID is crossed referenced to the architectural floor plans, elevations and cross sections.

2.0 Full Restoration

Item	*Reference*	*Description*
BRICK MASONRY WALLS	**BM**	
Brick masonry repointing insitu.	**BM1**	Rake out joints and pointing 20mm, (except in entry porch which is to remain). Sample and confirm mortar mix. Pointing to be same mix. Allow for provisional mortar mix of 1 lime : 1 cement : 6 brickies sand. Lightly weather-struck to approved sample.
Brick masonry damaged wall and crack repair.	**BM2**	Remove cracked bricks. Reconstruct partially deconstructed walls by re-bedding in new repair bricks. Deep rake out of joints for repointing. Crack inject cracks full depth of wall with Mapei Antique grout, 5Mpa strength. Rake out pointing and repoint as for **BM1** Above. Pointing to exterior to be weather struck to match existing.
Concrete strengthening walls inlaid into brick URM walls.	**BM3**	Remove brick wythes from wall thickness to one side of the wall for concrete strengthening walls of thickness shown on the drawings. Finish walls for strapped and lined or solid render finish as noted for interior walls.
Brick masonry deconstruction and reconstruction over concrete walls.	**BM4**	Record brickwork, decorative bricks for original location & common bricks for coursing pattern. Reconstruct deconstructed wall areas to original coursing as a full brick facing with minimal cavity over the concrete walls. Tank concrete walls with Megapoxy. Fix with stainless steel veneer ties to concrete walls.

Item	*Reference*	*Description*
BRICK MASONRY WALLS		
Turret masonry	**BM5**	Reconstruct brick masonry as full facing bricks over the structural steel turret structure. The steel structure is clad in 25mm Marine grade plywood, tanked with Ardex 5000 WPM tanking membrane. Secure masonry with stainless structural veneer ties and dry pack mortar behind to support rear face of brick. Erect masonry complete with limestone window dressings. Reinstall previously removed timber framed window joinery. Refer remedial action J1.
Frieze and decorative tiles	**BM6**	Reconstruct frieze tiles to the turret and decorative tiles to chimneys with solid mortar bedding to the back of the frieze/tiles to the brick and mortar substrate. Mortar and point joints as for brickwork.
Figurines	**BM7**	Figurines for reinstallation on the building are to be terracotta replicas of the originals cast for the purpose. (The originals are to be treated as artworks and conserved by others outside the scope of the work). Install figurine segments into wall recesses with embedded stainless wire fixing ties fixed to the concrete wall. Reconstruct alcove frame brickwork with overlapping lip over the figurine tiles. Bed segments in terracotta colour oxide pigmented grout.
STONE MASONRY ELEMENTS	**SM**	
Window dressings, transoms and mullions. Repair.	**SM1**	Remove displaced transoms and mullions where these are still in place. Retrieve previously removed items from storage. Reface limestone by scraping with a fine tooth Tenon saw blade and sand to re-tighten the surface. Rebate backs of stones for structural support bars and reinstate over structural support frames. Mortar to be lime mortar mix with limestone sand to colour match to the stone. Treat with biocide.
Window dressings, transoms and mullions. Replacement	**SM2**	Limestone sills and lower section of the mullions are badly encrusted and eroded and are beyond remediation. Remove affected stones and carve new from matching colour limestone to original profiles. Rebate backs of stones for window opening structural support bars and reinstate over structural support frames. Mortar to be lime mortar mix with limestone sand to colour match to the stone. Treat with biocide.
Oriel Window. Repair.	**SM3**	Reface limestone by scraping with a fine tooth scrapers and sand to re-tighten the surface. All restoration work is to be by a specialist stone carver. Let-in veneer repairs to be used in preference to replacement of the complete stone. Mortar to be lime mortar mix with limestone sand to colour match to the stone. Treat with biocide.

Item	*Reference*	*Description*
Griffons.	**SM4**	Reinstall the previously removed Andesite stone Griffons in their original placement in the wall. Bed in grey lime/cement mortar. Pin to wall with stainless steel pins epoxied into the back of the Griffons.
Balustrade.	**SM5**	The limestone balustrade has been recorded and deconstructed. Restore the original balusters and cappings by scraping to remove encrustation followed by sanding to tighten surface. Repair chips larger than golf ball size by spliced repairs. Reconstruct components and connect back to mild steel securing members. Mortar to be lime mortar mix with limestone sand to colour match to the stone. Treat with biocide.
Chamber – south window.	**SM6**	South window to be constructed in concrete over a steel frame and plastered to original limestone profiles. Plaster is to be coloured using ground limestone or Ngapara sands to match the limestone for colour and texture. Glaze restored stained glass and leadlight panes into glazing angles formed in the depth of the plaster. To be done by glass conservator.
CHIMNEYS	**CH**	
Existing remaining insitu.	**CH1**	Record, deconstruct & store bricks for reconstruction. Refer **CH2** for reconstruction requirements.
Deconstructed to be reconstructed.	**CH2**	Record and deconstruct chimney to height shown on the drawings. Refer Structural Engineers drawings and Outline Specification for a description of the chimney reconstruction. The structural steel frames of the chimneys above the second floor are to be lined with 25mm Marine Plywood, with Ardex 5000 tanking membrane over (or other 50 year durability membrane). Chimneys above deconstructed level are to be reconstructed to their original form with salvaged bricks fixed over the tanked structural steel core, with the masonry secured with stainless steel veneer ties to structural engineer's design and spacings. The bricks are salvaged bricks from the chimneys' deconstruction and include decorative bricks and friezes. Flashings to be formed in lead by specialist lead worker with lead welding certification.
ROOF	**R**	
Terracotta clay tiles.	**R1**	The roof tiles are in poor condition and are to be recorded, removed and replaced with new to the original pattern. Remove tiles and ridging tiles. Sound ridging tiles are to be retained for re-use. Remove tile battens. Repair roof framing as required using like-for-like replacement timbers. Install structural strengthening steel and connections within the roof spaces. Fix plywood diaphragms over roof framing, lay breathable roofing underlay, fix vertical counter battens with tile battens over and install new tiles to the original pattern.

Item	*Reference*	*Description*
ROOF	**R1** continued	Sources of replacement plain and decorative tiles are: • Keymer 265x165 clay roof tiles • Redland Rosemary Clay Classic roof tile 265x165 • Dreadnought Premium Clay Tiles 265x165 Re-use sound, original ridging tiles and supplement with new matching tiles. Bed in terracotta colour pigmented mortar over roof tiles. Flashings to be formed in lead by specialist lead worker with lead welding certification.
Corrugated steel. Full Restoration.	**R2**	The existing painted galvanised corrugated steel roofing to the internal roof area is to be removed. Refer **R1** above for Installation of the structural steel roof space strengthening and roof plywood diaphragms. Fix new treated Pinus purlins over the diaphragm, lay breathable roofing underlay over the purlins and fix new 0.55mm galvanised steel corrugated roofing. Prepare, prime and paint. Provide clear polycarbonate corrugated roofing over the stair rooflight area.
Membrane roof internal gutters and outlets.	**R3**	Remove Butynol and plywood substrate to internal gutters around the main stair roof light. Provide new firring over the roof framing and sarking to compliant falls to two no's new outlets. Fix H3.2 treated 17mm plywood substrate and new Nuraply 3PM membrane dressed into outfalls. Connect new outfalls to new 100mm PVC internal downpipes, using the lift shaft as a vertical duct to the subfloor space and connect to existing stormwater connection points. Provide stainless steel upstanding grates to outfalls. Lay and clip in place, perforated drains (snow boards) within gutter to allow drainage for snow and hail build up.
Rooflights	**R4**	Replace the existing obscure corrugated roofing with new obscure polycarbonate corrugated roofing. Remove the existing internal Georgian wired overhead glazing. Repair and make good the glazing bars and support structure. Install new IGU double glazing with toughened glass upper pane and laminated obscure glass lower pane. Repaint glazing bars and support structure.
Gablet roof vents.	**R5**	Record and remove tiles and ridgings. Repair timber framing and decorative profiles barges and vent boards. Prepare and repaint. Install roofing under lay and reroof with new clay tiles. Reinstall original ridgings where serviceable.
Spouting, rainwater heads and downpipes.	**R6**	Replace existing non-original folded galvanised steel sheet rainwater heads with cast iron heads to the original pattern remaining on the building. Replace all spoutings with new bespoke half round 0.55mm galvanised steel to original profile mounted on external brackets with screw fixing. (Note; some existing spouting may be copper, but discharges to cast iron downpipes causing corrosion of the iron). Rainwater heads are a mixture of original cast iron and newer

Item	*Reference*	*Description*
		replacement fabricated galvanised steel. Replace galvanised steel
	R6 continued	rainwater heads with cast iron rainwater heads to match the originals remaining. Downpipes are both original rectangular section cast iron with some being newer replacement round folded seam galvanised steel. Replace galvanised steel with cast iron rectangular section.
INTERIOR		
Interior FLOORS	**FL** **General**	Timber for repair of existing and original timber structure and construction is to be like-for-like timber species, profile and finish. New timber for added non-original structure and framing is to be treated Pinus radiata. All new timber, including repair like-for-like timber is to be date stamped. Remove all carpet floor coverings. Remove all Amtico vinyl tiled flooring. All ceramic tiles are to remain, especially in the entrance porch and lobby.
Floors, existing remaining	**FL1**	Protect floors. Where repairs are required, repair make up flooring is to be like-for-like species and profile. Where existing floors have been polyurethane finish, lightly sand without removing any surface of the board and re-polyurethane. Retain wear and tear, patina.
Floors to be lifted. Refer to structural engineer's drwaings for foundations installation locations.	**FL2**	Record and lift existing tongue and groove (t&g) floor boards by easing boards off joists sufficiently for plunge sawing of the nail fixings. Leave original nail fixings embedded in the boards. Any joists and bearers requiring repair or replacement are to be done so using like-for-like Rimu or other matching framing timbers. Any new additional structural timber, blocking etc. not original to the original sub-floor framing is to be treated Pinus radiata or LVL as directed by Engineer. Relay floor boards in correct positions using punched and stopped jolt head nail fixings leaving original fixings exposed.
Existing ceramic tiled floors.	**FL3**	All ceramic tiles are to remain insitu, especially in the entrance porch and lobby. Protect.
Under-floor thermal insulation.	**FL4**	Insulate ground floor sub-floor space with underfloor insulation, sizes to suit joist spacing.
Sound insulation.	**FL5**	Insulate first floor floor cavity with sound insulation.
Carpet.	**FL6**	Lay new carpet to previously carpeted areas by loose laying of underlay and carpet.
New vinyl tile flooring or tesselated tiling.	**FL7**	EITHER: Provide new vitrified tessellated tiles on slate and tile underlay fixed over flooring. OR: Provide new Amtico vinyl flooring tiles laid over sheet underlay.
Interior WALLS	**IW**	
Exterior strapped wall linings remaining,	**IW1**	Plaster to lath and plaster linings is drummy and cracked. Remove drummy plaster, clean laths and re-secure where

plaster to be repaired.		necessary. Rake out cracking to sound plaster. Replaster to
Item	***Reference***	***Description***
	IW1 continued	original finish with STO plaster system with reinforcing mesh lapped to remaining plaster surfaces. Fibre fuse surface. Prepare and paint.
Exterior strapped wall linings remaining, plaster to be replaced.	**IW2**	Plaster to lath and plaster linings has failed. Remove plaster, clean laths, check all and re-secure where necessary. Replaster to original finish with STO plaster system with reinforcing mesh. Gypsum finishing plaster finish. Prepare and paint.
Existing plaster rendered masonry walls remaining.	**IW3**	Remove drummy plaster. Rake out plaster cracks back to solid, sound finish. Remove cracked bricks. Reconstruct partially deconstructed walls by re-bedding in new repair bricks. Deep rake out of joints for repointing. Crack inject cracks full depth of wall with Mapei Antique grout, 5Mpa strength. Re-plaster walls in three coat system to original thickness and finish with final finishing coat being Gypsum plaster. Fibre-reinforce repair areas and lap to sound plaster. Prepare and paint.
New exterior concrete strapped wall linings.	**IW4**	Strap concrete walls with H3.1 30mm Pinus battens fixed over DPC. Install sheet insulation between battens. Line walls with 12mm Gibboard packed to suit original wall thickness. Fibreglass mesh junction to other plaster wall finishes. Level 5 finish, prepare and paint.
Plaster rendered concrete walls.	**IW5**	Plaster walls in three coat system to match adjacent original render thickness and finish with final finishing coat being Gypsum plaster. Fibre-reinforce laps to adjacent sound plaster. Prepare and paint.
Timber framed walls.	**IW6**	Construct new timber framed walls from treated Pinus. Line with plywood one side (Refer Structural Engineer), with standard gibboard both sides. Stop to level 5 finish.
Timber panelling. Timber shelving. Library balustrade.	**IW7**	Record and remove timber panelling, shelving and balustrade. Protect and store until required for re-installation. Clean, reinstall in original positions and apply further finishing coat to match the existing. (Finish yet to be determined).
Skirtings, Architraves, Trim. Scope is generally all throughout building..	**IW8**	Record and remove timber finishings. Protect and store until required for re-installation. Clean, reinstall in correct location and apply further finishing coat to match the existing. (Finish yet to be determined).
Interior CEILINGS	**C**	
Ceilings: Lath and plaster repair.	**C1**	Plaster to lath and plaster linings has collapsed, or is drummy and cracked. Make moulds of profiles and cornices that need repair sections fabricated or replicated. Refer also **C4**. Remove drummy plaster, clean laths and re-secure where necessary. Rake out cracking to sound plaster. Re-plaster to original finish and ceiling profile with STO plaster system with reinforcing mesh lapped to remaining plaster surfaces. Fibre fuse

Item	*Reference*	*Description*
		surface.
	C1 continued	Install removed and replicated plaster mouldings and cornices. Prepare and paint.
Ceilings: Lath and plaster replace. Ground and first floors.	**C2**	Removal is required for the installation of structural plywood diaphragms and fire rated ceilings. Record plaster profiles and mouldings. Make moulds of profiles and cornices to be replicated. Remove mouldings in sections for re-use wherever possible. Remove lath and plaster and retain laths for repairs to lath and plaster elsewhere. Install new structural plywood diaphragms to underside of joists, fix 13mm Fyreline gibboard and 13mm standard gibboard. (Note: 25mm thickness of plaster lining required at penetrations). Install mouldings and cornices. Stop to level 5 finish, prepare and paint.
Ceilings: Lath and plaster replace. Second floor only.	**C3**	Removal is required for the installation of structural plywood diaphragms except for flat and coved ceilings to the dormer windows in spaces 2.5, 2.7 and 2.9. Install new structural plywood diaphragms to underside of rafters to coved ceilings and to collar ties, fix 13mm standard gibboard over. Stop to level 5 finish, prepare and paint. One layer of 13mm standard gibboard to second floor.
Cornices	**C4**	Record cornices, take mouldings as necessary to ensure repair sections can be replicated, remove, protect and store. Reinstall in correct locations bending in repair sections as required. Stop, prepare and paint.
Interior FIREPLACES	**FP**	
Council Chamber.	**FP1**	The two damaged fireplace decorative plaster surrounds and over mantle entablatures are to be recorded and deconstructed. Moulds of plaster profiles are to be obtained prior to dismantling and deconstruction. The fireplaces are to be reconstructed with the existing iron inserts salvaged and reconstructed into alcoves in the new concrete walls. The decorative plaster and tile fireplace fronts are to be reassembled using salvaged tiles and plaster components with make up new tiles and plaster mouldings as required to reconstruct the elaborate form of the fireplaces to their original form. The collapsed plaster over-mantle entablature of the west fireplace is to be replicated from the intact over-mantle entablature from the north fireplace. The tiled hearths are to be repaired retaining the existing tiles.
Library.	**FP2**	The fireplace and decorated plaster surround are to remain insitu and be repaired. The collapsed plaster over-mantle entablature is to be replicated using salvaged profile fragments and photographic evidence. (That remaining from Chamber north fireplace may provide

Item	*Reference*	*Description*
		evidence if photographic evidence is found for comparison of the
	FP2 continued	two). The tiled fireplace front, cast iron register and grate are to remain insitu and be repaired. The hearth is concealed and if existing is to remain insitu and be repaired. If not existing and sufficient evidence remains of its form, it should be reinstated in a simple plaster finish.
Second floor fireplaces.	**FP3**	The fireplaces are to be reinstated in to alcoves formed in the reconstructed walls and chimneys. The salvaged timber fire surrounds, cast iron registers and grates are to be reinstalled. The hearths are concealed and evidence of them remains they should be reinstated.
Infilled fireplaces.	**FP4**	Fireplaces to the ground floor and some first floor fireplaces have been concrete filled and finished flush with the walls. Evidence of the fire surround and finish no longer exists. Evidence and location of the fireplace is to be provided by forming a 100mm deep recessed alcove in the concrete to the form of the original fireplace.
Interior STAIRS	**S**	
Egress Stair – South (Used for sprinkler valve room)	**S1**	Record and deconstruct the stair in as large components possible to enable installation of concrete walls. Reinstall stair on completion.
Stair – North-west.	**S2**	Record. Remove balustrades in complete lengths. Dismantle and deconstruct stairs in complete fights and landings. Protect and store. Reassemble in the new concrete stair tower. Prepare and repaint. Provide Marmoleum or similar non-slip flooring and non-slip contrast nosings to treads. Provide compliant height and profile timber handrail to the outside of the stair. Stain and varnish finish.
Stair – Main.	**S3**	Dismantle and deconstruct stair to its component flights and landings, protect and store. Provide temporary construction stair. Reinstall stair, repair damaged components and prepare and finish to match existing stained and varnished finish. Provide Amtico or similar non-slip flooring and non-slip contrast nosings to treads. Provide compliant height and profile timber handrail to the outside of the stair. Stain and varnish finish.
Interior TOILETS	**WC**	Fitout and selections are to modern commercial office standard.
Toilet cubicles.		Proprietary plastic laminate finish toilet cubicle system.
Floor finishes.		Marmoleum.
Fittings.		Porcelain, white.

Item	*Reference*	*Description*
		Tapware, single lever, high pressure, chrome.
Toilets continued		
Wall finishes.		Plaster or plasterboard, semi-gloss waterborne enamel finish.
WINDOW & DOOR JOINERY	**J**	Doors and windows are to be assessed, repaired and eased.
	General	The preference is for repair rather than replacing damaged profiles and elements.
Window Joinery. Repair and repainting.	**J1**	Windows are to be prepared and either varnished or painted, depending on the original finish. Original hardware is to be retained and refurbished.
Stained and Leaded Glass.	**J2**	Stained and leaded glass has been removed by Glass Conservator, Graham Stewart. The window panes should be repaired, restored and reinstalled by him.
Door Joinery. Repair and repainting.	**J3**	The repaired doors are to be stained and varnished. Doors that are currently painted are to be stripped, stained and varnished (or Danish Oil finish). Original hardware is to be retained and refurbished unless accessibility requirements require installation of lever furniture.
New Door joinery.	**J4**	New doors are to be Rimu framed and panelled doors matching the original. Door frames are to match the original. The new doors are to be stained and varnished. Doors are to be stained and varnished (or Danish Oil finish). Hardware is to be dull brass finish.
DISABLED PERSONS ACCESS UPGRADING.	**DA**	General: Refer also to the DRAFT *Barrier Free* existing situation and compliance report. The following comments and upgrades arise from the recommendations of the report.
Exterior ramp. Worcester Boulevard entrance, south side.	**DA1**	The ramp is 1:20 gradient and does not require the installation of handrails.
Formal east entry, Oxford Tce.	**DA2**	Provide dull brass finish round pipe handrails either side to upper flight of steps inside the wrought iron gates. Mount on stand-off brackets to the brick masonry wall.
Existing interior ground floor ramp. Space G1/G2	**DA3**	Ramp is non-compliant gradient. Re-grade and extend ramp to compliant gradient in timber construction. Remove existing handrail and replace with handrail each side in bronze or dull brass finish.
Existing interior ground floor ramp. Space G8	**DA4**	Ramp is non-compliant gradient and there is no solution to this. Replace existing non-compliant handrails with handrail each side in bronze or dull brass finish.
Council Chamber access ramp.	**DA5**	Provide timber framed 1:12 compliant ramp with handrails both sides. Amtico vinyl floor finish.
Handrails.	**DA6**	Provide stained and varnished round timber handrails to change in level steps. Mount on stand-off brackets to the wall.

3.0 Staged Restoration

The construction requirements for the Staged Restoration work are as noted on the architectural plans and exterior elevations. Generally, reinstatement of fabric is not included in this partial repair and strengthening staged work, although where elements and fabric require deconstruction and storage, this is noted on the drawings.