

NEW MEXICO STATE UNIVERSITY
ALCALDE, NEW MEXICO

SUSTAINABLE AGRICULTURAL
SCIENCE CENTER

EXTERIOR FACILITIES CONDITION REPORT
FEBRUARY 12, 1998



PREPARED BY

MOLZEN-CORBIN & Associates 

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ALCALDE, NEW MEXICO**

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This report is the first step in solving deficiencies on the exterior of the Administration Building at the New Mexico State University (NMSU) Agricultural Experiment Station at Alclade, New Mexico. The intent of this study is to identify areas of concern on the exterior of the Administration Building that require repair. The various conditions of concern are to be identified and prioritized from most critical to less concern. Each area of concern that is identified is to have an associated probable cost of construction. The areas of concern that have been identified for this report are as follows:

- A. Roofing, with emphasis on the parapet flashing.
- B. Re-stucco of the entire facility.
- C. Replacing of some of the exterior wood members, such as the vigas that protrude through the wall. It appears that most of these vigas are false, top member at the second floor railings, some beams and post supports and base plates at the posts.
- D. Repair the water damage at some of the soffits at the first floor portal that have been damaged by water leaks.
- E. Replace some window trim, replace weather stripping at the windows and doors, replace window latches, and repair some of the window sill members.
- F. Provide screen doors at the main entry doors on the north side at the first floor.
- G. Some of the exterior door's panels are warping out of their frames.

- H. At the northwest side of the building, a concrete curb was been poured against the building wall and has now separated away from the wall.
- I. The supporting posts for the second floor balcony are in need of re-grouting at the base.
- J. The exterior wood trim requires painting.

Some of the deficiencies listed above were initially indicated at a preliminary scoping meeting held at the site on April 19, 1996. Present during this visit were: Mr. Martin Hoffmeister, NMSU Architect; Mr. Terry Coker, NMSU Project Manager; Mr. David Archuleta, NMSU Farm Supervisor; Mr. Steve Guldan, NMSU AES Superintendent; and Mr. Art Montoya, Molzen-Corbin & Associates Architect. The list was further reviewed and expanded upon at a subsequent site visit on June 20, 1996. Present during this site visit were: Mr. David Archuleta, Mr. Val Archuleta (part-time), and Mr. Art Montoya.

This report will address each item identified above, with recommended corrections and a probable cost of construction.

A. ROOFING

The most concern with the existing roof is the inability to keep the roof from leaking at the area where the roofing flashes to the roof parapet. An inherent problem for proper flashing at the parapet is that there is not adequate height to the existing parapet to do the flashing properly. On our June 20, 1996 site visit, we made three roof penetrations to determine the depth from the top of the existing B/U roofing to the existing wood deck, to see what the distance might be from the existing wood deck to the top of the parapet. The existing B/U roof is over a sandy dirt fill. The dimension at each penetration, at the three different locations, was approximately 3-1/2".

Therefore, the distance from the existing wood deck could vary from 6 to 7 inches.

An initial thought was to raise the height of the parapet enough to provide the required dimension for proper flashing; however, with the type of construction and the character of the structure, we did not pursue this option. Some of the reasons we did not pursue extending the adobe parapet were: cost; aesthetics consideration, since the proportions would definitely change the historic quality of the facility; and the joint in the new to existing stucco would be difficult to keep from cracking. We then discussed the issue with industry members that we thought might provide us with some good insights to this very unique problem. After much discussion and pursuing several ideas without much resolution, we concluded that the a solution is to remove the existing roofing and dirt fill down to the wood deck, and then use a tapered composite insulation with a maximum thickness of 3 inches, with a modified bitumen roof. The roof flashing would then be brought on top of the existing parapet, and the stucco would then overlap the roof flashing to provide a positive seal. This is perhaps not the ideal condition but, given the circumstances, seems to be an appropriate one.

The probable cost of construction for this solution is \$151,062.00. This cost includes removal of the existing roofing, dirt fill, new insulation, and roofing, but does not include any stuccowork.

B. STUCCO

The existing stucco is in need of repair. In particular need is the area where the fire occurred a few years ago. There are several areas where some major cracking has occurred and there are several areas where the stucco is peeling. Also, there are some areas where some voids have occurred and these voids have been filled with foam insulation which, in some cases, has started to deteriorate. It appears that the stucco has been painted, which will require that the existing stucco be sandblasted prior to applying the new stucco. The recommended stucco finish is "Perma-Flex", as manufactured by El Rey Stucco Company or a similar product. This new stucco coat would wrap over the new roof flashing to provide a positive seal.

The probable cost of construction for the stucco is \$39,291.00.

C. EXTERIOR WOOD TRIM

All of the exterior wood trim was inspected to determine what remedial work might be required. The exposed vigas were all looked at, and it was determined that the majority of the vigas through the walls are actually false, they are not a continuation of the interior vigas. The vigas, which do not appear to be false, are the ones at the third level roofs. Most of these fake vigas are loose and some are quite deteriorated and do require replacement. Some have been sealed to the stucco with silicone and, those that are not sealed, are allowing moisture in and around the viga into the adobe wall. On the west side of the facility, the electrical service is actually anchored to one of these false vigas. This condition should be corrected with a separate fixed pole. At the second floor level on the west wing, there are two exposed beams that have extensive deterioration and require replacement. The beam on the east side has been covered with pieces of lumber to help slow down its deterioration. The base plates and posts that support these beams also need replacement. The top rail member on all the railings is need of replacement also, due to deterioration from moisture. The rest of the railing members are, for the most part, in generally good condition, but are in need of re-finishing and, in some cases, minor repair. On

the west side, there are two doors where the panels have warped out of the door stiles that need repair or replacing of the doors in their entirety.

The probable cost of construction for the above is as follows:

Replace Vigas	\$7,679.00
Replace Top Railing Member	845.00
Base Plates, Posts, and Beams	<u>1,168.00</u>
Total for Exterior Wood Trim	\$9,692.00

D. SOFFIT REPAIR

The soffit at the courtyard and at the southeast covered porch have some water damage from roof leaks that are in need of repair. These soffits have been temporarily repaired with exterior gypsum wallboard, which will require removal and replacement with plaster to match existing.

The probable cost of construction for this repair work is \$825.00.

E. WINDOW REPAIR

The investigation of the existing windows revealed the need for the repair of some of the window sash, replacing of the weather stripping (at the doors also), replacing of the window latches, and repair of the exterior windowsills. Most of the window sash is in good condition, with the exception of one window on the east side that will require repair. The existing weather stripping on the windows and doors also requires replacement. The existing window latches do not keep the windows tightly shut and often come loose on their own, which leaves the building vulnerable to weather and/or intrusion. The windowsills are, for the most part, not in bad condition, but most do have a fair amount of checking and do have several coats of paint, which have been applied in an attempt to keep them in sound condition. A solution to prevent damage to these sills is to cover them with a painted metal trim.

The probable cost of construction for the above is as follows:

Window Sash	\$ 688.00
Weather Stripping	6,064.00
Window Latches	2,412.00
Window Sill Metal Trim	<u>733.00</u>
Total for Window Repair	\$9,897.00

F. MAIN ENTRY SCREEN DOORS

The weather in Alcalde is very conducive to having open doors and or windows. The main doors to this facility do not have screen doors. The staff expressed a desire to have screen doors to allow the main doors to be kept open without having insects getting inside.

The probable cost of construction for this work is \$805.00

G. EXTERIOR DOORS

On the west side, there are two doors where the panels have warped out of the door stiles that need to be repaired or replaced in their entirety.

The probable cost of construction for this work is as follows:

Replace Doors, Re-use Hardware	\$606.00
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H. CONCRETE CURB NORTH WALL

At the northeast corner, along the north wall, a concrete curb was poured along the wall to keep the flood irrigation water from damaging the wall and foundation. This has served its intended

purpose very well but, at this time, the curb has separated from the wall leaving a wide gap that will allow moisture from rain or snowfall to intrude and potentially cause structural damage. In the winter, this gap could also capture moisture that would go through a freeze thaw cycle, which can also cause structural damage. A solution for this condition is to cover the joint with a sheet metal flashing that would be fastened into a saw cut reglet in the stucco wall above the joint between the wall and the curb.

The probable cost of construction for this work is \$490.00.

I. SUPPORTING POSTS

At the first floor entry court and the eight posts that support the second floor balcony, the grout at the base of the posts is spalling and should be replaced to keep moisture from getting into the bottom of the posts.

The probable cost of construction for this repair work is \$330.00.

J. EXTERIOR TRIM PAINT

All of the exterior trim is in need of painting. The trim requires scraping of checked and flaking paint, priming, and finish painting.

The probable cost of construction for this work is \$1,625.00.

Total for All Items Above \$214,623.00*

* Does not include any contingencies or escalation.

MEMORANDUM

TO: File

FROM: Art Montoya

DATE: July 1, 1996

RE: Sustainable Agricultural Science Center at Alcalde
Field Visit/Survey on June 20, 1996

A field visit/survey was made on June 20, 1996 to gather more information to use in preparing the Exterior Facility Conditions Report for the Administration Building at the Sustainable Agricultural Science Center at Alcalde, New Mexico. In attendance were Art Montoya from Molzen-Corbin and Associates and David Archuleta from the Center at Alcalde.

The following items were observed, noted or discussed:

1. Three roof penetrations were made at different locations to determine the depth from the top of the roofing to the wood deck. At all penetrations the depth was 3 1/2". The thickness of the roofing at the locations of the penetrations was approximately 3/4". The material between the roofing and the wood deck was a sandy dirt fill.
2. The large chimney on the west side needs repair at the very top around the flue. The flue is flush with the top of the chimney stack.
3. The existing roofing material is all B/U roof except the areas that were replaced after the fire in 1994 are modified bitumen.
4. For the most part the top of roofing is almost flush with the top of the parapets, which is not allowing for a good flashing detail. The lack of proper flashing has created problems which need to be addressed.
5. A few dimensions were taken at various locations to aid in obtaining areas for new stucco and to verify the elevations that are a part of the 1994 documents that were prepared for the fire repair. A complete as building of the facility is not a part of our project scope at this time.
6. Dimensions of the railing at the second were floor were taken, the top member, a 2"x6", of this railing should be replaced. A sketch of the railing will be prepared.
7. The windows were also measured and counted. Some of the windows are missing

the screens, but David and Steve indicated that if it is necessary to provide screens at those locations, David and his staff will retrieve the screens from storage and replace as necessary.

8. Will use the 1994 drawings for dimensions and areas of the existing roof.
9. The treatment of the window sills was discussed with David, an idea of Davids' is to perhaps cover the sill with some metal and then paint to match the window. Most of the sills have been pretty well maintained so covering all with metal does not seem to be necessary.
10. Most of the exposed vigas are merely applied into a pocket in the adobe walls and most are loose and some have rotted severely. On the west side the power line service is fastened to one of these fake vigas which is loose.
11. The window latches are problem in that they come loose with the wind forces and the window are then blown open.
12. The doors and windows are currently weatherstripped with an interlocking copper type of weatherstrip.
13. The worst window sash is on the east side on the 1st window from the south, this window is 16" wide and 41" high.
14. The stucco at the doors and windows is rounded and feathered to the wood trim without any metal trim and in most cases only about 1/4" of wood trim is left exposed.
15. At the first floor entry alcove the eight posts that support the second floor balcony the grout at the base of the posts is in bad shape.
16. All doors and windows require painting.
17. The front doors currently do not have screen doors, a request was made for screen doors.
18. The exposed beams along with the supporting posts and plates at the second floor on the west side are in need of replacement in their entirety.
19. The entire facility is in need of new stucco.
20. At the north side, a concrete curb was poured to protect the structure from flooding, a large crack has developed between the concrete and the stucco. Rain will continue to penetrate into the foundation through this crack unless it is

repaired.

21. On the west side on one of the doors a panel has pulled out of the door stile.

End of Memorandum





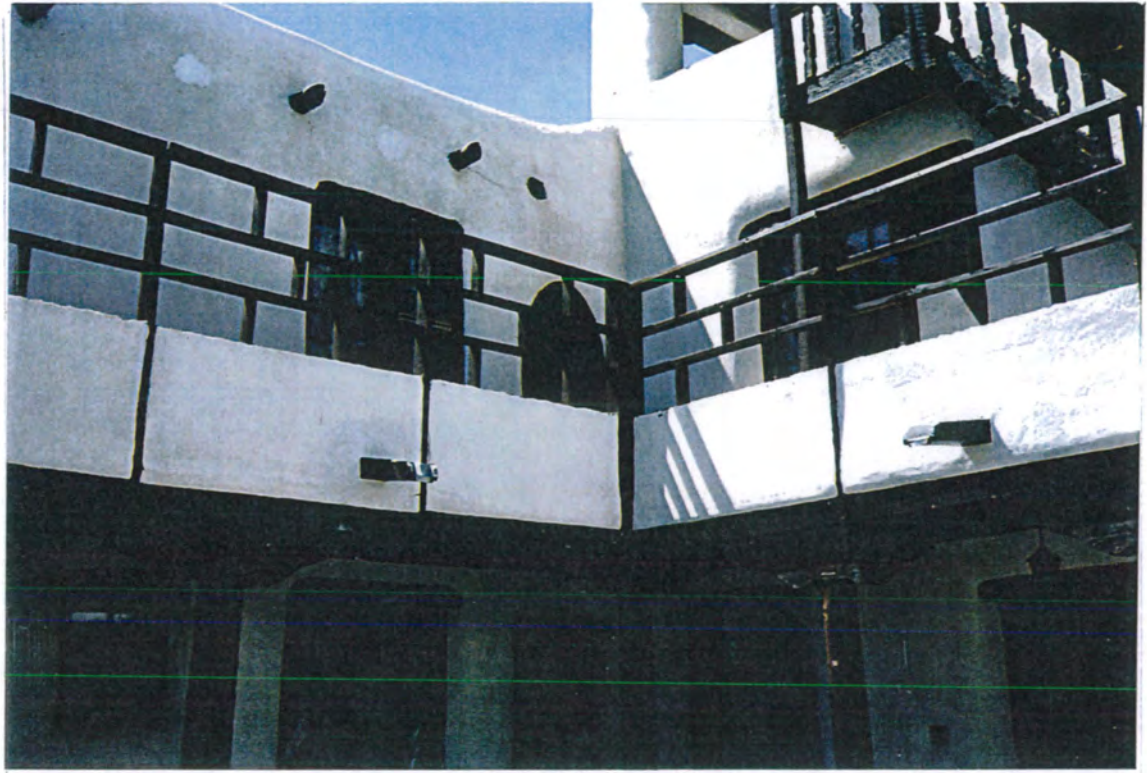


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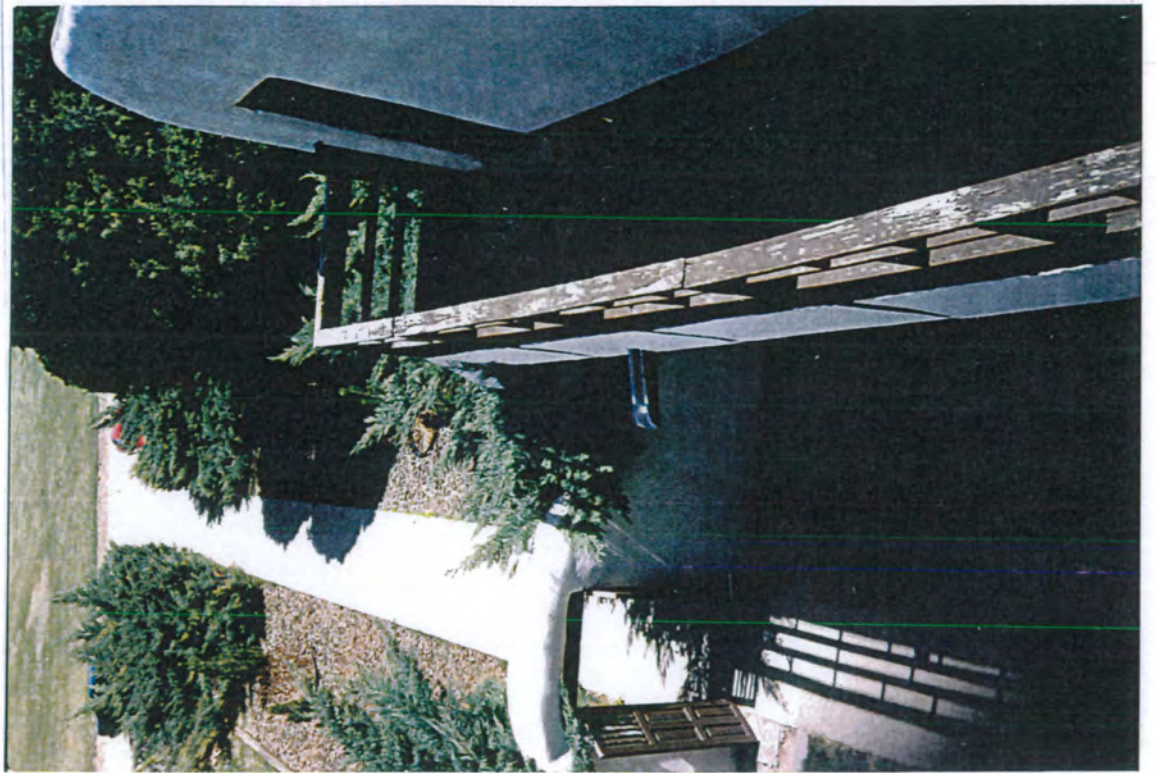


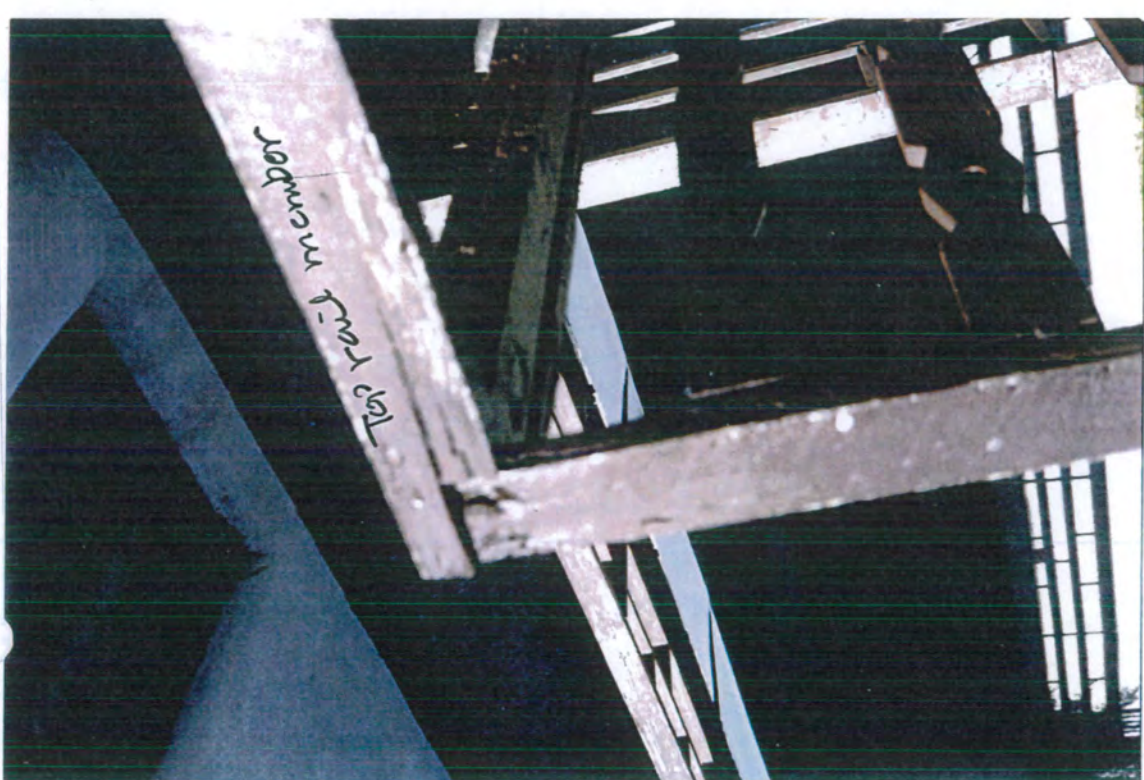
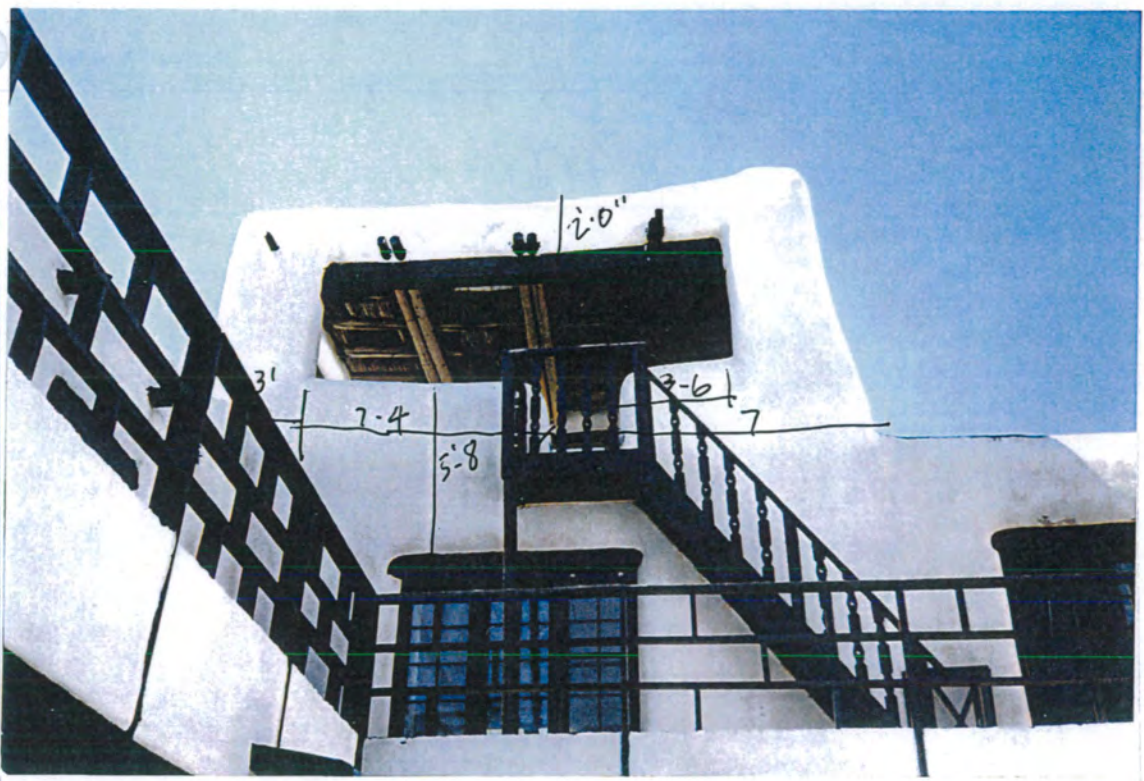
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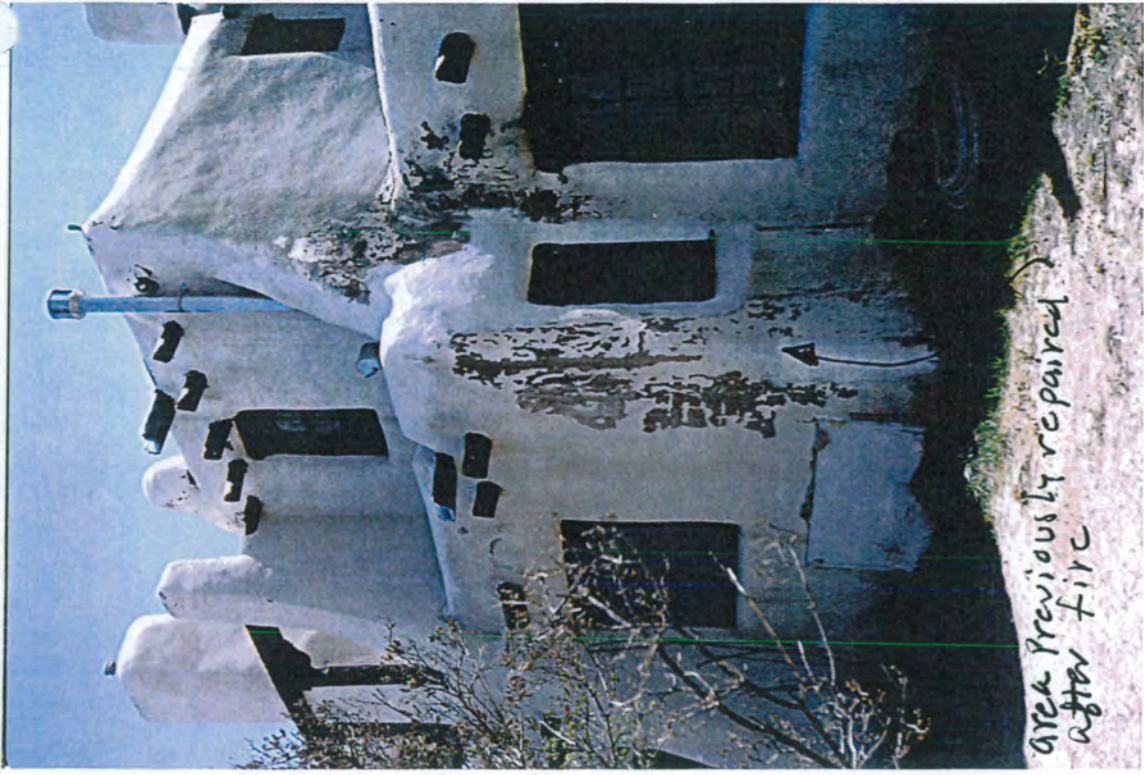
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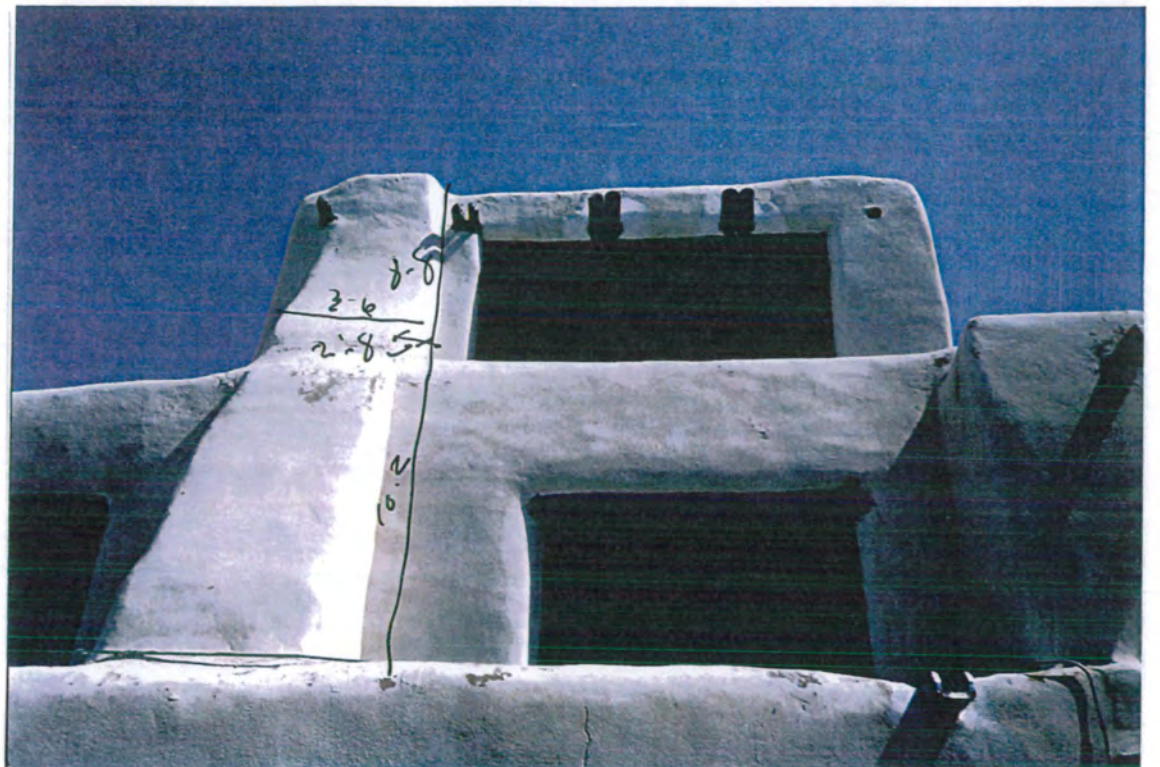
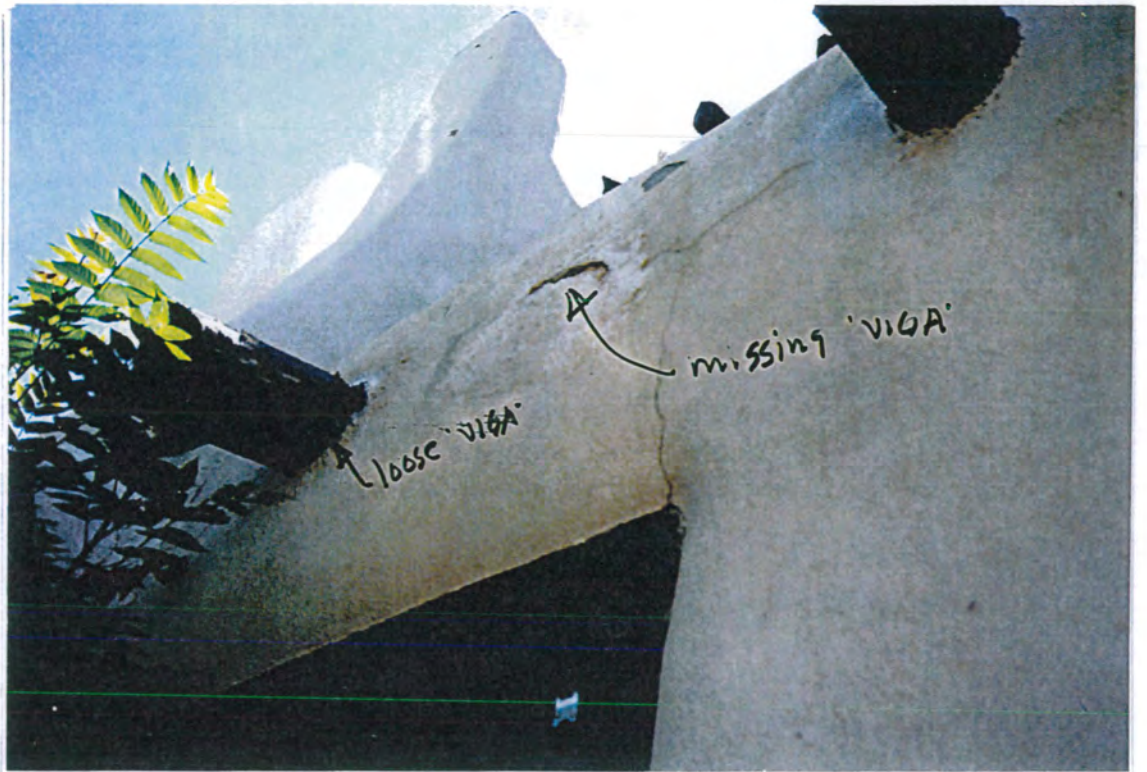


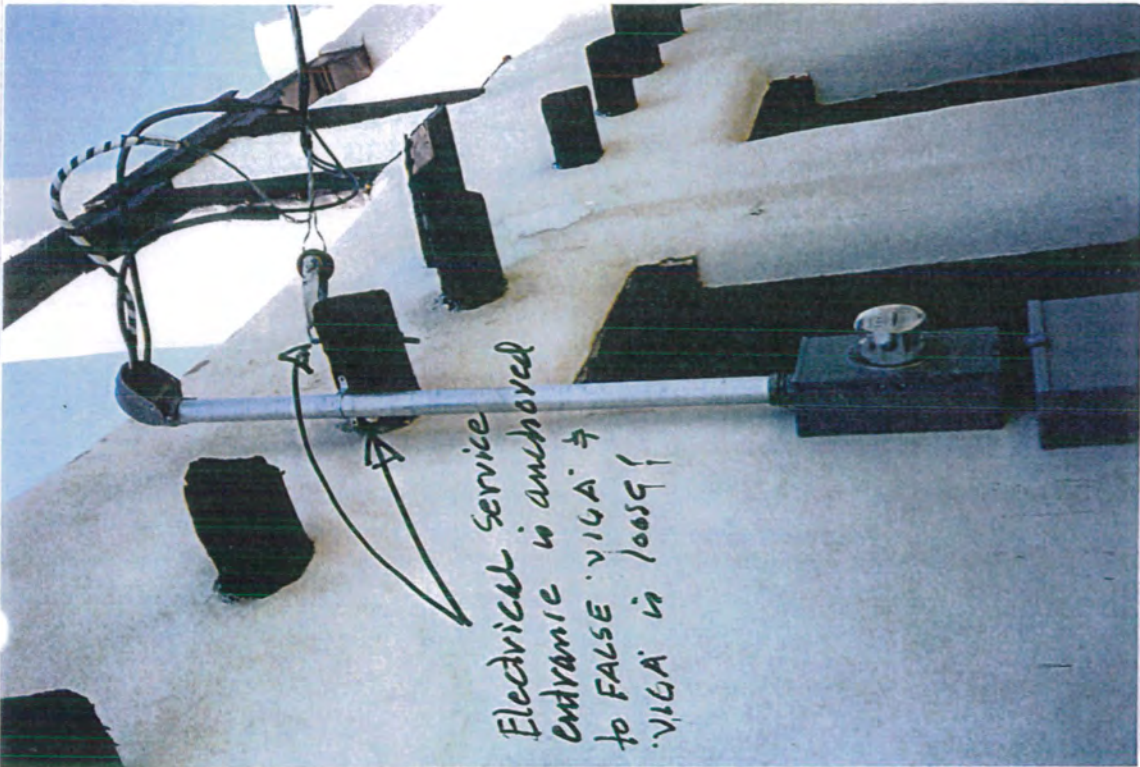
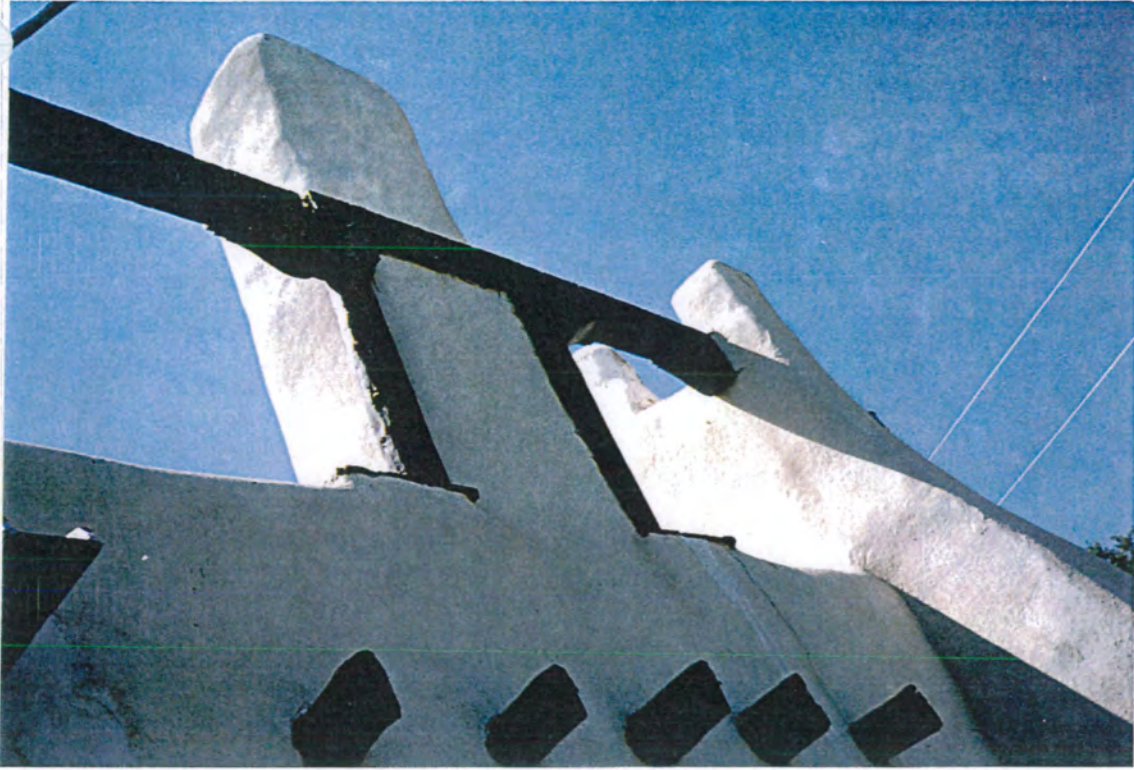


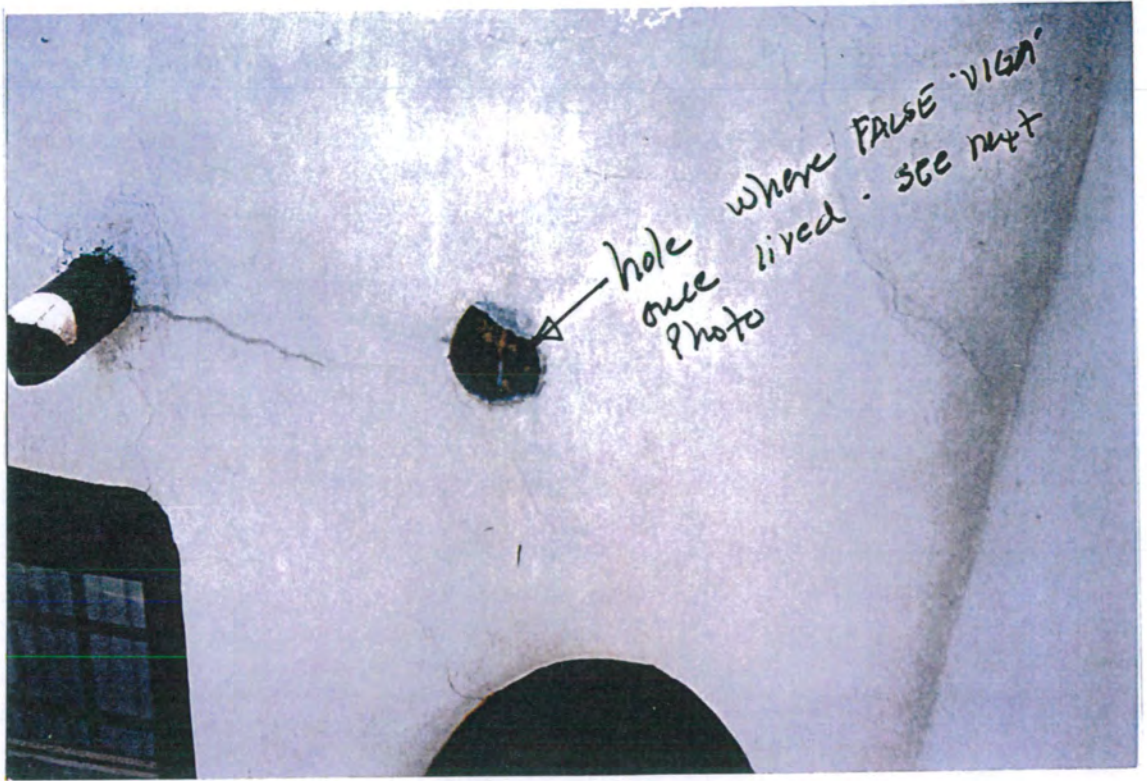
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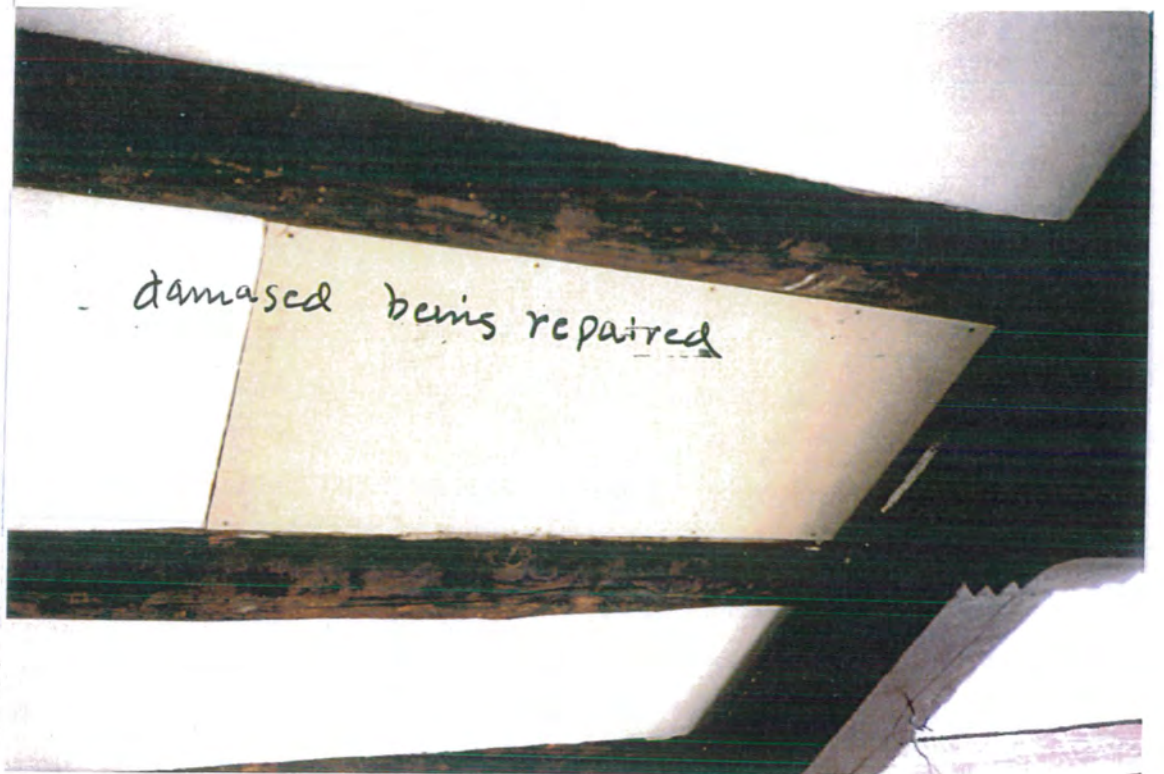
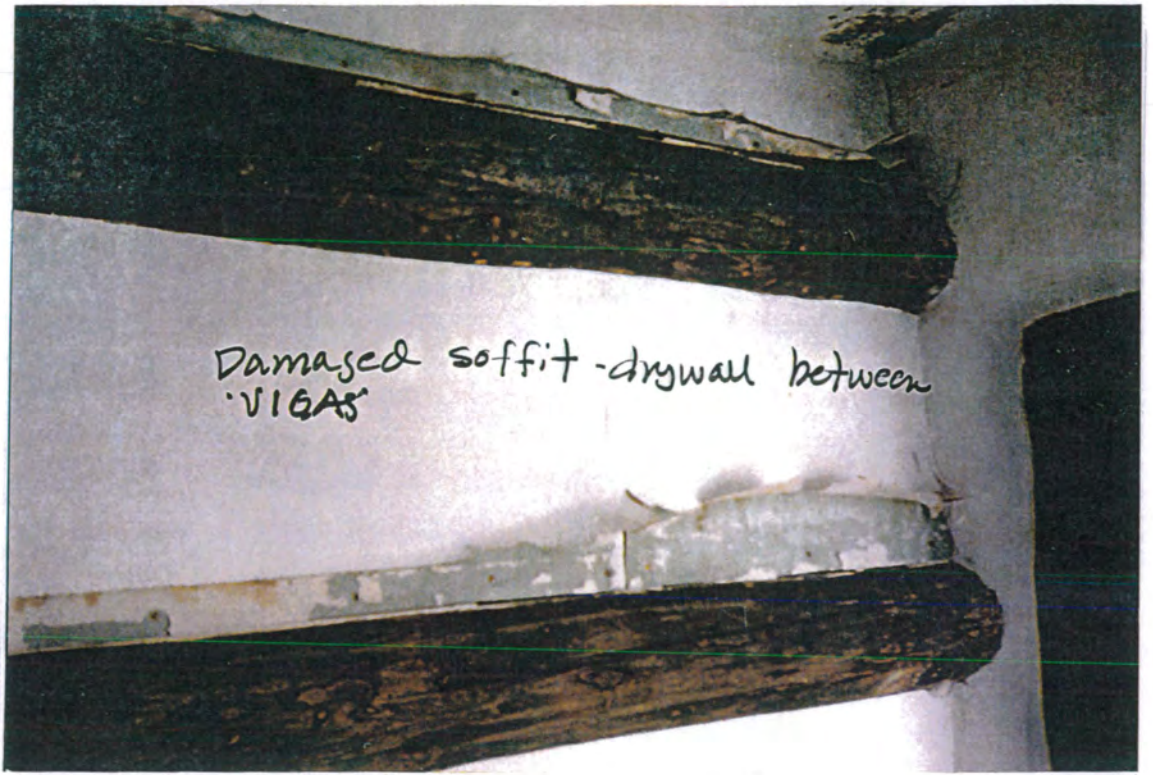






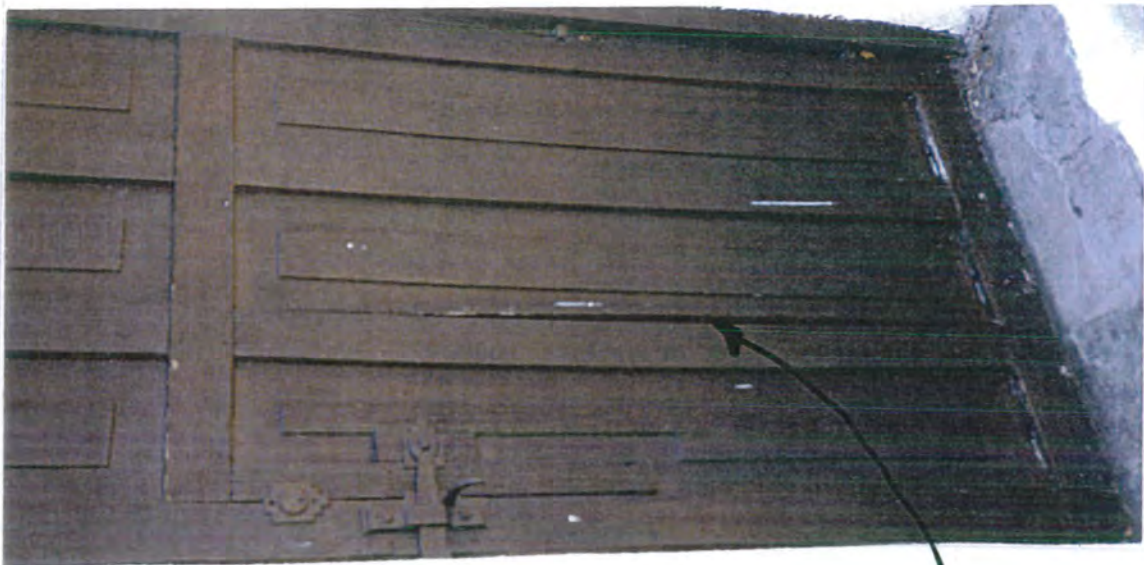


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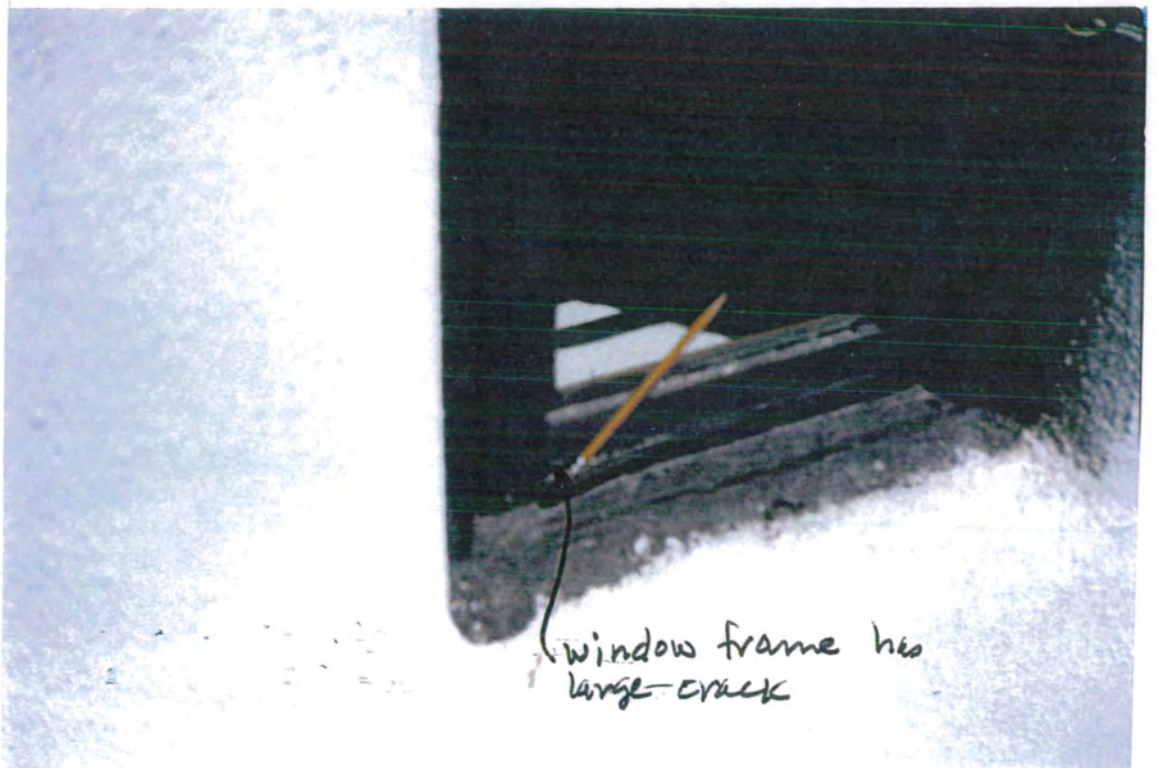




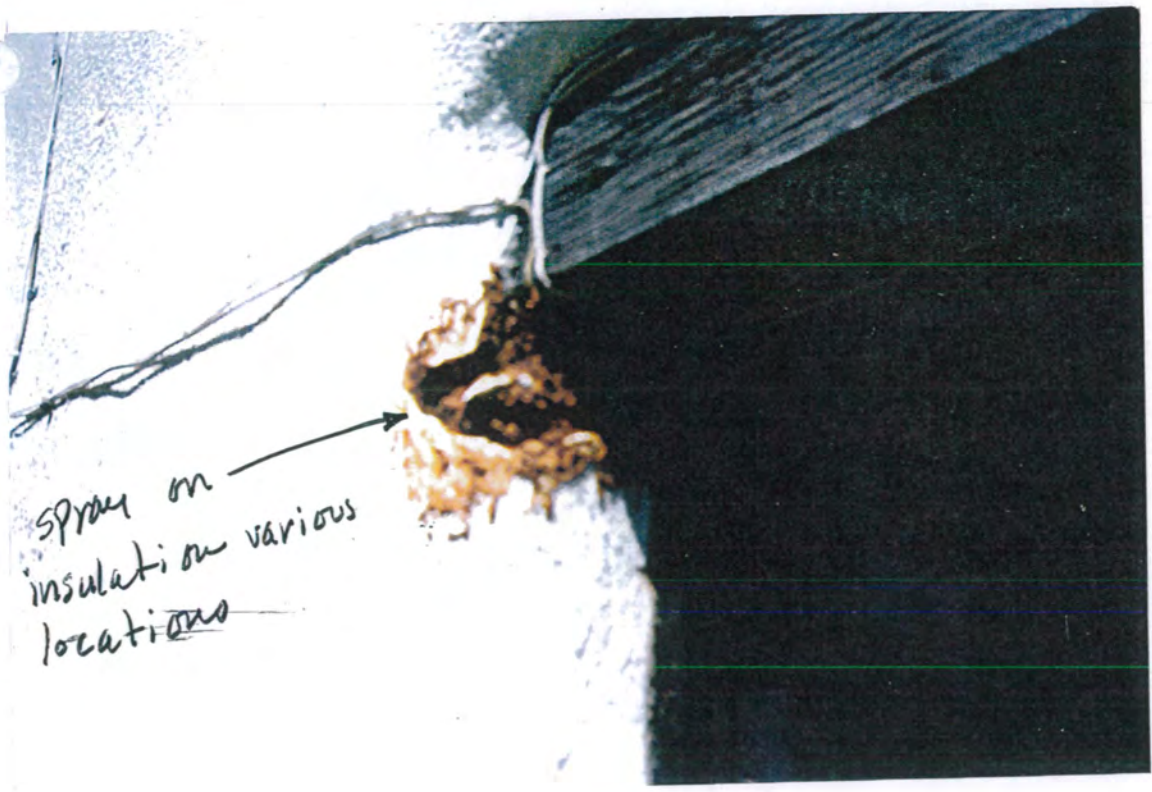
Crack and wall was built with stones & later covered with mud.



door panels are warping out of stiles.

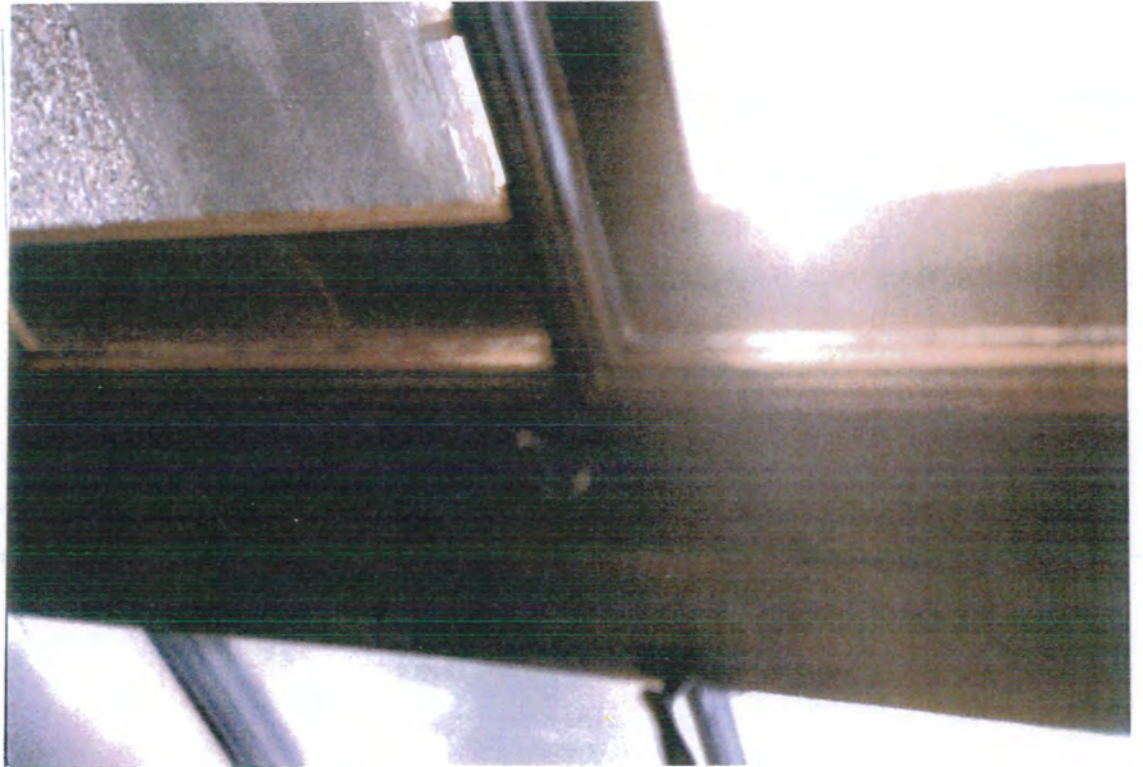


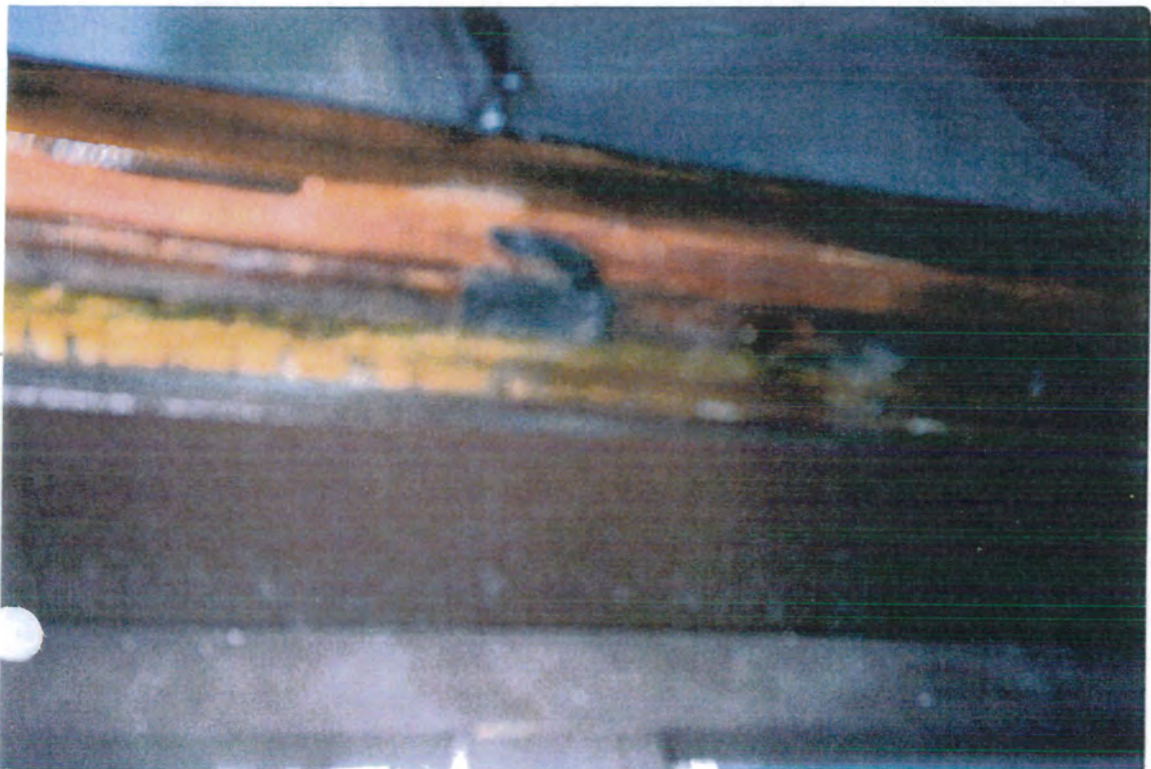
window frame has large-crack



spray on
insulation various
locations





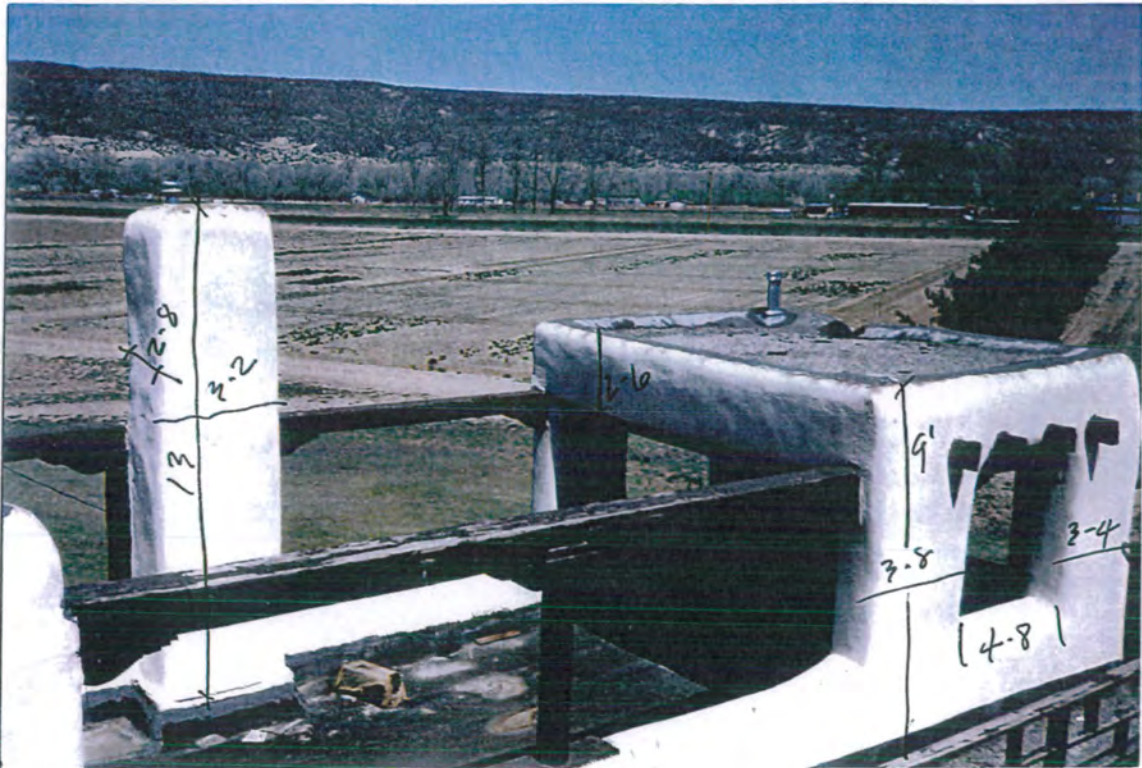
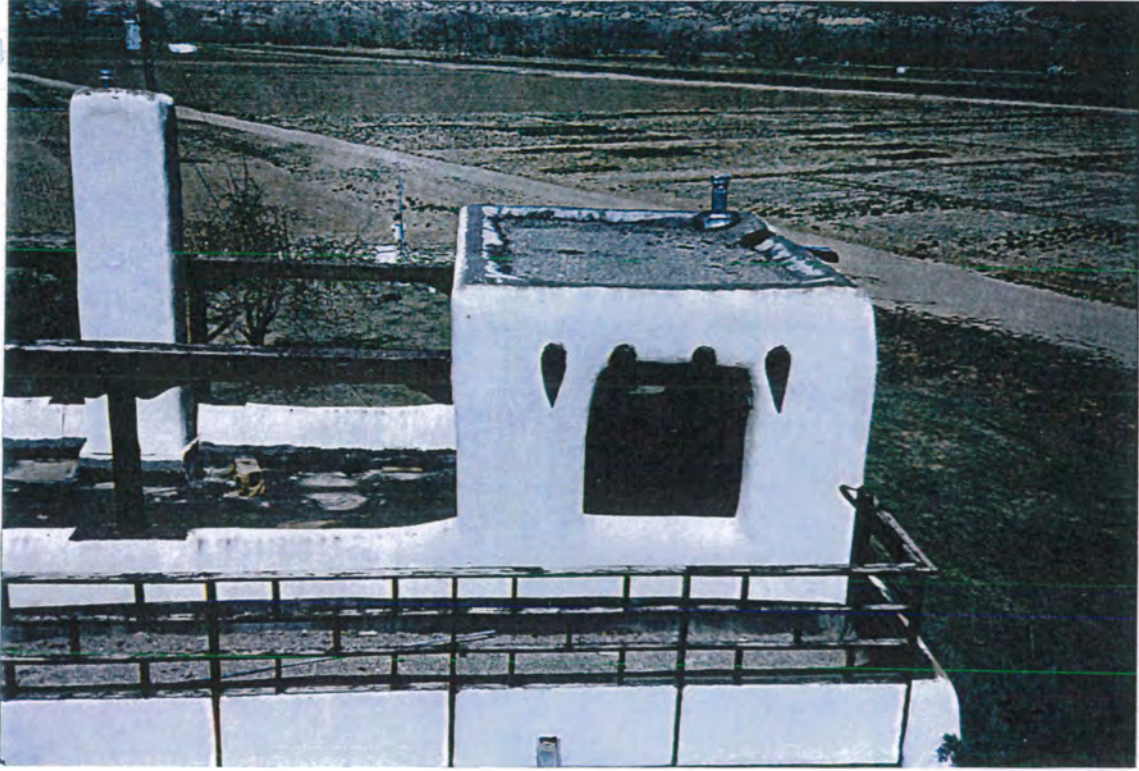


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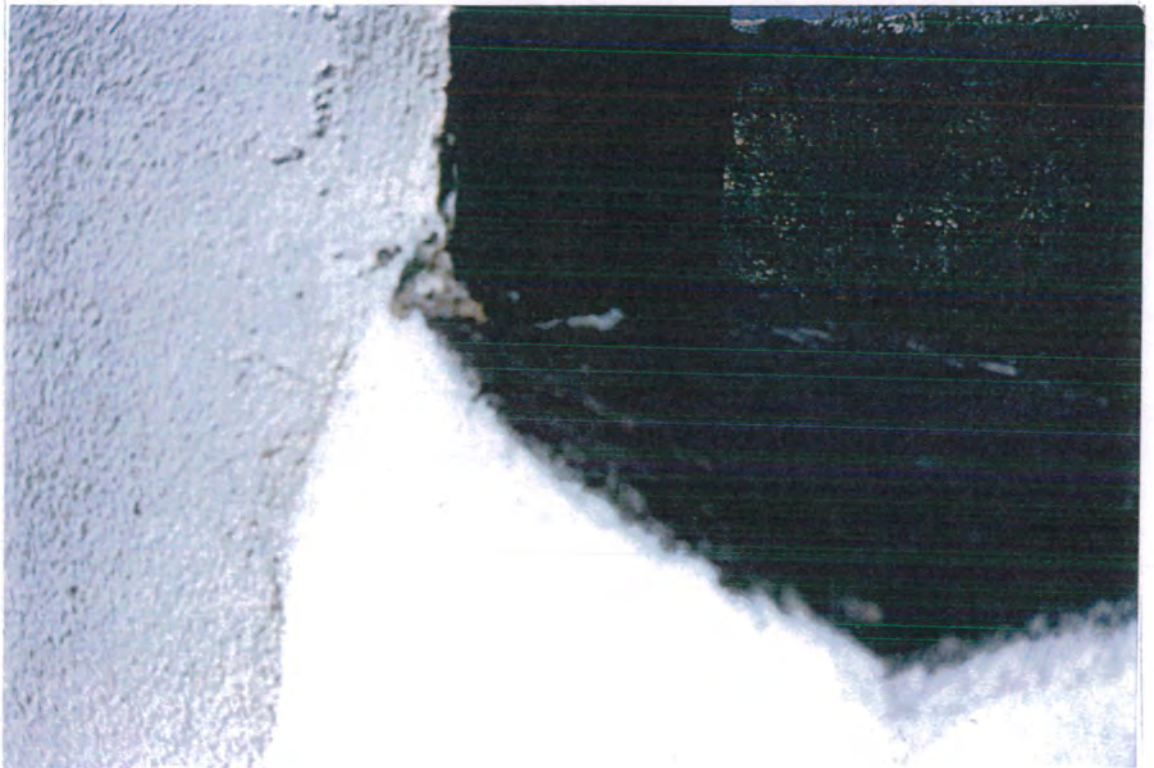


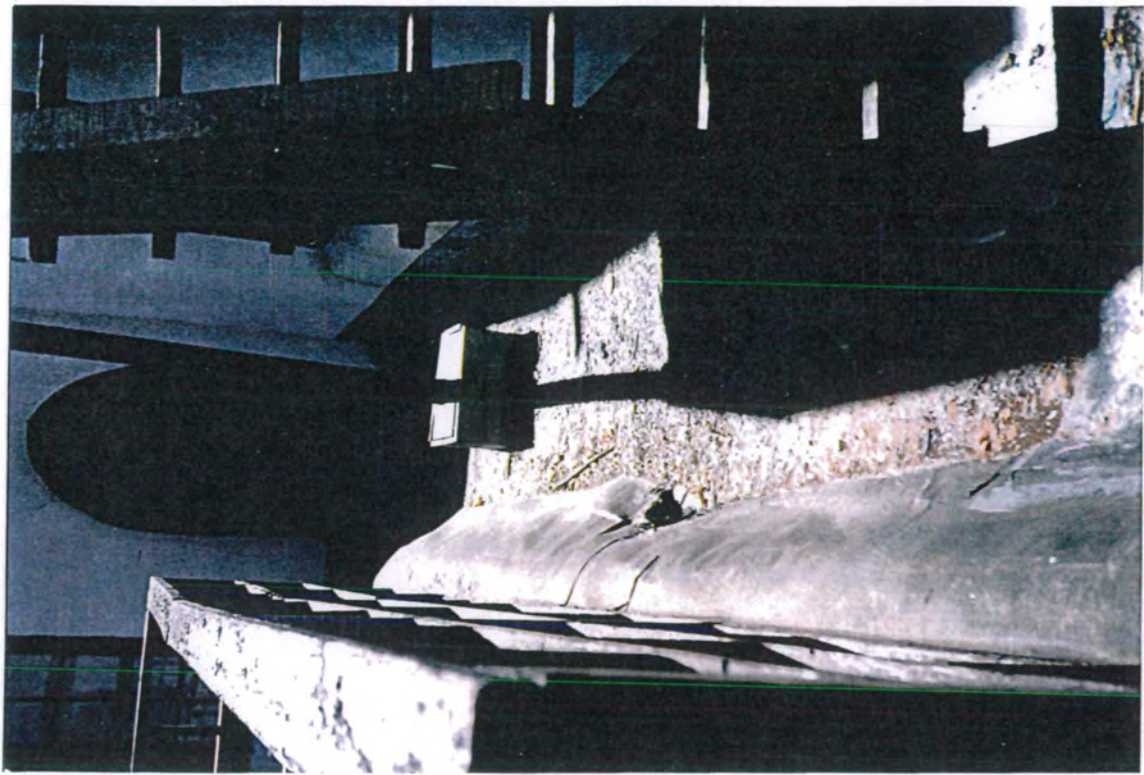




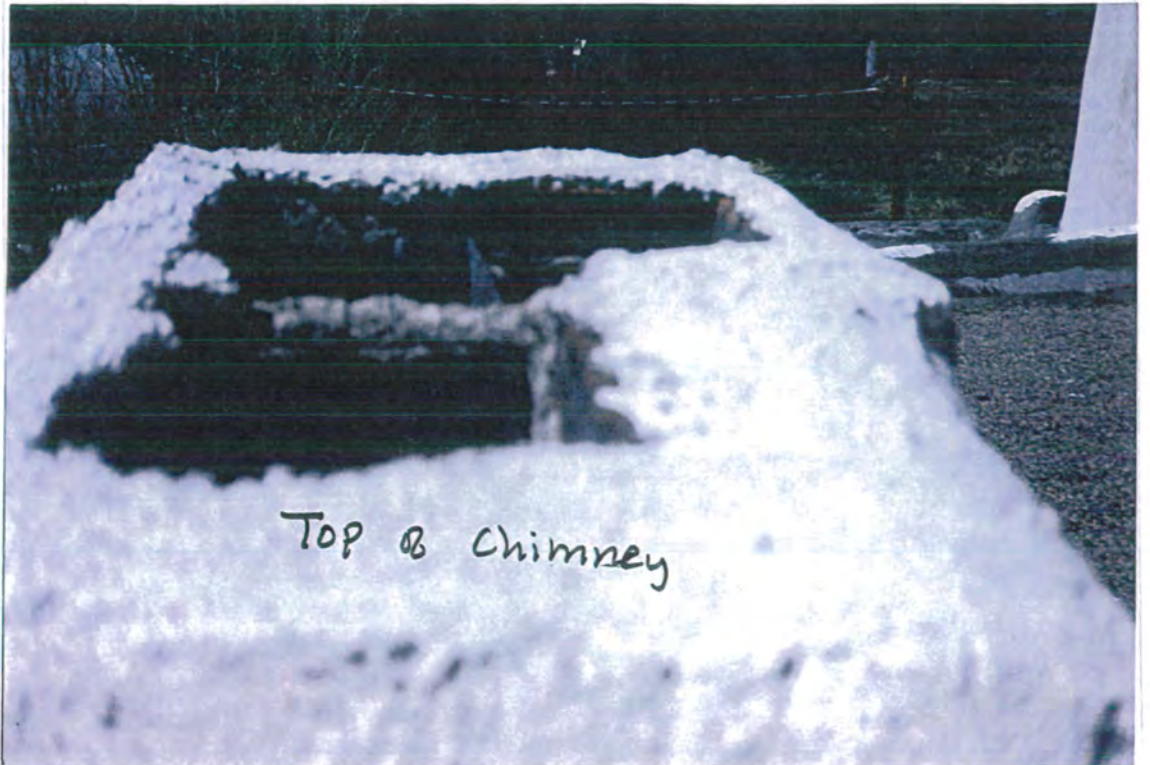


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2701 Miles Road Southeast
Albuquerque, New Mexico 87106
Telephone 505-242-5700
Fax 505-242-0673

February 12, 1998

Mr. Charles Nolan
Architect
Office of the University Architect
New Mexico State University
Department 3545
P.O. Box 30001
Las Cruces, New Mexico 88003-8001

**RE: Sustainable Agricultural Science Center at Alcalde
Exterior Facility Conditions Report**

NMS65-11.P01

Dear Mr. Nolan:

Enclosed is a copy of the Exterior Facility Conditions Report for the Administration Building at the Sustainable Agricultural Science Center at Alcalde, New Mexico. Included with the report are photographs that we took and used in the preparation of the report.

We had previously submitted a copy of the report for review and comment. We have not received any comments or questions on the report that we submitted. Recently, Mr. Herman Contreras inquired about the report, so I mentioned to him that we had not received any comments and that we would proceed with finalizing the report. At that time, Mr. Contreras told me that you are now handling this project.

When I spoke with you about the project on January 28, 1998, you mentioned that the only comment you had heard was that the cost was too high. I agree with you that the costs are high, but it is going to be a very difficult task to repair the exterior of the building.

I would like to mention that the cost estimates were developed in late 1996, and do not include any contingencies or escalation, therefore, when you are working with these numbers, please include contingency and escalation.

If you have any questions or require any further information, please do not hesitate to call.

Sincerely,

MOLZEN-CORBIN & ASSOCIATES

Arthur B. Montoya, AIA
Architect/Project Manager

ABM:cvh
Enclosure