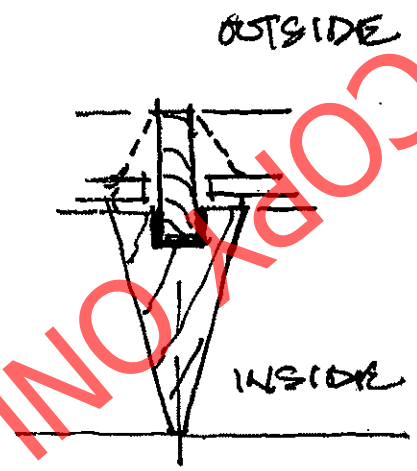
AGULHAS VERANDAH WINDOWS :—

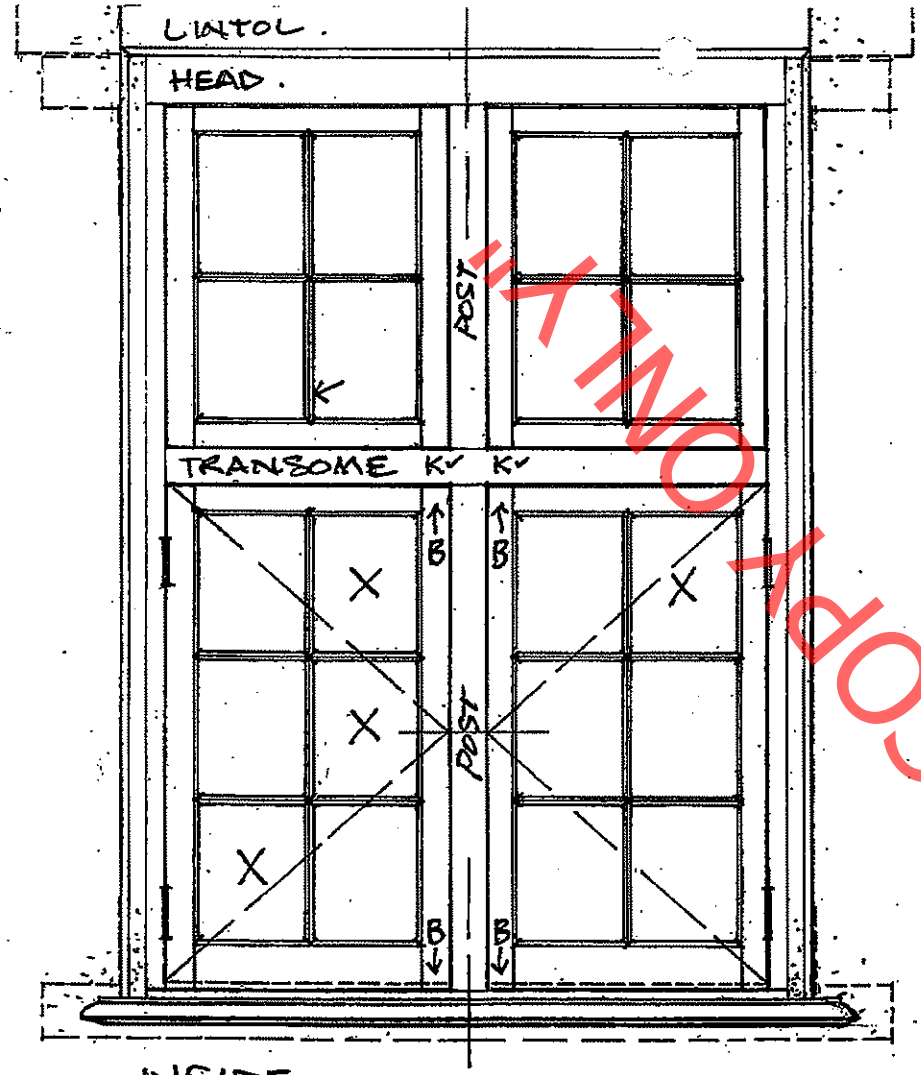
THE CARPENTERS ASSEMBLING THE NEW VERANDAH BALUSTRADE SUGGESTED AN ADDED APPROACH TO THE RE-NOSING OF THE SLENDER GLAZING BARS — WORTH TRYING OUT.

IDEA IS TO ROUT OUT AN ACCURATE NOSE GROOVE TO FACILITATE CENTRING & GLUEING THE NEW NOSES :—

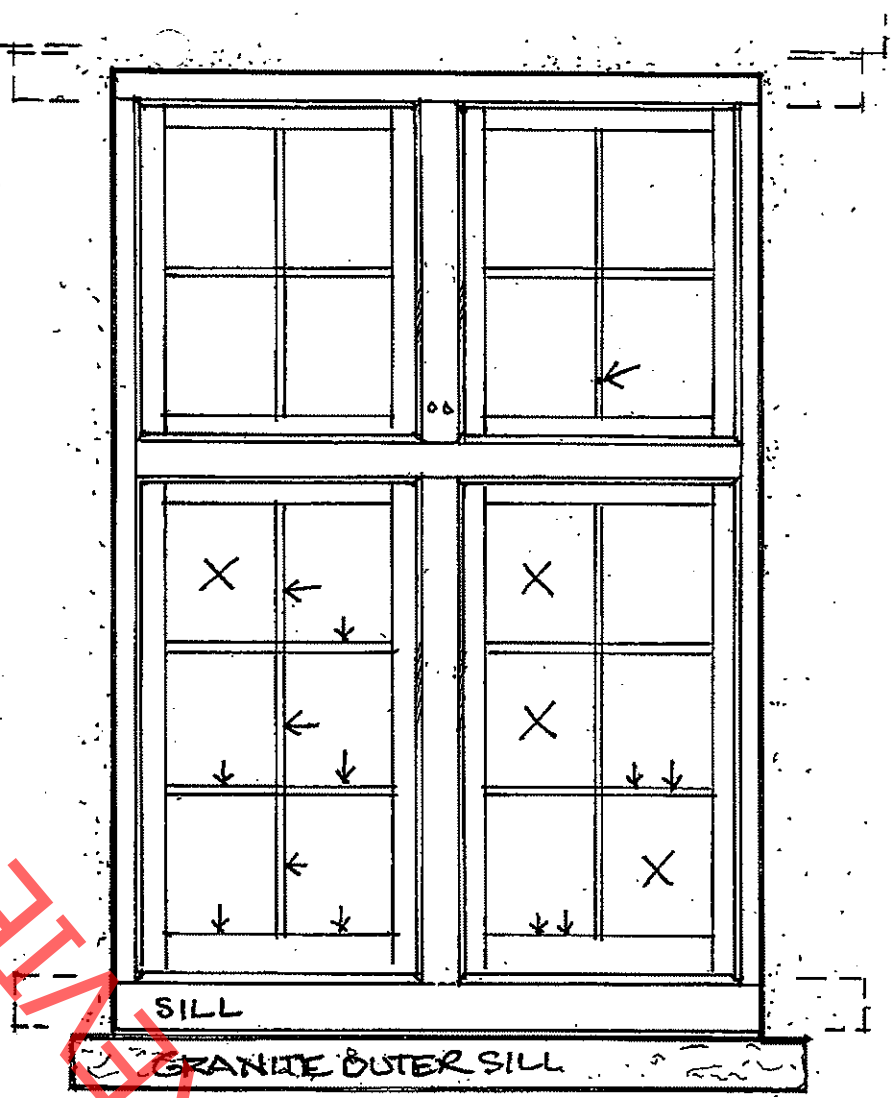


± 1:1 SKETCH.

Ronnie Scott Adendorff. 10/6/13.



INSIDE

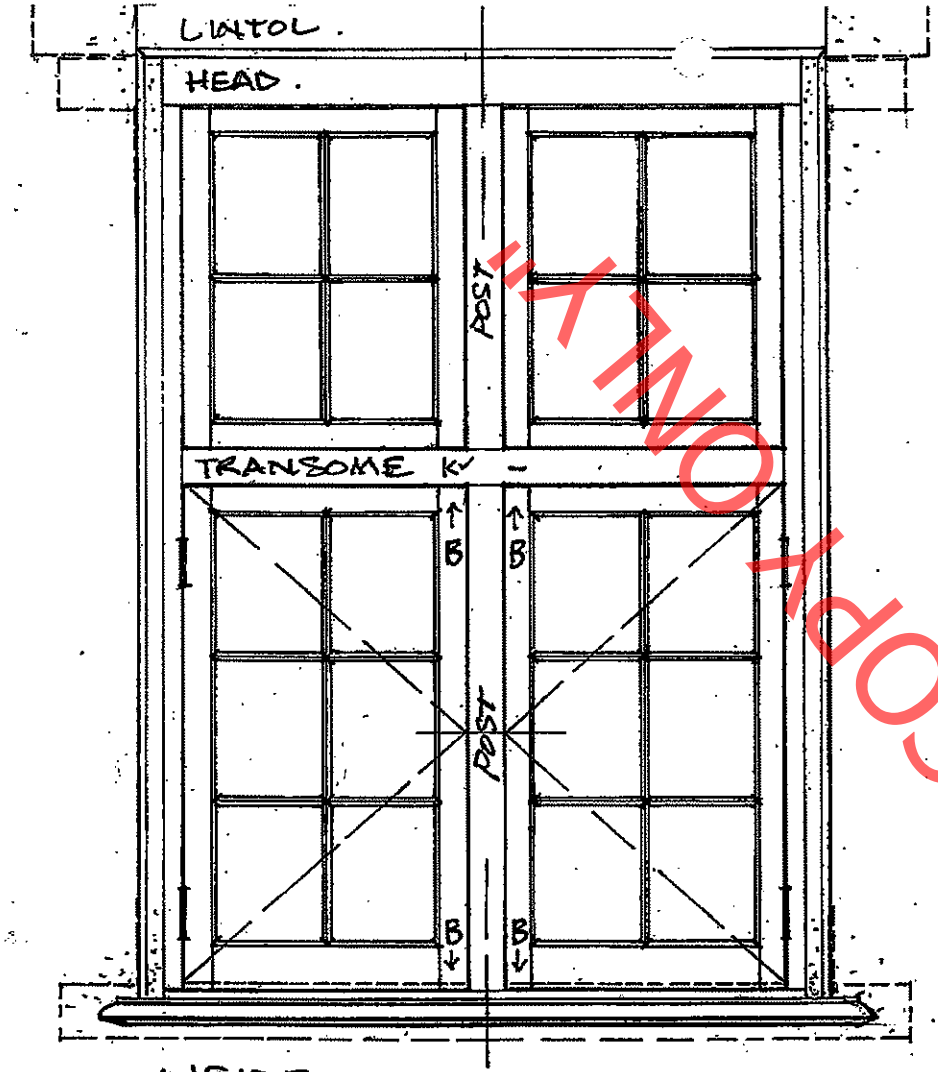


OUTSIDE

X = PANE GONE, ↓ = NAIL, ↑B = WROT-IRON BOLT,
K✓ = WROT-IRON KEEP, – = REPLACEMENT KEEP.
AGULHAS LIGHTHOUSE WINDOWS.
READ WITH "WINDOW REPORT" 26/5/13
Kevin Scott Adendorff Architects.

1:10 @ A3.
W1, W2, W3 – W6, W7, W8.

26/6/13.
1/8
W1



INSIDE

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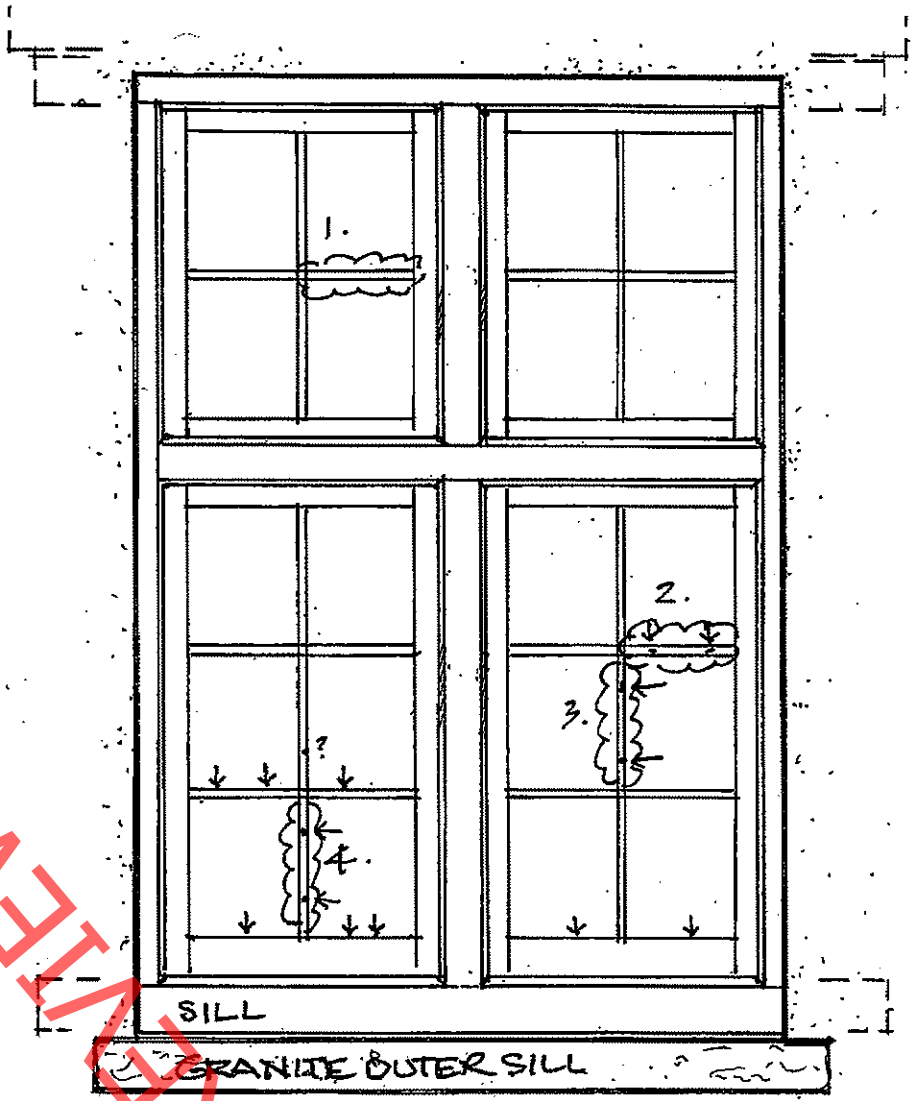
Konrad Scott Adendorff Architects.



OUTSIDE 4 NOSES.

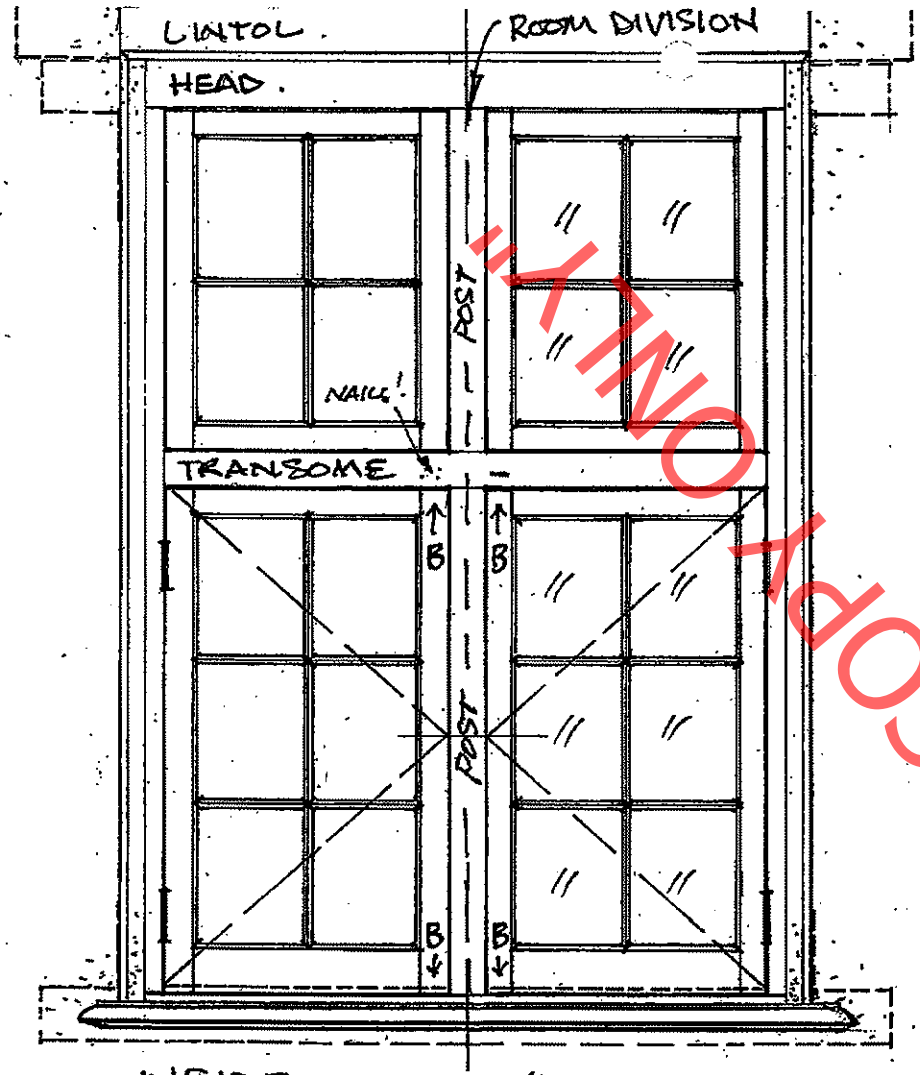
1:10 @ A3.

W1, W2, W3 – W6, W7, W8.

26/5/13.

2/8

W2

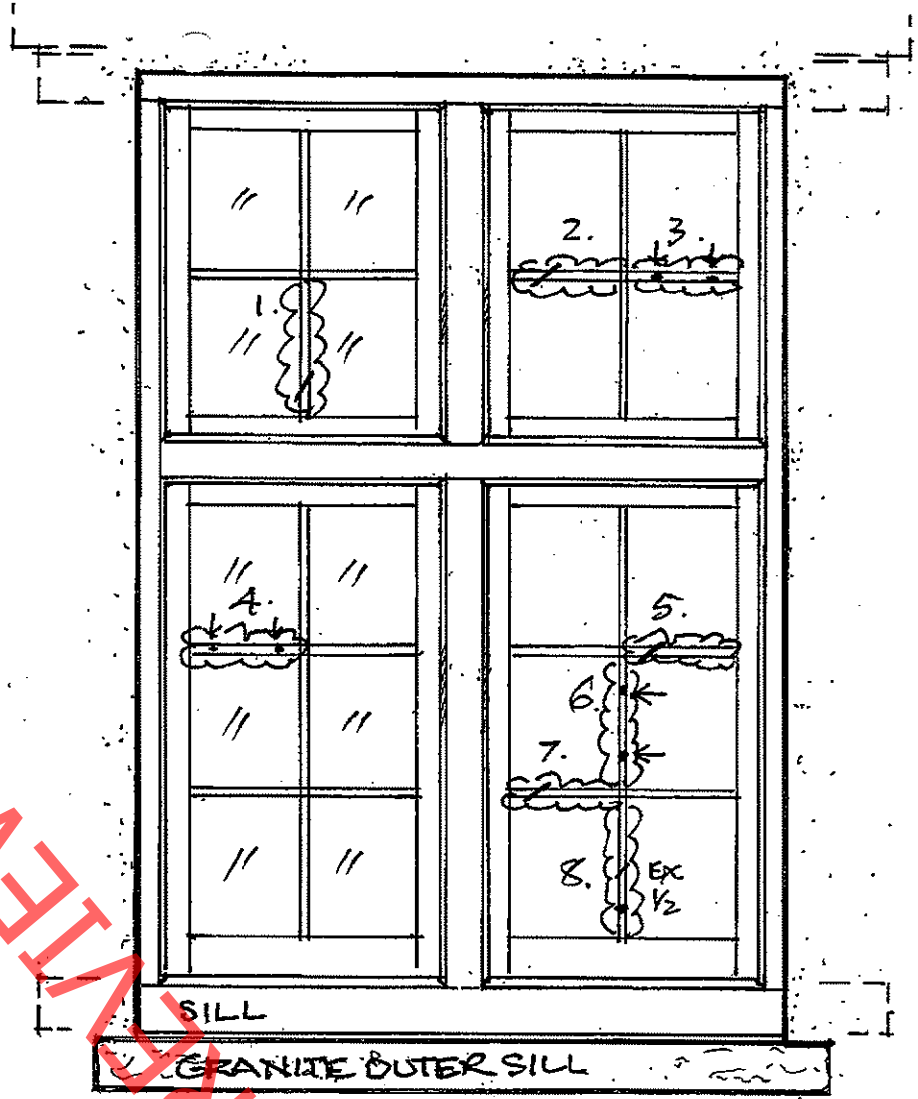


INSIDE

// = EXIST OBSCURE GLASS.

X = PANE GONE, ↓ = NAIL, B = WROT-IRON BOLT,
K = WROT-IRON KEEP, – = REPLACEMENT KEEP.

AGULHAS LIGHTHOUSE WINDOWS.
READ WITH "WINDOW REPORT" 26/5/13
Louis Scheepers Adendorff Architects.



OUTSIDE & NOSES.

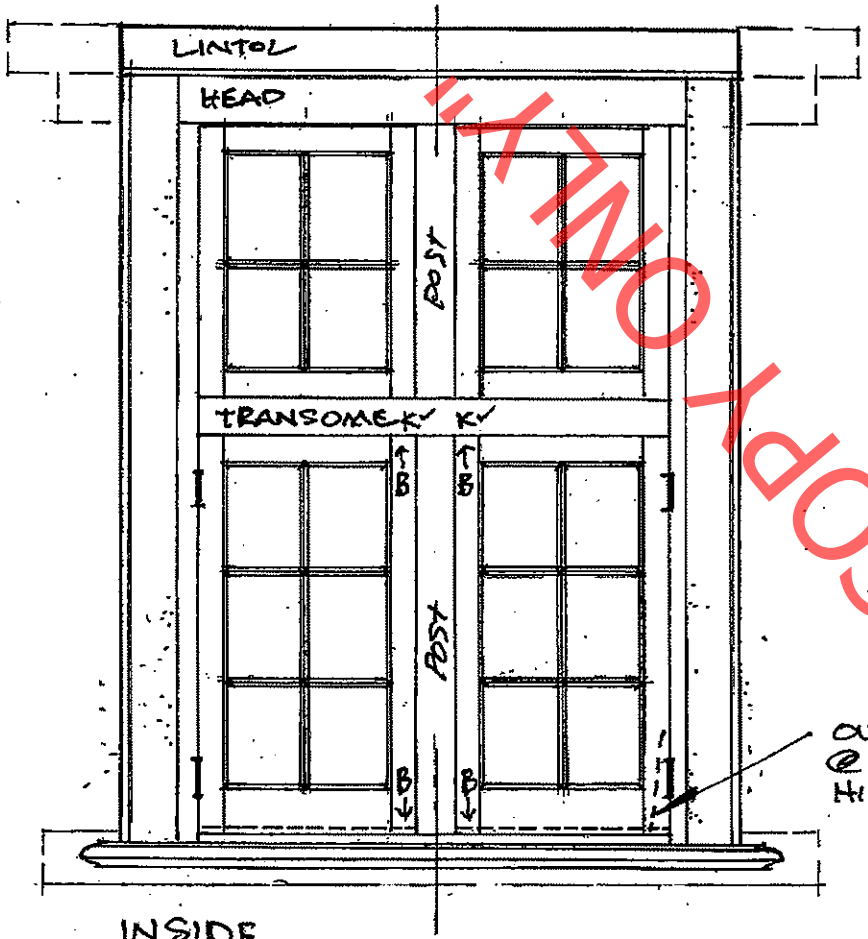
1:10 @ A3.

W1, W2, W3 – W6, W7, W8.

26/6/13.

3/8

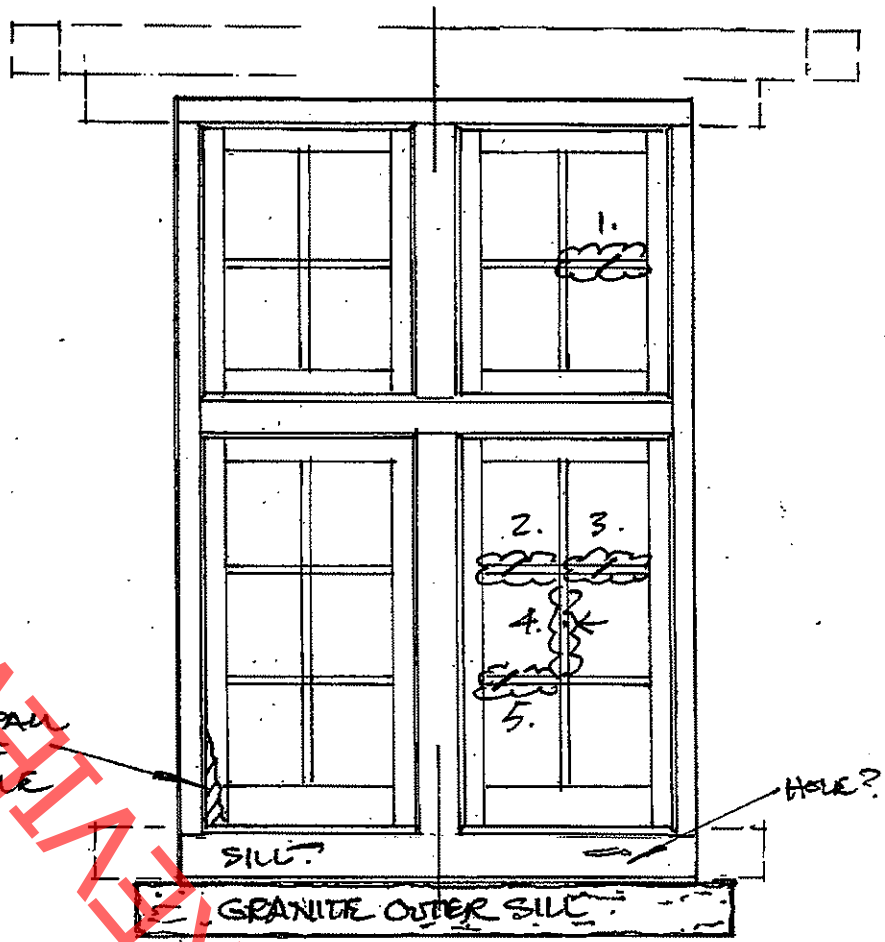
W3



INSIDE.

X = PANE GONE, ↓ = NAIL, ↑B = WROT-IRON BOLT
KV = WROT-IRON KEEP, — < REPLACEMENT KEEP.

AGULHAS LIGHTHOUSE WINDOWS.
READ WITH "WINDOW REPORT" 26/5/13.
Rennie Scott Adendorff Architects



OUTSIDE. & NOSES.

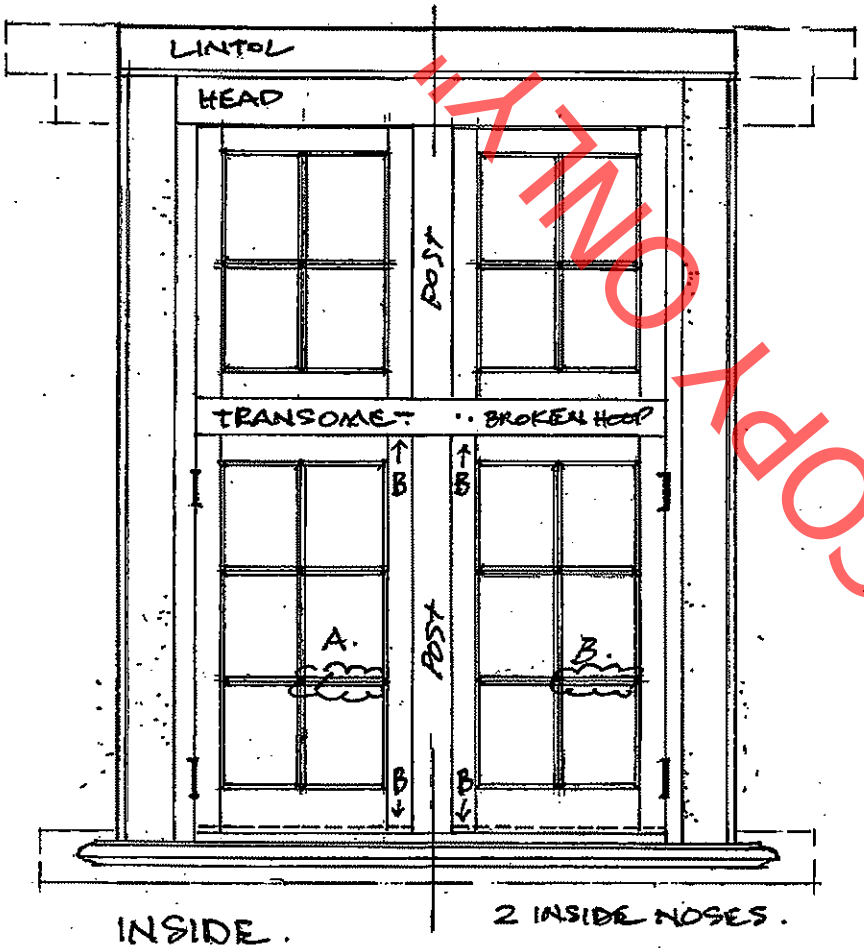
1:10 @ A3

W4, W5 (SMALLER).

26/5/13.

4/8

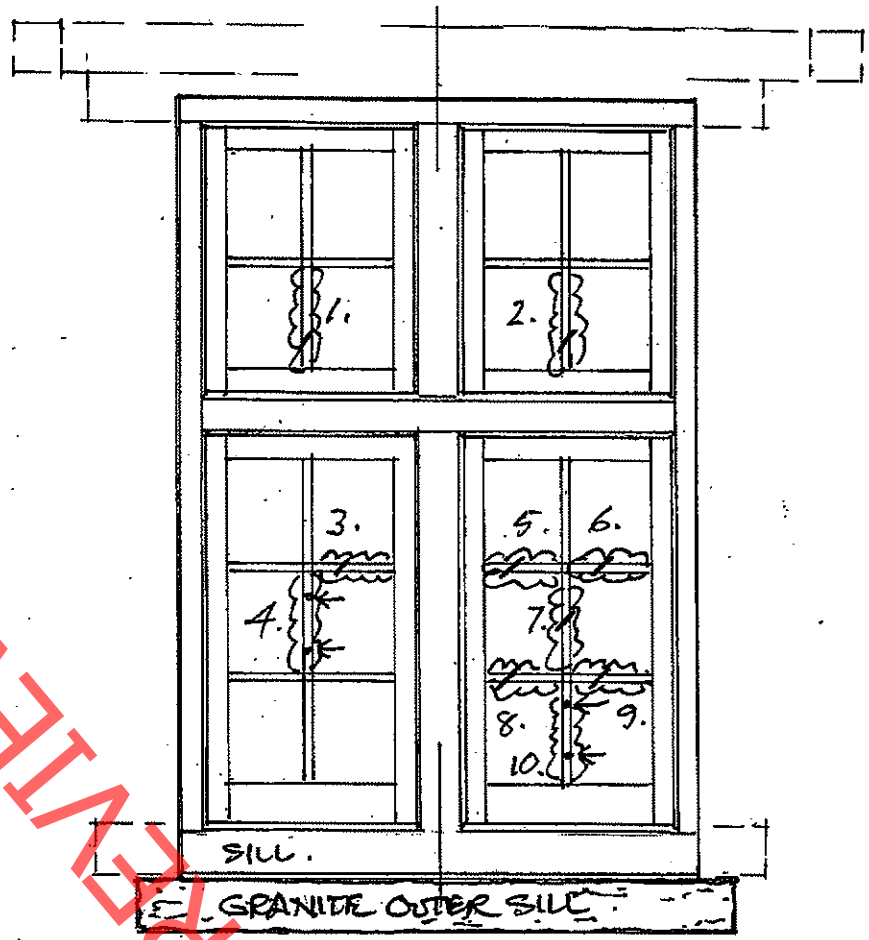
W4



INSIDE.

X = PANE GONE, ↓ = NAIL, B̄ = WROT-IRON BOLT
KY = WROT-IRON KEEP, — < REPLACEMENT KEEP.

AGULHAS LIGHTHOUSE WINDOWS.
READ WITH "WINDOW REPORT" 26/5/13.
Rennie Scurr Ademdorff Architects

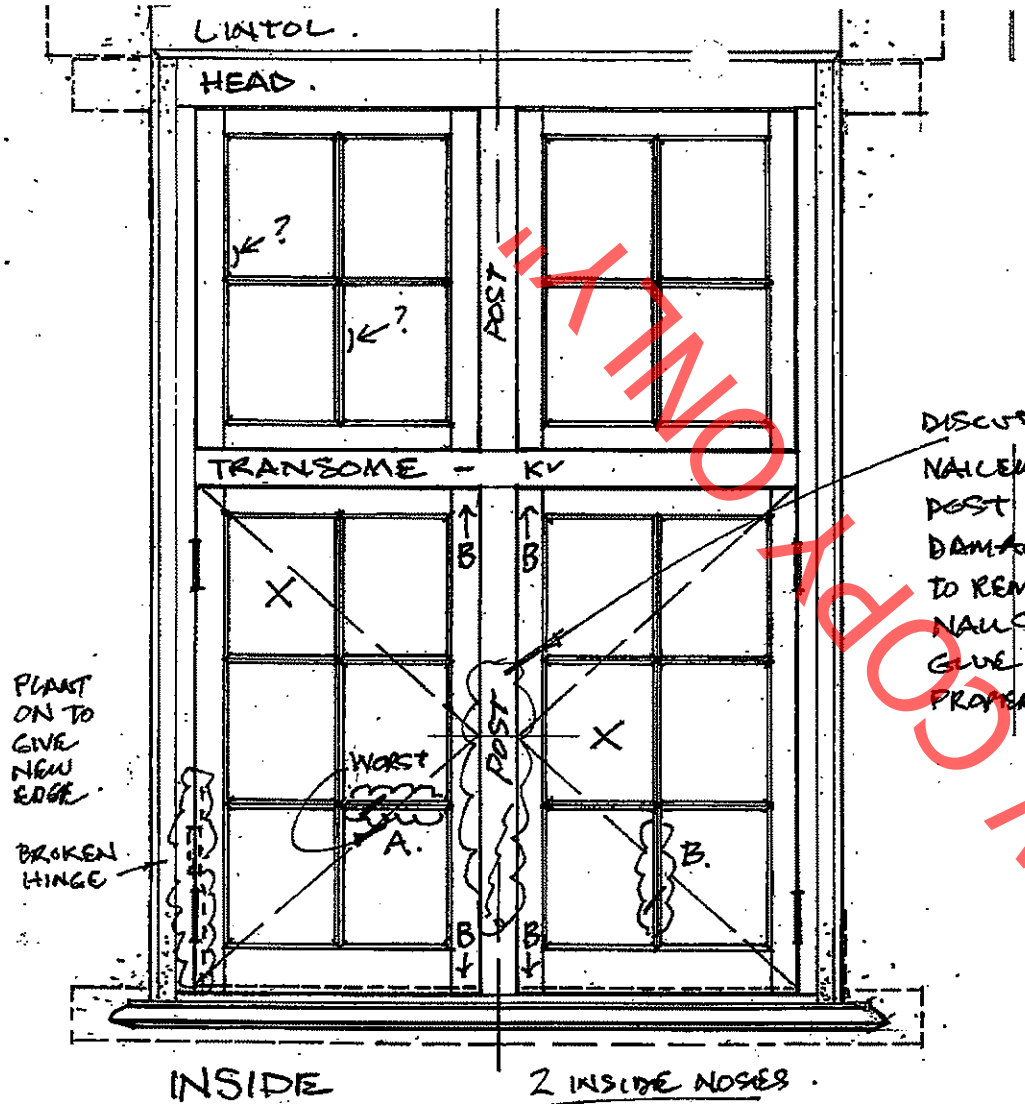


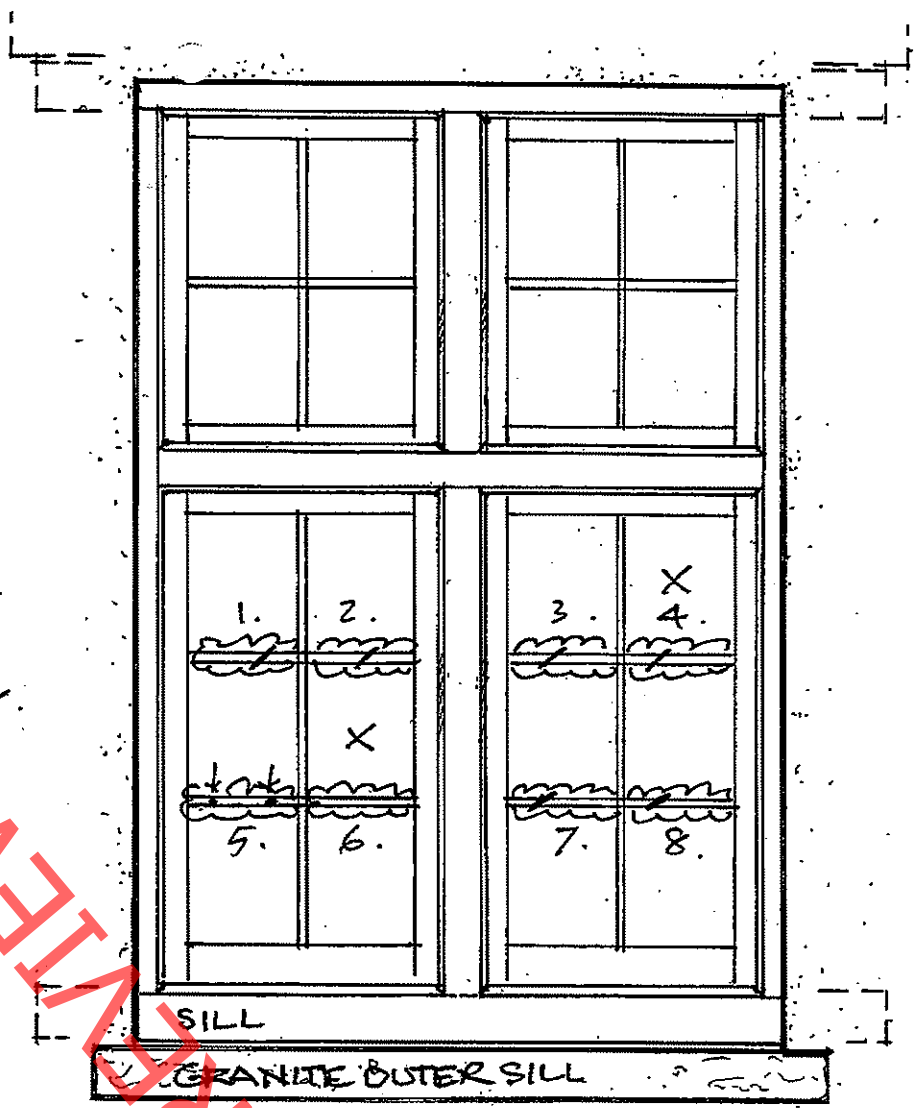
OUTSIDE. 10 NOSES

1:10 @ A3

W4, W5
(SMALLER).

26/5/13.
5/8
W5





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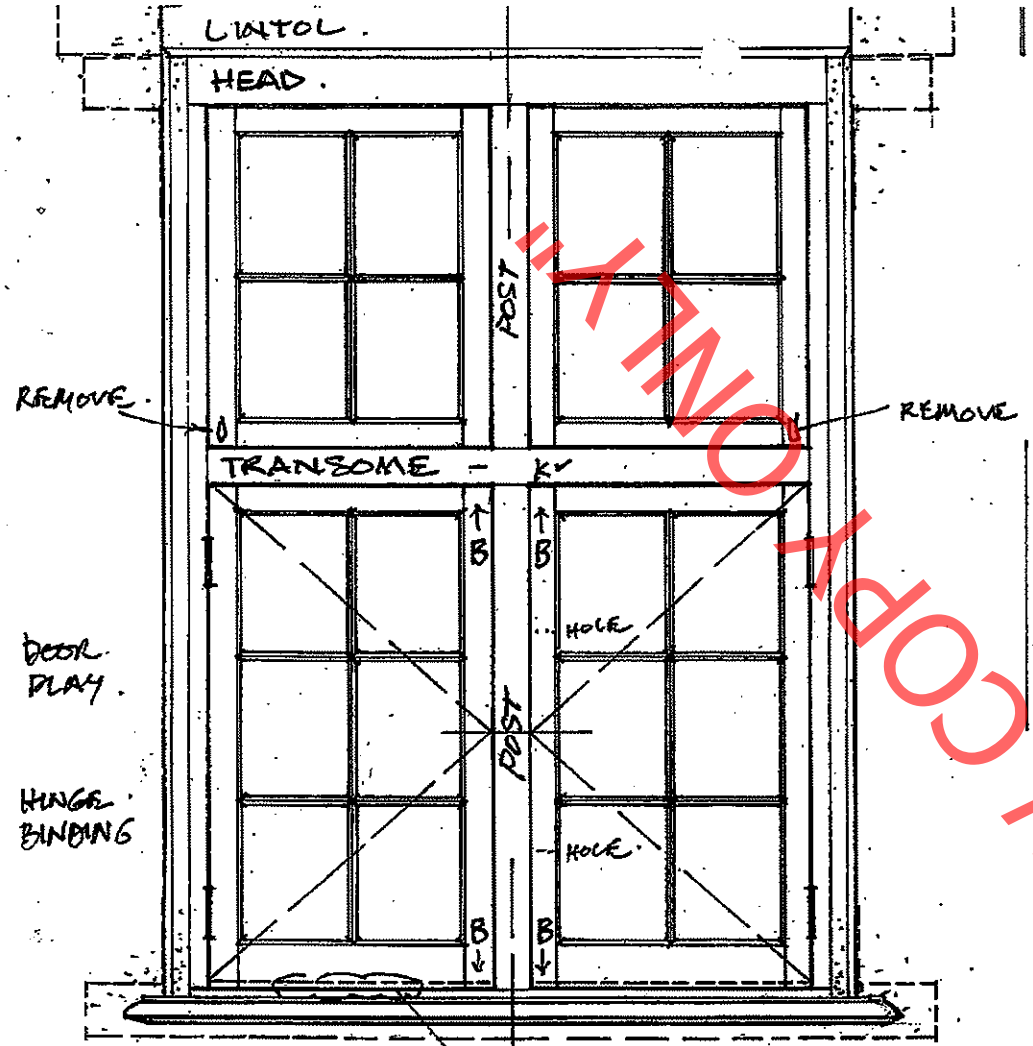
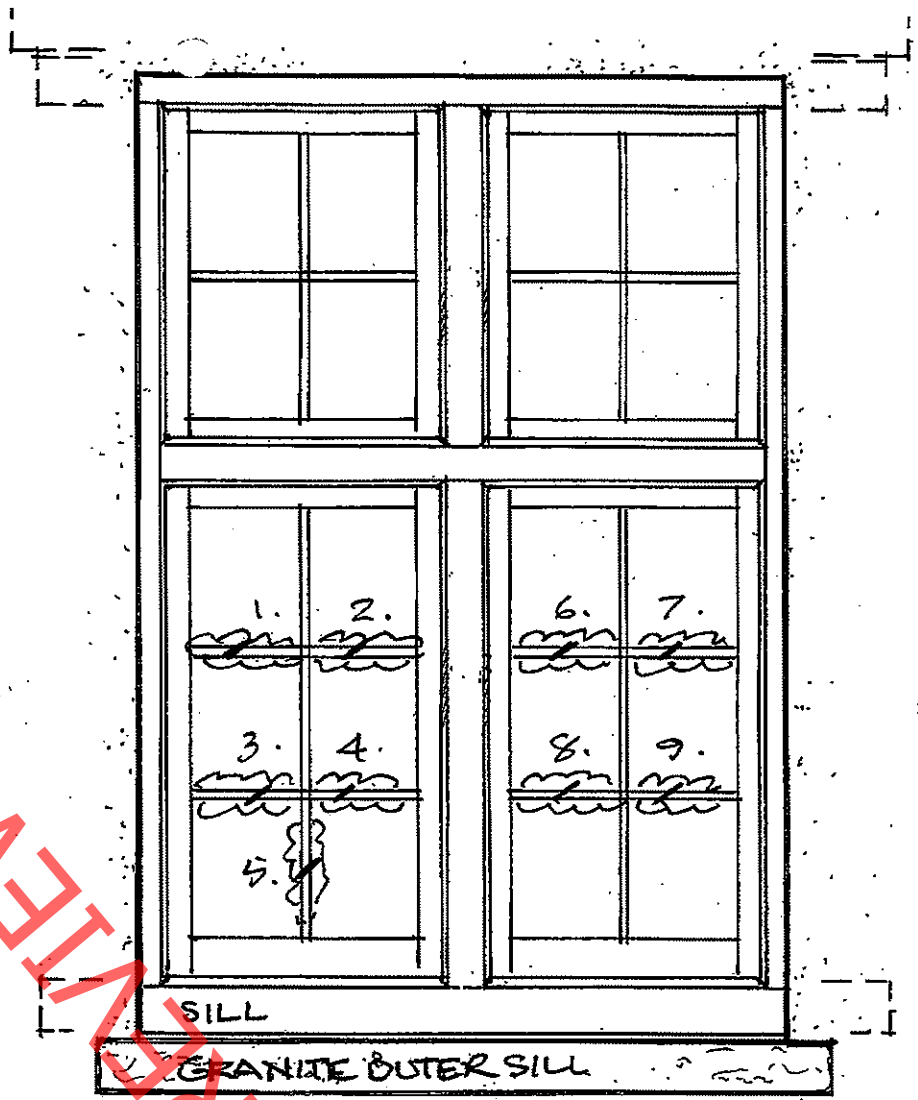
AGULHAS LIGHTHOUSE WINDOWS.
READ WITH "WINDOW REPORT" 26/5/13
Kenneth Scott Adendorff Architects.

1:10 @ A3.
W1, W2, W3 – W6, W7, W8.

26/5/13.
6/8
W6



INSIDE

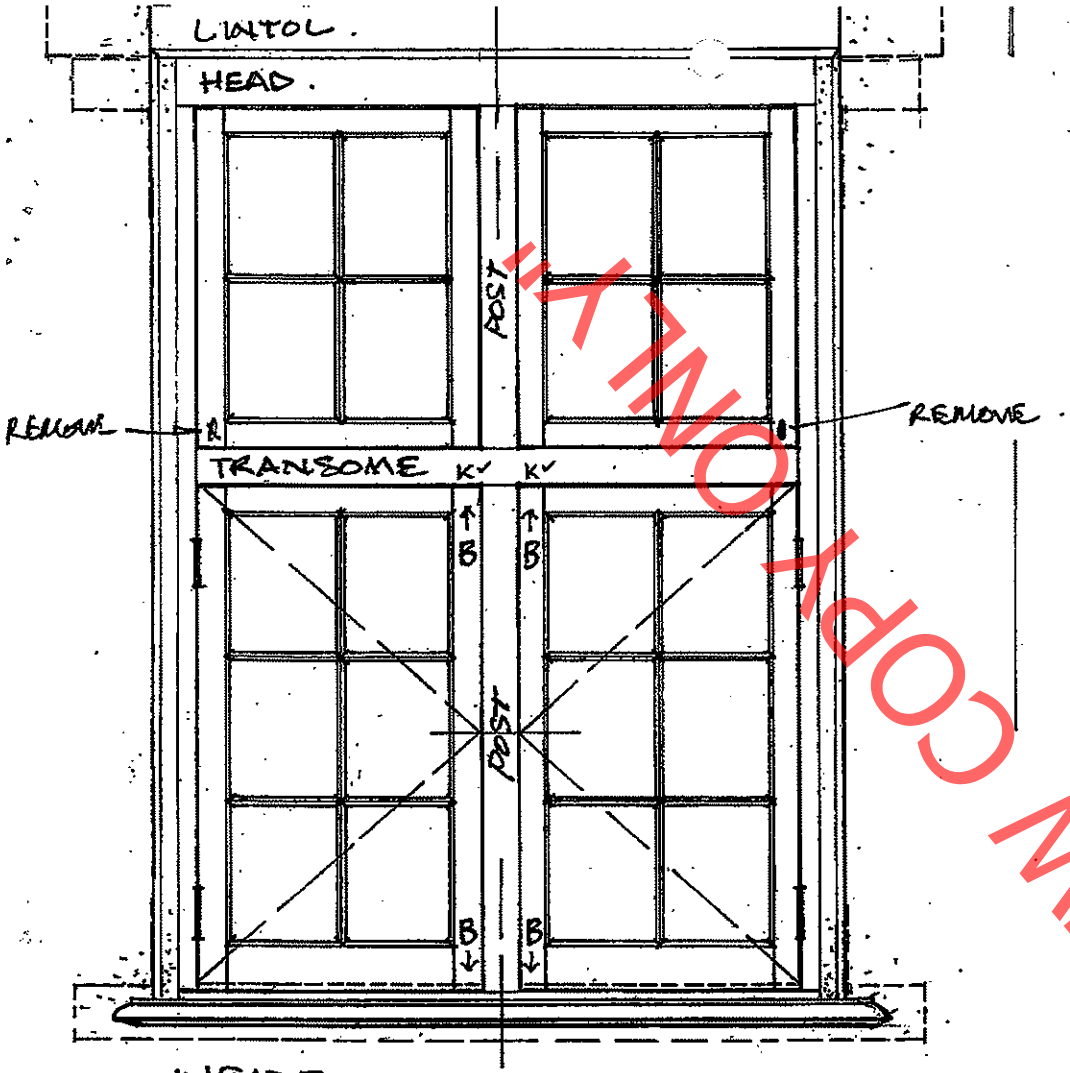


OUTSIDE 9. NOSES.

X = PANE GONE, ↓ = NAIL, B = WROT-IRON BOLT,
K✓ = WROT-IRON KEEP, – = REPLACEMENT KEEP.
AGULHAS LIGHTHOUSE WINDOWS.
READ WITH "WINDOW REPORT" 26/5/13
Konrad Scott-Adendorff Architects.

1:10 @ A3.
W1, W2, W3 – W6, W7, W8.

26/6/13.
7/8
W7



INSIDE

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AGULHAS LIGHTHOUSE WINDOWS.
READ WITH "WINDOW REPORT" 26/5/13
Rennie Scott-Adendorff Architects.

OUTSIDE 2 NOSES.

1:10 @ A3.

W1, W2, W3 - W6, W7, W8.

26/6/13.

8/8

W8

1301/WindowReport/jr
26 May 2013

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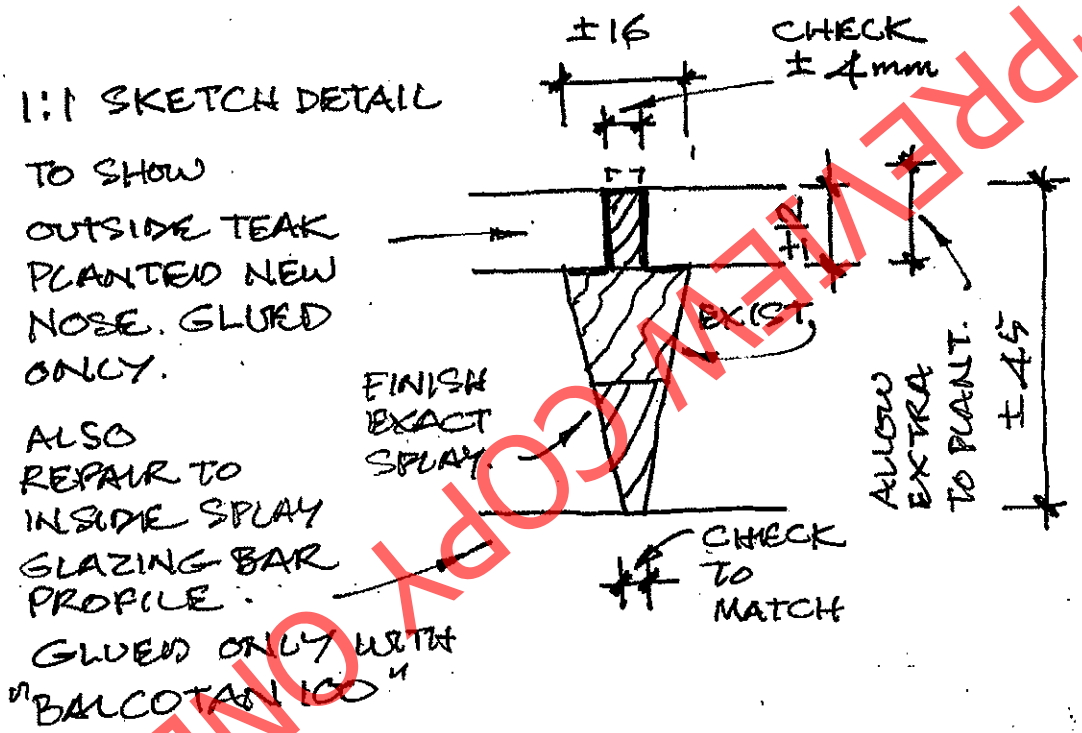
CC CK 1990/006711/23

WINDOW REPORT
Agulhas lighthouse ground floor front windows
W1 to W8

Drawings:
Read with eight A4-sized 26 May 2013 inspection report sheets of all eight windows measured up, sketched out (to 1:10 scale at A3) with both inside and outside views shown.
Read with 1:1 typical glazing bar sketch repair detail 26/5/13



INTRODUCTION:
This complete set of presumably original and substantially sound teak windows are heritage-wise one of the most remarkable surviving features of the 1848 lighthouse.

Part of the motivation for rebuilding the north verandah ie replacing a similar long-standing verandah removed in the 1980s is to reinstate weather protection previously enjoyed by these windows for many years, and for the heavy original boarded teak front door, to add to the conservation they very much deserve.

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During the last 20 years deterioration has accelerated with exposure to the elements.

Windows W1 and W2 (in the previous museum side were also hardboard-covered inside to block out light). Ingress during this time, 'out of sight, out of mind' has started to soften the casement bottom rails here at W1, W2 noticeably but not too seriously.
The windows have vulnerable and delicately slender splay-moulded glazing bars (only ±16mm thick).

There are several bars with damage on the inside at the sharp splay noses, and many are worn thin but still intact otherwise. Outside, more seriously, several of the narrow slender noses between the glazing rebates have also been part broken, are missing or poorly replaced, now showing rusted pins, mismatched poor repair shape and thickness and added splitting damage. They need to be repaired as detailed to give the rule edge for puttywork. Bedding the panes in brown silicone (instead of back-putty) will hold the panes firmly permanently without pinning damage.

CONFIGURATION

- There are eight windows on the north front, all matching in style and detail, all set in 150 x 105 heavy built-in frames, all with heavy cruciform transomes and centre posts.
- All have a pair of six-pane inward-opening casements below transome and a pair of four-pane fixed fanlights above transome.
- All 16 side hung casements are held closed with matching upright 180 x 38 wrot-iron bolts, top and bottom, mostly intact also remarkable to be still surviving.
- All 32 bolts survive intact (two rusted up taken off for safe-keeping).
- Seven new matching keeps are required to restore those missing or converted to hoops.
- Windows W1, W2, W3 and W6, W7, W8 are all ±1900 high x ±1250 wide, and flank the entrance hall symmetrically, and were there to light the keepers' "quarters".
- The centre entrance hall windows W4 and W5, though slightly smaller, ±1500 high x ±1000 wide match in detail and number of panes exactly.
- All the windows have exposed heavy timber lintels inside and 50mm thick inside sill boards with moulded noses.
- From record photographs it is known that W1 and W8 were both converted many years ago to house added external doors to the quarters.
- It is also known that there were (probably-matching) windows at the end gable walls facing east and west which were built closed during the early 1980s restoration work.
- At this time the door conversions to W1 and W8 were reversed, with the removal of the door posts set in under the transomes and then the full-width below-transome window details restored, complete with (probably Paarl) - granite sills slightly different in colour and grain to the original Cape granite sills to the remaining windows, and to the four "daymarker" dummy window recesses on the southern facing "Egyptian Revival" façade.
- Previous repairs, perhaps some differing timbers, and identifying what was original and what was added will become more apparent during the proposed remedial works.

Step 1: fanlights (in-house):

- Carefully verify how the fanlights are fixed and if possible without damage release one to check this.

- If it is impractical to release the fanlights then set up to all necessary work to these leaving them in place without disturbance and the risk of unnecessary damage.

Step 2: first removals (in-house):

- In suitable sequence window by window, check for original chisel numbering (usually evident in Roman numerals on top (I, II, III, IV etc) or new mark/tag effectively to ensure to maintain identification during the works to be able to relocate correctly:
- Carefully release (if found practical), all the typical pairs of upper fixed fanlights to be set aside to allow clean-up, appraisal and workshop-controlled remedial works where necessary.
- Carefully take off all the casement wrot-iron bolts and keeps, and all their screws and set aside safely for separate remedial attention to agreed specification including to make up 7 new matching keeps, clean old rust, check springs, new stainless screws, matt black, rust convertor prime, etch-coat prime matt black.
- Carefully take off all the casement hinges completely both to casements and outer frames throughout (for replacement throughout) and remove all old screws to free up all the timberwork for appraisal and attention.
- Carefully take out and set aside all the retrievable whole glass panes (some may be old/original very much worth preserving), to both fanlights and casements to allow repairs with timbers bared fully.
- The existing panes are likely to be found to be 2mm thick. Thicker panes eg 3mm should be discarded and the whole installation be taken back to uniform 2mm thick which is available as 'picture' glass.
- With the general medium to small pane sizes 2mm clear glass is acceptable and as required for heritage work.
- Set aside and wash the old 2mm panes clean for proper appraisal and re-use.
- The fanlights are generally in better condition than the casements.
- Generally first ease and pull out all the (rusted) visible/accessible glazing pins, many causing splitting, and ease out the existing putty taking care not to damage the woodwork further.
- Heat gun (without burning) to soften stubborn putty and carefully ease and remove all putty, using solvents if need be and also scrape rebates to be completely putty clean, square and true.

Step 3: clean up (in-house):

- Already half or more done, - complete heat gun, stripper etc final clean up of all the window elements, main frames, fanlights and casements and and remove all old paint throughout.
- Note intention is to paint externally two-colour scheme and to Woodoc varnish inside.
- Like the tower windows redecorate paintwork to the outside up to the concealed corners so that the paint is not visible from inside - discuss on site to agree best cutting in corners or edges.

Step 4: joinery repairs (skilled joiner):

Check/negotiate costing using the worst case / best case casements to confirm the range/scope of work.

Use the eight A4 (inside and out) individual window inspection record sheets to re-assess and confirm eg the number of new teak nose plants required, other repairs etc.

Check/report on extent found and if extending further than outline described.

Provide rates for typical outside/inside teak/glued nose plants to add in if more become apparent and are required than recorded and requested.

- Most of the remedial works can be done off site to the tagged casements and fanlights (if they have also been released).
- **Glazing bars: see glazing bar sketch detail, also individual window inspection record sheets inside and out:**
- **Price for:----**
  46 outside nose plants required identified, 4 inside nose plants identified

- remove all planted / nailed added external rebate beads if not already taken off.
- cut down cracked, damaged, badly planted rebate division beads to back of rebates and to the full pane size to the crossings.
- make up selected hardwood (ideally teak, not much quantity) replacement noses.
- check exact size from best preserved bars probably 12 to 15mm (over-size) deep only x ±4mm thick.
- prepare lengths to cover and suit full pane sizes between crossings.
- use waterproof glue Balcotan 100 for all repairs (as the oily teak will otherwise work free).
- glue and clamp up all nail splits in glazing bars, to stand more true and straight, ready for nose works.
- glue and plant on the new teak noses neatly true, centred, straight, plumb, square etc.
- after firm setting plane down any excess allowed to gain uniform matching nose levels.
- remove all excess glue and any splinters/obstructions etc to have original rebate depths even/clear/square for glass bedding.
- note during this work not to leave any (temp) pins, as before, that will split, rust and cause problems.
- bead repairs to be finished relying only on careful glueing, temporary pins if need be, weighing down, clamps etc.

inside:

- as for the outside, glue and clamp up nail splits.
- plant on correctly tapered inside noses as sketched.
- finish so that the splays match and noses mimic all those old noses alongside.

damaged frames:
outside:

- **W4** outside left casement: plane off angled spall at hinge-stile bottom heel ±300 long x 45 thick.
- Balcotan 100 glue on replacement angled teak and plane off flush to reinstate face and edge.

inside:

- **W6** left (seen from inside) plane off to sound wood, plant on ±20mm thick x 47mm x ±400mm long teak.
- Close off damaged edge fully and reinstate to suit hinge seating correctly.
- W6 centre post (seen form inside): carefully remove nails, lift splintered/cracked face, clean up and clear dust etc, offer and work in Balcotan100 glue, paper cover and board and clamp flush to set flush and fine sand clean up after.

Step 5 : rehang casements, refit fanlights (? joiner or in-house skilled carpenter?):
Note some casements were previously inaccurately hung with hinge-binding pulling the hinges loose eg where incorrectly checked in, also insime case excessive play left at the shutting stiles, perhaps overplaned badly when mis-hung.

Before taking casements off have a skilled carpenter assess if any units require extra new edge planting on the hanging or shutting stiles, or both, to neaten up and to make a notes for this and to suit the rebate openings concerned. This will need to be an added item actually under Step 4 above for joiner to allow for and of remedy with carefully matched edge plants if applicable.

All the existing variable and mismatched hinges to be replaced uniformly throughout.
I am still investigating what 100 x 75 or 76 butts are available either in stainless (but grade 304 apparently only available, brushed finish which will corrode slightly, but are more competitive in cost than the Howick equivalent in brass or chrome plated some with steel pins etc not a good idea.
I have asked Stephen Richardson (Union : Assa Abloy) to drop off a sample of their stainless butts which is 100 x 76 Ref: Union JH-BB-STD-2SS available at W&B and elsewhere.
Most of the old hinges are already 100 x 75 with a few smaller ones eg left inside leaf of W2 has iron butts ±85 x 60 and the two smaller windows W4, W5 have ±75 x 40 so all could be readily adjusted to take uniform 100 x 76.

Allow for plugging warn screw holes as necessary securely and re-seating all hinges in their original positions with whatever re-cutting and re-fitting packing in teak and all necessary to sit plumb, true to wing properly with all screws agree quality stainless (316) pozi c/sunk self-tapping to be durable.

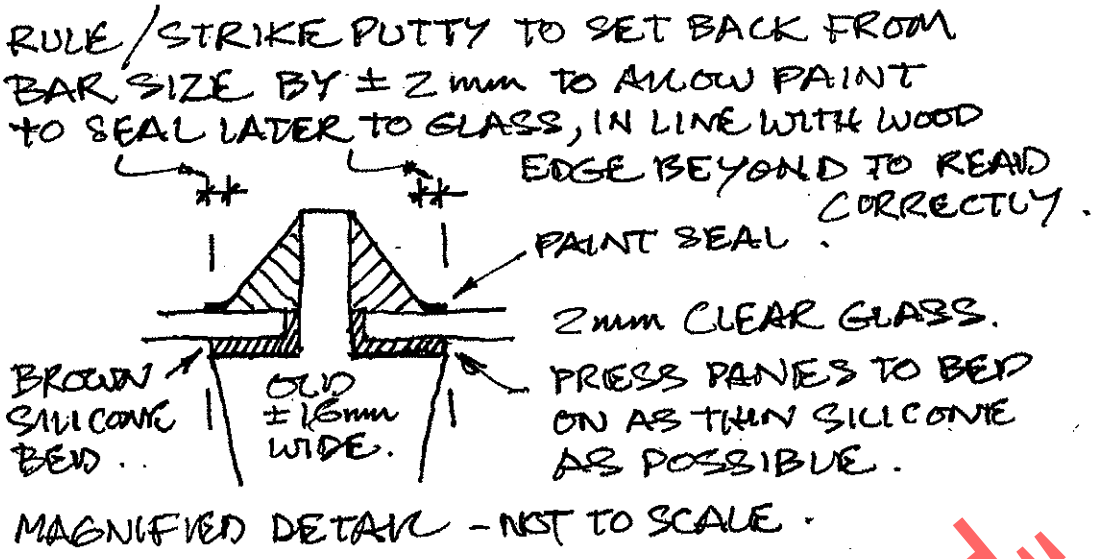
Step 6 : Wrot-iron bolts and keeps:

Arrange for experienced metal worker to service ie clean up all 32 existing wrot barrel fully and the 25 existing matching (2-screw) keeps.
Metal worker to make up exactly matching (2-screw) keeps (7 only) to replace eh ad-hoc hoops etc on some units.
Discuss spring/stop effectiveness after sample clean up, rust removal etc to include metal worker to release and re-temper, re assemble spring to work properly if need be,
Re-servicing to include assembly and any necessary remedial adjustments to have all units working and ready operating smoothly, properly for fitting.
Re-finish fully all units with rust-converting primer and matt black etch primer (Coast Kote or equal generously as the finish and for touch up to screw after fitting.
Check to supply c/sunk suitable length 3i6 stainless pozi screws and to plug old screw holes if need be for secure re-mounting neatly and correctly positioned.

Step 7 : re-glazing:

Reglaze in clear 2mm thick throughout re-using all (characterful) old glass wherever possible.
(Note: WC casement should have a suitable white terylene 'cheesecIth' stretch curtain fitted for privacy rather than obscure glazing, and the fanlightis high engouth to remain clear).
Bed all panes in brown silicone (small quantity) instead of pressed well home to occupy only 1mm or so, without permanent pinning and leave to set.

See enlarged glazing bar detail overleaf showing stiking the putty slightly back to allow crucial paint sealing to the glass face after the putty has cured and is firm.



Step 8 : other blemishes and redecorating:

Fill surface cracks, sundry soft spots, frame damage generally as follows:

- Scrape out all previous filler, softened or defective wood.
- Apply "Profil" sandable filler in thin layers to to cure properly (max 3mm thick to set).
- Repeat until slightly proud and set and sand off neatly flush.
- Open under-sill groves at the teak sills and remove all previous filler (six windows excluding W1, W8 which are newer and fitted hard-up to the granite sills.
- The grooves anticipated to be ±10mm x ±20mm deep to be gunned full with Bostik Powermastic, clean of flush with mineral turps and left to cure an cup before painting over.
- Redecorate when all repairs and re-hanging is complete to two tone colour scheme finishing in gloss enamel with white subframes and burgundy frames (and front door) as before.

John Rennie

Rennie Scurr Adendorff Architects

1301/WindowReport/jr
26 May 2013