— SIMMONDS —

EXTERIOR BUILDING STUDY

for

CULKIN HALL, MAHAR HALL & WILBER HALL

SUNY OSWEGO CAMPUS

OSWEGO, NEW YORK

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#98-053

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EXTERIOR BUILDING STUDY
for
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July 7, 1999

SUCF - Project #10303
JCM - Project # 98-053
Exterior Building Study at:
Culkin, Mahar & Wilber Halls

1. INTRODUCTION

The State University Construction Fund has requested JCM Architectural Associates and its consultant, John P. Stopen Engineering Partnership to provide an Exterior Building Study at the SUNY Oswego Campus for Culkin Hall, Mahar Hall and Wilber Hall.

The following items are part of this Building Study:

a. Document the state of the existing deteriorating building facades of a typical bay of both Culkin & Mahar Halls. Provide repair solutions and possible materials to resurface the exterior with an appropriate coating (s). See attached Appendix for Drawings and Photographs.

b. Document typical existing brick veneer cracking at Wilber Hall and provide possible repair recommendations. See attached Appendix for Drawings and Photographs.

c. Replace the existing single glazed full height ground level window system with a 1" insulated tinted glazing to increase the 'R' value at Culkin Hall.

d. Redesign the existing entry vestibule doors at Culkin Hall to conform to ADA guidelines and reduce the amount of air infiltration from the prevailing winds, (see attached proposed schemes in Appendix).

e. Provide Construction Cost Estimate for work described above.

2. ARCHITECTURAL NARRATIVE - CULKIN HALL

A. Existing Building Descriptions:

The existing 1966, 7 story building is a cast-in-place reinforced concrete frame, with a below grade level and aluminum louvered mechanical penthouse. North and south elevations consist of aluminum framed fixed single glazed curtain wall strip type fenestration with exposed concrete walls below the windows and exposed concrete spandrels at each floor level. East and west facades consist of precast concrete panels positioned on either side of centered windows.

Ground floor level is framed with full height aluminum curtain wall framing with fixed single glazing with an 4" high base with internal hot water piping. Main entries are on north and south facades with revolving doors and a 3' - 4" automatic open swing door framed on one side.

B. **Existing Conditions:**

A field survey with digital photographs was performed to review the existing conditions, as well as review of existing drawings provided by SUNY Oswego.

The existing building layout has been altered from original documents at the north entry.

Air conditioning condensing units were installed on the exterior bays, centered on the west and north facades. A conerete masonry screen was installed in front of window areas to hide the A/C units.

It is noted that temporary wooden barricades are currently being installed for protection of pedestrians from potential concrete spalled-off pieces falling from the deteriorating concrete facades.

The existing perimeter ground floor window system is 1-1/2" x 6" extruded aluminum framing with fixed 3/8" plate single glazing ≈ 4'-0" w x II' - 0" h. Glazing is attached to framing with neoprene gaskets.

The window framing system base is integral with the hot water piping system (see attached detail).

The existing north and south entries is comprised of the same window system with hot water integral base. Entry is through a 5'-0" revolving door or an automatic swing door on one side to allow handicap accessibility.

The existing east entry has I pair of swing type aluminum framed single glazed doors.

C. **Review, Comments & Observations**

1. Ground Floor Level Window System:

   The existing exterior ground floor level window frame system is custom built integral with the window base hot water heating system. To remove the existing window framing to install new framing would disrupt the heating system. This option is not practical and cost prohibitive. Removing the existing single glazing and neoprene gasket and is easily accomplished with leaving the existing aluminum window framing and integral base heating system in tact.

Project intent is to increase the 'R' value of the window area which will be accomplished by installing new 1" insulated, low 'E', tinted glazing. This glazing will also match the new window system glazing to be installed on the Culkin Hall Window Replacement Project.

2. Redesign the North and South Entry Vestibule Doors:

Prevailing winds are from the northwest off Lake Ontario, design intent is to diminish the effects of the prevailing winds, increase the 'R' value of the glazing and meet handicap accessibility requirements. Currently, the winds have a tendency to travel through the north and south entry vestibules. New design options to respond to this wind pattern.

3. See Appendix for Photo Essay and Drawings of existing conditions.

D. Code Review

1. A brief code review for ground floor level exiting requirements utilizing the NYS - Building Code - Title 9 and existing floor plans reveals the following:

- ❒ Building Classification - C1 - Business
- ❒ Exits required - 2
- ❒ Capacity of stairways and doors (Table VIII-765).

  -C-1 Occupaney - doors 90 person/22" unit of exit.

- ❒ C1 - Floor Capacity

  -Ground Floor - 200 s.f./person
  - 1st Floor and Upper Floors - 150 s.f./person

- ❒ Existing gross square footage - G.S.F.

  -Ground Floor - 45' x 132' = 5,940 s.f.
  -1st Floor - 7th Floor 63' x 140' = 8,820. s.f.

- ❒ Stairwell Door Capacity

  -Ground Floor 5,940 s.f. ÷ 200 persons = 29.7 persons
  -1st Floor - 7th Floors - 8,820 s.f. ÷ 150 persons = 59 persons.

- ❒ Existing stairwalls (2) have 3'-0" doors.

  -3'-0" door are 1-1/2 exit units (E.U)
  -1.5 E.U. x 90 persons = 135 persons/per stairwell.

- ❒ Two new 3'-8" doors are sufficient to allow existing from Ground floor level.

  -3'-8" = 2 E.U. x 90 = 180 persons (30 required per code).

2. A brief code review of the Americans with Disabilities Act Guidelines and ANSI-117.1 at the ground level Entry Lobby reveals the following:

   - ❒ Revolving doors to meet same guidelines as swing doors - ANSI-117.1 - Section 4.13.
   - ❒ Clear door width - 32".
   - ❒ Slide door side approach

     - 54" min. clear dim. parallel to door.
     -48" min. clear dim. perpendicular to door.

   - ❒ Two hinge doors in Series (Fig. B4. 13.7)

     -Need 48" min. clear dimension between door swings.

E. Proposed Solutions and Alternates

1. Ground Floor Level Window System:

   Proposed solution to achieve a better 'R' value at the existing windows is to do the following:

   a) Remove the existing 3/8" plate single glazing and neoprene gasket system - typical.
   b) Retain existing window framing with integral base.
   c) Secure a new 1-3/4" x 2-1/2" extruded aluminum thermally broken subframe to the face of the existing main frame that will accept 1" insulated glazing.
   d) Install 1" insulated, low 'E', tinted glazing at the same intervals of existing framing.
   e) Seal at perimeter and connection with existing walls and soffit. Provide close-off aluminum, piece at soffit and aluminum subframe.

   This solution will allow for ease of demolition, phasing, scheduling, and new construction and will be most cost effective as it maintains the existing window framing and heating system and meets design intent as mentioned above. See Section 6 for Construction Cost Estimate and Appendix for referenced details.

2) Redesign the North, South and East Entry Vestibule Door:

   Main entries have been redesigned with various schemes/alternates as documented in the Appendix. The different schemes utilize options in door types - swing vs. automatic slides vs. revolving doors, use of vestibules orientented in different locations and all existing window framing to be altered as mentioned in Item E-1 above.

The different design schemes respond to the existing site conditions i.e. vestibules have been created and located as to diminish the effects of the prevailing winds. Choices of swing doors vs. automatic sliding vs. revolving doors are shown for review. Automatic sliding doors are easier for accessibility but are more expensive and usually have more maintenance than swing doors. Revolving doors are not easily accessible but offer an efficient air lock for wind reduction, are more expensive than swing and sliders, but also offer a design element.

Most schemes show the south facade entry doors vestibules located to the left of the Lobby to make the Lobby as large as possible. As the main traffic pattern has overflow of people waiting in Lobby from Bursar's Office. See Section 6 for typical Construction Cost Estimate and Appendix for Solutions/Schemes.

3. See Alternate Cost Estimate to refurbish the finishes of the N/S Lobby i.e. new flooring, ceiling and wall surfaces.

3. ENGINEERING NARRATIVE - CULKIN HALL

A. Existing Building Description

Culkin Hall, built in 1966, is an eight-story (including Mechanical Penthouse level) cast-in-place reinforced concrete structure. The building measures 147.50 ft. x 63.83 ft. in plan and is 95.33 ft. high above ground. There is a full basement (Lower level) under the building.

The building structure consists of concrete columns and beams supporting floor and roof slabs. Exception to typical floor framing is 1st floor (Commons level) framing, which utilizes a combination of one-way concrete joists and flat slabs. The building is supported on spread footings.

All perimeter concrete columns and beams (spandrels) are exposed, i.e. without architectural cladding, to the exterior. Columns and spandrels project about 3 ft. and 2 ft., respectively, beyond the exterior walls. Typical spandrels are 1'-4" deep, except at the 2nd floor and Penthouse roof levels, where spandrels are 4'-4" and 5'-0" deep, respectively. (See drawings and Photo C-1 in the Appendix.)

Although not called for in the original construction drawings, exposed exterior concrete surfaces were coated with a cementitious coating (parging) of varying thickness, from as thin as 1/16" +/- up to 1/2" + thick. Presumably, concrete surfaces were parged to cover unacceptable surface defects (e.g. excessive honeycombing), provide additional cover to reinforcing bars lacking adequate cover, and to provide smooth transitions between successive column pours if the latter were offset by an unaceeptable amount.

Also of interest to note are the steel plates embedded in the exterior columns and spandrels on the east side of the building. Existing construction Drawing No. S-3 called for 16" x 16" x 1" thick steel plates to be embedded in the exterior surfaces of spandrels and columns at each floor level, with 1-1/2" conerete cover in front of the plates. These plates, according to the drawings, were to serve as beam connections for a future building addition.

B. Field Investigation Findings and Observations

A limited, one-day field investigation of thc Culkin Hall building facades was conducted by John P. Stopen Engineering Partnership on June 11, 1999. The investigation eonsisted of close-up visual observations and soundings (using a steel hammer) of the exterior concrete surfaces in bay 5-6 of the building south facade, bay A-B of the building east facade, and bay C-D of the building west facade. Access to these areas was provided by an aerial manlift, operated by the SUNY Oswego Facilities Department personnel. A limited visual inspection of the remaining facade areas was made from the ground, with the aid of binoculars.

The purpose of the field investigation was to determine the type and extent of distress conditions in the exterior exposed concrete frame; to make repair recommendations and preliminary estimates of their cost; and to make recommendations pertaining to public safety around the building. (Note: At the time of our field investigation, the Owner was already well underway in the construction of overhead protections at the building entrances and fences at the

building perimeter. This safety measure was prompted by reports of pieces of concrete and cementitious surface coating falling to the ground.)

Field findings are recorded on the drawings in the Appendix. Representative photographs of the observed distress conditions are also in the Appendix.

The following distress conditions were observed:

1. Delaminations and spall-offs of the cementitious coating (parging) on the exterior concrete surfaces. The coating thickness varied from 1/16" +/- to 1/2" +/- at locations of close-up investigation. Some coating surfaces exhibited numerous crazing cracks. (See Photos C-3, C-4 and C-5.)

   Delaminations and spalls were caused by the bond failure between the coating and concrete substrate. Moisture penetration through the cracks in the coating contributed to debonding.

   Estimated total area of delaminations and spalls of the cementitious surface coating: 1000 sq. ft.

2. Delaminations and spalling of concrete at reinforcing bars in columns and spandrels, due to rebar corrosion and associated expansion of the rebar cross-section. Spalling at welded wire mesh in two of the 2nd floor spandrels was also observed. (See Photos C-6, C-7, C-8, C-9 and C-11.)

   This distress was caused by moisture penetration to the reinforcing bars, due to one or a combination of the following factors: cracks, poor quality concrete surface (e.g. deep honeycombing), and insufficient concrete cover for the reinforcing (as little as 1/4" $\pm$ cover was observed at several locations.)

   Estimated total area of concrete delaminations and spalls: 600 sq. ft.

3. Cracks in concrete spandrels (Photo C-12) and concrete walls below windows (Photo C-11). Observed cracks were generally less than 1/16" wide.

   Cracks in the spandrels, which appeared to be not too numerous, are believed to be a combination of tension and concrete shrinkage cracks. Cracks in the walls below windows are concrete shrinkage cracks.

   Estimated total length of cracks: 1,300 lineal ft.

4. Delamination and spalling of concrete cover at the steel plates embedded in the exterior face of the 6th floor spandrel between column lines A-B in the east building facade (Photos C-2 and C-10). Also, crazing cracks in the exterior surfaces of the 4th and 5th floor spandrels between column lines A-B in the east facade, may indicate possible delamination of concrete cover at embedded steel plates in these locations.

   Exposed steel plate surfaces, originally painted, had surface rust.

Delamination and spalling of the concrete cover was initiated by moisture penetration through the cracks in the concrete cover. Surface rust and debonding of the concrete cover followed. Lack of temperature and shrinkage reinforcement (e.g. steel wire mesh) in the concrete cover contributed to the crack development.

Estimated quantities of concrete cover delaminations and spalls are included in the estimated quantities of concrete delaminations and spalls in Item 2 above.

C. Repair Recommendations

1. Concrete Repairs:

Delaminated concrete and cementitious surface coating pose a safety hazard since they could spall off and fall to the ground. Concrete repairs should be made as soon as possible. The following repair work and sequence is recommended:

a. Power wash exterior concrete surfaces, using minimum 4000 psi water pressure. Power washing will remove most of delaminated cementitious surface coating and concrete. Any remaining areas suspected of delaminations shall be sounded with a hammer and any delaminations removed.

b. Cut out (by saw cutting minimum 1/2" deep) spalled areas and remove all loose and unsound concrete, using chipping hammers.

c. Remove rust from exposed reinforcing bars and embedded steel plates. Any bar with 10% or greater loss of cross-section due to corrosion shall be supplemented with new reinforcement.

d. Clean repair areas by water blast.

e. Coat exposed reinforcing bars and embedded steel plates with anti-corrosive coating.

f. Apply bonding adhesive to concrete repair areas and patch with a polymer-modified cementitious patching mortar. Any patch areas where original concrete cover for rebars was less than 1" shall be built out to provide minimum 1" cover to reinforcement.

g. Concrete surfaces containing excessive honeycombing shall be repaired by removing honeycomb concrete and patching with polymer-modified cementitious mortar.

h. Epoxy-inject structural (tension) cracks in spandrels.

i. Epoxy-inject or seal with elastomeric sealant (after routing and cleaning) sealant shrinkage cracks in walls below windows.

Concrete repair work should precede window replacement work.

2. Special Surface Coating:

To prevent moisture intrusion into the concrete and provide greater protection to concrete reinforcement against corrosion, application of an elastomeric (flexible) acrylic coating to all exposed exterior concrete surfaces is recommended. This type of coating "breathes", i.e. allows vapors to escape, bridges over minor cracks, comes in different colors, and when applied in two coats hides or minimizes surface imperfections and defects.

Preliminary cost estimates of concrete repairs and surface coating are given in the "Construction Estimate" sheets in this report.

Special Note: Overhead protections ("bridges") at the building entrances and perimeter fencing should be maintained until concrete repairs are made or until all exterior concrete surfaces are closely examined and any delaminations removed.

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4. ENGINEERING NARRATIVE - MAHAR HALL

A. Existing Building Description

Mahar Hall, built in 1964, is a four-story cast-in-place reinforced concrete structure. The building measures 231.50 ft. x 87.50 ft. in plan and is 55.25 ft. high above ground. There is a basement (Lower level) under the southern two-thirds of the building.

The building structure consists of concrete columns and beams supporting floor and roof concrete joists. Exception to typical floor framing is 1st floor (Commons level), where northern one-third of the floor is slab on grade. The building is supported on spread footings.

All perimeter concrete columns and beams (spandrels) are exposed, i.e. without architectural cladding, to the exterior. Columns and spandrels project about 3 ft. and 2 ft., respectively, beyond the exterior walls. Typical spandrels are 1'-8" deep, except at the roof level, where spandrels are 5'-3" deep. Also, at the 1st floor level, the spandrels are actually an integral part (top) of concrete basement walls. (See drawings and Photo M-1 in the Appendix.)

Although not called for in the original construction drawings, exposed exterior concrete surfaces were coated with a cementitious coating (parging). Presumably, concrete surfaces were parged to cover unacceptable surface defects (e.g. excessive honeycombing), provide additional cover to reinforcing bars lacking adequate cover, and to provide smooth transitions between successive column pours if the latter were offset by an unacceptable amount.

Also of interest to note are the steel plates embedded in the exterior columns and spandrels on the north side of the building. Although existing construction drawings did not call for these plates, our field investigation discovered these plates embedded in the exterior surfaces of spandrels and columns at each floor level, with 1-1/2" $\pm$ concrete cover in front of the plates. Presumably, these plates were intended to serve as beam connections for a future building addition.

B. Field Investigation Findings and Observations

A limited, one-day field investigation of the Mahar Hall building facades was conducted by John P. Stopen Engineering Partnership on June 2, 1999. The investigation consisted of close-up visual observations and soundings (using a steel hammer) of the exterior concrete surfaces of the building north facade, and bay G-H of the building west facade. Access to these areas was provided by an aerial manlift, operated by the SUNY Oswego Facilities Department personnel. A very limited general visual inspection of the remaining building facades was made from the ground in the time remaining.

The purpose of the field investigation was to determine the type and extent of distress conditions in the exterior exposed concrete frame; to make repair recommendations and preliminary estimates of their cost; and to make recommendations pertaining to public safety around the building.

Field findings are recorded on the drawings in the Appendix. Representative photographs of the observed distress conditions are also in the Appendix.

The following distress conditions were observed:

1. Some cementitious parging surfaces exhibited crazing cracks.

   Moisture penetration through these cracks may cause debonding and spalling of the coating.

   Estimated total area of potential delaminations and spalls of the cementitious surface coating: 900 sq. ft.

2. Delaminations and spalling of concrete at reinforcing bars in columns and spandrels, due to rebar corrosion and associated expansion of the rebar cross-section. (See Photos M-2 through M-9.)

   This distress was caused by moisture penetration to the reinforcing bars, due to one or a combination of the following factors: cracks, poor quality concrete surface (e.g. deep honeycombing), and insufficient concrete cover for the reinforcing. At the exposed bars, concrete cover varied from 1/4" $\pm$ to 1/2" $\pm$, much less than the required 1-1/2" minimum cover.

   Estimated total area of concrete delaminations and spalls: 1,100 sq. ft.

3. Cracks in concrete spandrels (Photo M-10) and concrete walls below windows (Photos M-2 through M-9). Vertieal cracks in the roof spandrels, particularly in the areas over the columns, appeared to be more numerous at Mahar Hall than at Culkin Hall. Observed cracks were generally less than 1/16" wide.

   Cracks in the spandrels are believed to be a combination of tension and concrete shrinkage cracks. Cracks in the walls below windows are concrete shrinkage cracks.

   Estimated total length of cracks: 2,200 lineal ft.

4. Delamination and spalling of concrete cover (1-1/2" $\pm$ thick) at the steel plates embedded in the exterior face of spandrels and columns in the north building facade (Photos M-11 through M-14). Crazing cracks in concrete cover in front of some of the plates are indicative of potential future delamination of the concrete cover.

   Exposed steel plate surfaces, originally painted, had surface rust.

   Delamination and spalling of the concrete cover was initiated by moisture penetration through the craeks in the concrete cover. Surface rust and debonding of the concrete cover followed. Lack of temperature and shrinkage reinforcement (e.g. steel wire mesh) in the concrete cover contributed to the erack development.

Estimated quantities of concrete cover delaminations and spalls are included in the estimated quantities of concrete delaminations and spalls in Item 2 above.

C. REPAIR RECOMMENDATIONS

Recommendations for concrete repairs and special surface coating are identical to the recommendations for Culkin Hall, described in the preceding "Engineering Narrative - Culkin Hall".

Preliminary cost estimates of concrete repairs and surface coating are given in the "Construction Estimate" sheets in this report.

Special Note: Since concrete delaminations and spalls pose a safety hazard, it is recommended that overhead protection ("bridges") be provided at all building entrances and that the building perimeter be made "off limits" to the public by at least taping off a minimum 15-ft. wide area around the building with a cautionary tape. These safety precautions should remain in place until concrete repairs are made or until all exterior concrete surfaces are closely examined and any delaminations removed.

5. ENGINEERING NARRATIVE - WILBER HALL

A. Existing Building Description

Wilber Hall, built in 1966, is a steel-framed structure, consisting of a 3-story and a 1-story building wing. The 3-story building wing measures 142 ft. x 89 ft. in plan and is 42 ft. high above the ground. The one-story building wing measures 162 ft. x 82 ft. in plan and its three laboratory "pods" rise about 20 ft. above ground. The "pods" are connected by about 15-ft. high building sections. There is a full basement under the 3-story building wing and a partial basement under the 1-story building wing. There is also a mechanical penthouse atop the 3-story wing. (See drawings of building elevations in the Appendix.)

Exterior walls are multi-wythe masonry walls consisting, typically, of 4" brick veneer, 6" concrete block back-up, 1" or 2" air cavity, and 4" or 6" concrete block with or without plaster finish, depending on location. As there are no header brick courses, the brick veneer is assumed to be connected to the back-up concrete block with metal brick ties.

Existing construction drawings indicate 4" brick veneer to be supported on foundation (basement) walls for the full height of exterior walls. The two concrete block back-up wythes are supported on floor framing at each floor level.

Brick veneer panels above the windows are supported on steel angle lintels, hung from the floor and roof perimeter steel beams (spandrels).

Exterior walls of the 3-story building wing have 2'-9" and 3'-5-1/2" wide brick pilasters, which project 8" beyond the main exterior faces of walls. Pilaster spacing varies, from 10'-9" in the east building facade up to 23'-4" in the south building facade. Pilasters are built of 2 brick wythes: 4" veneer brick and 4" back-up brick of different color. Pilasters are supported on foundation (basement) walls for their full height. (See building elevations and Photos W-1 and W-2 in the Appendix.)

Brick veneer between pilasters is masonry bonded ("woven") to the pilasters.

There are no vertical expansion ("control") joints in the brick veneer of any of the building facades. Nor are there horizontal "soft" (expansion) joints between the top of brick veneer and roof overhang slabs. The joints between brick veneer and roof overhangs are hard-mortared. (Vertical and horizontal expansion joints, located at discreet locations in exterior brick veneer, are used to allow movement of brick due to thermal and moisture volume changes in brick.)

B. Field Investigation Findings and Observations

A limited one-day field investigation of the Wilber Hall building facades was conducted by John P. Stopen Engineering Partnership on June 8, 1999.

The investigation consisted of close-up visual observations for the following brick pilasters of the 3-story building wing: two cracked pilasters, between column lines 1-5, in the south building facade; one cracked pilaster in the north building facade; and cracked corner pilasters at columns 1 and 7 in east and west building facades, respectively. At the two brick pilasters in

the south facade, a total of three small test holes were made (by removing veneer brick), to verify interior construction of these pilasters. Access to these areas was provided by an aerial manlift, operated by the SUNY Oswego Facilities Department personnel.

A limited visual inspection of the remaining facade areas was made from the ground, with aid of binoculars. Walls of the mechanical Penthouse and walls between low and high roofs of the one-story building wing were not inspected. Also, the brick veneer of the west exterior walls of the 3-story and 1-story building wings could not be well inspected because of extensive ivy cover on these walls.

The purpose of the field investigation was to determine the type and extent of distress conditions in the exterior brick veneer; to make repair recommendations and preliminary estimate of their cost; and to make recommendations pertaining to public safety around the building. (Note: At the time of our field investigation, the Owner has already barricaded sidewalk and grass areas below the two eracked pilasters in the building south facade.)

Field findings are recorded on the drawings in the Appendix. Representative photographs of the observed distress conditions are also in the Appendix.

The following distress conditions in the exterior brick veneer were observed:

1. Vertical cracks in two brick pilasters in the south building facade (see Drawing No. 1W and Photos W-1 and W-2) and one pilaster in the north building facade (Drawing No. 2W) of the 3-story building wing. These eracks are generally in the middle of the long face of the pilasters and extend from bottom to nearly top of pilasters. At the eracks, the brick is bulged out slightly, except in the pilaster near column 5 in the south facade, where the bulge is more pronounced (up to 3/8" $\pm$) (Photo W-6).

   Test holes in the two pilasters in the south facade confirmed presence of a 4" $\pm$ diameter roof drain conductor in each of these pilasters. Conductors were wrapped with fiberglass insulation. The 8" thick brick masonry of the pilasters was reduced to single 4" brick wythe in front of the conductors (Photos W-3 and W-4). According to the existing construction drawings, a roof drain conductor exists also in the cracked pilaster in the north building facade (Drawing No. 2W).

   The cracks have been previously sealed with an elastomeric sealant. No loose brick masonry was observed at the cracks.

   Vertical cracks in the pilasters were caused by a combination of two factors: "weakened" pilaster cross-seetion of a single brick wythe in front of roof drain conductors and lack of vertical expansion joints in brick veneer. In absence of expansion joints, internal stresses in brick veneer duc to restrained moisture and thermal expansion are relieved through craeking, which usually occurs at building corners, wall returns and "weak" locations in brick veneer, as was the case with the subject pilasters.

2. Vertical cracks were observed in pilasters at northwest, southwest and southeast building corners of the 3-story building wing. The cracks were most extensive in the southwest corner pilaster (See Drawings No's. 3W and 4W).

   The cracks are due to lack of vertical expansion joints in brick veneer near building corners and "weakened" (possibly single brick wythe) pilaster cross-section in front of corner steel columns.

3. Some pilasters in the south and north building facades exhibited horizontal and/or "step-ladder" cracks in brick mortar joints near the top of pilasters (see Drawings No. 1W and 2W and Photo W-5).

   These cracks are believed to have been caused by combination of two factors: differential horizontal movement between pilasters and roof overhang slabs (a movement which could not be accommodated by the hard mortar joint between brick veneer and roof overhang); and the restraint of vertical expansion of brick veneer due to moisture absorption and thermal expansion. Because of the lack of a horizontal "soft" joint at the top of the pilasters, the brick veneer bowed slightly outward to accommodate brick expansion, resulting in a horizontal tension crack.

4. At 1st floor window lintel just east of column line 5 in the south facade (Drawing No. 1W), a spalled brick was observed in the brick jamb under the window. Lintel angle at this location extended into the adjacent brick pilaster (Photo W-8).

   Cracked and spalled brick was also observed in the jamb face of brick pilaster at 3rd floor window lintel east of column 5 in the south building facade (Photo W-7).

   Cracks and spalls in window jamb brick are due to hung lintel angle extensions into adjacent brick pilasters. This was a construction error, as most of the lintel angles properly stop short of the brick jambs on the sides of windows. Horizontal and vertical movements of the brick veneer caused stress concentrations at points of contact between brick and steel lintel angles. Stresses were relieved through cracking and spalling of brick.

5. Some lifting (up to 3/8" $\pm$) of the brick veneer sections above the 3rd floor windows was observed at the locations of the two cracked pilasters in the south building facade (See Drawing No. 1W and Photo W-7). Some (1/4" $\pm$) outward movement of the brick is indicated at brick pilaster east of column 5 (Photo W-7).

   Brick veneer sections above windows were lifted off the hung lintel angles because they are masonry-bonded with the adjacent brick pilasters and "rode" up with the vertically expanding brick veneer of the pilasters.

6. A few short vertical cracks and one step-ladder crack were observed in brick veneer in east facade of the one-story building wing. (See Drawings 5W and 6W and Photos W-10 through W-14.)

   These cracks are due to lack of vertical expansion joints in brick veneer at wall returns and corners.

7. No weepholes were observed at hung lintel angles above windows.

8. Hung lintel angles, with paint finish, have moderate amount of surface rust (Photos W-7 and W-8).

9. Most caulked joints between window frames and brick masonry have severely deteriorated or failed sealants.

C. Repair Recommendations:

Following repairs are recommended for the exterior brick veneer at Wilbur Hall:

1. Repair five (5) cracked brick pilasters by removing cracked and bulged bricks and rebuilding with matching brick. A vertical expansion joint, sealed with backer rod and elastomeric sealant, shall be built in each rebuilt area of the pilasters.

2. Saw-cut new vertical expansion joints at building corners and at intermediate locations. Seal joints with joint fillers, backer rods and elastomeric sealant. Re-anchor brick veneer on either side of joints with masonry repair anchors.

3. Saw-cut vertical expansion joints between brick veneer panels above windows and adjacent brick pilasters. Seal joints as in Item 2 above. Re-anchor brick veneer where outward movement of the veneer has occurred.

4. Install new horizontal "soft" (expansion) joints between top of brick veneer of pilasters and walls and roof slab overhangs of the 3-story building wing. Since saw-cutting of the joint at this location is not possible because of the overhang, the joint can be built by removing top 2 or 3 brick courses and rebuilding and incorporating horizontal "soft" joint between brick and overhang. Expansion joint filler, backer rod and elastomeric sealant shall fill the joints. Re-anchor top 2 ft. of brick veneer.

5. Replace broken bricks and repoint cracked mortar joints at various locations in exterior walls.

6. Hung steel lintels shall be cleaned of rust and painted with rust-prohibitive paint.

7. Perimeter joints at window frames should be resealed.

Preliminary estimates of repair quantities and their costs are given the "Construction Estimate" sheets in this report.

Special Note: Although no loose brick masonry was observed at the time of our field investigation, we recommend as a prudent precaution to keep existing barricades on the south side of Wilbur Hall in the area of the two cracked pilasters until these pilasters are repaired.

6. Construction Cost Estimate

1. Description:

A. Contracts:
-General Construction Single Prime Contract
-Electrical subcontractor

B. Proposed Preliminary Construction Time Frame Schedule:

- **Culkin Hall**
  -Exterior facade restorations - 5 months to complete
  -Ground Floor level window framing and glazing - 3 months to complete
  -Ground Floor level entry vestibule restoration - 3 months to complete

- **Mahar Hall**
  -Exterior facade restorations - 4 months to complete.

- **Wilber Hall**
  -Brick repair and restoration - 3 months.

Construction time frames indicated above are approximate per a six man construction crew working at 1 building at a time. Construction time duration can be escalated with manpower and ability to work on more than 1 building at a time.

C. Contingency:

-Provides an allowance for uncertainties inherent in cost estimating and a variance for accuracy dependent upon information available (phase of project when estimate is prepared). Schematic Design contingency is shown. No contingency has been included for construction changes or non-construction costs.

D. Escalation: June 1999 prices have been used. No escalations included.

E. Construction cost estimate does not include non-construction costs such as Owner's administrative expense, testing during construction, professional fees and expenses, moving and relocation costs, insurance, etc.

2. Construction Cost Estimate Alternative:

A. See various Lobby Entry Designs sketches 7a - 7k.
B. See estimate for Lobby Finishes Renovation

3. Construction Cost Estimate: (See following page)

CONSTRUCTION ESTIMATE

CULKIN HALL

CONSTRUCTION ESTIMATE

Project Name: EXTERIOR BUILDING STUDY	Project No. 98-053	Page: 1	Of 12
Prepared By:	Assumed Bid Date: N/A	Date: 6/30/99	

DIV	DESCRIPTION	AMOUNT	TOTAL
	CULKIN HALL		
1	GENERAL REQUIREMENTS (5%)		21,650
3	CONCRETE RESTORATION		217,500.-
7	MOISTURE PROTECTION		5,000.-
8	DOORS, WINDOWS & GLASS *		208,140.-
9	FINISHES		2,500.-
*	ESTIMATE INDICATES VESTIBULE		
	SCHEMATIC DESIGN 7f. @ $77,000.-		
	SCHEMES 7a - 7k VARY FROM		
	16,152 - 91,292.-		
	GENERAL CONSTRUCTION MARK-UP		45,479.-
	OVERHEAD & PROFIT (10%)		
	SUBTOTAL GENERAL CONSTRUCTION		500,269
16	ELECTRICAL		4000
	SCHEMATIC DESIGN CONTINGENCY - 15%		76,640
	GRAND TOTAL CONSTRUCTION COST		$579,900.-
	ALTERNATE #1 - ADD - SEE PAGES		$33,030.-

MAHAR HALL

CONSTRUCTION ESTIMATE

Project Name: EXTERIOR BUILDING STUDY	Project No. 98-053	Page: 1a	Of 12
Prepared By:	Assumed Bid Date: N/A	Date: 6/30/99	

DIV	DESCRIPTION	AMOUNT	TOTAL
	MAHAR HALL		
1	GENERAL REQUIREMENTS (5%)		13,975.00
3	CONCRETE RESTORATION		279,500.00
	GENERAL CONSTRUCTION MARK-UP		
	OVERHEAD & PROFIT 10%		29,350
	SUBTOTAL GENERAL CONSTRUCTION		$322,825.00
	SCHEMATIC DESIGN CONTINGENCY 15%		$48,423.00
	GRAND TOTAL CONSTRUCTION COST		$371,248.00

WILBER HALL

CONSTRUCTION ESTIMATE

Project Name: EXTERIOR BUILDING STUDY	Project No. 98-053	Page: 16	Of 12
Prepared By:	Assumed Bid Date: N/A	Date: 6/30/99	

DIV	DESCRIPTION	AMOUNT	TOTAL
	WILBER HALL		
1	GENERAL REQUIREMENTS 5%		4,145.-
4	MASONRY RESTORATION		88,900.-
	GENERAL CONSTRUCTION MARK-UP		
	OVERHEAD & PROFIT 10%		8,700
	SUBTOTAL GENERAL CONSTRUCTION		95,745.-
	SCHEMATIC DESIGN CONTINGENCY 15%		14,360.-
	GRAND TOTAL CONSTRUCTION COST		$110,105.-

CONSTRUCTION ESTIMATE (PRELIM)

Project Name: SUNY OSWEGO - CULKIN HALL Project No. JCM-98-053 Page: 2 Of 12

Prepared By: JPSEP Assumed Bid Date: SUMMER 1998 Date: 7/2/99

DIV	TASK DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	TOTAL
3	CONCRETE REPAIRS					
	a. PATCHING DELAMS & SPALLS	600	S.F.	$70.00	$42,000	
	b. EPOXY INJECTION / CRACKS	1,300	L.F.	45.00	58,500	
	c. CEMENT. COATING / DEFECTIVE SURFACES	1,000	S.F.	15.00	15,000	
	Σ				→	$115,500
9	COATING / CONCRETE FACADE					
	a. LABOR	1,600	HR	$50.00	$80,000	
	b. MAT'LS (15% OF LABOR)	1	L.S.	—	12,000	
	c. EQUIPMENT RENTALS	4	MTHS	2,500.00	10,000	
	Σ				→	$102,000

Sheet Total: $217,500

CONSTRUCTION ESTIMATE (PRELIM)

Project Name: SUNY OSWEGO - MAHAR HALL Project No. JCM98-053 Page: 3 Of 12

Prepared By: JPSEP Assumed Bid Date: SUMMER 1998 Date: 7/5/99

DIV	TASK DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	TOTAL
3	CONCRETE REPAIRS					
	a. PATCHING DELAMS & SPALLS	1,100	S.F.	$70.00	$77,000	
	b. EPOXY INJECTION/CRACKS	2,200	L.F.	45.00	99,000	
	c. CEMENT. COAT'G/DEFECTIVE SURFACES	900	S.F.	15.00	14,000	
	Σ				→	$190,000
9	COATING/CONCR. FACADE					
	a. LABOR	1,400	HR.	$50.00	$70,000	
	b. MAT'LS (15% OF LABOR)	1	L.S.	—	10,500	
	c. EQUIPMENT RENALS	3.5	M'TH	2,500.00	9,000	
	Σ				→	$89,500

Sheet Total: $279,500

CONSTRUCTION ESTIMATE (PRELIM)

Project Name: SUNY OSWEGO - WILBER HALL Project No. JCM 98-053 Page: 4 Of 12

Prepared By: JPSEP Assumed Bid Date: SUMMER 1999 Date: 7/5/99

DIV	TASK DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	TOTAL
4	BRICK MASONRY REPAIRS					
	1. REPAIR 5 CRACKED BRICK PILASTERS					
	a. LABOR	350	HR	$50.00	$17,500	
	b. MAT'LS (5% OF LABOR)	1	LS	—	900	
	c. EQUIPMENT RENTALS	1	LS	—	500	
	Σ				→	$18,900
	2. VERT. EXP. JOINTS @ BLDG. CORNERS & INTERMED. LOC's	700	LF	$20.00	$14,000	
	Σ				→	$14,000
	3. VERT. EXP. JTS @ BRICK PANELS ABOVE & BELOW WDWS	650	LF	$30.00	$19,500	
	Σ				→	$19,500
	4. HORIZ. EXP. JOINTS @ TOP/BRK PILASTERS	150	LF	$60.00	$9,000	
	Σ				→	$9,000
	5. REPOINT CRACKED MORTAR JTS, INCL. BRK REPLACMNT	100	LF	$25.00	$2,500	
	Σ				→	$2,500
	6. REPLACE BROKEN, SPALLED BRICK @ VARIOUS LOC's	100	BRK	$25.00	2,500	
	Σ				→	$2,500
	7. BRICK RE-ANCHORS @ CORN'R & PILASTER V.E.J's	700	ANCH	$15.00	$10,500	
	@ WDW V.E.J's	400	ANCH	$15.00	6,000	
	Σ				→	$16,500

Sheet Total: $82,900

CONSTRUCTION ESTIMATE

Project Name: EXTERIOR BUILDING STUDY Project No. 98-053 Page: 5 Of 12

Prepared By: Assumed Bid Date: N/A Date: 6/30/99

DIV	TASK DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	TOTAL
7	THERMAL & MOISTURE	1	LUM			
	PROTECTION @ WINDOW		SUM	5000.-	5000.-	5000.-
	PERIMETER. GROUND					
	FLOOR - WINDOW FRAMING					
	& ENTRY VESTIBULES.					
8	METAL DOORS & WINDOWS					
	DEMOLITION OF EXISTING					
	GLAZING & NEOPRENE	5040	S.F.	5.00	25,200.-	25,200.-
	GASKETS					
	NEW ALUM. SUBFRAME					
	WINDOW SYSTEM, 1" INSUL.	5040	S.F.	#21.00	105,840.-	105,840.
	GLAZING (LOW E' TINTED)					
	INCLUDING ENTRY LOBBY.					

Sheet Total: 136,040.-

CONSTRUCTION ESTIMATE

Project Name: EXTERIOR BUILDING STUDY Project No. 98-053 Page: 6 Of 12

Prepared By: Assumed Bid Date: N/A Date: 6/30/99

DIV	TASK DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	TOTAL
8	METAL DOORS & WINDOWS					
	ENTRY / LOBBY DESIGNS					
a.	SKETCH SK 7a					
	DEMO OF REVOLVING DRS)	4	L.S.	2000.	2000.-	2000.00
	NEW CURTAIN WALL & GLAZING	605	S.F.	37.	22,400.	22,400.-
	NEW SWINGING DOORS	4	EA.	2500.	10,000	10000
	PATCH FLOOR AT REV. DR.	1	L.S.	1,500	2500	2500
					SUBTOTAL	# 36,900.-
b.	SKETCH 7b					
	DEMO OF EX. REV. DR. & SWING DR.	4	L.S	2000.	2000.	2000.
	NEW CURTAIN WALL & GLAZING	605	SF.	37.	22,400	22,400
	NEW SWINGING DOORS	3	EA.	2500	7,500.	7520.
	FLOOR PATCH @ REV. DRS.	1	L.S.	7500.	2,500	2500.
					SUBTOTAL	34,400.-
c.	SKETCH 7c					
	DEMO. OF EX. REV. & SWING DRS.	4	L.S.	2,000.-	2000	2000.-
	PATCH FLOOR AT DOORS & WALLS	1	L.S.	2,500	2500	2500.-
	NEW AUTO SLIDING DOORS	3	EA	10,000	30,000	30,000
	NEW CURTAIN WALL & GLAZING	605	SF.	37.-	22,400.-	22,400
					SUBTOTAL	56,900.-
d.	SKETCH 7d.					
	DEMO. OF EX. REV. & SWING DRS.	4	L.S.	2000	2000	2000.-
	PATCHING AT FLOOR & WALLS ETC	LS.	LS.	2,500	2,500	2500
	NEW SWING DOORS	2PR.	EA	2500	10,000	10,000
	NEW CURTAIN WALL & GLAZING	440	SF.	37.	16,280.	16,280.-
					SUBTOTAL	30,780.-

Sheet Total: —

CONSTRUCTION ESTIMATE

Project Name: EXTERIOR BUILDING STUDY Project No. 98-053 Page: 7 Of 12

Prepared By: Assumed Bid Date: N/A Date: 6/99

DIV	TASK DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	TOTAL
8	METAL DOORS & WINDOWS					
e.	SCHEME 7e					
	DEMO OF EX. REV. & SWING DR.	4	LS.	2000	2000-	2000-
	PATCHING @ FL. & WALLS	1	L.S.	2500	2500	2500
	NEW AUTO SLIDING DOORS	2	EA.	10,000	20,000	20,000-
	NEW CURTAIN WALL & GLAZ.	440	SF.	37.	16,280	16,280-
					SUBTOTAL	40,780-
f.	SCHEME 7f.					
	DEMO. EX. REV. & SWING DRS.	4	LS.	2000	2000	2000-
	PATCHING @ FL. & WALLS	1	LS.	2500	2500	2500
	NEW 3'-0" SWING DR.	2	EA.	2500	5000	5000
	NEW REV. DOOR.	2	EA	22,000	44,000	44,000
	NEW CURTAIN WALL & GLAZ.	638	SF.	37.	23,600	23,600-
					SUBTOTAL	77,100-
g.	SCHEME 7g.					
	DEMO. OF EX. DOORS	4	LS.	2000	2000-	2000-
	PATCHING @ FL. & WALLS	1	LS.	2500	2500	2500-
	NEW 3'-0" SWING DOOR	1	EA.	2500	2500	2500
	NEW REV. DR.	2	EA	22,000-	44,000	44,000-
	NEW AUTO. SLIDER	1	EA	19000	19,000	19000-
	NEW CURTAIN WALL & GLAZ.	440	SF	37.-	16,280	16,280-
					SUBTOTAL	77,280-

Sheet Total: —

CONSTRUCTION ESTIMATE

Project Name: EXTERIOR BUILDING STUDY Project No. 98-053 Page: 8 Of 12

Prepared By: Assumed Bid Date: N/A Date: 6/29

DIV	TASK DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	TOTAL
8	METAL DOORS & WINDOWS					
h.	SCHEME 7h					
	DEMO. OF EX. DRS.	4	L.S.	2000.-	2000.-	2000.-
	PATCHING AT FL. & WALLS	1	L.S.	2500.-	2500.-	2500.-
	NEW REV. DOOR.	2	EA.	22,000.-	44,000	44,000.-
	NEW ALUM SLIDER DRS.	1	EA.	10,000.-	10,000.	10,000.-
	NEW CURTAIN WALL & GLAZ.	550	S.F.	37.-	20,350	20,350.-
					SUBTOTAL	78,850
i	SCHEME 7j					
	DEMO. OF EX. DRS.	4	L.S.	2000.	2000.	2000
	PATCHING AT FL. & WALLS	1	L.S.	2500.	2500	2500
	NEW REV. DRS.	2	EA.	22,000.	44,000	44,000.-
	NEW ALUM SLIDING DRS.	2	EA.	10,000.	20,000	20,000.-
	NEW CURTAIN WALL & GLAZ.	616	S.F.	37.-	22,792	22,792
					SUBTOTAL	91,292
j	SCHEME 7k					
*	EX. REV. & SLIDING DRS TO REMAIN.					
	NEW CURTAIN WALL & GLAZ.	396	SF.	37	14,652	14,652
	PATCHING & FINISHES	1	LS.	1500	1500	1500.
					SUBTOTAL	16,152.-

Sheet Total: —

CONSTRUCTION ESTIMATE

Project Name: EXTERIOR BUILDING STUDY Project No. 98-053 Page: 9 Of 12

Prepared By: Assumed Bid Date: N/A Date: 6/30/99

DIV	TASK DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	TOTAL
9	FINISHES -					
	PAINTING					
	FLOOR PATCHING AT VEST.	1	L.S.	1000.	1000.	1000.-
	CEILING PATCHING "	1	L.S.	500.	500.-	500.-
	WALL " " "	1	L.S.	500.	500.	500.-
	PAINTING - (WALLS)	1	L.S.	500.	500.-	500.-
16	ELECTRICAL					
	POWER TO AHU DOORS	2	L.S.	2000.-	4000.	4000.-

Sheet Total: 6500

ALTERNATE #1
CONSTRUCTION ESTIMATE

Project Name: EXTERIOR BUILDING STUDY	Project No. 98-053	Page: 10	OF 11
Prepared By:	Assumed Bid Date: N/A	Date: 6/99	

DIV	DESCRIPTION	AMOUNT	TOTAL
	RENOVATE ENTRY VESTIBULE/LOBBY		
	REFER TO PAGE 11 & 12 FOR ESTIMATE	811.-	
1.	GENERAL REQUIREMENTS 5%	.-	
2	SELECTIVE DEMOLITION	2600.-	
9	FINISHES		
	*OPTION 4 IS SHOWN	13,620.-	
	OPTION 1 - 4 VARY FROM 8,232 TO 16,220.		
	GENERAL CONSTRUCTION MARK-UP O&P 10%	1700.-	
	SUBTOTAL GENERAL CONSTRUCTION		18,730.-
15a.	MECHANICAL RENOVATIONS	4,000.-	
16	ELECTRICAL	6,000.-	
	SCHEMATIC DESIGN CONTINGENCY 15%		4,300.-
	TOTAL ALTERNATE #1 - OPTION 4		#33,030.-

ALTERNATE #1
CONSTRUCTION ESTIMATE

Project Name: EXTERIOR BUILDING STUDY Project No. 98-053 Page: 11 Of 12

Prepared By: Assumed Bid Date: N/A Date: 6/99

DIV	TASK DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	TOTAL
9	FINISHES					
	ALTERNATE #1					
	ENTRY LOBBY RENOVATION					
2	DEMO. EX. QT. FLOOR & BASE	800	SF.	2.00 SF.	1600.-	1600.-
2	DEMO. EX. CEILING TILES	800	SF.	1.25 SF.	1000.-	1000.-
	NEW QT. FLOORING	800	SF.	9.65 SF.	7720.-	7720.-
	& QT. BASE	166	L.F.	9.35 L.F.	1550.-	1550.
	NEW VCT FLOOR	800	SF.	2.50 SF.	2000.-	2000.-
	& VINYL BASE	166	L.F.	1.61 L.F.	270.-	270.-
	NEW 2'x2' ACT W/	800	SF.	3.50 SF.	2800.-	2800.
	SUSPENSION SYSTEM					
	PAINT (WALLS)	1125	SF.	.50	562.-	562.
	VINYL WALL COVERING	1125	SF.	1.38 SF.	1550.-	1550.-
1	SUBTOTAL - OPTION 1					15,732.-
	Q.T. FL. & PAINT WALLS, ACT					
2	SUBTOTAL OPTION 2					8,232.-
	VCT FL. & PAINT WALLS & ACT					
3	SUBTOTAL OPTION 3					9,220.
	VCT FL. & VWC WALLS &					
	ACT CEILING					
4	SUBTOTAL OPTION 4					
	Q.T. FL. & VWC WALLS					16,220.-

Sheet Total: —

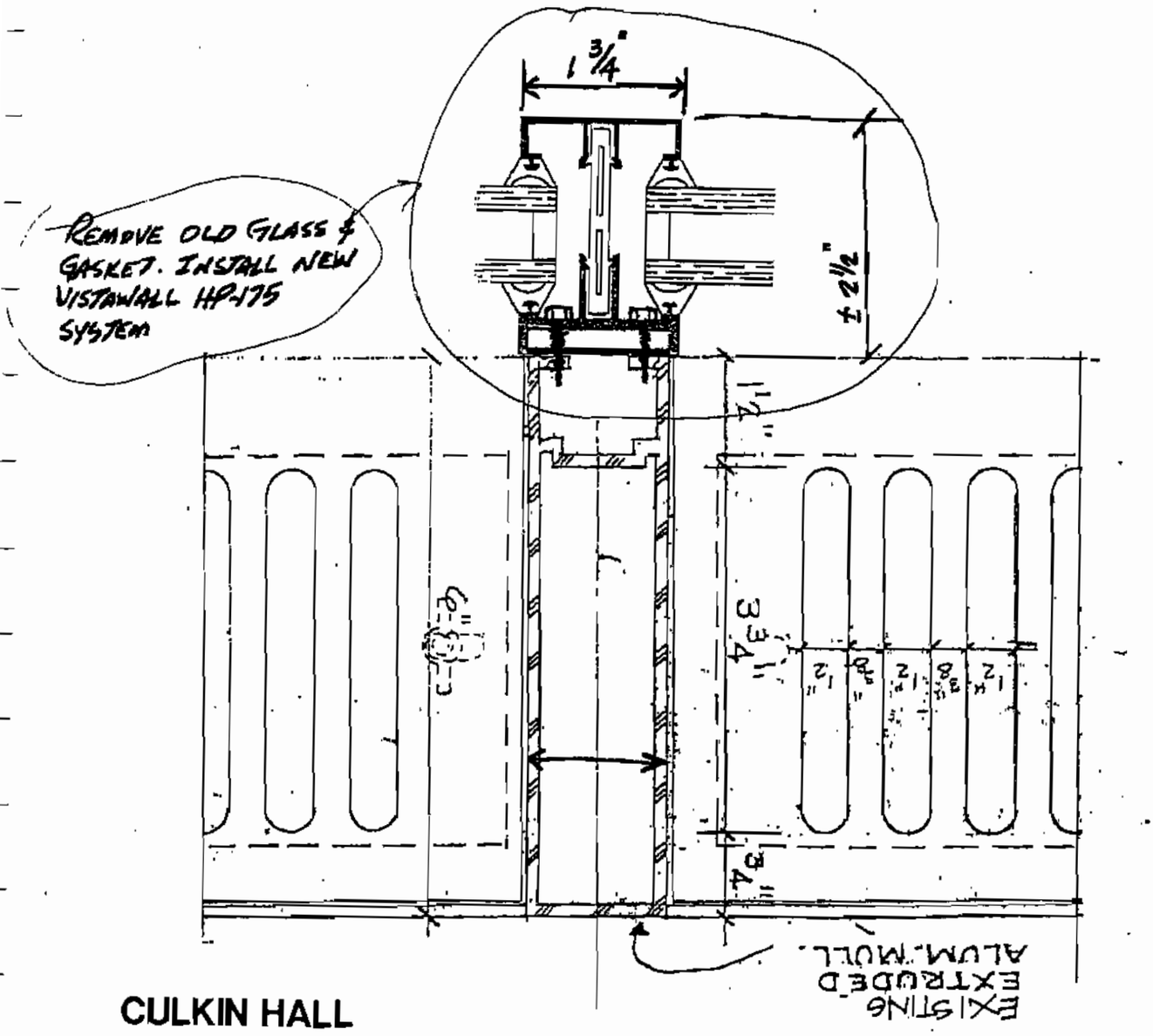
CONSTRUCTION ESTIMATE
ALTERNATE # 1

Project Name: EXTERIOR BUILDING STUDY Project No. 98-053 Page: 12 Of 12

Prepared By: Assumed Bid Date: Date:

DIV	TASK DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	TOTAL
15	MECHANICAL /HVAC					
	* HVAC & CONTROL'S	1	L.S.	4000	4000.-	4000.-
16	ELECTRICAL -					
	NEW LIGHTING	1	L.S.	6,000.	6,000.	6000.-

Sheet Total: 10,000



CULKIN HALL

Proposed - Ground floor level window system detail

SUNY Oswego - Culkin Hall
Photographs No. C-1 through C-12

TAKEN BY JOHN P. STOPEN ENGINEERING PARTNERSHIP
ON JUNE 11, 1999

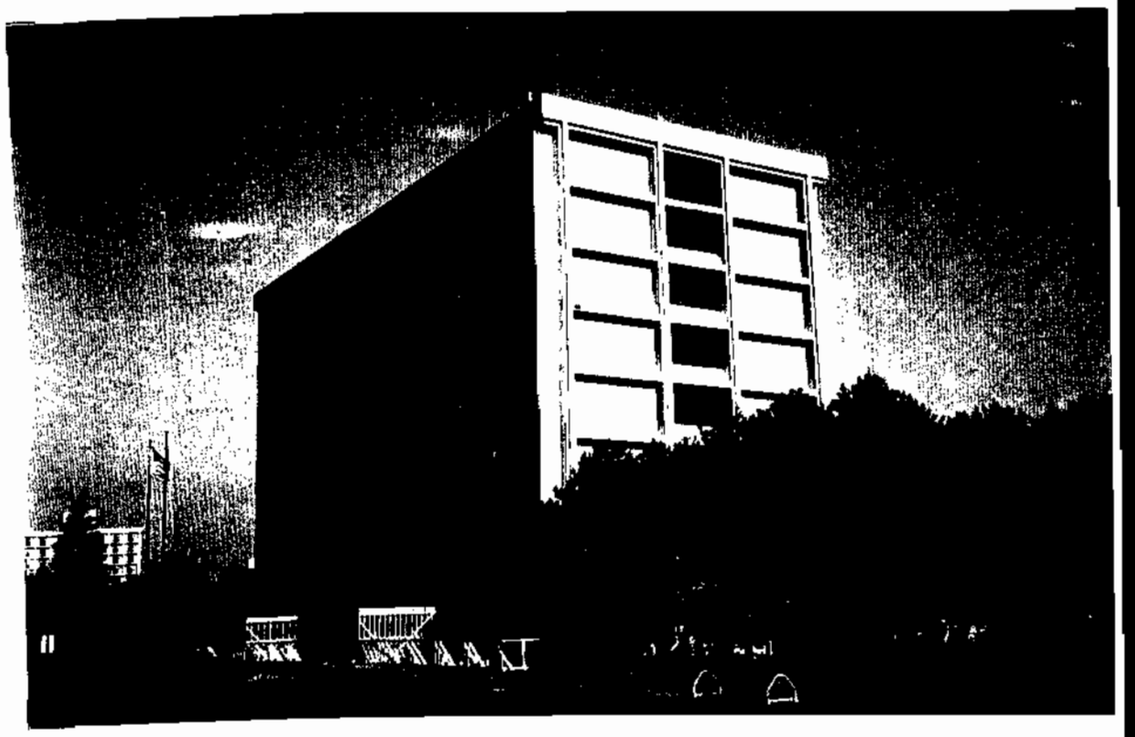


PHOTO C-1: SOUTH (LEFT) AND EAST (RIGHT) BUILDING FACADES.

PHOTO C-2: SOUTHEAST BLDG. CORNER. NOTE SPALLED-OFF CEMENTITIOUS COATING AT 8th FL. LEVEL; AND SPALLED OFF CONC. COVER AT EMBEDDED STL. PLATE, AT 6th FL. LEVEL

PHOTO C-12: TENSION CRACK IN 2nd FL. SPANDREL BETWEEN COLUMN LINES 2-3, BUILDING NORTH FACADE.

PHOTO C-11: SPALLED-OFF CEMENTITIOUS COATING AND CONCRETE AT WIRE MESH AND REINF. BARS IN 2nd. FL. SPANDREL, BETWEEN COLUMN LINES 5-6, BUILDING SOUTH FACADE. NOTE ALSO SHRINKAGE CRACK IN CONCRETE WALL UNDER THE WINDOW.

SUNY Oswego - Mahar Hall
Photographs No. M-1 through M-14

TAKEN BY JOHN P. STOPEN ENGINEERING PARTNERSHIP
ON JUNE 2, 1999

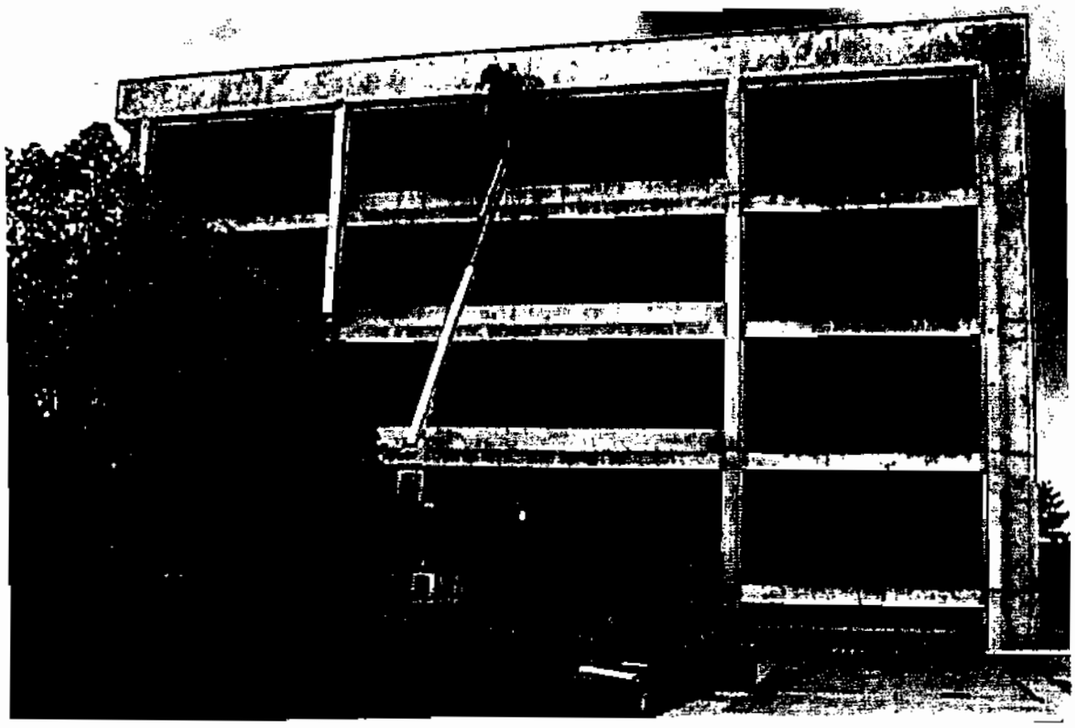


PHOTO M-1: BUILDING NORTH FACADE.

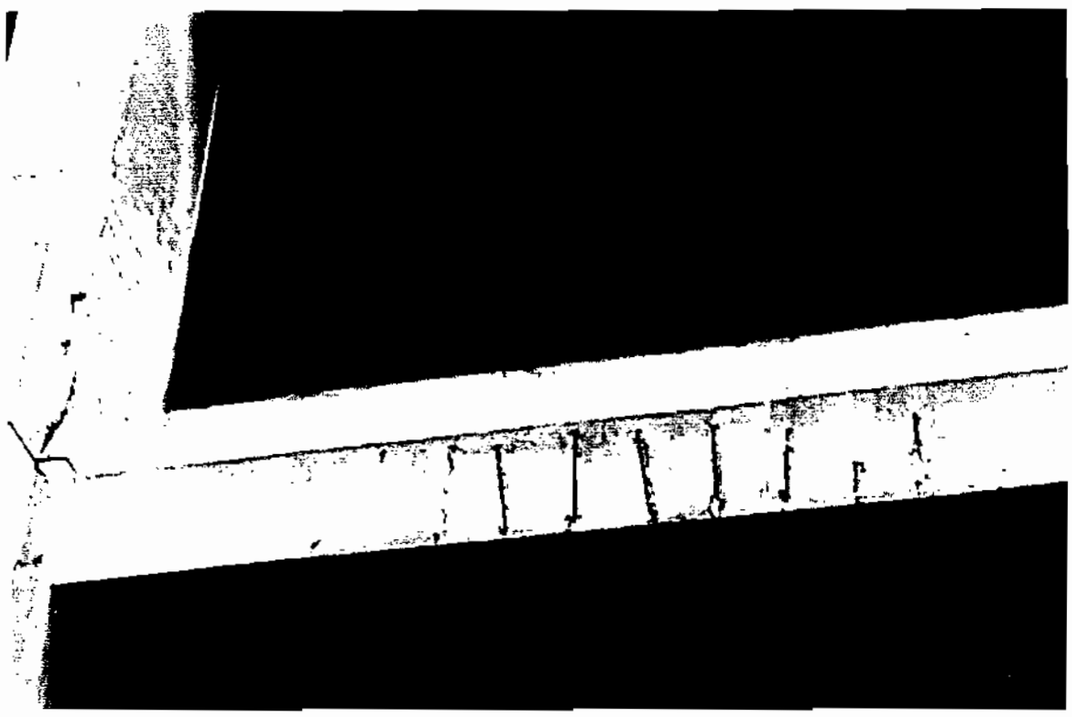


PHOTO M-2: CONCRETE SPALLS AT SPANDREL TIES, IN BUILDING SOUTH FACADE, 3rd FL. LEVEL, BETWEEN COLUMN LINES 2-5.

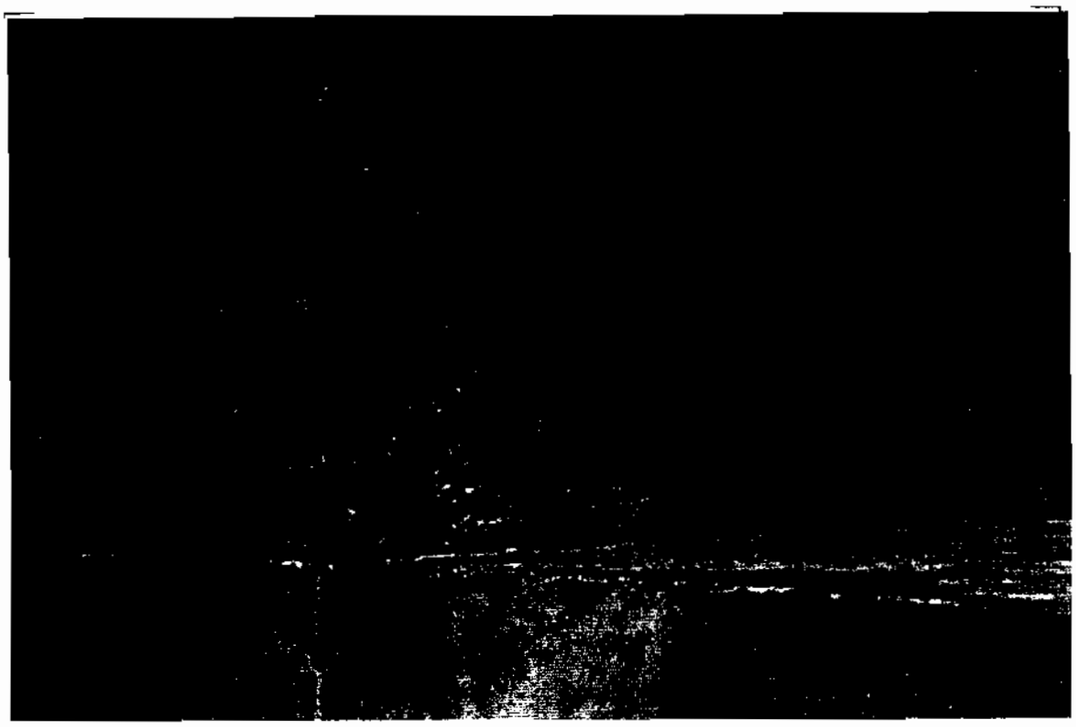


PHOTO M-3: CONCRETE SPALL AND DELAMINATION AT COLUMN D/1, 1st. FL. LEVEL, BUILDING WEST FACADE.

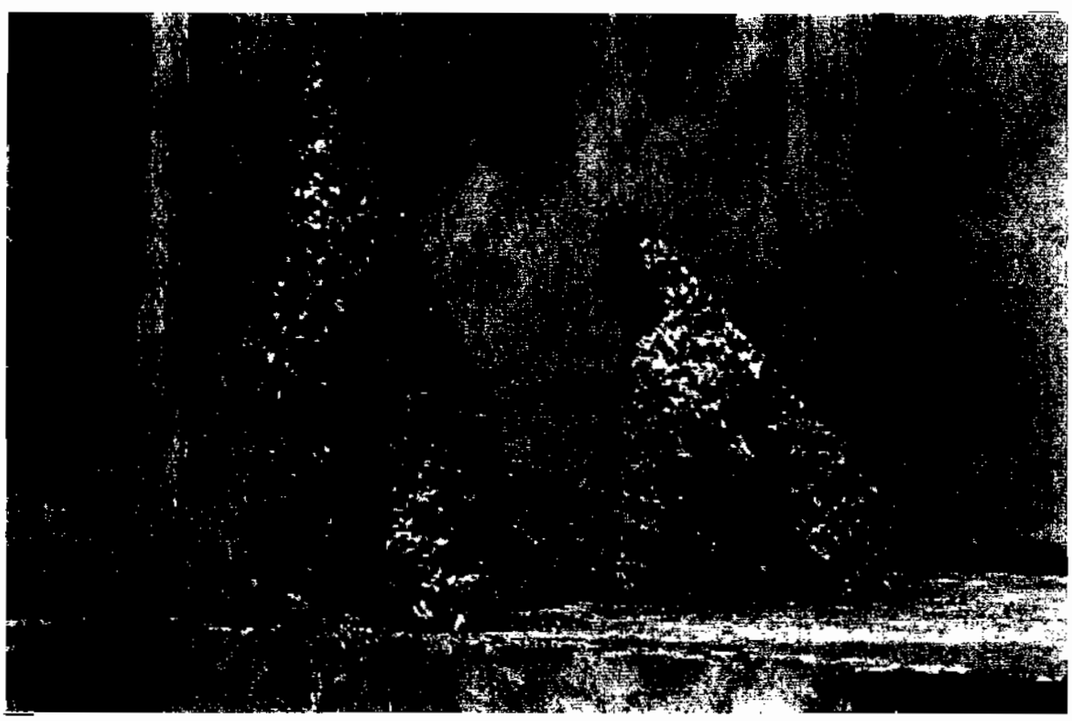


PHOTO M-4: REMOVAL OF DELAMINATED CONCRETE AT COLUMN D/1 1st. FL. LEVEL, BUILDING WEST FACADE.

PHOTO M-6: CONCRETE SPALLS AT COLUMN TIES & SPANDREL REINF. BAR, AT NORTHEAST CORNER COLUMN H/6, BETWEEN 2nd & 3rd. FL., BUILDING NORTH FACADE.

PHOTO M-5: CONCRETE SPALL AT NORTHWEST CORNER COLUMN H/1, 2nd FL. LEVEL, BUILDING WEST FACADE.

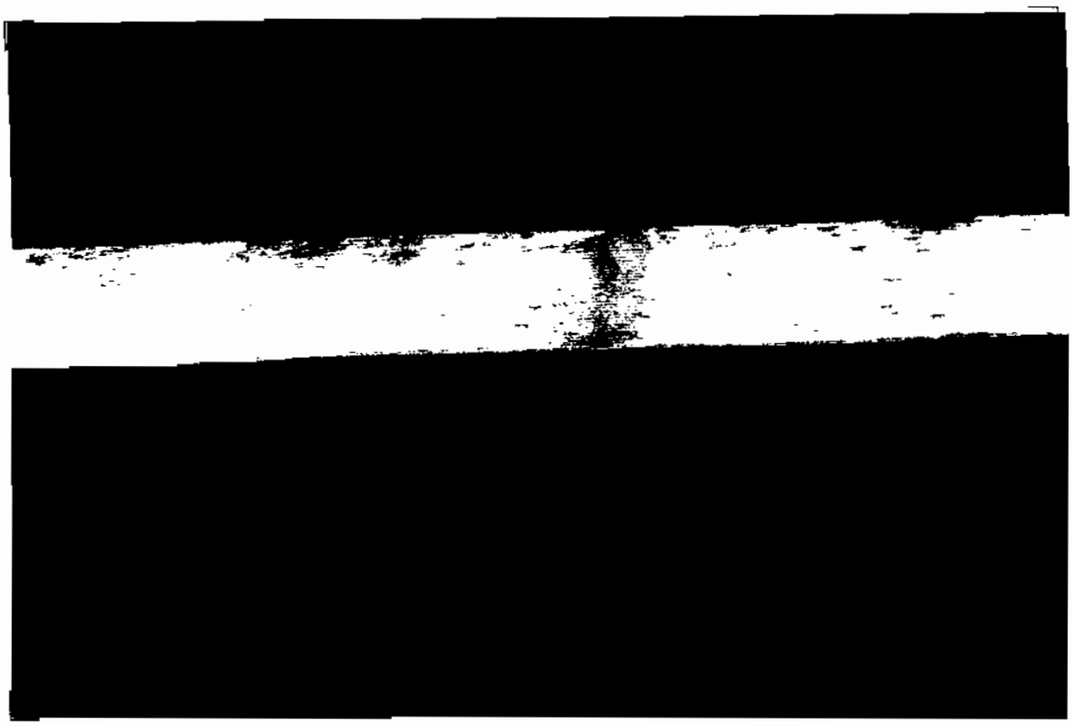


PHOTO M-7: CONCRETE DELAMINATION AT SPANDREL'S BOTTOM HORIZONTAL REINFORCING BAR, IN BUILDING NORTH FACADE.

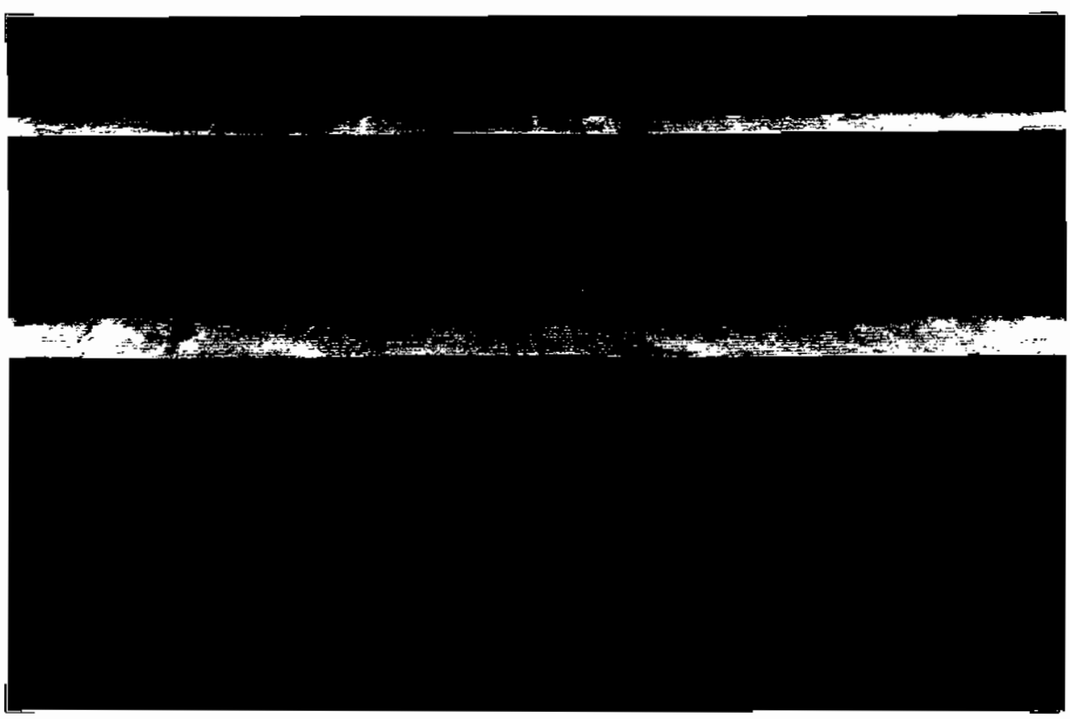


PHOTO M-8: CONCRETE SPALL AT SPANDREL'S BOTTOM REINFORCING BARS, IN BUILDING NORTH FACADE.

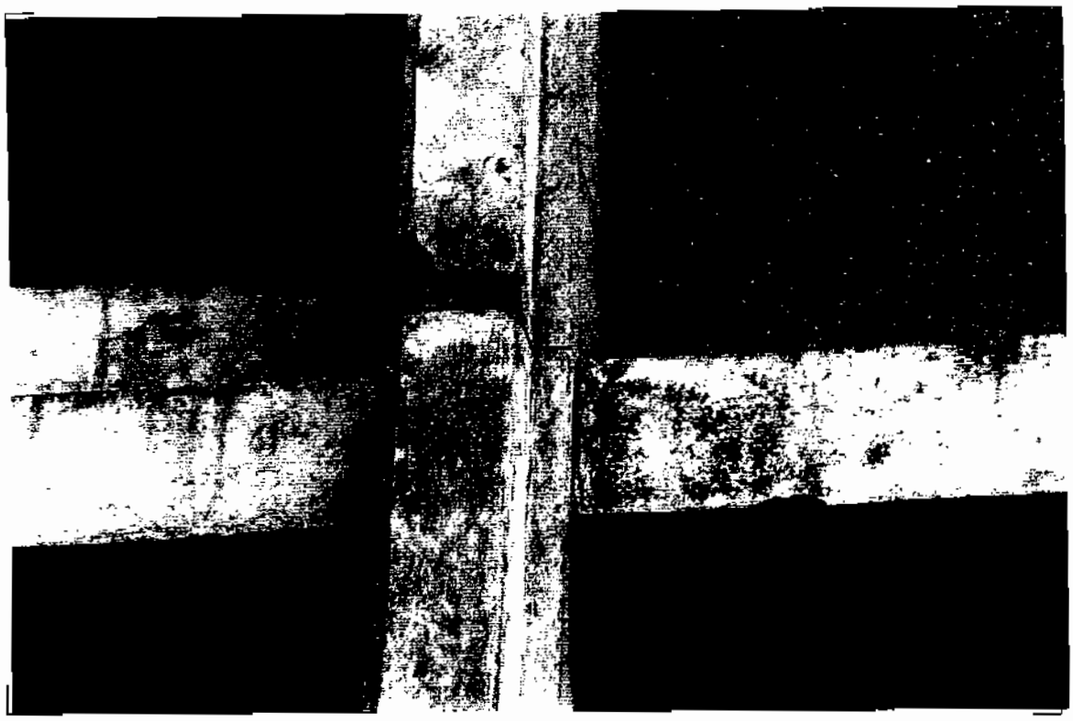


PHOTO M-9: CONCRETE SPALLS IN COLUMN H/2 & 2nd FL. SPANDREL, AND SHRINKAGE CRACK IN CONCRETE WALL UNDER WINDOWS, IN BUILDING NORTH FACADE.

PHOTO M-10: CRACK IN 1st FL. SPANDREL BETWEEN COLUMN LINES 1-2, IN BUILDING NORTH FACADE.

PHOTO M-12: SPALLED-OFF CONCRETE COVER AT EMBEDDED STEEL PLATE IN 4th FL. SPANDREL BETWEEN COL. LINES 1-2, IN BUILDING NORTH FACADE.

PHOTO M-11: SPALLED-OFF CONC. COVER AT EMBEDDED STEEL PLATES IN COL. H/2, AT 3rd FL. LEVEL, AND IN 4th FL. SPANDREL BETWEEN COL. LINES 1-2 IN BUILDING NORTH FACADE

PHOTO M-14: SPALLED-OFF CONCRETE COVER AT EMBEDDED STEEL PLATE IN COL. H/5, AT ROOF LEVEL, IN BUILDING NORTH FACADE.

PHOTO M-13: CONC. DELAMINATION IN COL. H/2, AT 4th FL. LEVEL, IN BUILDING NORTH FACADE. NOTE: DELAMINATION IS AT EMBEDDED STEEL PLATE.

SUNY Oswego - Wilber Hall
Photographs No. W-1 through W-14

TAKEN BY JOHN P. STOPEN ENGINEERING PARTNERSHIP
ON JUNE 8, 1999

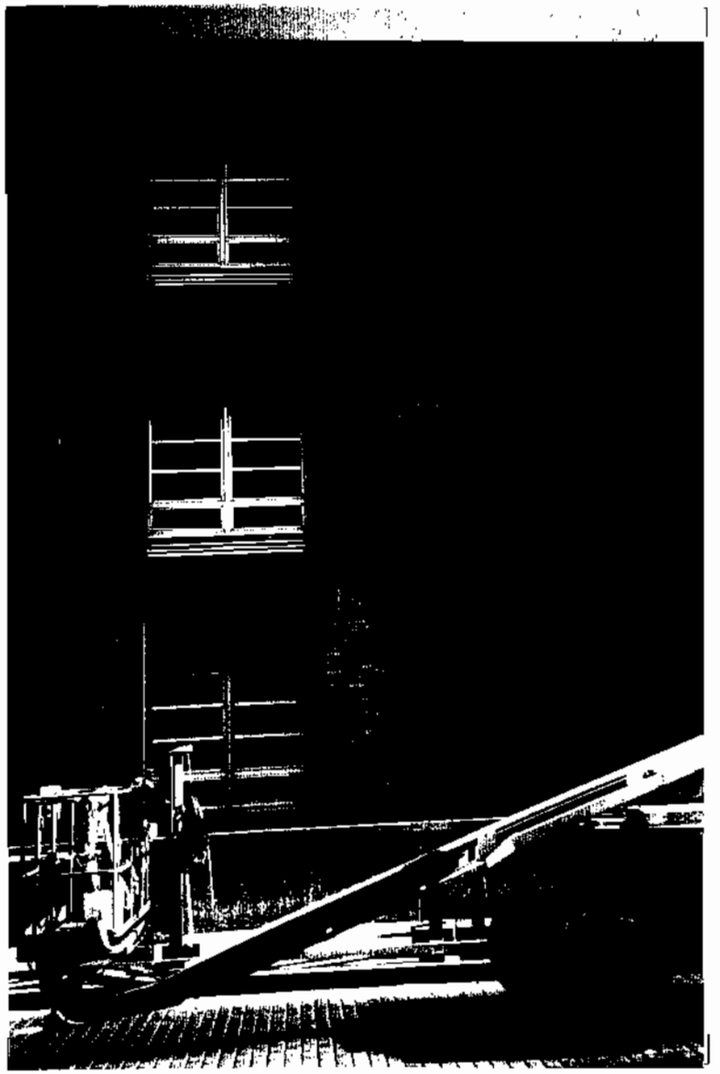


PHOTO W-1: CRACKED BRICK PILASTER, EAST OF COLUMN LINE 5, IN BUILDING SOUTH FACADE.

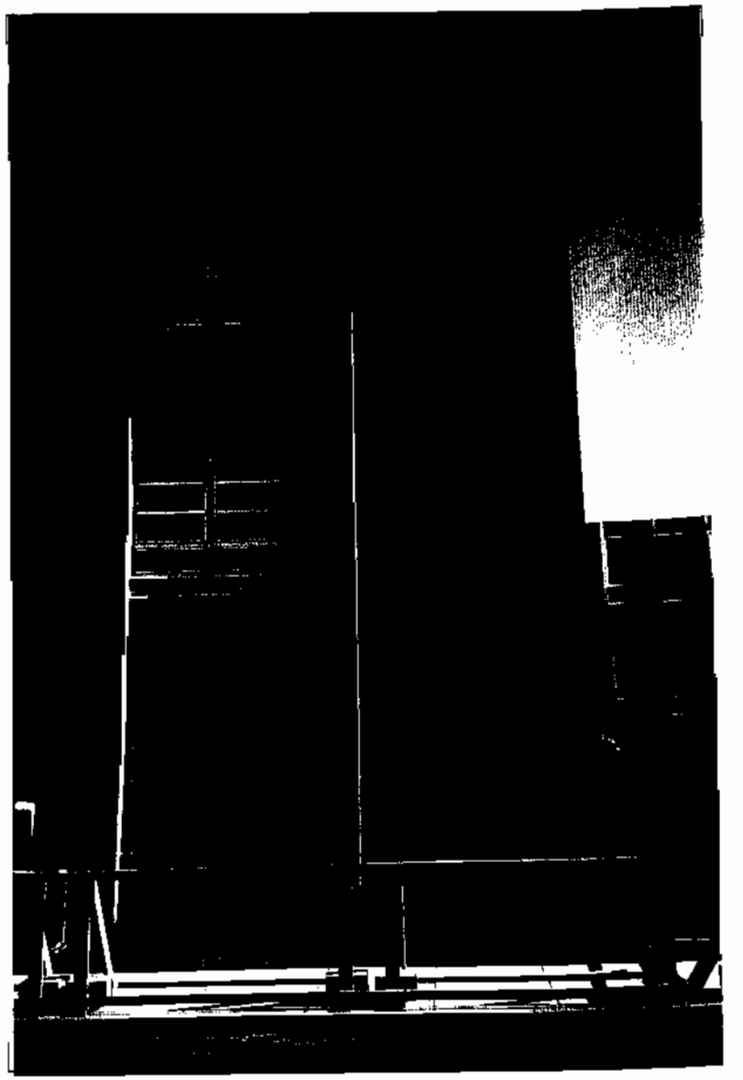


PHOTO W-2: CRACKED BRICK PILASTER, EAST OF COLUMN LINE 3, IN BUILDING SOUTH FACADE.

PHOTO W-3: CRACKED BRICK PILASTER (WITH TEST HOLE #2), EAST OF COL. LINE 5, IN BUILDING SOUTH FACADE, 3rd FLR. LEVEL.

PHOTO W-4: TEST HOLE #2 IN BRICK PILASTER. NOTE ROOF DRAIN CONDUCTOR PIPE, WRAPPED WITH INSULATION.

PHOTO W-6: VERTICAL CRACK IN BRICK PILASTER, EAST OF COL. LINE 5, IN BUILDING SOUTH FACADE, BETWEEN 2nd & 3rd. FLR. LEVELS

PHOTO W-5: CRACKS IN TOP OF BRICK PILASTER, EAST OF COL. LINE 5, IN BUILDING SOUTH FACADE.

PHOTO W-7: DISTRESSED BRICK MASONRY AT WEST SIDE OF BRICK PILASTER, EAST OF COL. LINE 5, AT 3rd FLOOR WINDOW HEAD, IN BUILDING SOUTH FACADE.

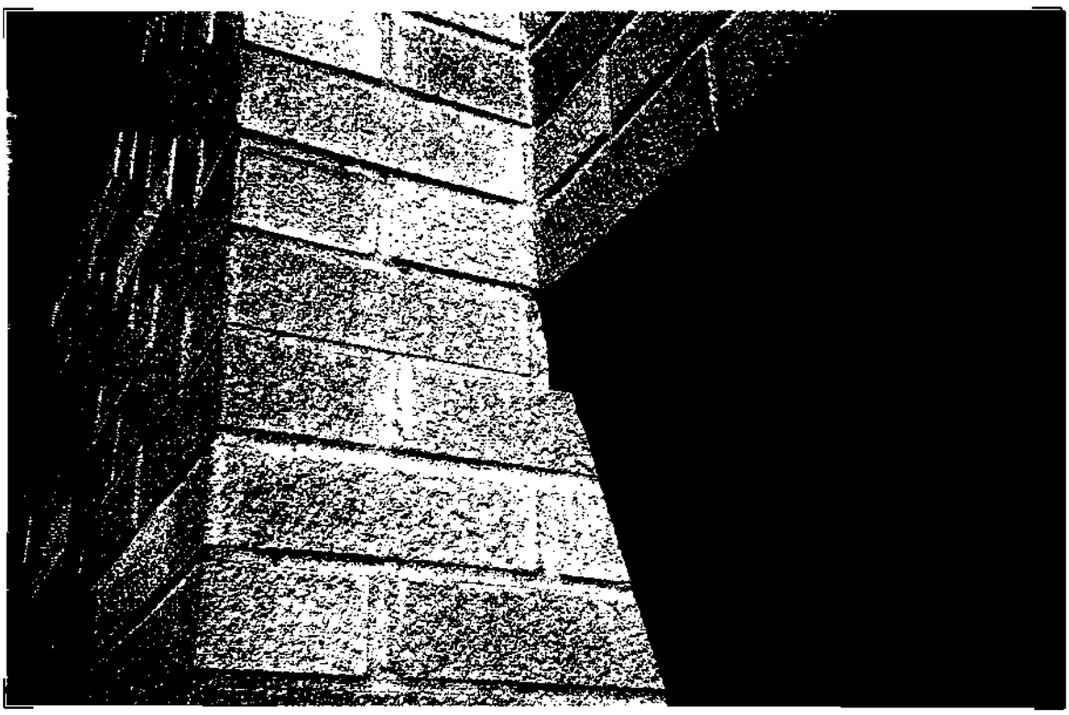


PHOTO W-8: SPALLED BRICK UNDER BRICK SHELF ANGLE AT BRICK PILASTER ON COL. LINE 5, AT 1st. FLOOR WINDOW IN BUILDING SOUTH FACADE.

PHOTO W-9: VERTICAL CRACK IN BRICK PILASTER AT NORTHWEST CORNER OF 3-STORY.

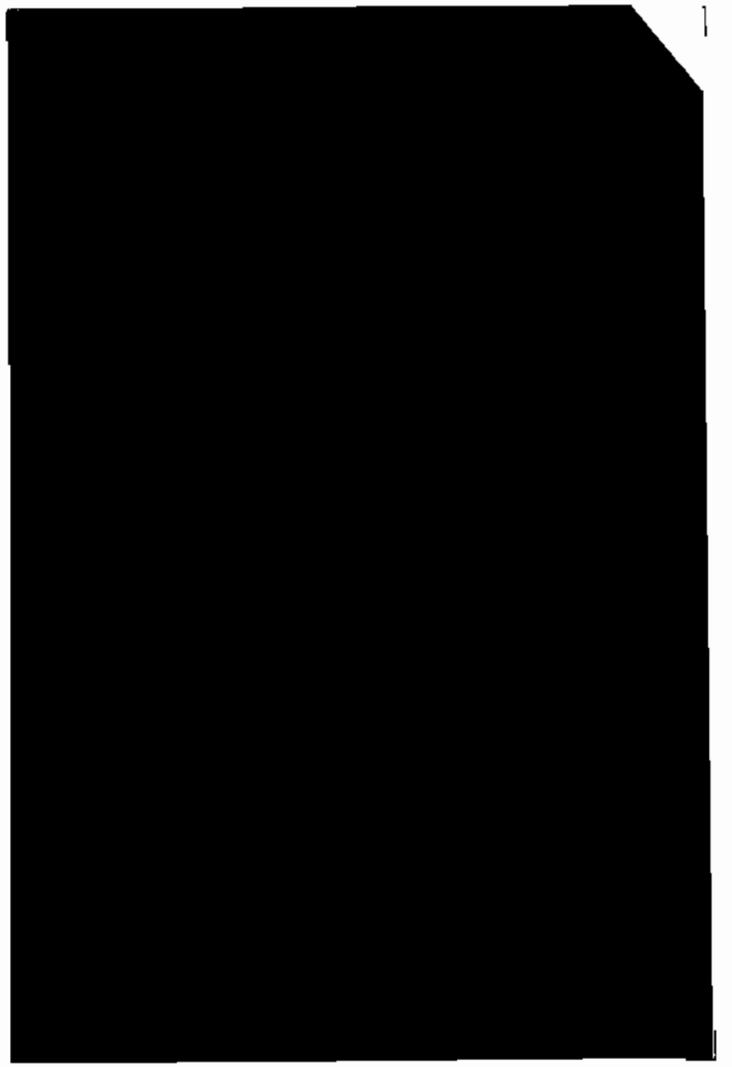


PHOTO W-10: VERTICAL AND "STEP-LADDER" CRACKS IN EAST FACADE OF 1-STORY BUILDING WING.

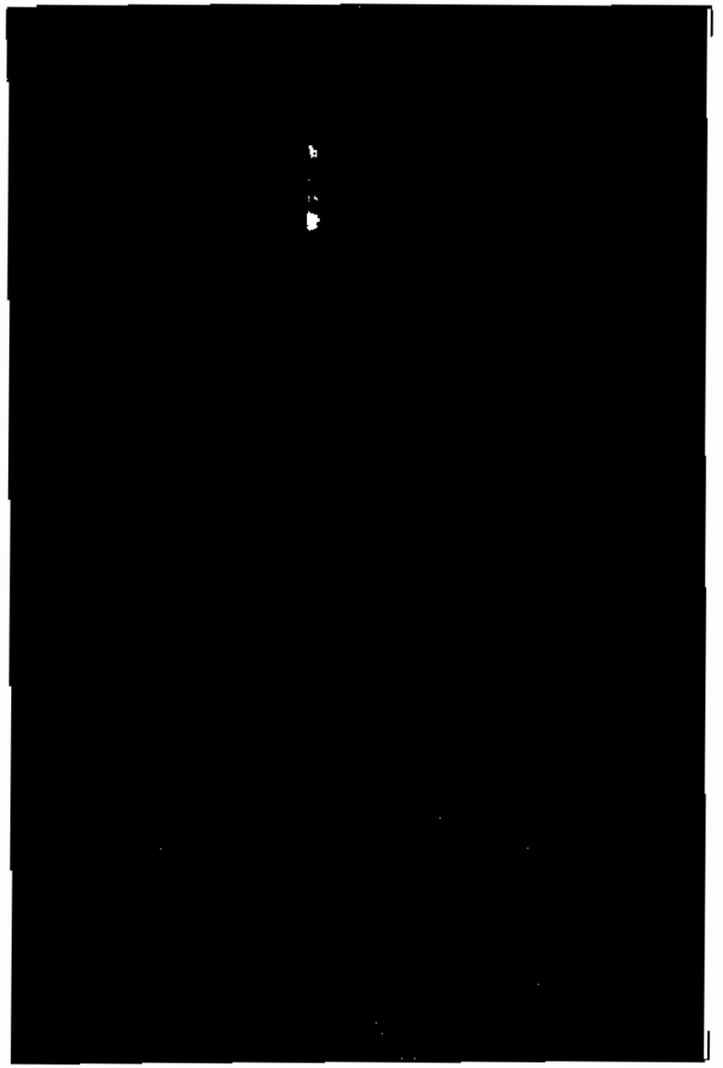


PHOTO W-11: CRACKED BRICK MASONRY IN EAST FACADE OF 1-STORY BUILDING WING.

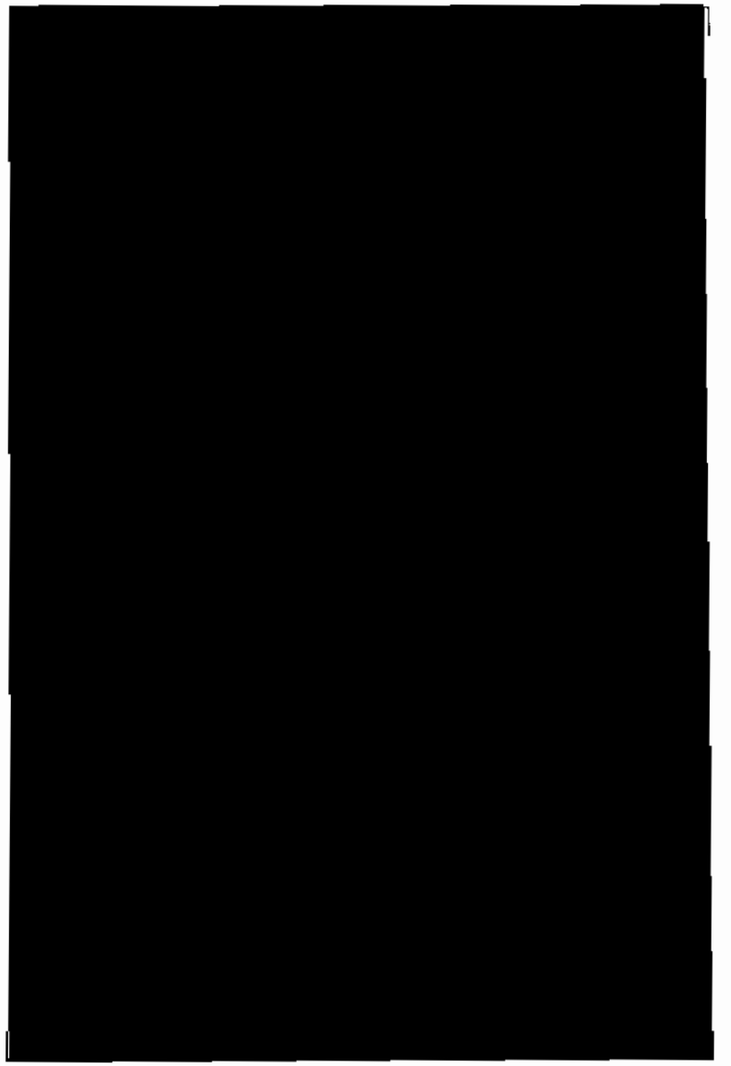
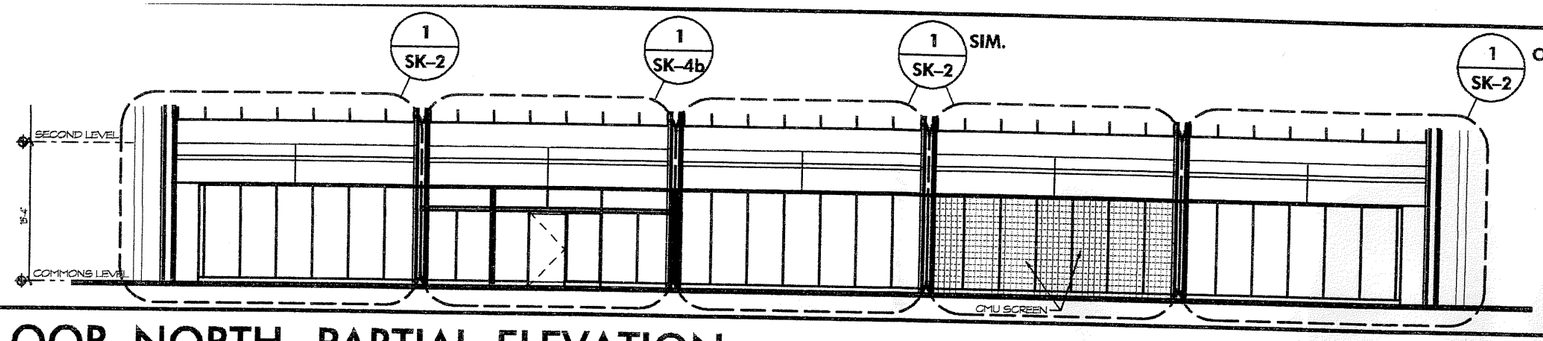


PHOTO W-12: CRACKED BRICK MASONRY IN EAST FACADE OF 1-STORY BUILDING WING.

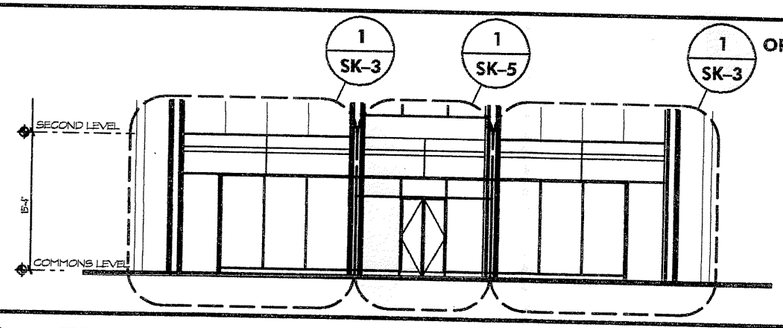
PHOTO W-14: CRACKED BRICK VENEER IN EAST FACADE OF 1-STORY BUILDING, AT GROUND LEVEL WINDOW SILL.

PHOTO W-13: CRACKED BRICK VENEER IN EAST FACADE OF 1-STORY BUILDING WING, AT GROUND LEVEL.



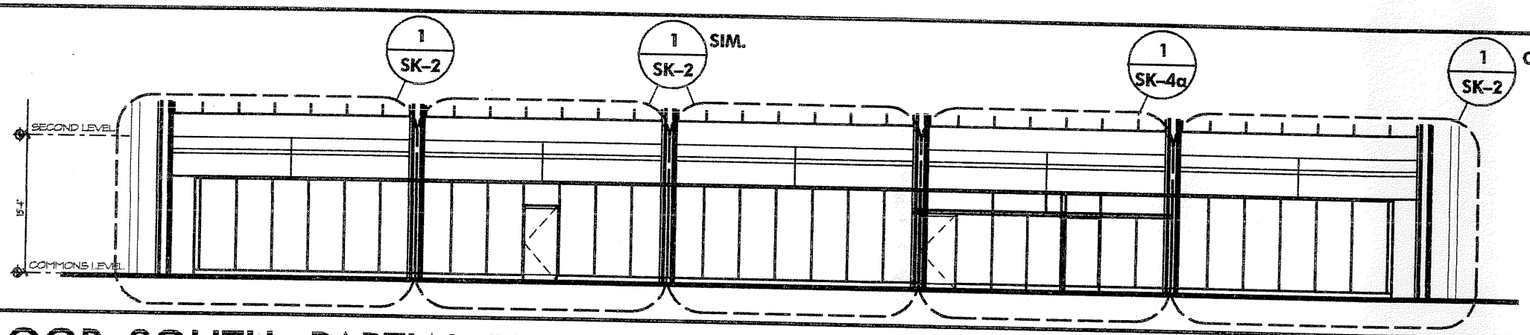
4 SK–1 **FIRST FLOOR NORTH PARTIAL ELEVATION**

1/16" = 1'–0"



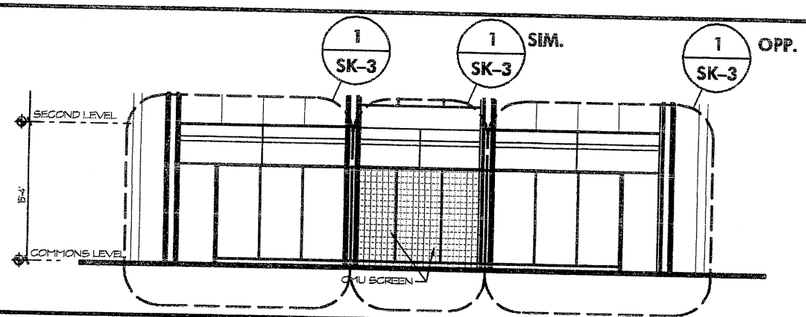
3 SK–1 **FIRST FLOOR EAST PARTIAL ELEVATION**

1/16" = 1'–0"



2 SK–1 **FIRST FLOOR SOUTH PARTIAL ELEVATION**

1/16" = 1'–0"



1 SK–1 **FIRST FLOOR WEST PARTIAL ELEVATION**

1/16" = 1'–0"

SHEET NUMBER **SK-1**

DATE JUNE 30, 1999

SCALE AS NOTED

JOB NUMBER 98–053

S.U.N.Y. @ OSWEGO

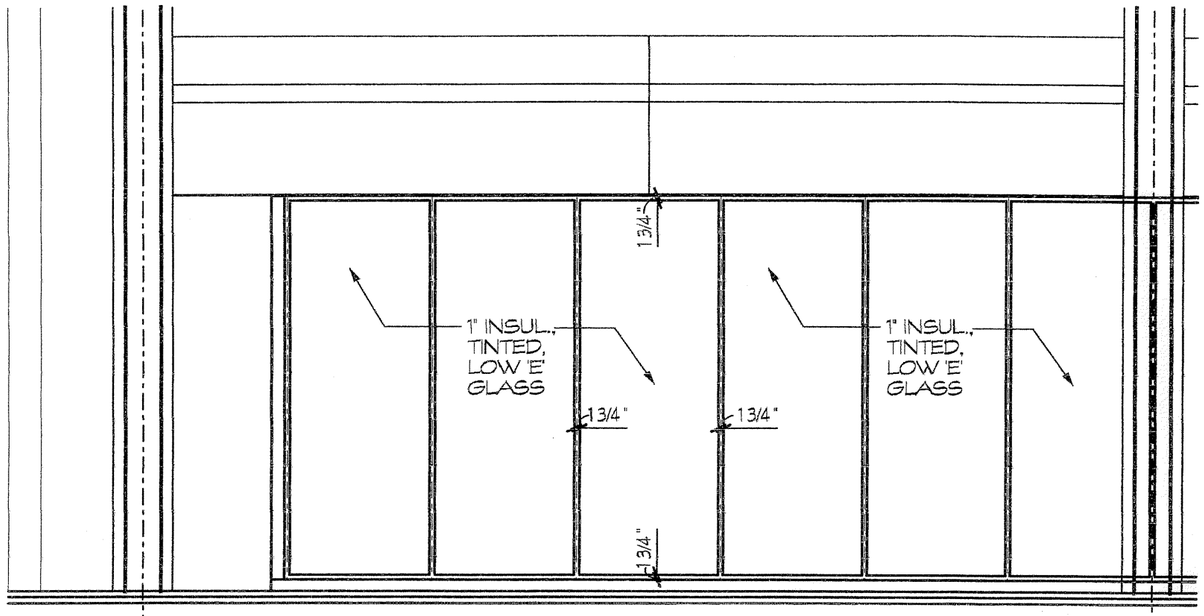
S.U.N.Y. Oswego

EXTERIOR BUILDING STUDY

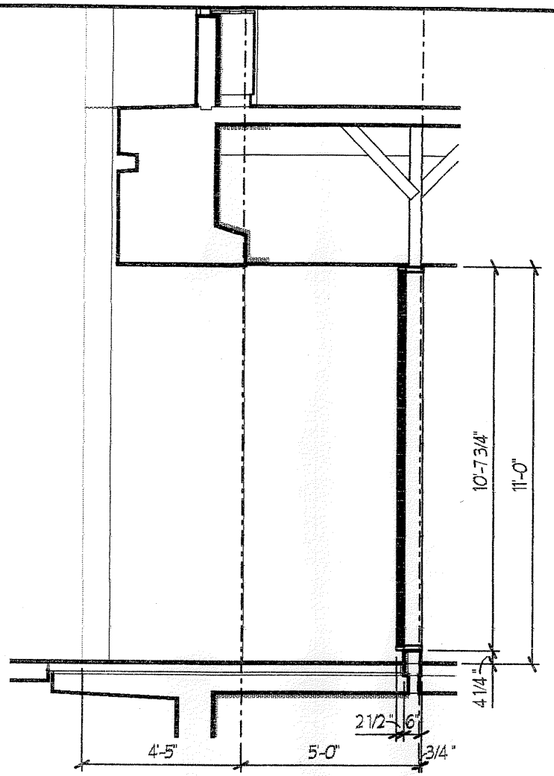
Oswego New York

DRAWING DESCRIPTION

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053

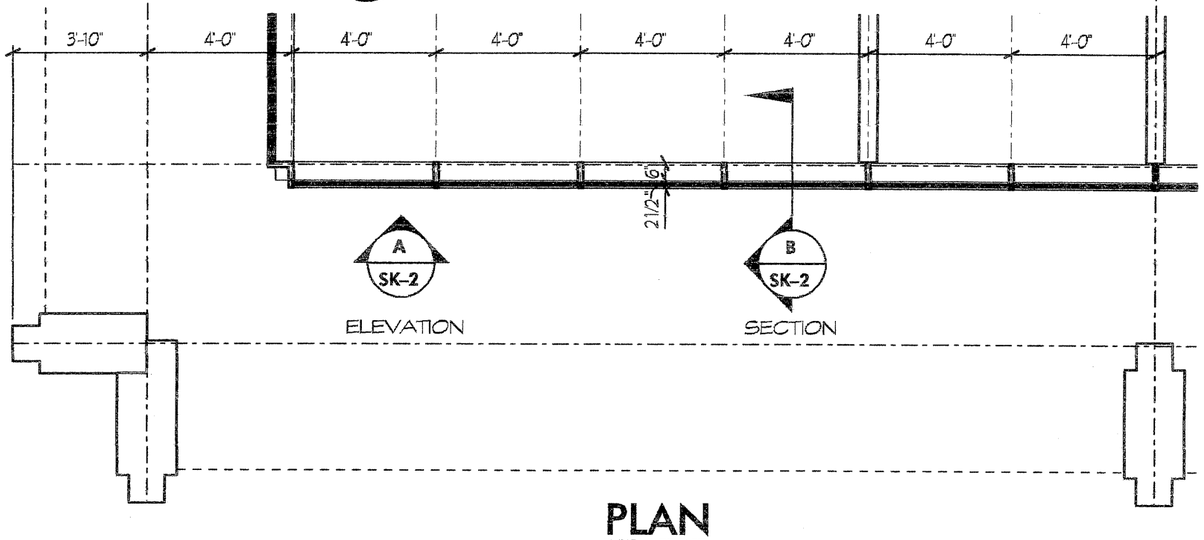


A SK-2 TYPICAL ELEVATION BAY



B SK-2 TYPICAL SECTION

NOTE: REFER TO DETAILS 1 & 2/SK-6 FOR ADDITIONAL INFORMATION



PLAN

NORTH

1 SK-2 TYPICAL FIRST FLOOR NORTH & SOUTH ELEVATION WINDOW DETAILS

1/4" = 1'-0"

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S.U.N.Y. at Oswego

EXTERIOR BUILDING STUDY

Oswego New York

DRAWING DESCRIPTION: NEW WINDOW DETAILS

JOB NUMBER 98-053

SCALE AS NOTED

DATE JUNE 30, 1999

SHEET NUMBER SK-2

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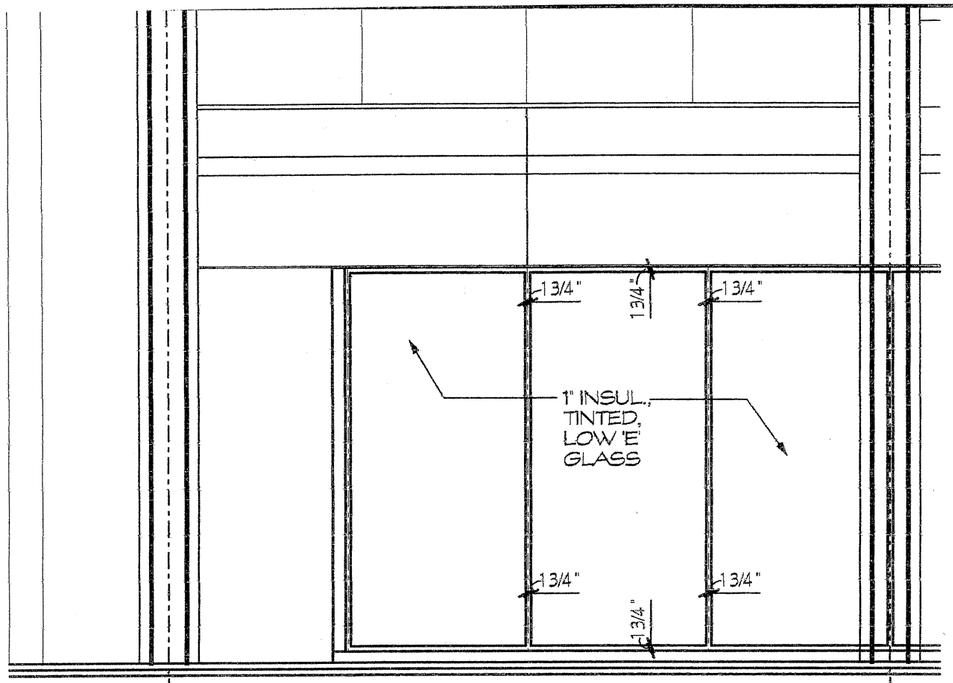
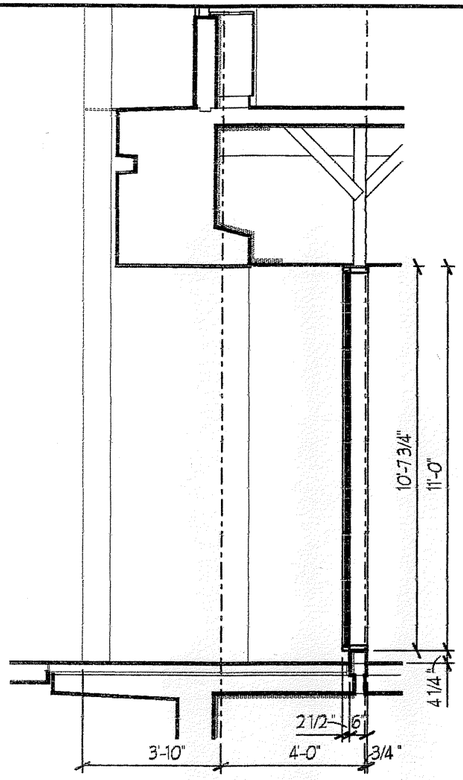
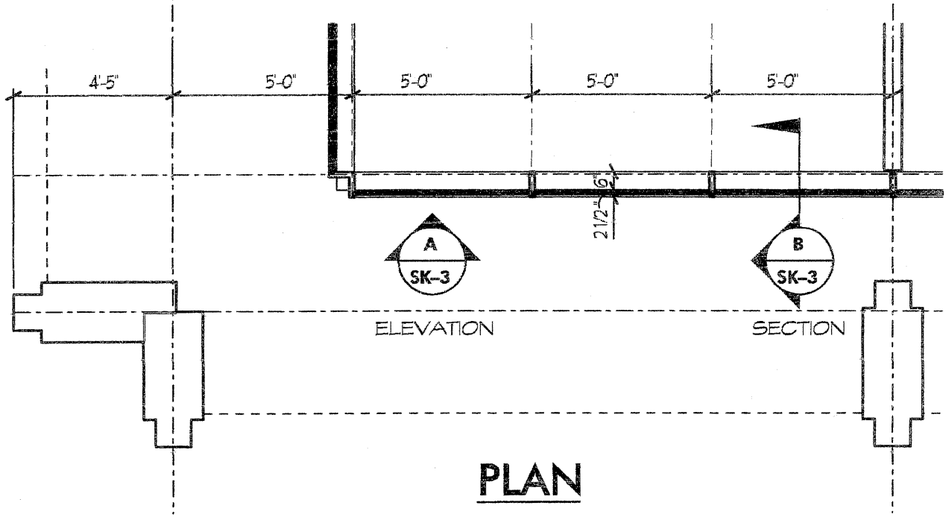


A SK-3 **TYPICAL ELEVATION BAY**



B SK-3 **TYPICAL SECTION**

NOTE: REFER TO DETAILS 1 & 2/SK-6 FOR ADDITIONAL INFORMATION



PLAN

NORTH (EAST ELEV.)

1 SK-3 **TYPICAL FIRST FLOOR EAST & WEST ELEVATION WINDOW DETAILS**

1/4" = 1'-0"

SHEET NUMBER **SK-3**

DATE JUNE 30, 1999

SCALE AS NOTED

JOB NUMBER 98-053

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EXTERIOR BUILDING STUDY

Oswego New York

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NEW WINDOW DETAILS

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
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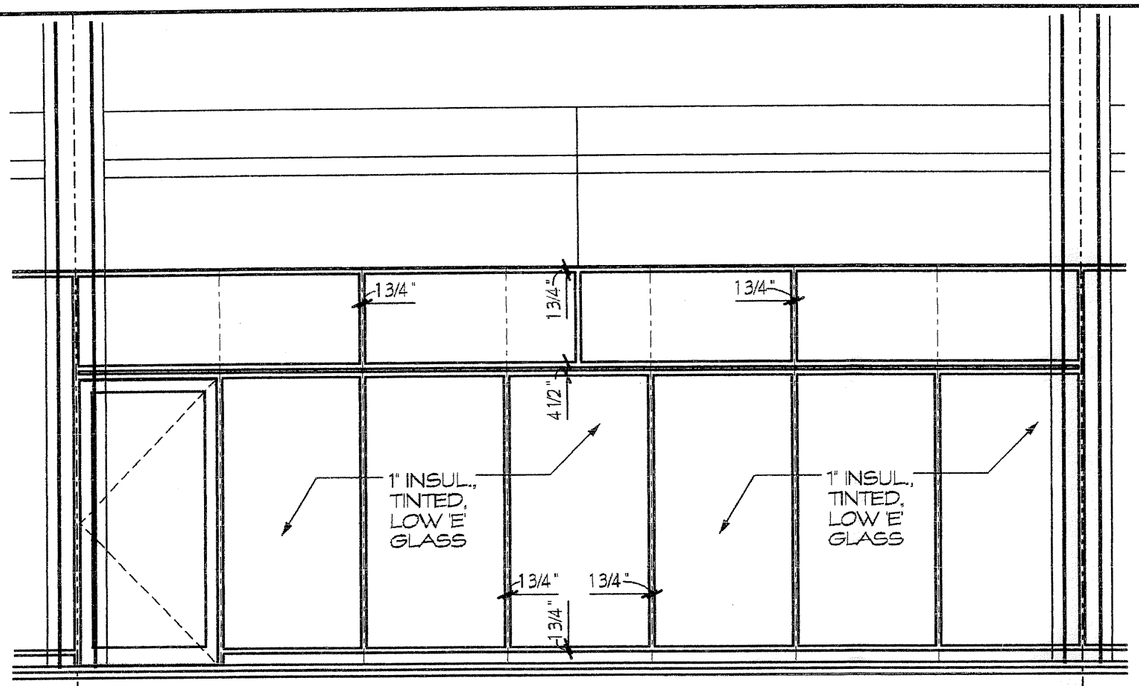
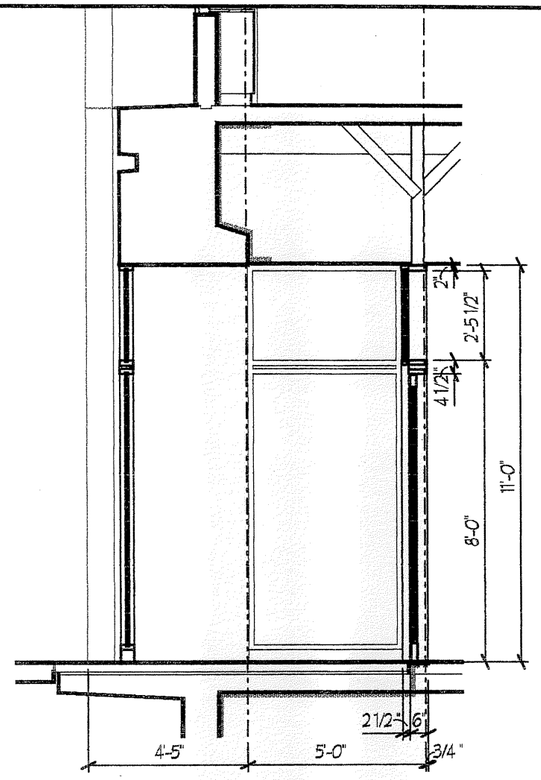
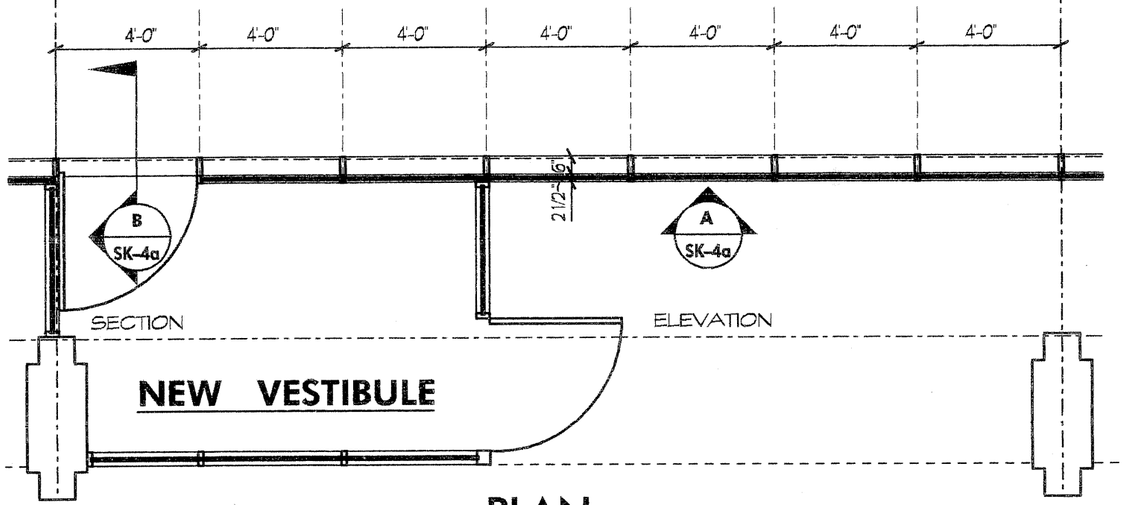


A ENTRANCE ELEVATION BAYS
A / SK-4a



B SECTION
B / SK-4a

NOTE: REFER TO DETAILS 1 & 2/SK-6 FOR ADDITIONAL INFORMATION



PLAN

NOTE: REFER TO DWG. SK-7a FOR ADDITIONAL PLAN INFORMATION

NORTH

1 / SK-4a **FIRST FLOOR SOUTH ENTRANCE ELEVATION WINDOW DETAILS**

1/4" = 1'-0"

SHEET NUMBER **SK-4a**

DATE JUNE 30, 1999

SCALE AS NOTED

JOB NUMBER 98-053

S.U.N.Y. @ OSWEGO

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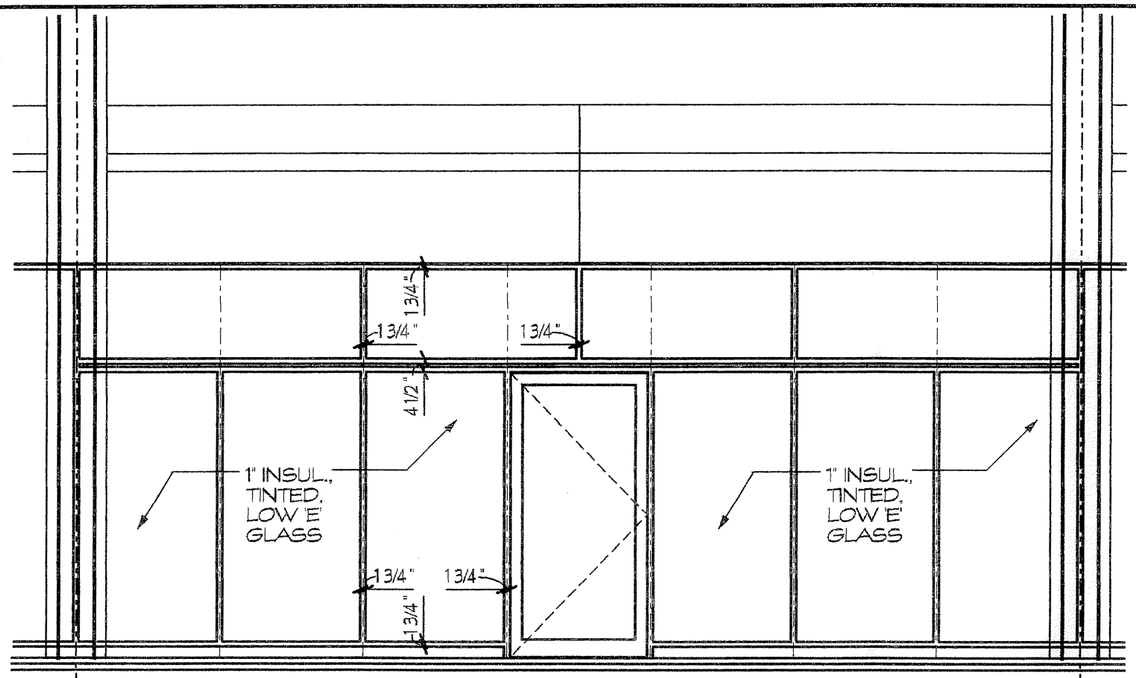
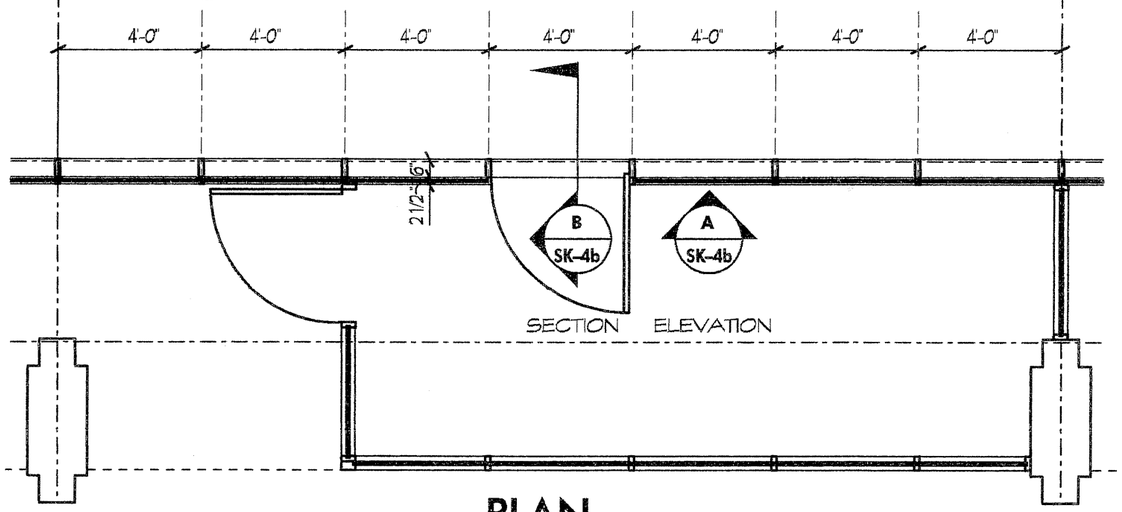
DRAWING DESCRIPTION

NEW WINDOW DETAILS

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053

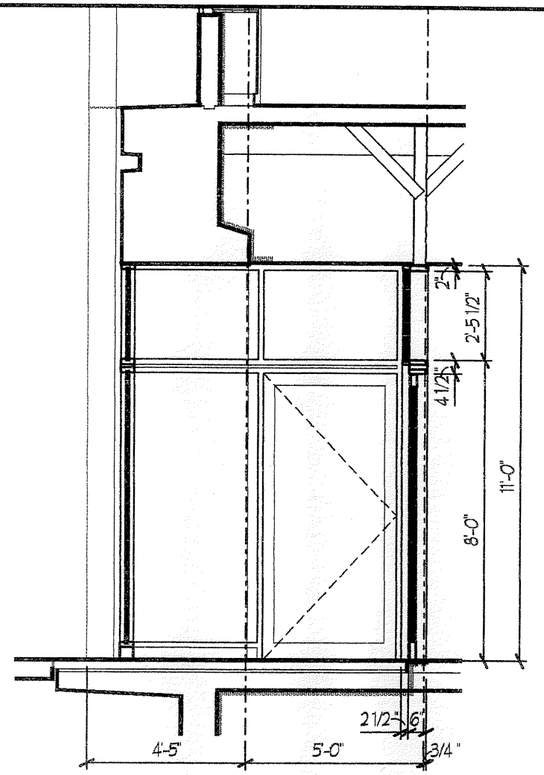


A SK-4b ENTRANCE ELEVATION BAYS



PLAN

NOTE: REFER TO DWG. SK-7a FOR ADDITIONAL PLAN INFORMATION



B SK-4b SECTION

NOTE: REFER TO DETAILS 1 & 2/SK-6 FOR ADDITIONAL INFORMATION

NORTH

1 K-4b FIRST FLOOR NORTH ENTRANCE ELEVATION WINDOW DETAILS

1/4" = 1'-0"

SHEET NUMBER **SK-4b**

DATE JUNE 30, 1999

SCALE AS NOTED

JOB NUMBER 98-053

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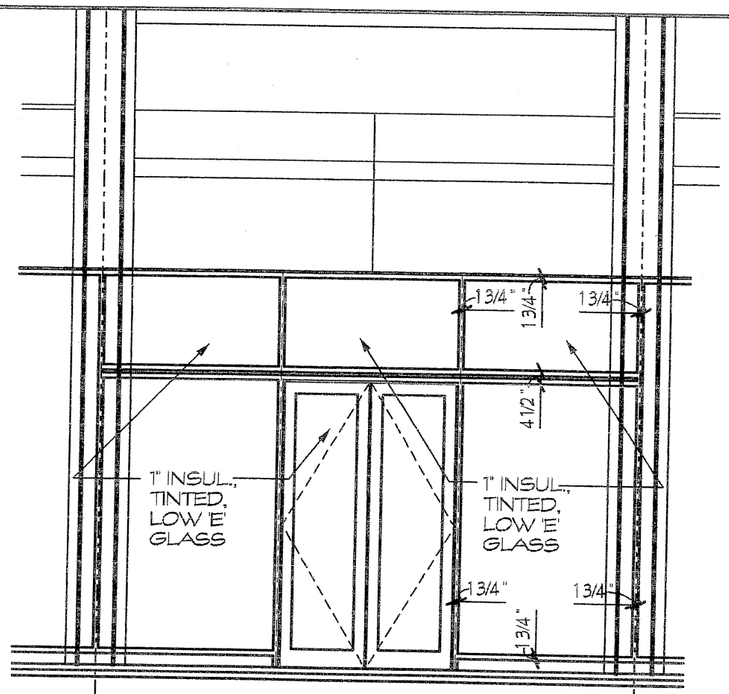
EXTERIOR BUILDING STUDY

Oswego New York

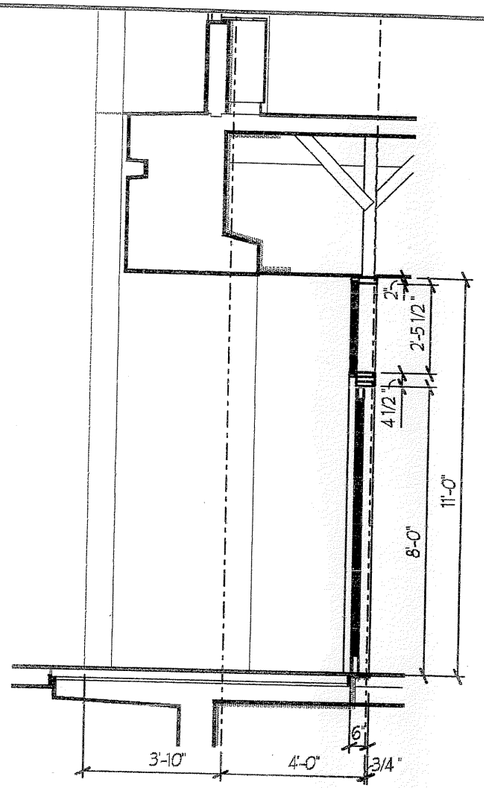
DRAWING DESCRIPTION

NEW WINDOW DETAILS

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053

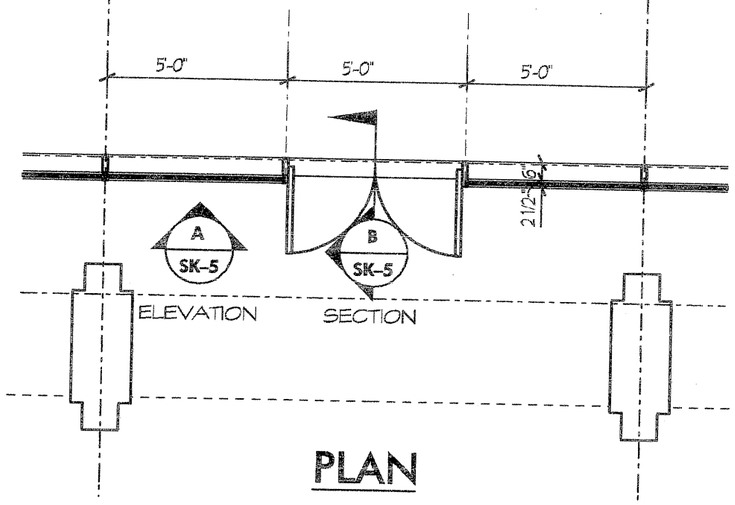


A SK-5 **ENTRANCE ELEVATION BAYS**



B SK-5 **SECTION**

NOTE: REFER TO DETAILS 1 & 2/SK-6 FOR ADDITIONAL INFORMATION



PLAN

1 SK-5 **FIRST FLOOR ENTRANCE BAYS @ EAST ELEVATION WINDOW DETAILS**

1/4" = 1'-0"

NORTH

SHEET NUMBER **SK-5**

DATE JUNE 30, 1999

SCALE AS NOTED

JOB NUMBER 98-053

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EXTERIOR BUILDING STUDY

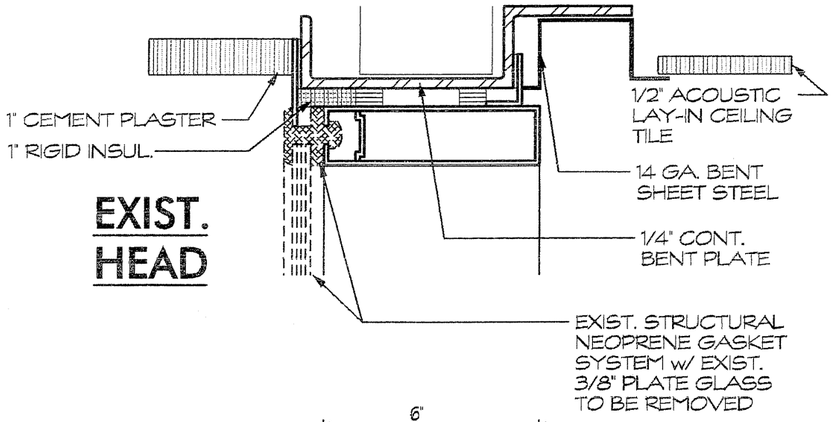
Oswego New York

DRAWING DESCRIPTION

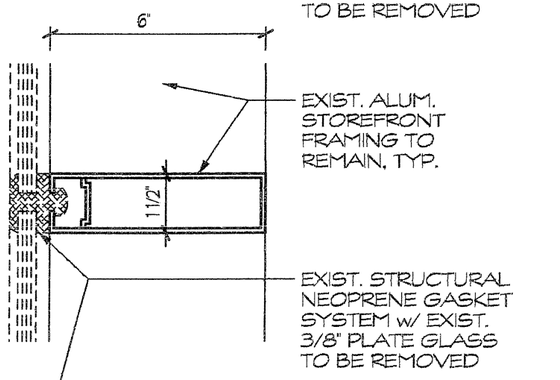
NEW WINDOW DETAILS

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053

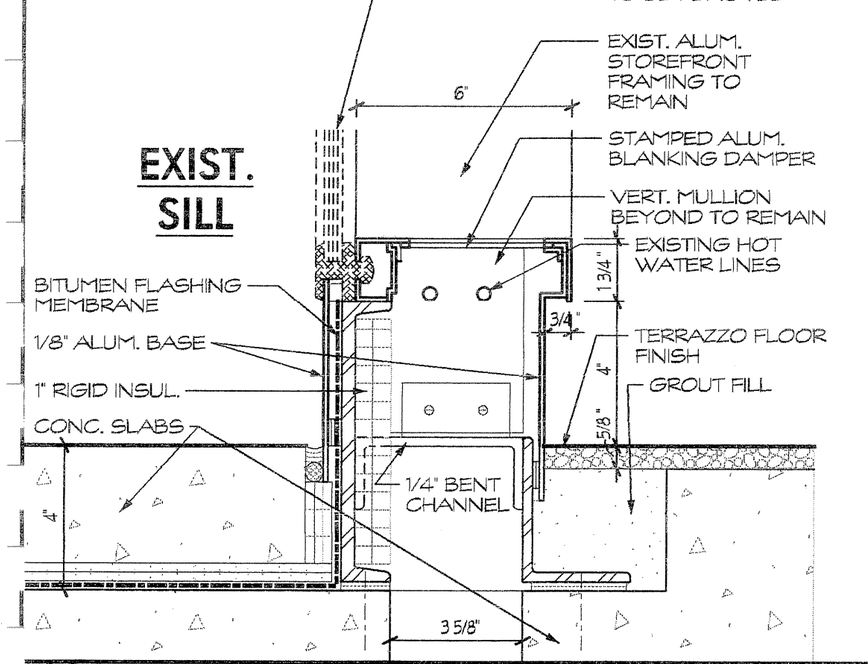
EXIST. HEAD



EXIST. JAMB



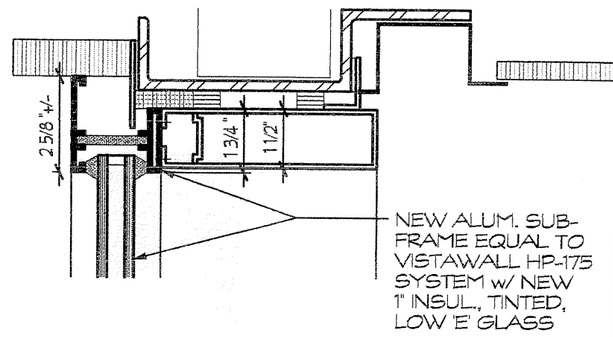
EXIST. SILL



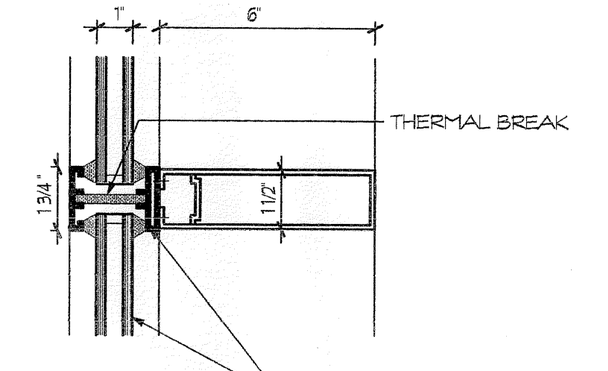
3" = 1'-0"

1 SK-6 DEMOLITION GROUND LELVEL TYPICAL WINDOW SECTION DETAILS

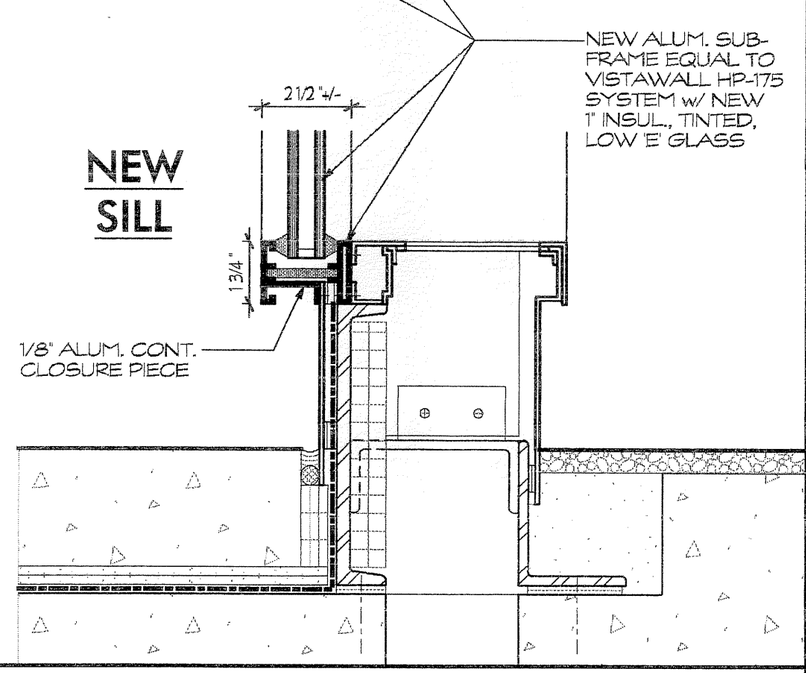
NEW HEAD



NEW JAMB



NEW SILL



3" = 1'-0"

2 SK-6 NEW GROUND LEVEL TYPICAL WINDOW SECTION DETAILS

SHEET NUMBER **SK-6**

DATE JUNE 30, 1999

SCALE AS NOTED

JOB NUMBER 98-053

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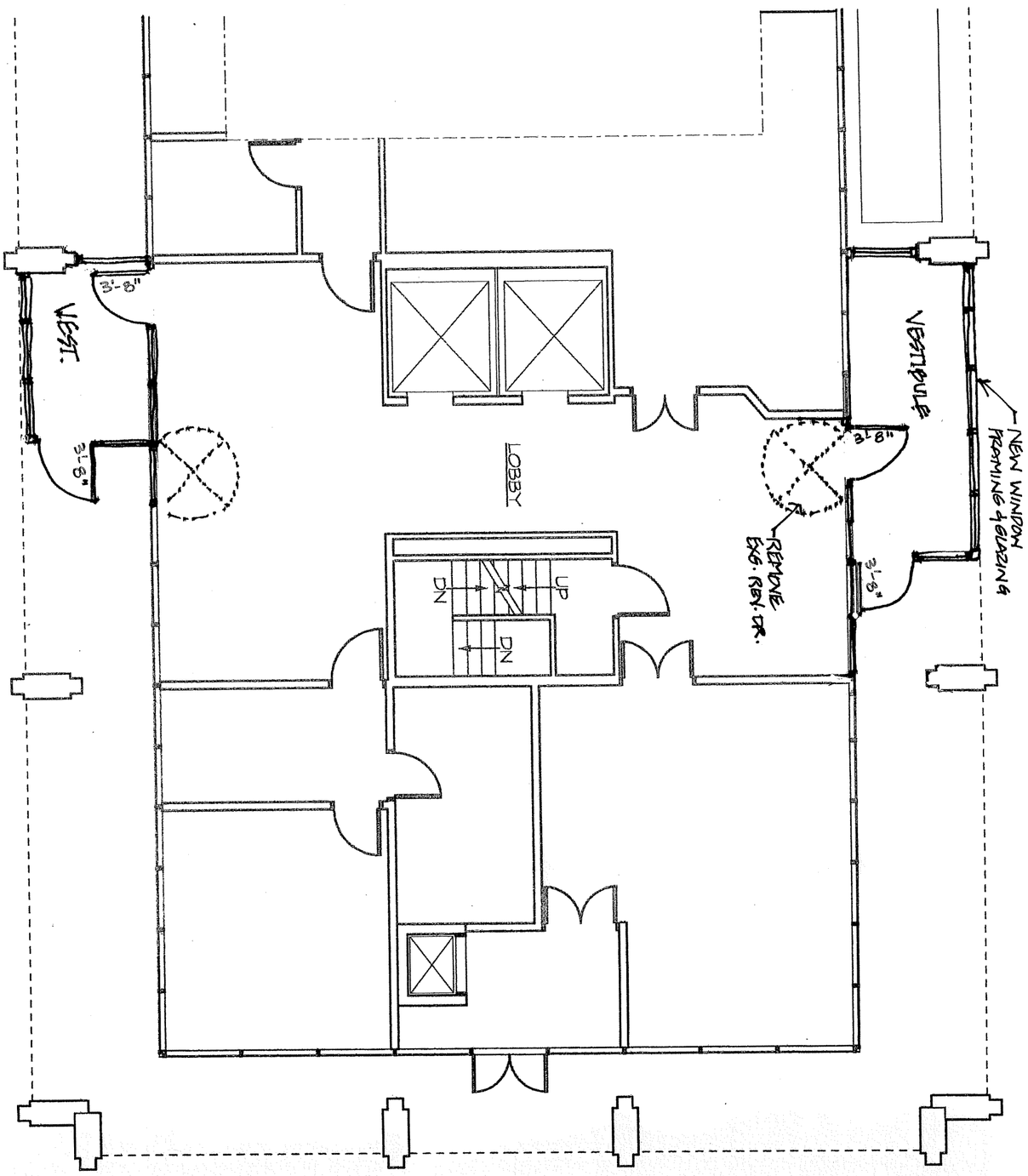
EXTERIOR BUILDING STUDY

Oswego New York

DRAWING DESCRIPTION GROUND LEVEL TYPICAL WINDOW SECTION DETAILS

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053



1/8" = 1'-0"

NORTH

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053

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EXTERIOR BUILDING STUDY

Oswego New York

DRAWING DESCRIPTION

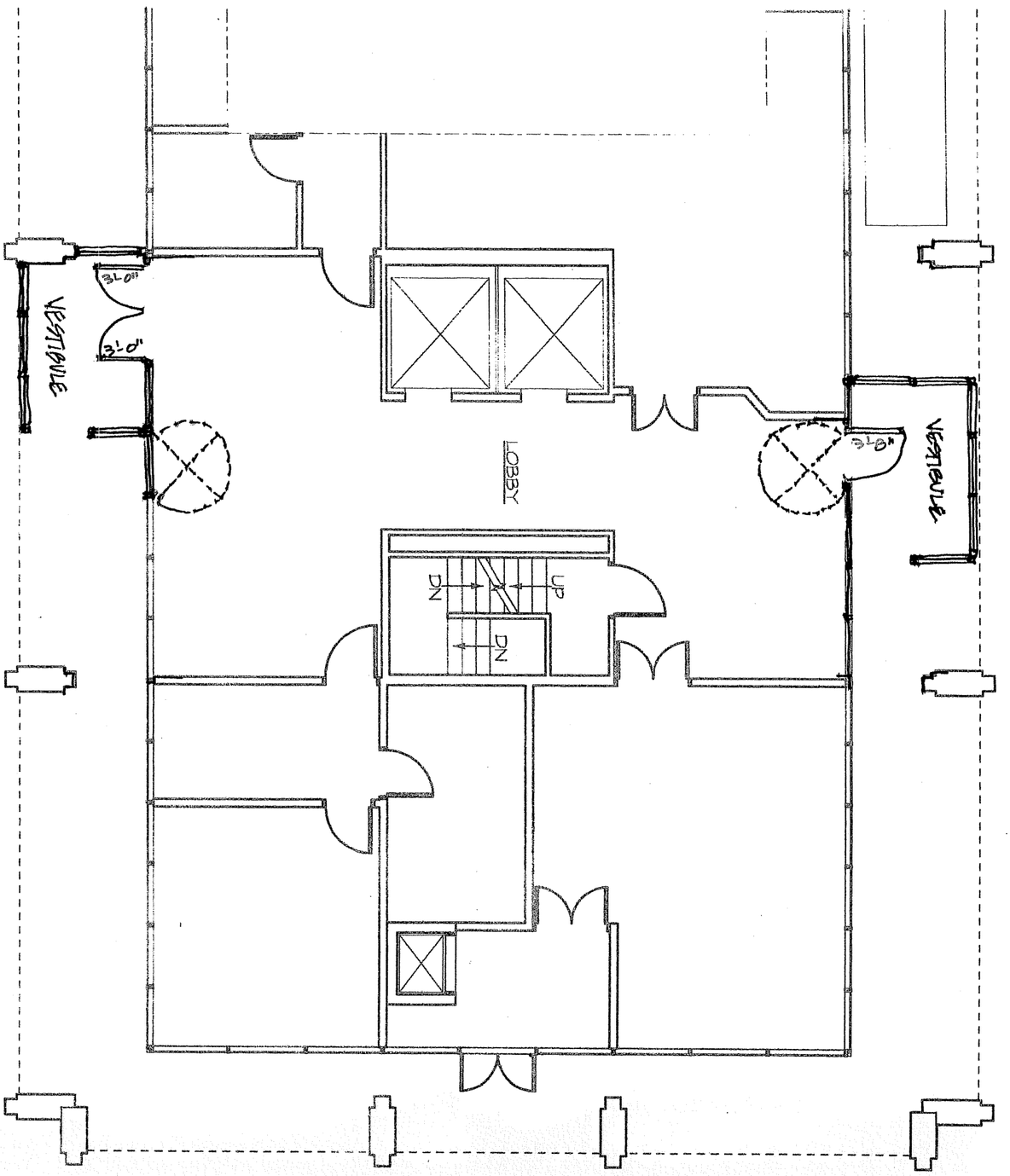
DATE
JUNE 30, 1999

SCALE
AS NOTED

JOB NUMBER
98-053

SHEET NUMBER
SK-7a

1
SK-7b



1/8" = 1'-0"

NORTH

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053

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EXTERIOR BUILDING STUDY

Oswego New York

DRAWING DESCRIPTION

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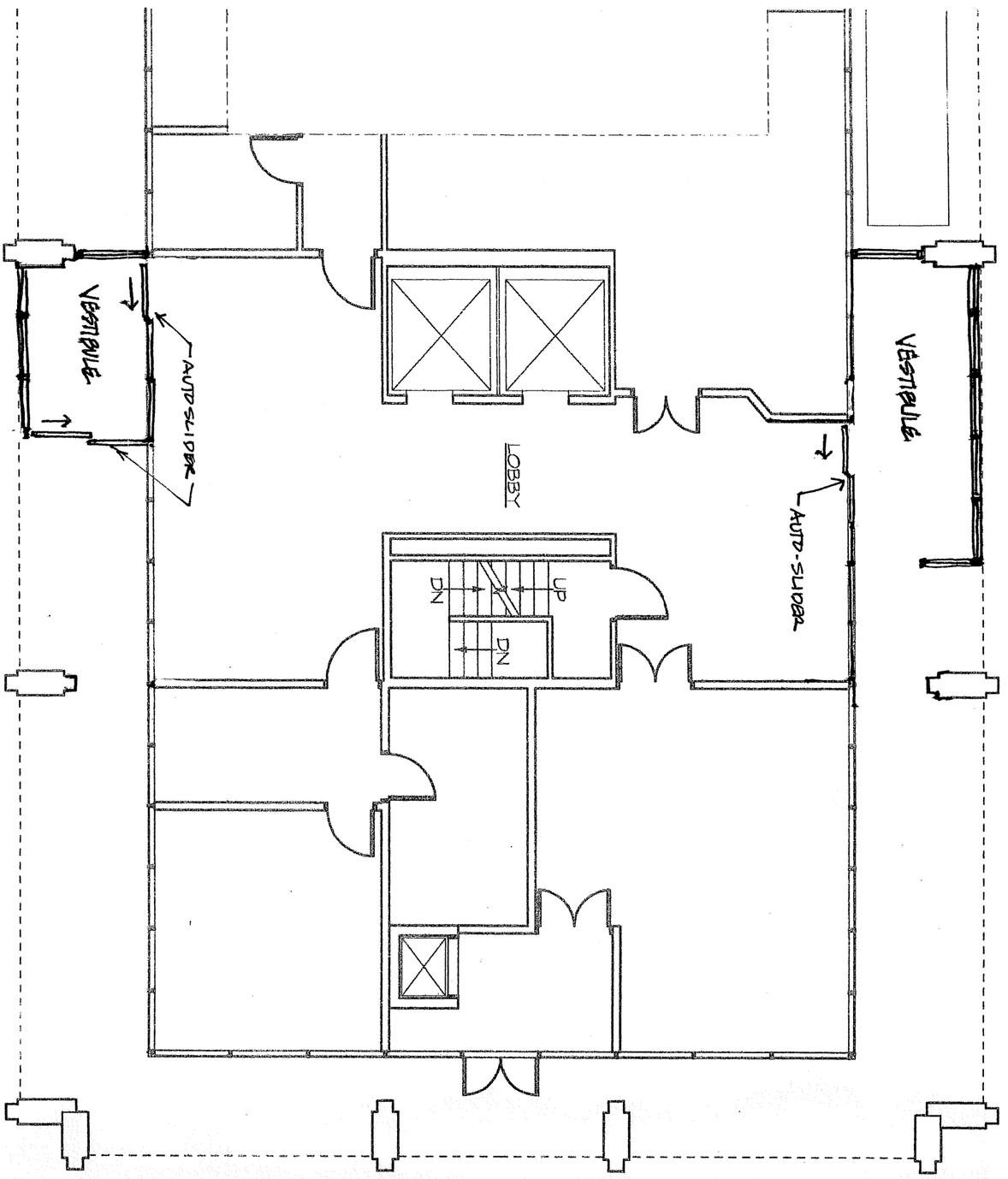
JUNE 30, 1999

SCALE
AS NOTED

JOB NUMBER
98-053

SHEET NUMBER
SK-7b



1/8" = 1'-0"

NORTH

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053

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SUNY OSWEGO

EXTERIOR BUILDING STUDY

Oswego New York

DRAWING DESCRIPTION

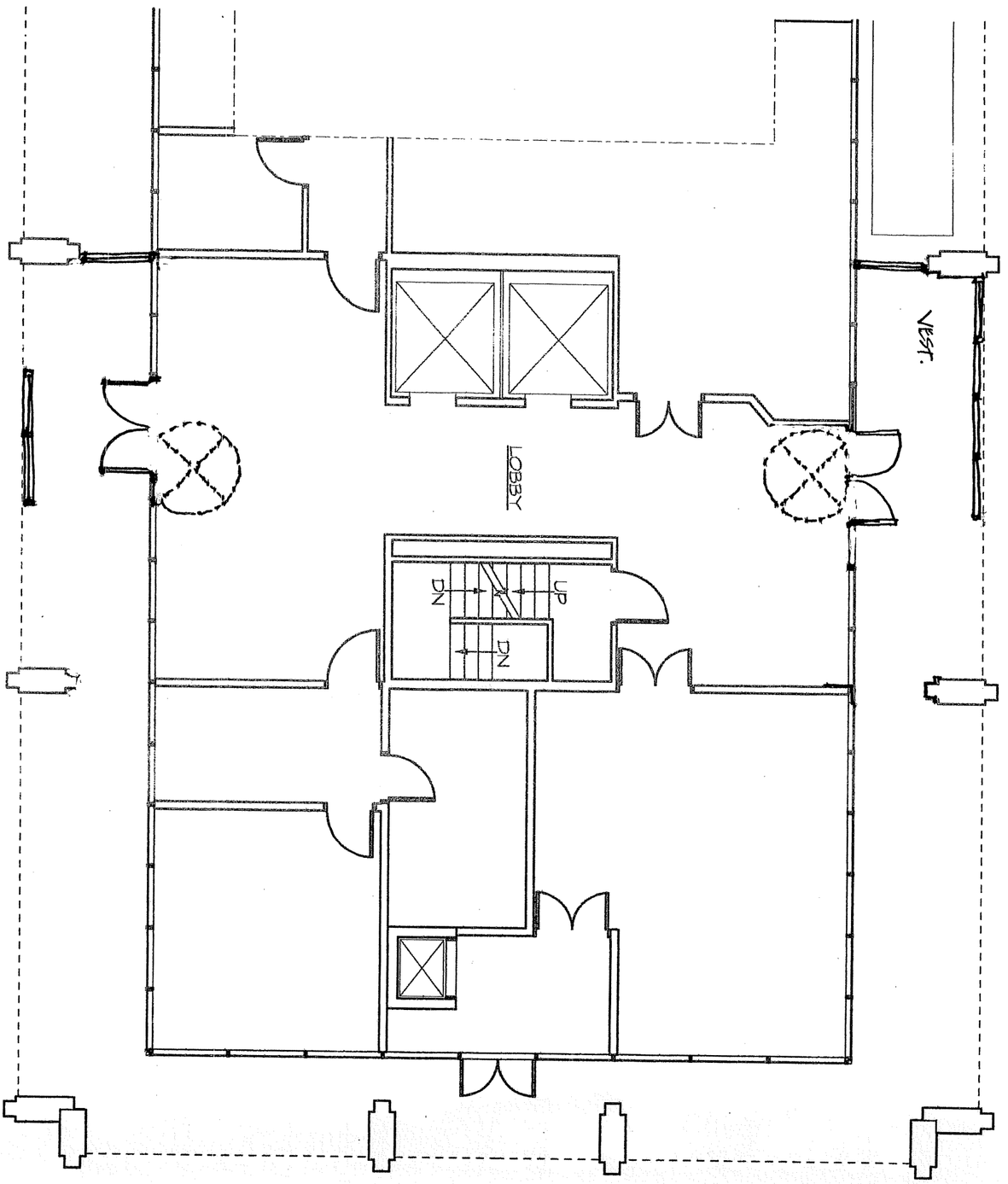
DATE
JUNE 30, 1999

SCALE
AS NOTED

JOB NUMBER
98-053

SHEET NUMBER
SK-7c

SK-7d / 1



1/8" = 1'-0"

NORTH

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053

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EXTERIOR BUILDING STUDY

Oswego New York

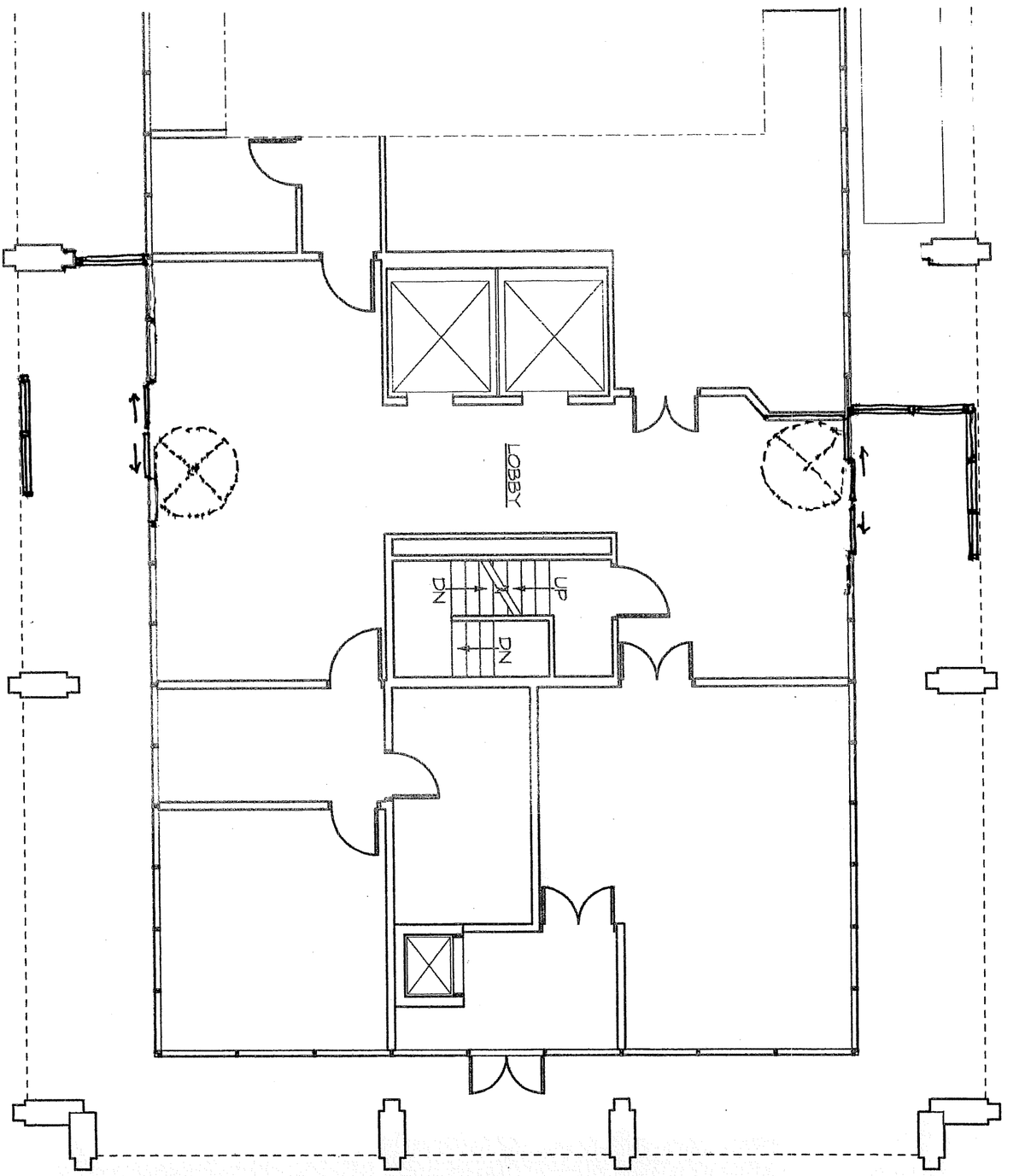
DRAWING DESCRIPTION

DATE: JUNE 30, 1999

SCALE: AS NOTED

JOB NUMBER: 98-053

SHEET NUMBER: SK-7d



1/8" = 1'-0"

NORTH

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
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EXTERIOR BUILDING STUDY

Oswego New York

DRAWING DESCRIPTION

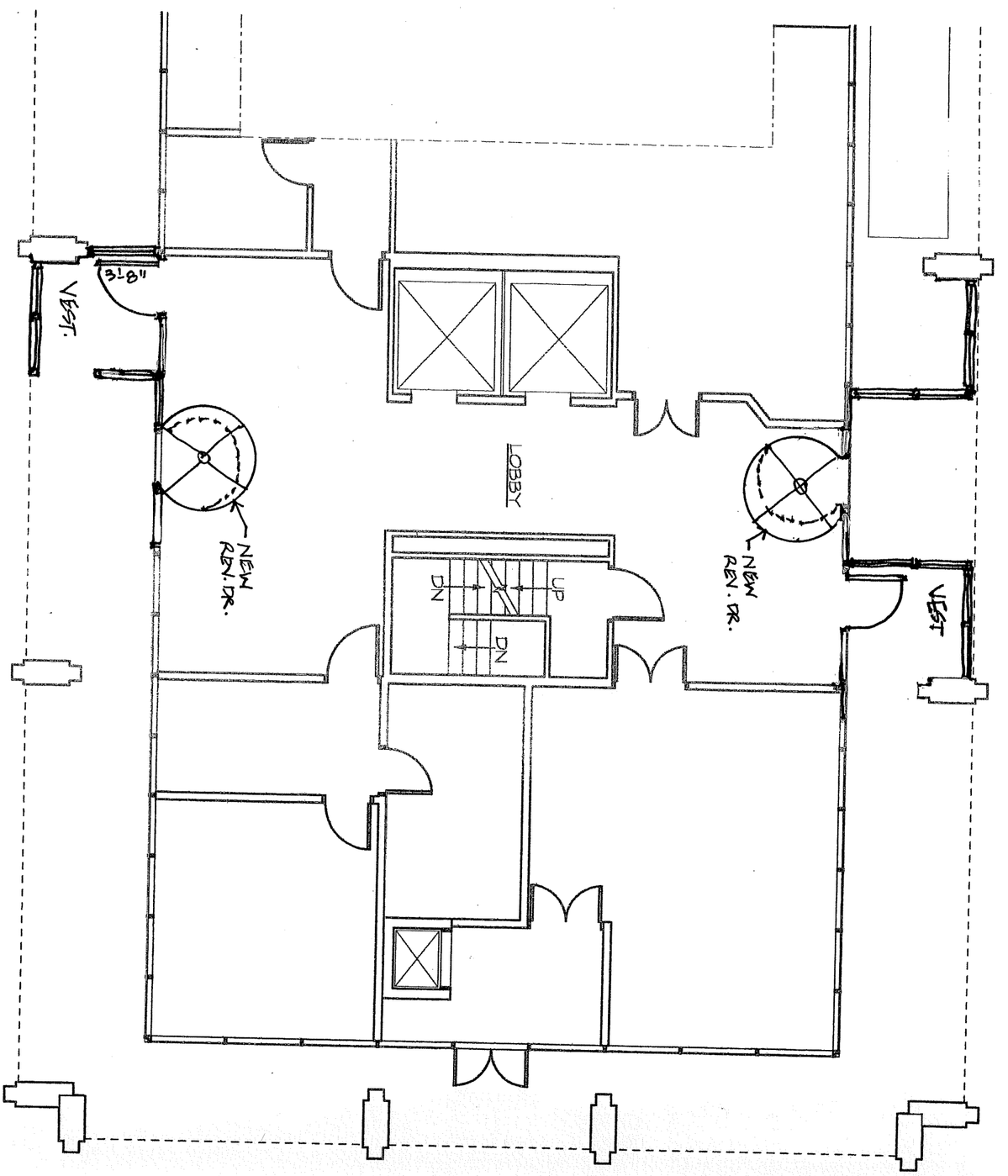
DATE
JUNE 30, 1999

SCALE
AS NOTED

JOB NUMBER
98-053

SHEET NUMBER
SK-7e

1
K-7f



1/8" = 1'-0"

NORTH

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EXTERIOR BUILDING STUDY

Oswego New York

DRAWING DESCRIPTION

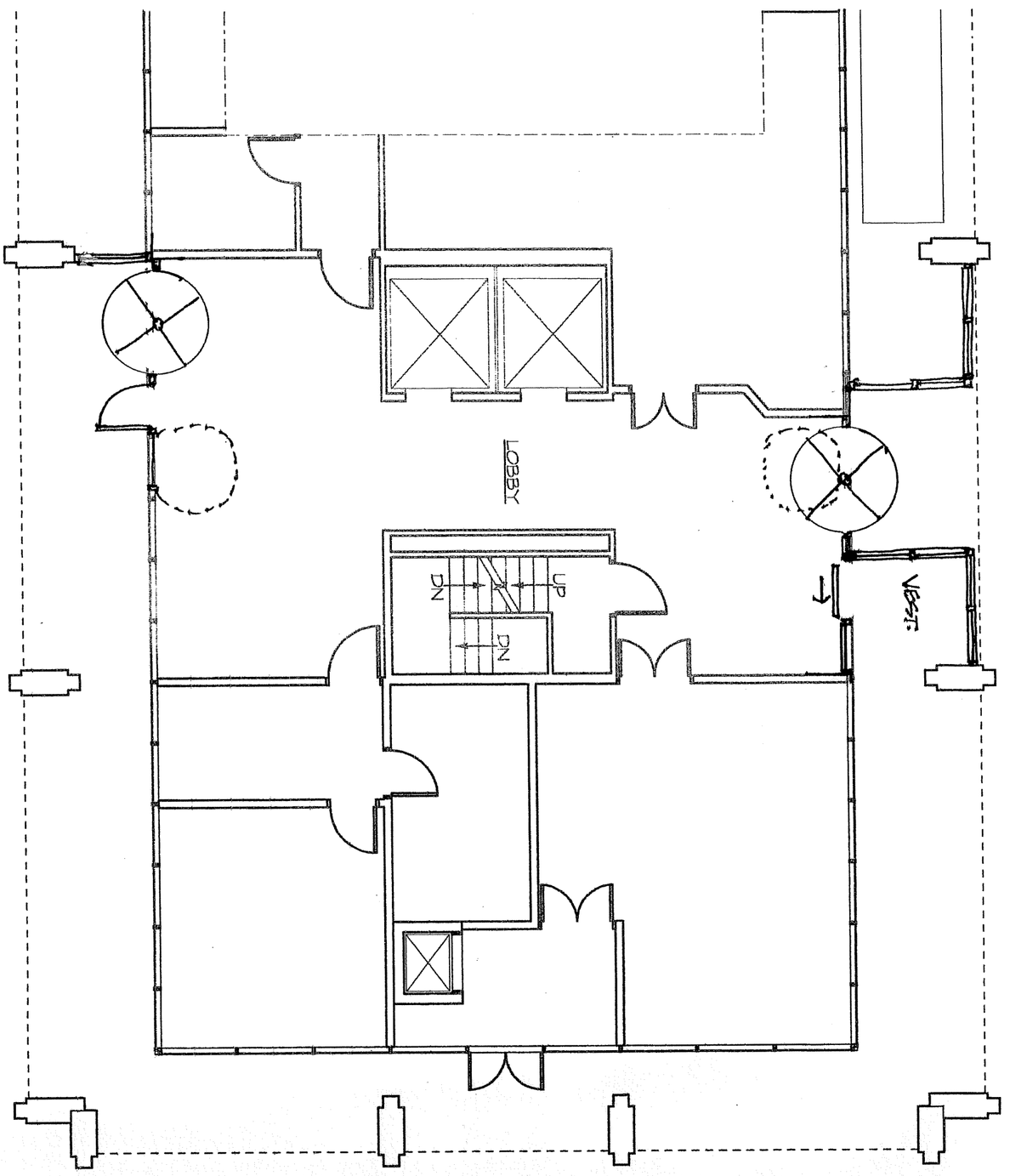
DATE
JUNE 30, 1999

SCALE
AS NOTED

JOB NUMBER
98-053

SHEET NUMBER
SK-7f

SK-7g 1



NORTH

1/8" = 1'-0"

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053

S. U. N. Y. @ OSWEGO

S.U.N.Y. OSWEGO

EXTERIOR BUILDING STUDY

Oswego New York

DRAWING DESCRIPTION

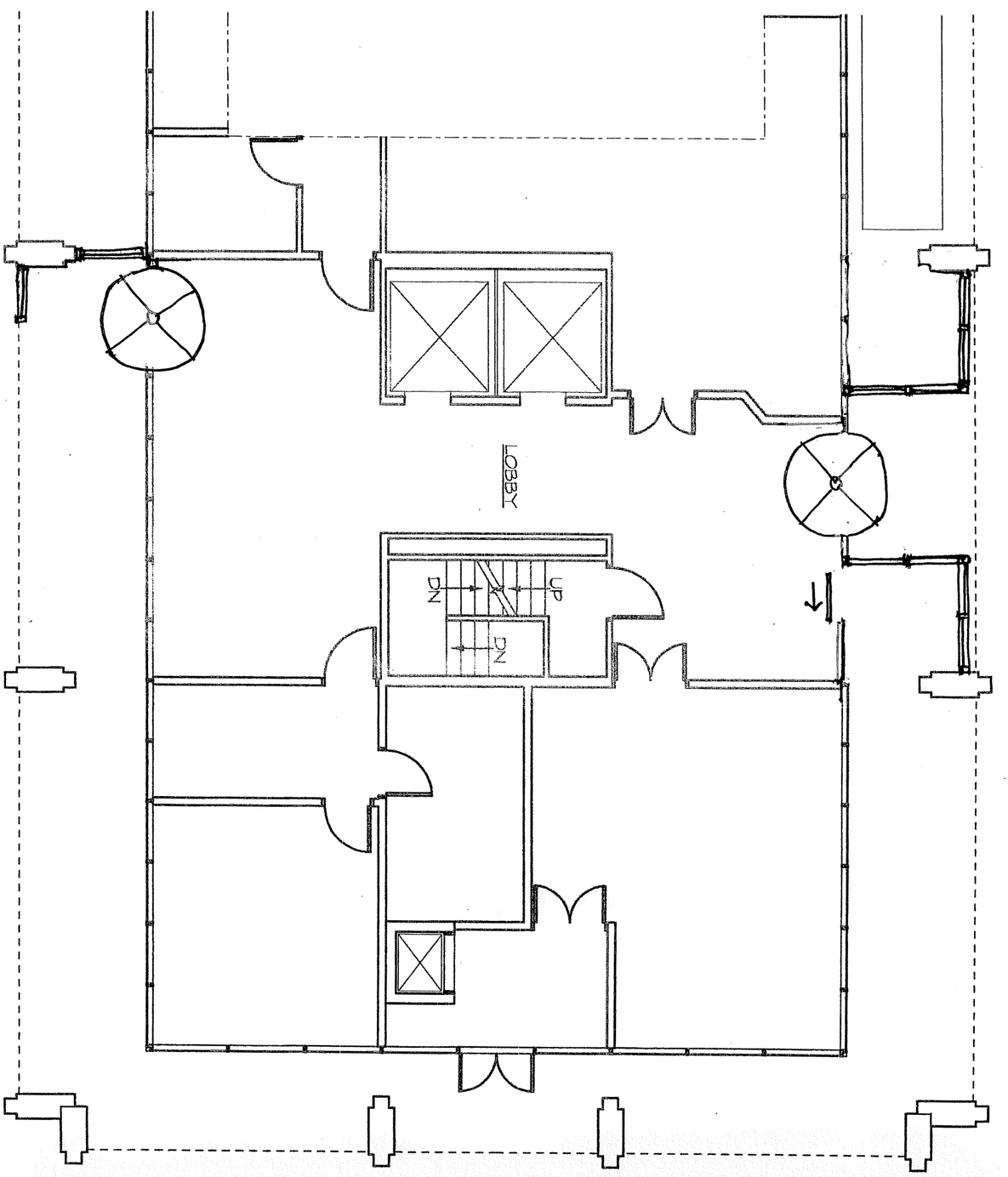
DATE
JUNE 30, 1999

SCALE
AS NOTED

JOB NUMBER
98-053

SHEET NUMBER
SK-7g

SK-7h 1



1/8" = 1'-0"

NORTH

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EXTERIOR BUILDING STUDY
Oswego New York

DRAWING DESCRIPTION

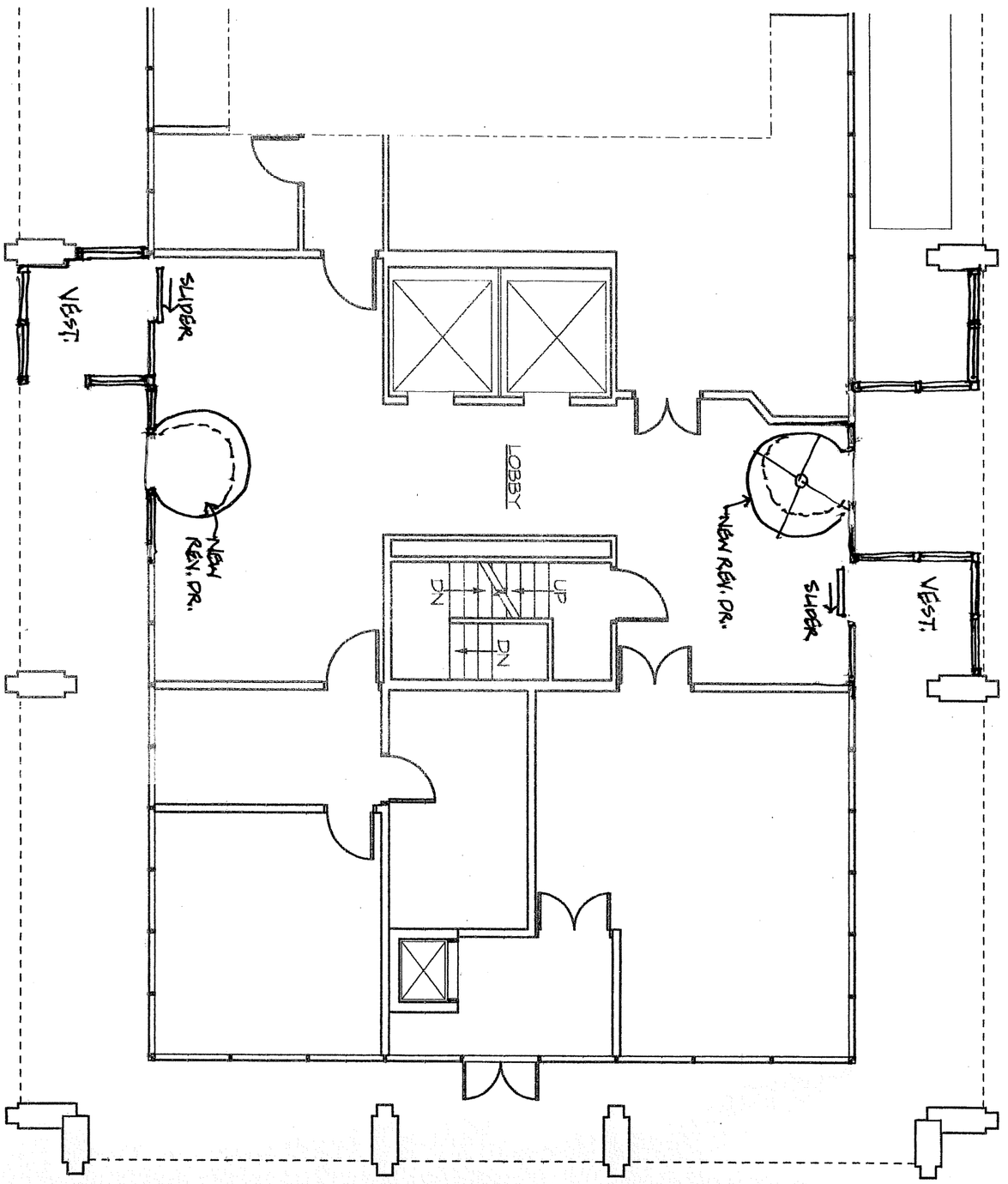
DATE
JUNE 30, 1999

SCALE
AS NOTED

JOB NUMBER
98-053

SHEET NUMBER
SK-7h

1
K-7j



1/8" = 1'-0"

NORTH

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SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053

S. U. N. Y. @ OSWEGO

S.U.N.Y. in OSWEGO

EXTERIOR BUILDING STUDY

Oswego New York

DRAWING DESCRIPTION

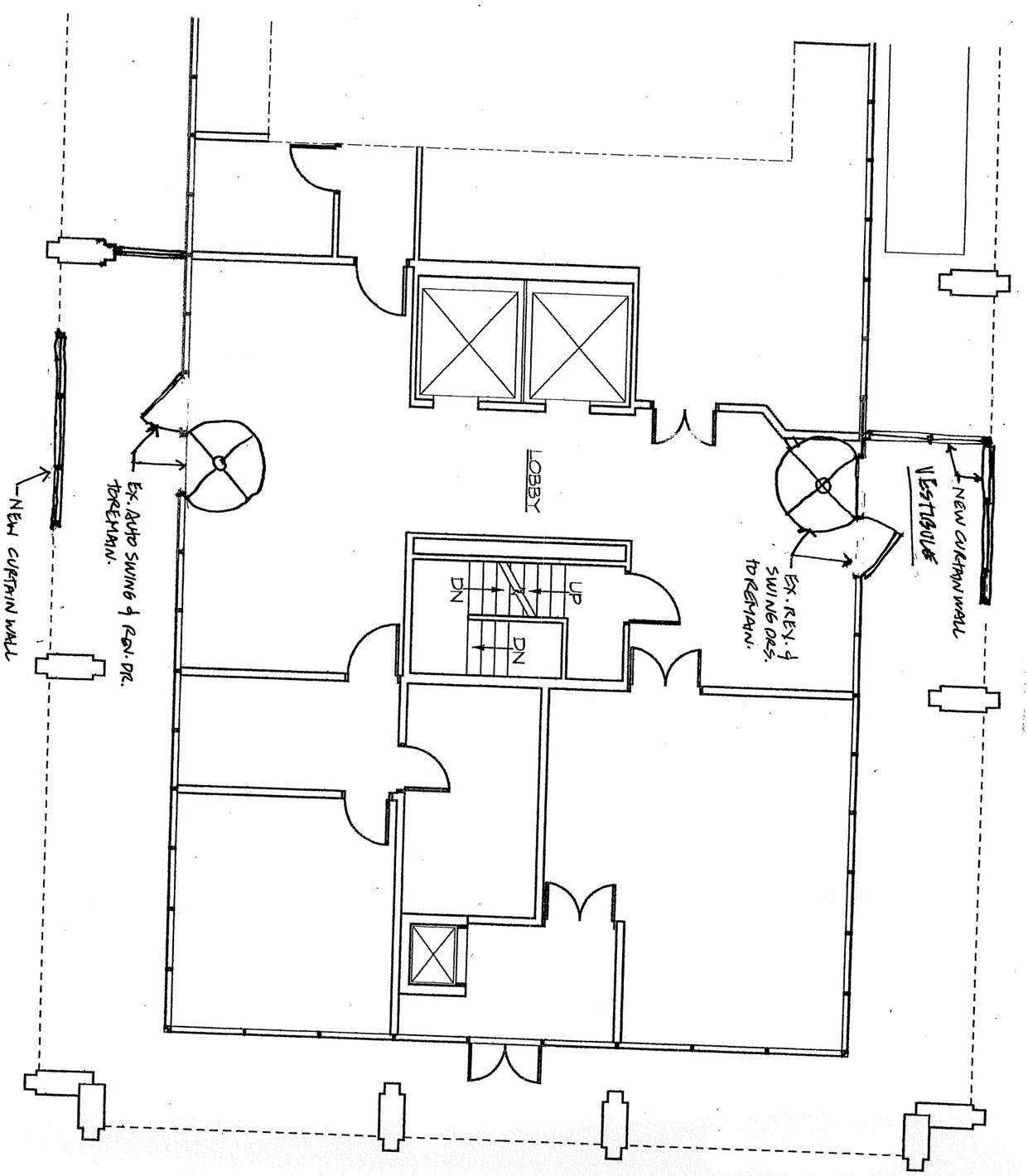
DATE
JUNE 30, 1999

SCALE
AS NOTED

JOB NUMBER
98-053

SHEET NUMBER

SK-7j



1/8" = 1'-0"

NORTH

JCM ARCHITECTURAL ASSOCIATES
300 HAWLEY AVENUE
SYRACUSE, NEW YORK 13203
315-424-0141 FAX 315-478-8053

S. U. N. Y. @ OSWEGO

S.U.N.Y. at OSWEGO

EXTERIOR BUILDING STUDY

Oswego New York

DRAWING DESCRIPTION

DATE
JUNE 30, 1999

SCALE
AS NOTED

JOB NUMBER
98-053

SHEET NUMBER
SK-7k

North Building Elevation

DRWG. No. 2c

NOTES:

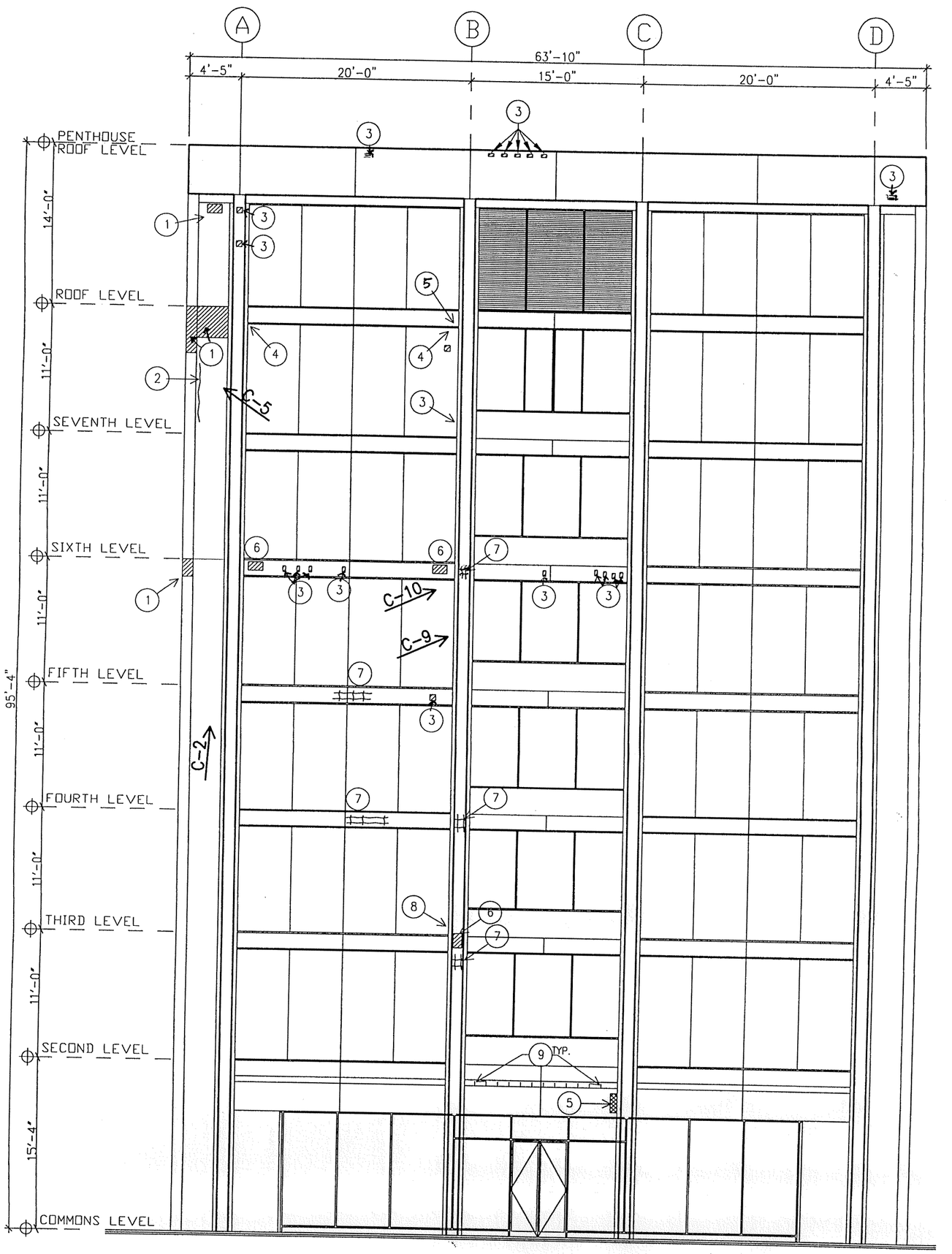
1. 6"± SQUARE RUST SPOT
2. 4"± SQUARE CONCRETE DELAMINATIONS
3. 3"Φ± CONCRETE SPALL AT FORM TIE.
4. CRACK IN CONCRETE SPANDREL.

GENERAL NOTES:

1. THIS DRAWING DOES NOT SHOW MOST OF THE DISTRESS CONDITIONS IN THE EXPOSED CONCRETE FRAME OF THE BUILDING FACADE, BECAUSE OF THE LIMITED FIELD INVESTIGATION TIME.
2. APPROXIMATELY 82 LOCATIONS OF CONCR. SPALLS WITH EXPOSED REINFORCING BARS WERE OBSERVED FROM THE GROUND. MOST SPALLED AREAS WERE SMALL (<1 SQ. FT.); 7 SPALLED AREAS WERE BETWEEN 1.5 SQ. FT. TO 3 SQ. FT. IN SIZE.
3. APPROX. 80 CRACKS WERE OBSERVED AT VARIOUS LOCATIONS IN CONCRETE SPANDRELS AT FLOOR & ROOF LEVELS.

SUNY OSWEGO - Culkin Hall

FIELD INVESTIGATION ON JUNE 11, 1999
BY JOHN P. STOPEN ENGINEERING PARTNERSHIP



NOTES:

1. SPALLED-OFF CEMENTITIOUS COATING (PARGING).
2. CRACK AT DELAMINATED CEMENTITIOUS COATING.
3. EXPOSED REBAR (ER), WITH CONCRETE SPALL.
4. MOISTURE STAINS IN SOFFIT/CONCRETE SPANDREL.
5. DELAMINATED CEMENTITIOUS COATING AT EMBEDDED STEEL PLATE (?)
6. SPALLED-OFF CONCRETE COVER AT EMBEDDED STEEL PLATE.
7. VERTICAL & HORIZONTAL CRACKS.
8. CONCRETE SPALL, WITH EXPOSED VERT. REBAR & COL. TIES.
9. EXPOSED STIRRUP BARS (RUSTY) IN CONCRETE SPANDREL.

GENERAL NOTES:

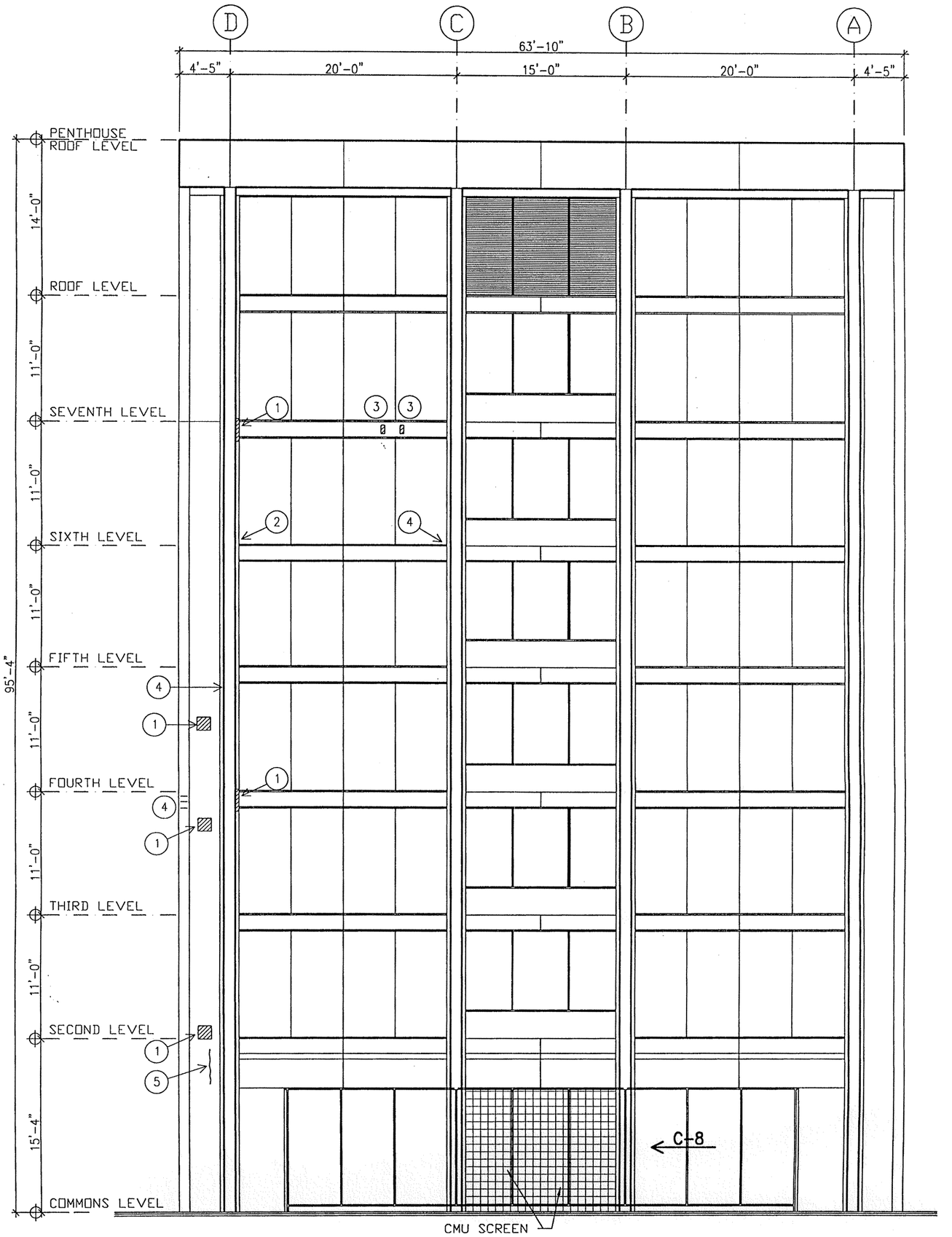
1. CLOSE-UP FIELD INVESTIGATION, FROM MANLIFT, WAS CONDUCTED ONLY IN FACADE BAY A-B.
2. THIS DRAWING DOES NOT SHOW OTHER POSSIBLE DISTRESS CONDITIONS IN THE EXPOSED CONCRETE FRAME IN THE BUILDING FACADE BECAUSE OF LIMITED FIELD INVESTIGATION TIME.
3. APPROX. 70 LOCATIONS OF CONCRETE SPALLS WERE OBSERVED FROM GROUND. MOST SPALL AREAS WERE LESS THAN 1 S.F.
4. APPROX. 36 CRACKS WERE OBSERVED IN CONCRETE SPANDRELS AT FLOOR & ROOF LEVELS.

SUNY OSWEGO - Culkin Hall

FIELD INVESTIGATION ON JUNE 11, 1999
BY JOHN P. STOPEN ENGINEERING PARTNERSHIP

East Building Elevation

DRW'G. No. 3C



NOTES:

(1) SPALLED-OFF CEMENTITIOUS COATING (PARGING.).
(2) EXPOSED REBAR (ER), WITH CONCRETE SPALL.
(3) EXPOSED STIRRUP BAR IN CONCRETE SPANDREL.
(4) EXPOSED COLUMN TIE.
(5) CRACK.

GENERAL NOTES:

1. CLOSE-UP FIELD INVESTIGATION, FROM MANLIFT, WAS CONDUCTED ONLY IN FACADE BAY C-D.
2. THIS DRAWING DOES NOT SHOW OTHER POSSIBLE DISTRESS CONDITIONS IN THE EXPOSED CONCRETE FRAME IN THE BUILDING FACADE BECAUSE OF LIMITED FIELD INVESTIGATION TIME.
3. APPROX. 50 LOCATIONS OF CONCRETE SPALLS WERE OBSERVED FROM GROUND. MOST SPALL AREAS WERE LESS THAN 1 S.F.
4. APPROX. 23 CRACKS WERE OBSERVED IN CONCRETE SPANDRELS AT FLOOR & ROOF LEVELS.

SUNY OSWEGO - Culkin Hall

FIELD INVESTIGATION ON JUNE 11, 1999
BY JOHN P. STOPEN ENGINEERING PARTNERSHIP

West Building Elevation

DRW'G. No. 4C

North Building Elevation

DRWG. No. 1M

6 5 4 3 2 1

87'-6"

3'-9" | 21'-4" | 8'-6" | 20'-4" | 8'-6" | 21'-4" | 3'-9"

PENTHOUSE ROOF LEVEL

ROOF LEVEL

FOURTH LEVEL

THIRD LEVEL

SECOND LEVEL

COMMONS LEVEL

FINISH GRADE

11'-7" | 3'-7" | 11'-8" | 11'-8" | 11'-8" | 55'-3"± | 5'-0"

GENERAL NOTE:

1. CLOSE-UP FIELD INVESTIGATION, FROM MANLIFT, WAS CONDUCTED FOR ENTIRE NORTH FACADE.

PRECAST WALL PANELS (TYP.)

PRECAST WALL PANELS (TYP.)

M-1 M-5 M-6 M-7 M-8 M-9 M-10 M-11 M-12 M-13 M-14

NOTES:

1. CRACK(S)
2. CONCRETE DELAMINATION AT SPANDREL CORNER.
3. CONCRETE SPALL AT BOTTOM/STEEL PLATE EMBEDDED IN SPANDREL.
4. EXPOSED HORIZ. REBAR (RUSTY), WITH CONCRETE SPALL.
5. SPALLED-OFF CONCRETE COVER AT EMBEDDED STEEL PLATE.
6. DELAMINATION OF CONCRETE COVER AT STEEL PLATE EMBEDDED IN SPANDREL.
7. EXPOSED COLUMN TIE(S) (RUSTY), WITH CONCRETE SPALL(S).
8. EXSPOSED COLUMN VERT. REBAR (RUSTY), WITH CONCRETE SPALL.
9. CONCRETE DELAMINATION.
10. CONCRETE SPALL.

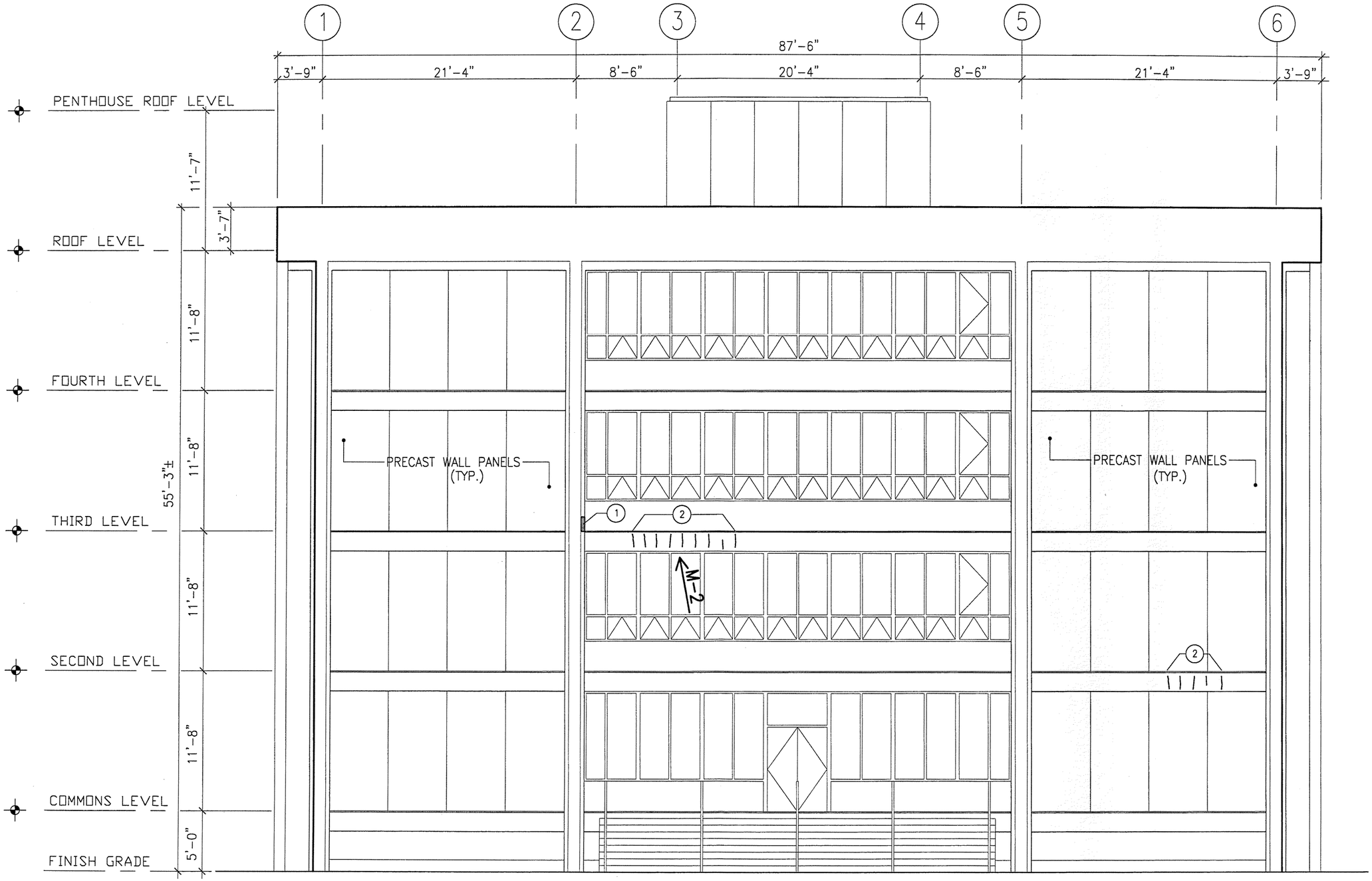
SUNY OSWEGO - Mahar Hall

FIELD INVESTIGATION ON JUNE 2, 1999

BY JOHN P. STOPPEN ENGINEERING PARTNERSHIP

South Building Elevation

DRWG. No. 2M



NOTES:

(1) CONCRETE DELAMINATION AT COLUMN CORNER.

(2) EXPOSED SPANDREL STIRRUPS (RUSTY), WITH CONCRETE SPALLS.

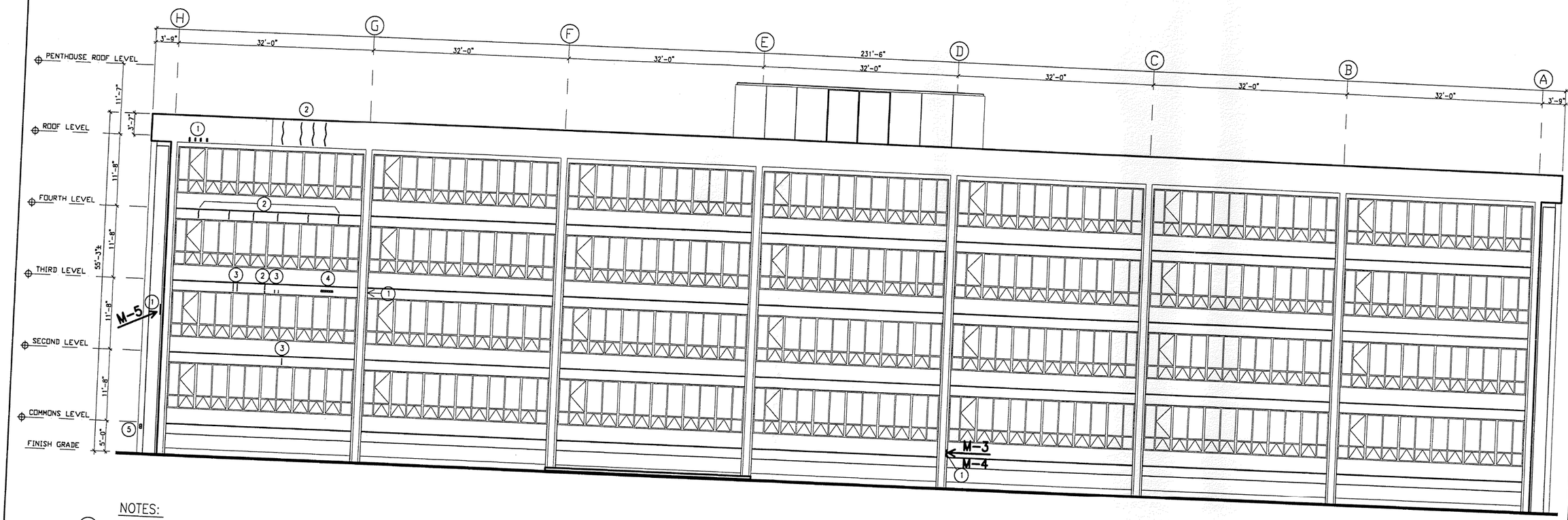
GENERAL NOTE:

1. THIS DRAWING DOES NOT SHOW MOST OF THE DISTRESS CONDITIONS IN THE EXPOSED CONCRETE FRAME OF THE BUILDING FACADE BECAUSE LIMITED FIELD INVESTIGATION TIME DID NOT PERMIT DETAILED VISUAL OBSERVATIONS.

SUNY OSWEGO - Mahar Hall

FIELD INVESTIGATION ON JUNE 2, 1999

BY JOHN P. STOPPEN ENGINEERING PARTNERSHIP



NOTES:

1. EXPOSED VERTICAL REBAR(S), WITH CONCRETE SPALLS.
2. CRACK(S)
3. EXPOSED SPANDREL STIRRUP(S) (RUSTY), WITH CONCRETE SPALLS.
4. EXPOSED HORIZ. REBAR (RUSTY), WITH CONCRETE SPALL.
5. CONCRETE DELAMINATION

GENERAL NOTE:

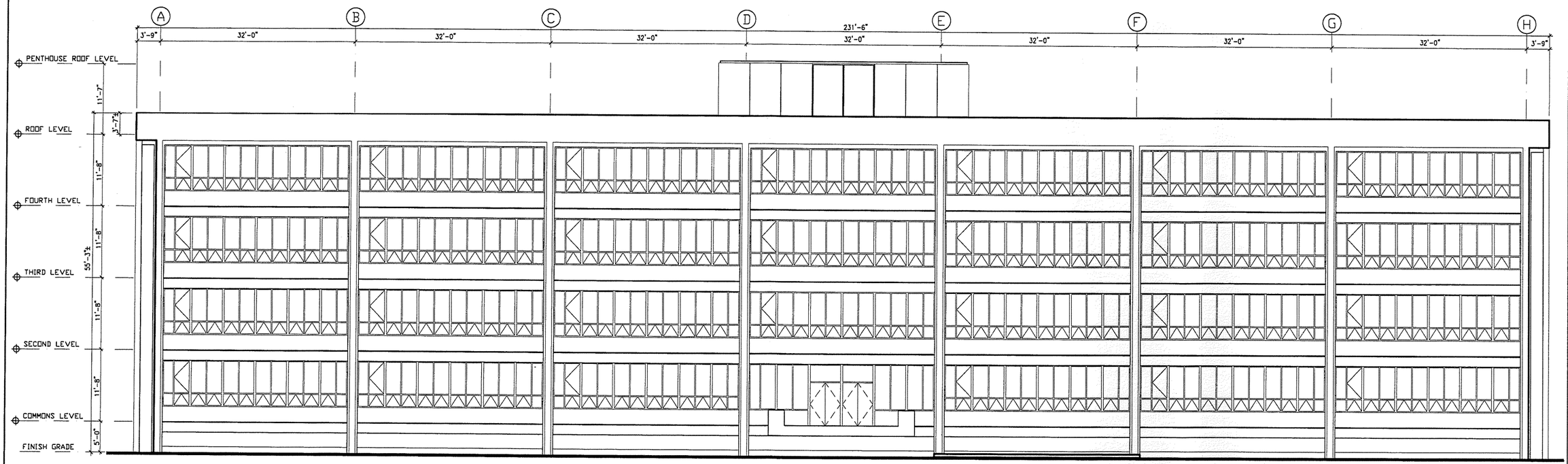
1. THIS DRAWING DOES NOT SHOW MOST OF THE DISTRESS CONDITIONS IN THE EXPOSED CONCRETE FRAME OF THE BUILDING FACADE BECAUSE LIMITED FIELD INVESTIGATION TIME DID NOT PERMIT DETAILED VISUAL OBSERVATIONS.

SUNY OSWEGO - Mahar Hall

FIELD INVESTIGATION ON JUNE 2, 1999
BY JOHN P. STOPPEN ENGINEERING PARTNERSHIP

West Building Elevation

DRWG. No. 3M



GENERAL NOTE:

1. THIS DRAWING DOES NOT SHOW DISTRESS CONDITIONS IN THE EXPOSED CONCRETE FRAME OF THE BUILDING FACADE BECAUSE LIMITED FIELD INVESTIGATION TIME DID NOT PERMIT DETAILED VISUAL OBSERVATIONS.

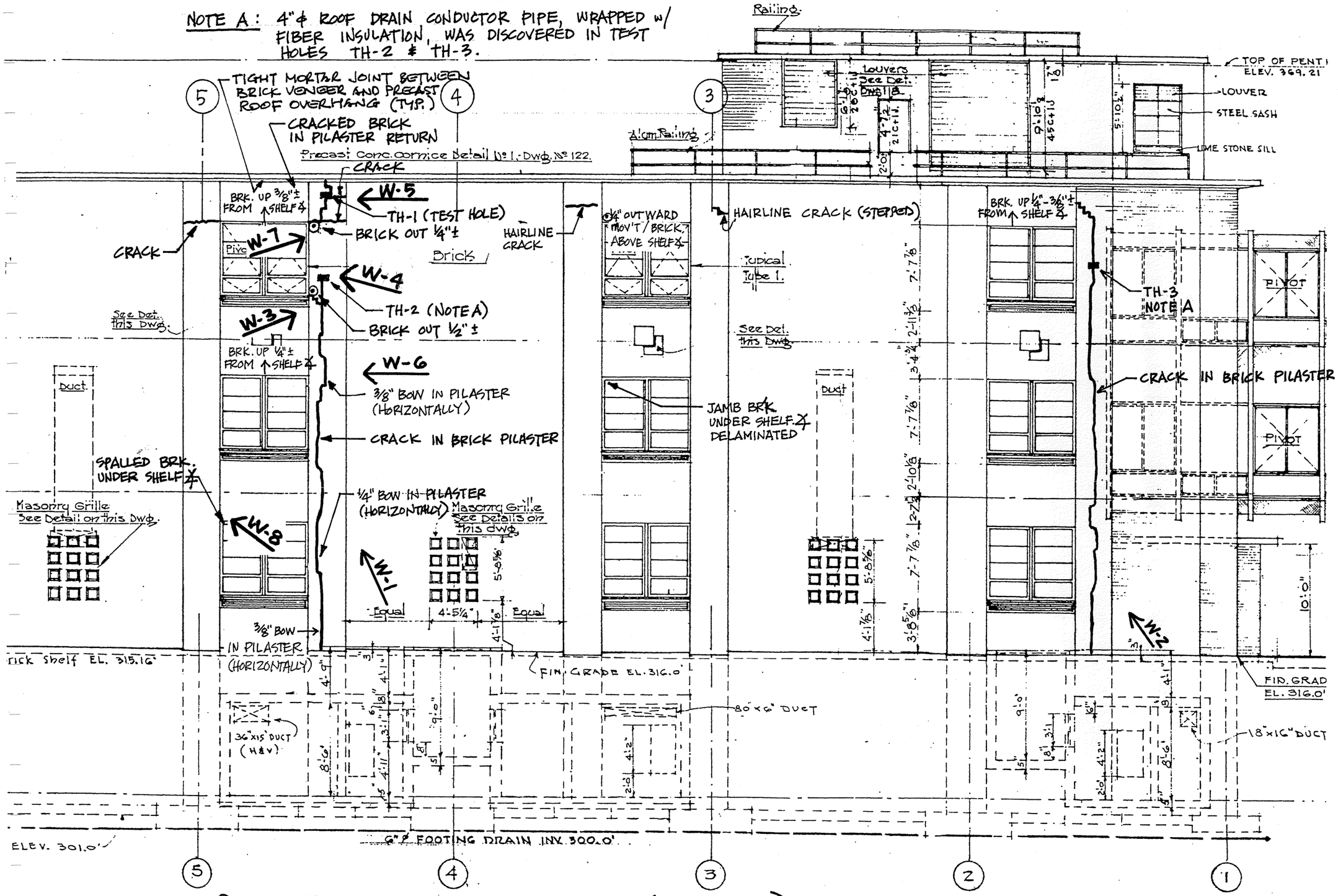
SUNY OSWEGO - Mahar Hall

FIELD INVESTIGATION ON JUNE 2, 1999
BY JOHN P. STOPPEN ENGINEERING PARTNERSHIP

East Building Elevation

DRWG. No. 4M

NOTE A: 4"ϕ ROOF DRAIN CONDUCTOR PIPE, WRAPPED w/ FIBER INSULATION, WAS DISCOVERED IN TEST HOLES TH-2 & TH-3.



SOUTH - ELEVATION (PARTIAL)

Scale 1" = 1'-0"

SUNY OSWEGO - Wilber Hall

South Building Elevation

(PARTIAL COPY OF EXIST. CONSTR. DWG. No. 61-106)

DRWG. No. 1W

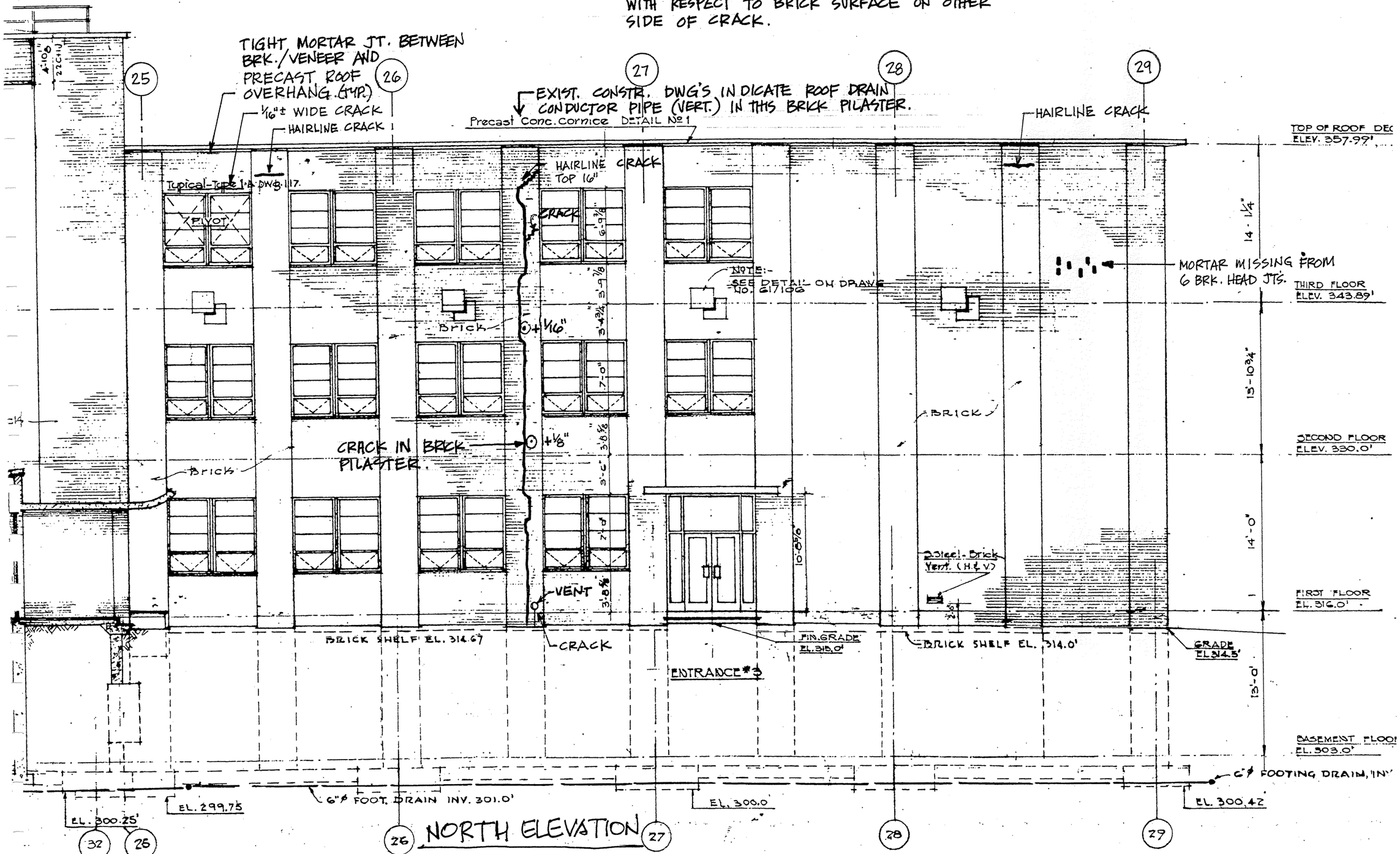
FIELD INVESTIGATION ON JUNE 8, 1999

BY JOHN P. STOPEN ENGINEERING PARTNERSHIP

SECTION "A A" THRU EXIT HALL

SCALE 1/6"=1'-0"

LEGEND:
⊙ +1/8" DESIGNATES BRICK SURFACE IS OUT (e.g. 1/8") WITH RESPECT TO BRICK SURFACE ON OTHER SIDE OF CRACK.



SUNY OSWEGO - Wilber Hall

North Building Elevation

(PARTIAL COPY OF EXIST. CONSTR. DWG. No. 61-107)

DRWG No. 2 W

FIELD INVESTIGATION ON JUNE 8, 1999

BY JOHN P. STOPEN ENGINEERING PARTNERSHIP

SUNY OSWEGO - Wilber Hall

West Building Elevation

(PARTIAL COPY OF EXIST. CONSTR. DWG. No. 61-106)

DRW'G No. 3W

FIELD INVESTIGATION ON JUNE 8, 1999

BY JOHN P. STOPEN ENGINEERING PARTNERSHIP

* NOTE: BRICK VENEER COVERED W/ IVY, PARTLY OR FULLY. WALL SURFACES COULD NOT BE INSPECTED FOR POSSIBLE CRACKS. OR OTHER POSSIBLE MASONRY DISTRESSES.

Railing

Alum. Railing SEE DETAIL: DWG. 112

LANDING EL. 358.89

Precast Conc. Cornice Detail No 1.

TOP OF PENT ELEV. 369.21.

TOP OF ROOF ELEV. 357.99

THIRD FLOOR ELEV. 343.66

SECOND FLOOR ELEV. 330.0'

FIRST FLOOR ELEV. 316.0'

BASEMENT ELEV. 303.0'

Pivot

Typical Type 1.

Fixed

Platform. EL. 337.25'

Platform. EL. 322.67'

BUSH

IVY

6' ± LG. x 1/16" - 1/8" ± WIDE CRACK W-9

EL. 315.0'

EL. 314.67'

EL. 314.5'

EL. 314.0'

EL. 314.83' Brick Shelf

EL. 315.16'

EL. 316.0'

6" ϕ FOOTING DRAIN

INV. EL. 300.0'

ELEV. 300.42'

ELEV. 299.92'

ELEV. 300.0'

ELEV. 301.0'

7'-7 7/8"

3'-7 1/4"

2'-11 3/4"

7'-7 7/8"

2'-10 1/2"

2'-10 1/2"

7'-7 7/8"

3'-5 5/8"

11'-2 5/8"

14'-1 1/4"

12 B C

13'-10 3/4"

64 C

14'-0"

13'-0"

2'-0"

4/6" ± LG. x 1/16" ± WIDE

See Det. on this Dwg.

1/8" ± WIDE CRACK

CRACK

32 29 22 17 12 7

WEST ELEVATION (PARTIAL)

3rd Floor

6" 9"

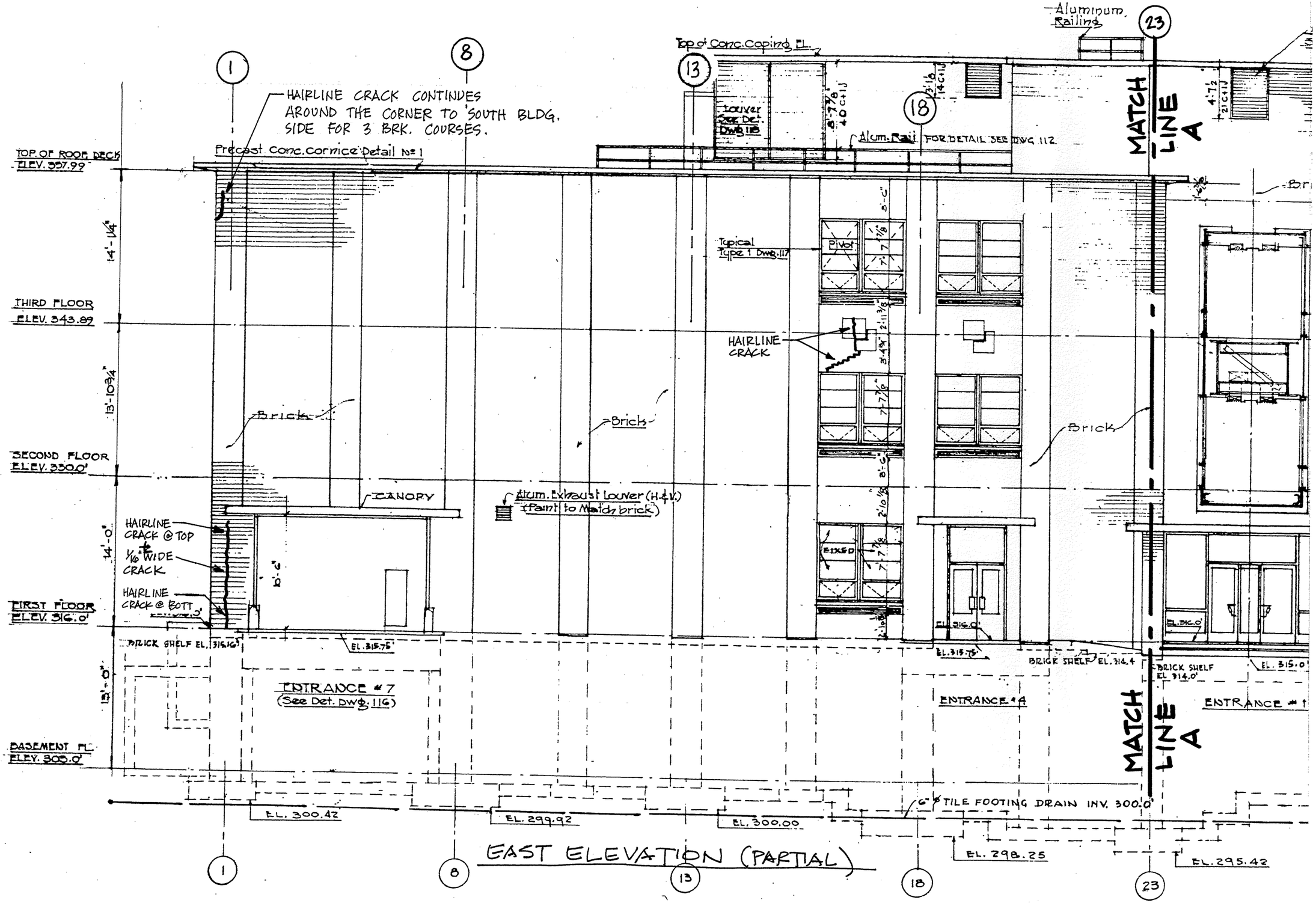
Position of 48"x 12" Louvers

SUNY OSWEGO - Wilber Hall

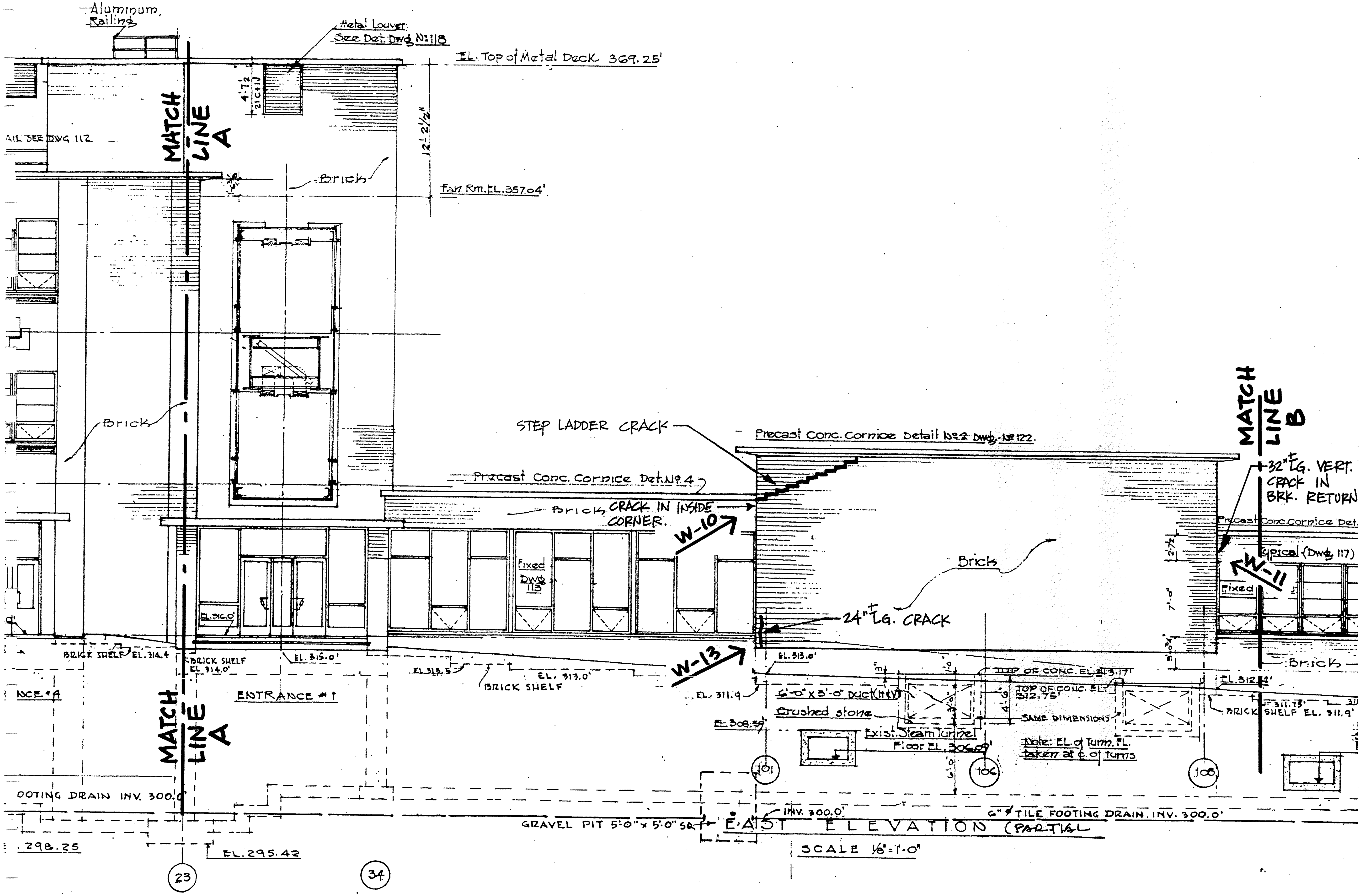
FIELD INVESTIGATION ON JUNE 8, 1999
BY JOHN P. STOPEN ENGINEERING PARTNERSHIP

East Building Elevation

(PARTIAL COPY OF EXIST. CONSTR. DWG. No. 61–107)
DRW'G. No. 4W



EAST ELEVATION (PARTIAL)



SUNY OSWEGO - Wilber Hall

FIELD INVESTIGATION ON JUNE 8, 1999
BY JOHN P. STOPEN ENGINEERING PARTNERSHIP

East Building Elevation

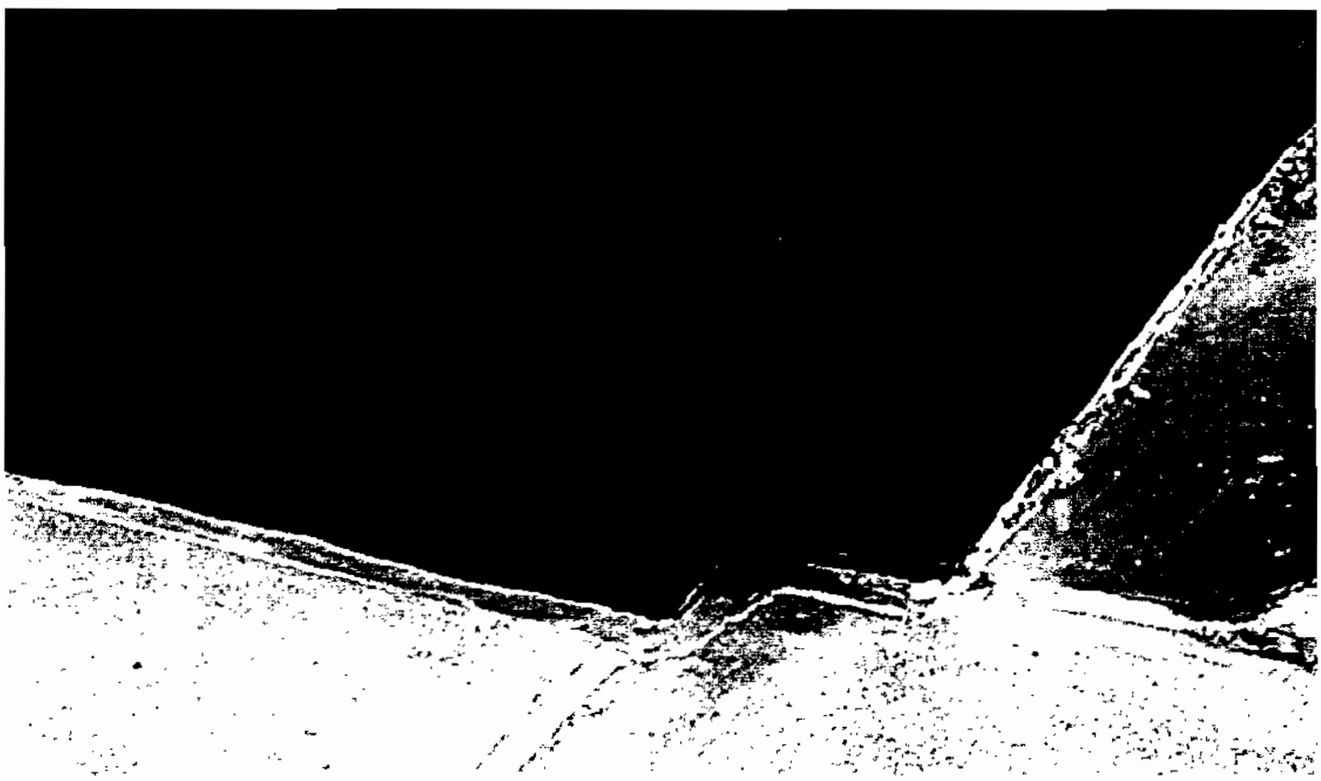
(PARTIAL COPY OF EXIST. CONSTR. DWG. No. 61-107)

DRW'G No. 5W

SUNY Oswego-Culkin Hall Photographs existing ground level window system & entry vestibules

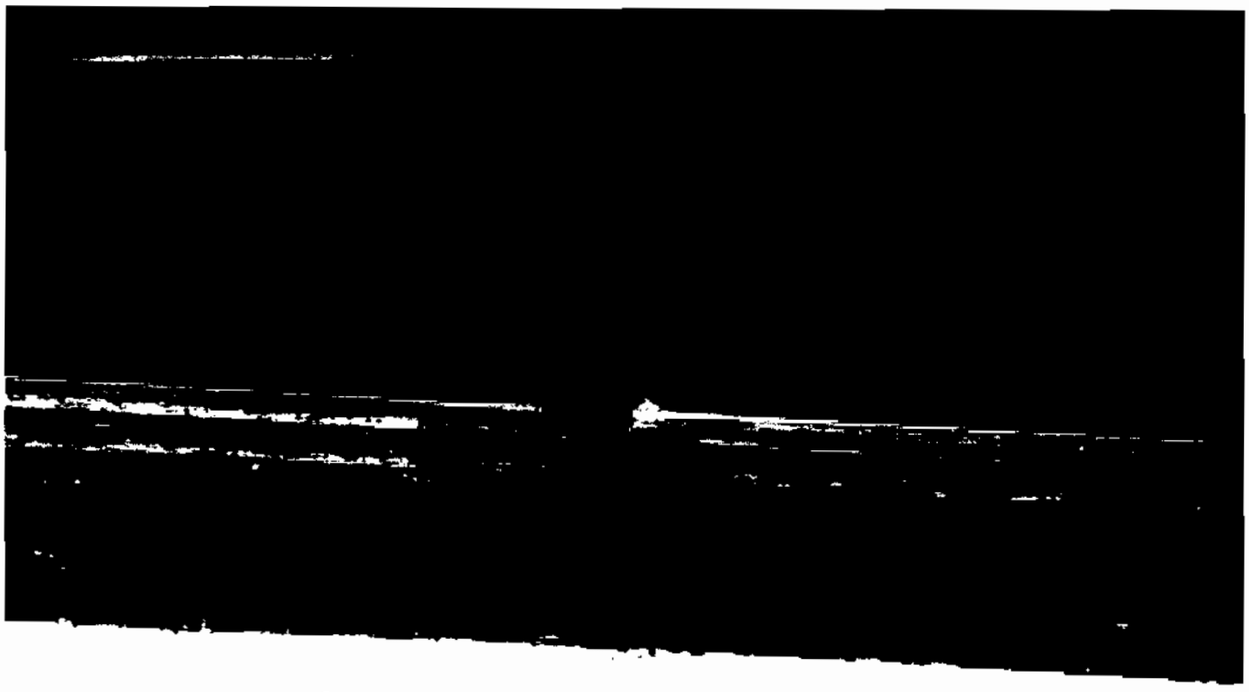
TAKEN BY JCM ARCHITECTURAL ASSOCIATES
ENGINEERING PARTNERSHIP

TYPICAL CORNER HEAD @ SOFFIT

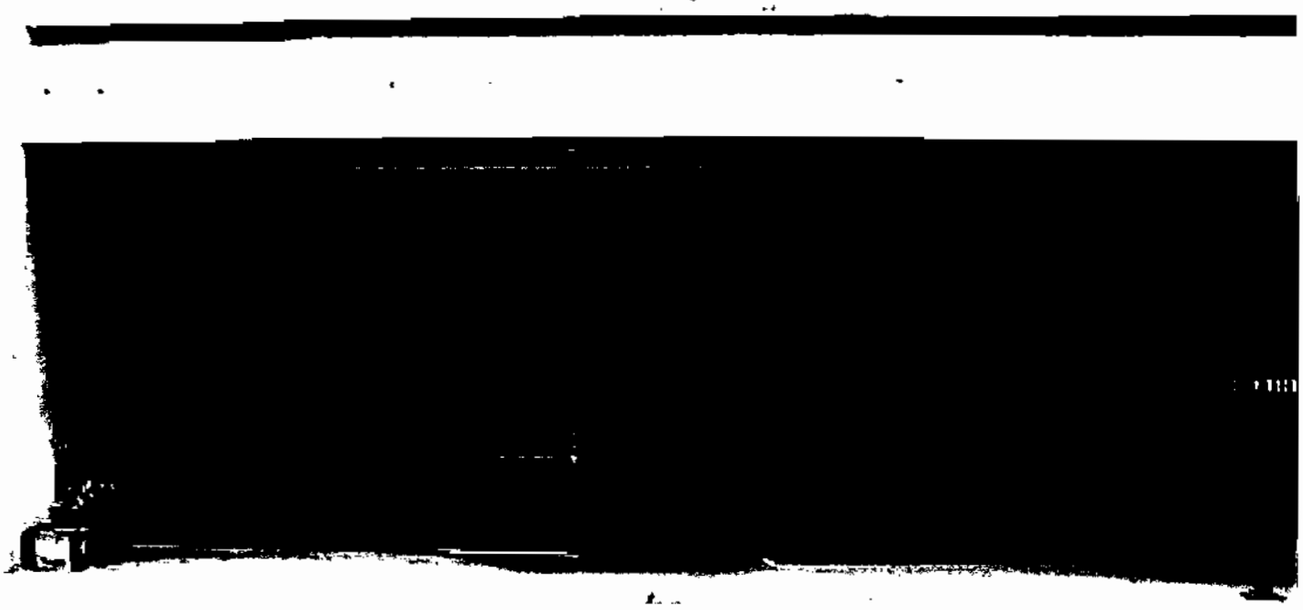


TYPICAL CORNER BASE

SOUTH ENTRY

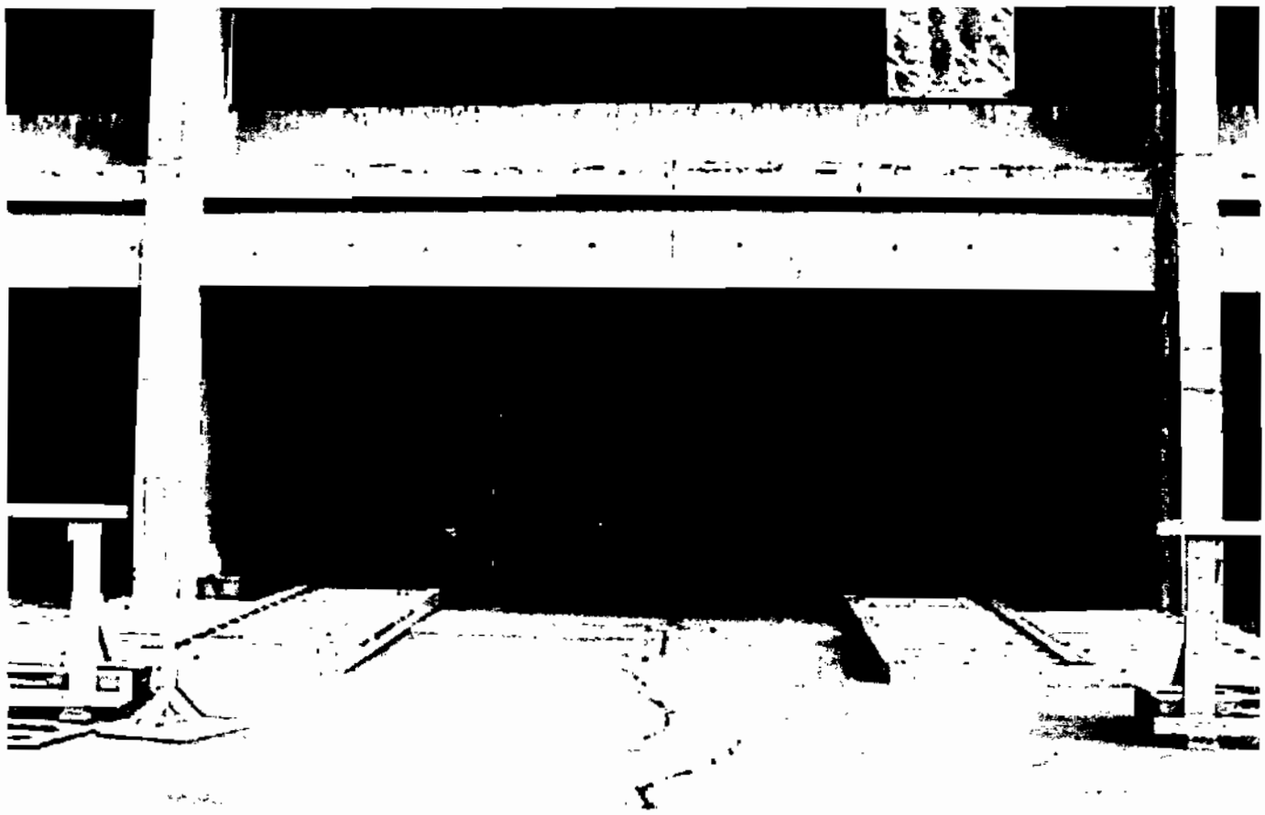


TYPICAL EXISTING NEOPRENE JOINT @ BASE



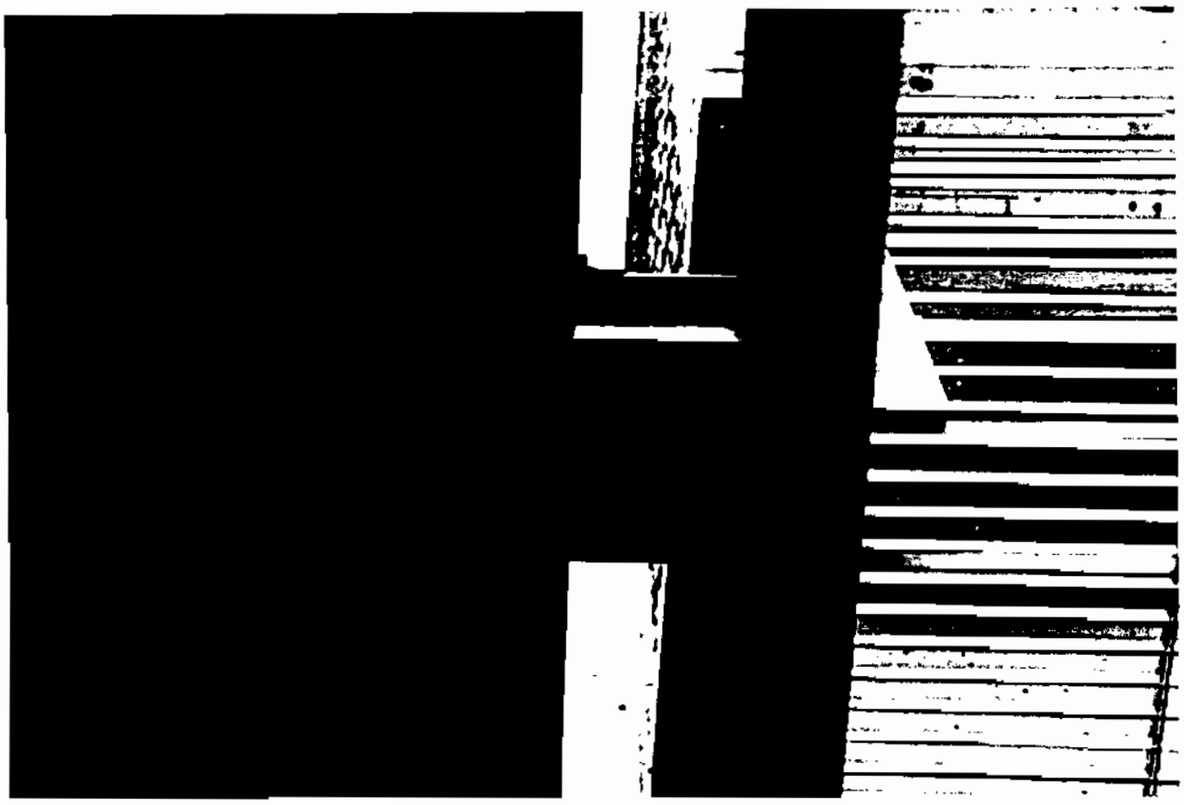
SOUTH FACADE @ MAIN ENTRY

TYPICAL CORNER (SOUTHEAST SHOWN)

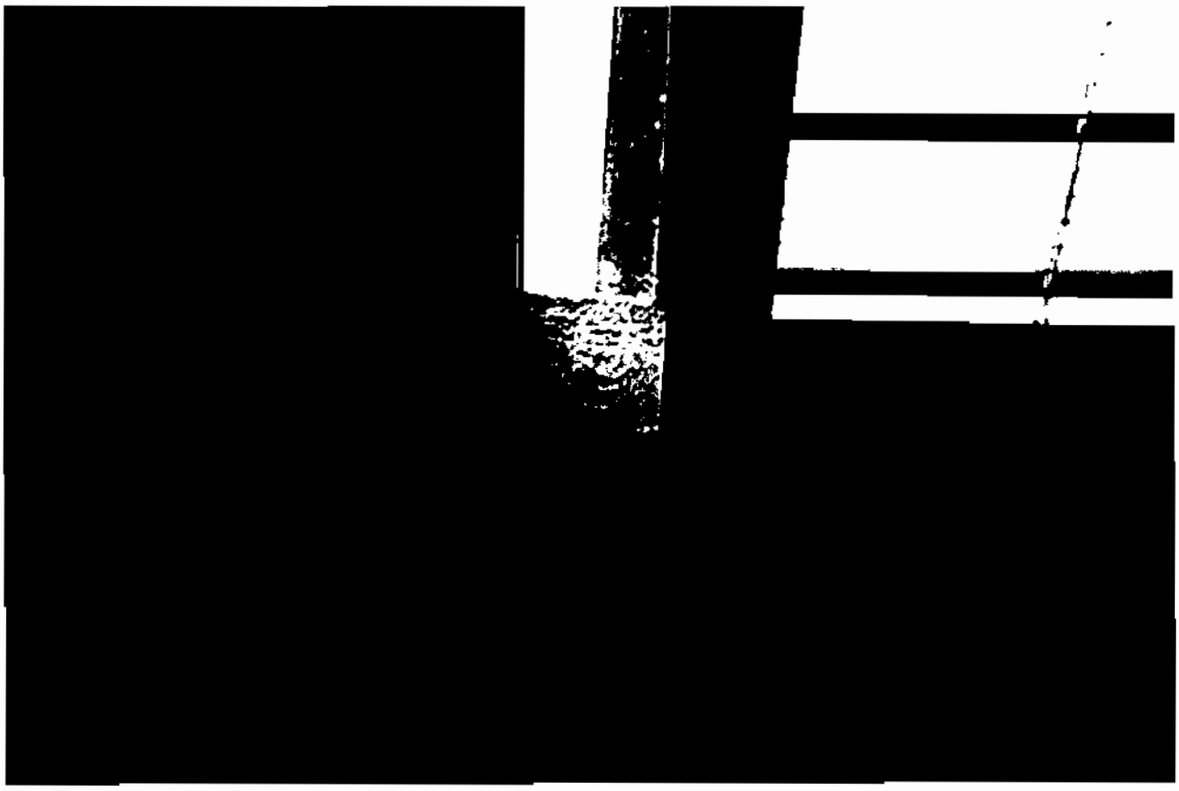


NORTH ENTRY

NORTH ELEVATION



EXISTING AUTOMATIC SWING DOOR
PUSH SWITCH @ SOUTH ENTRY



TYPICAL ENTRY BASE DETAIL

EAST ENTRY TRANSOM

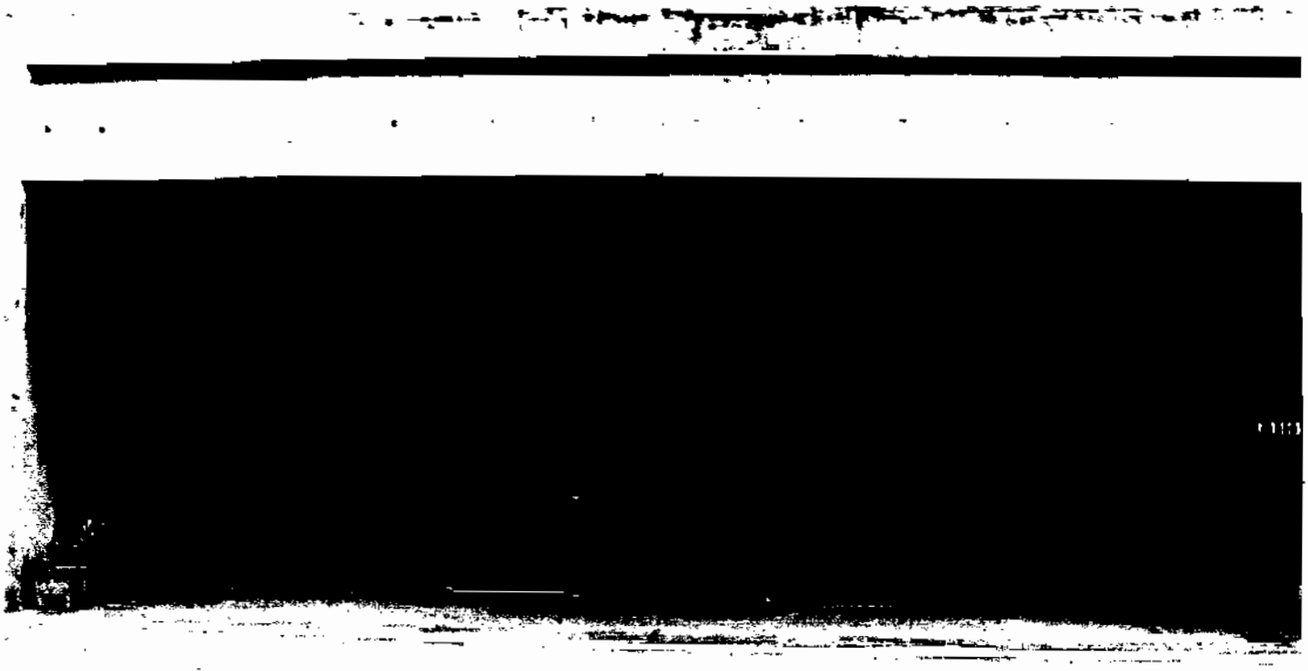
NORTH ENTRY REVOLVING DOOR

TYPICAL CORNER HEAD @ SOFFIT

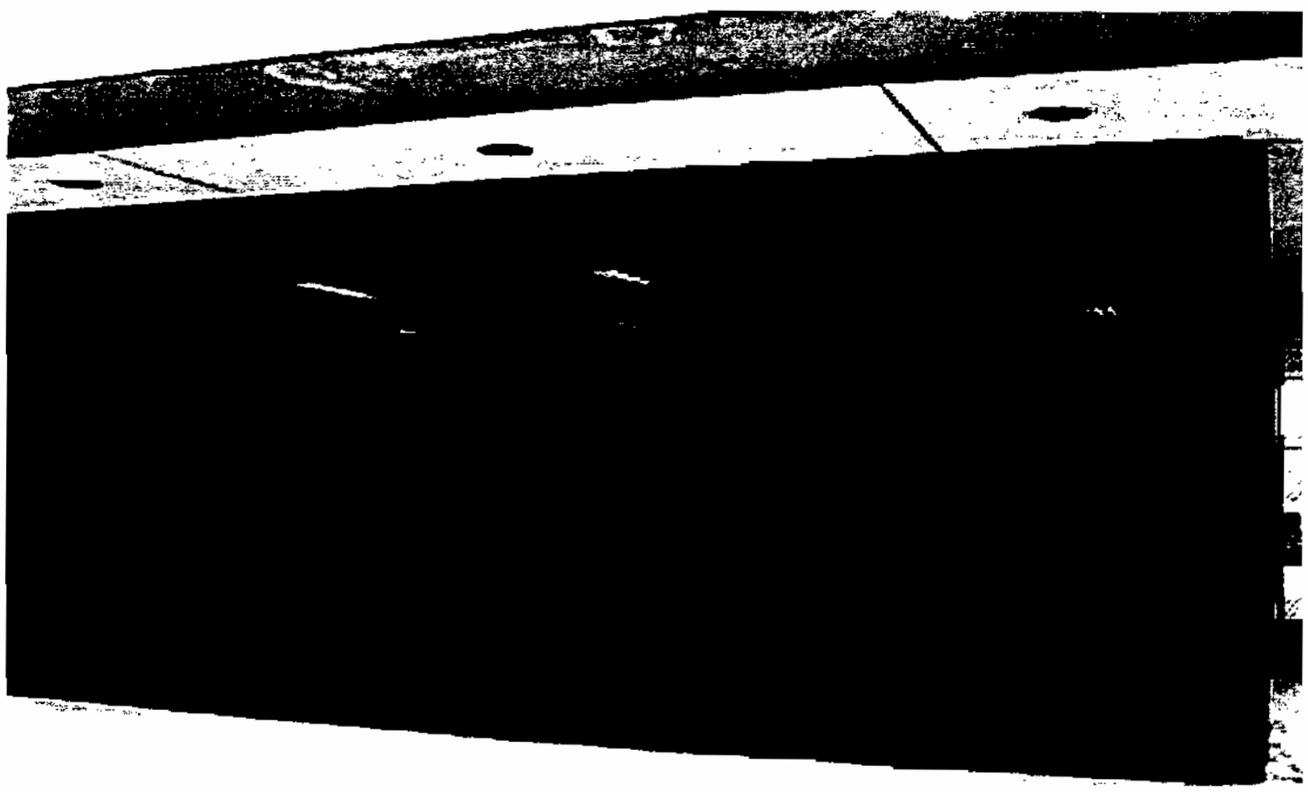
TYPICAL CORNER BASE

SOUTH ENTRY

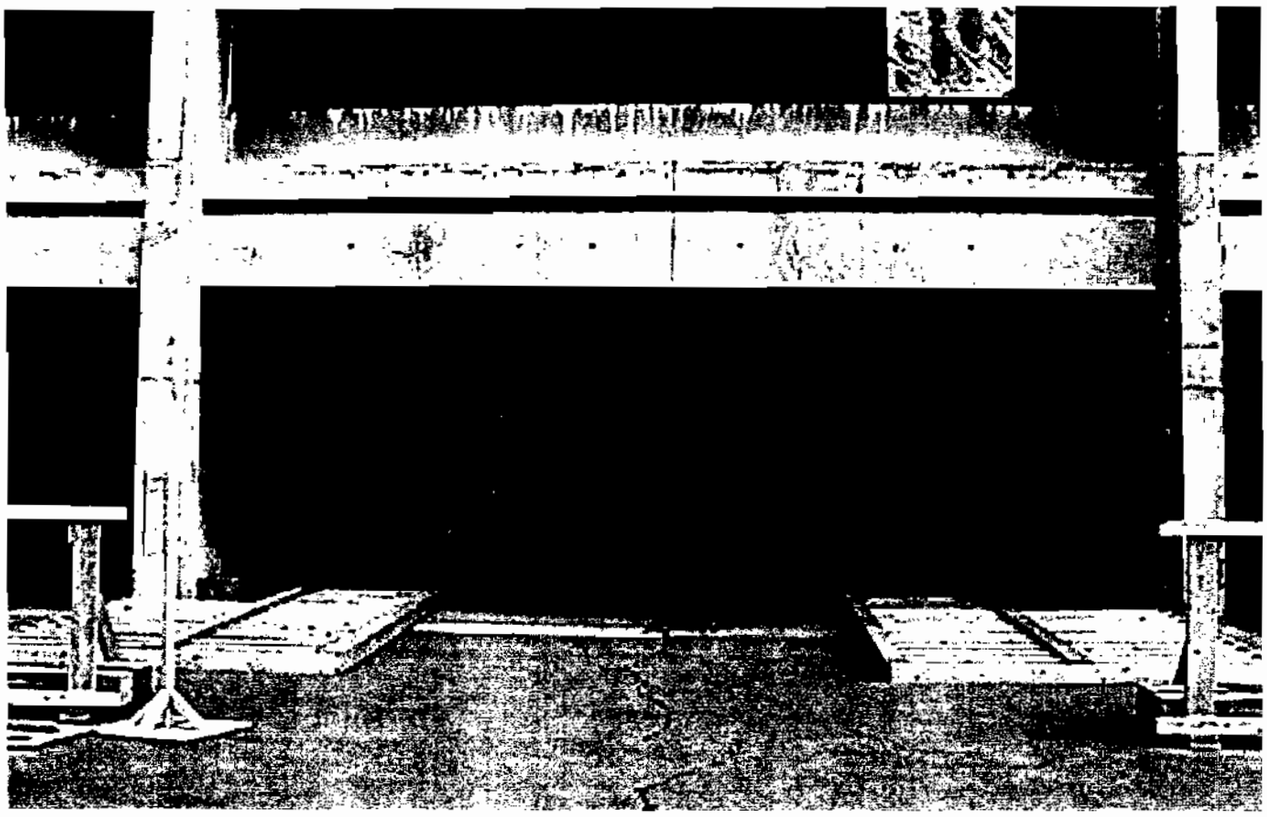
TYPICAL EXISTING NEOPRENE JOINT @ BASE



SOUTH FACADE @ MAIN ENTRY

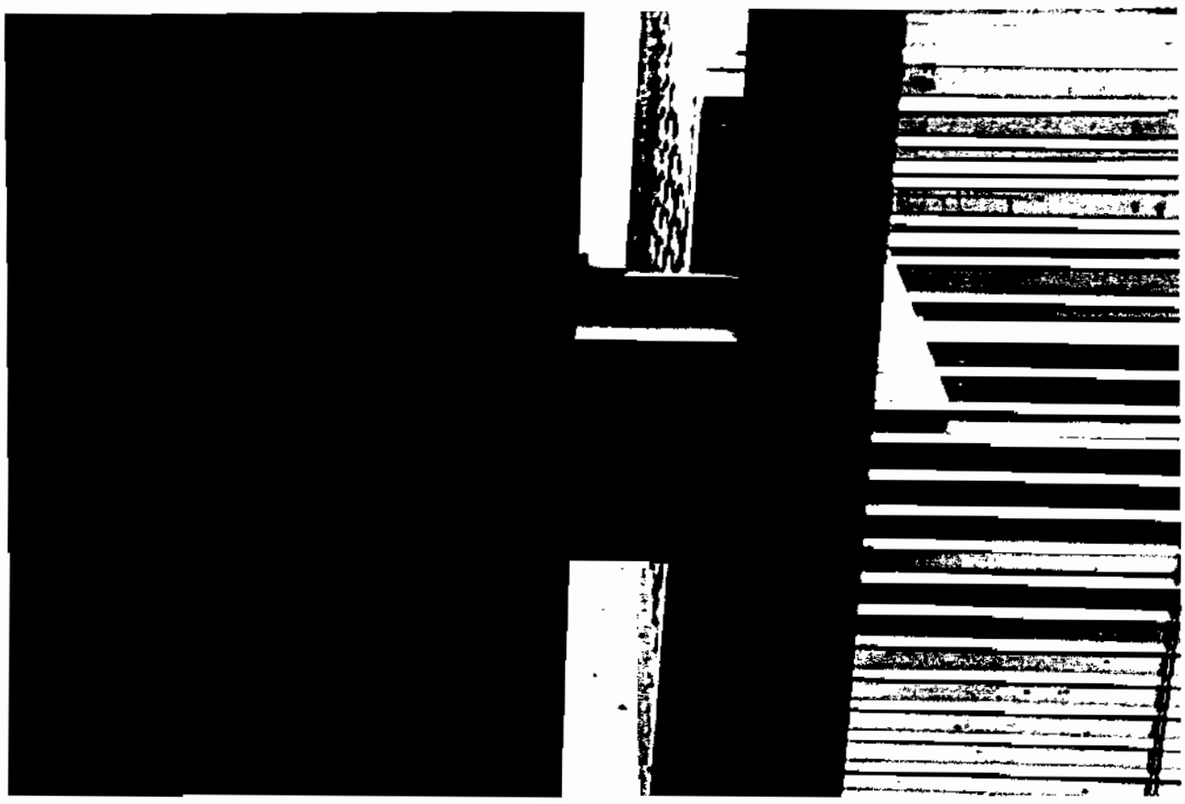


TYPICAL CORNER (SOUTHEAST SHOWN)

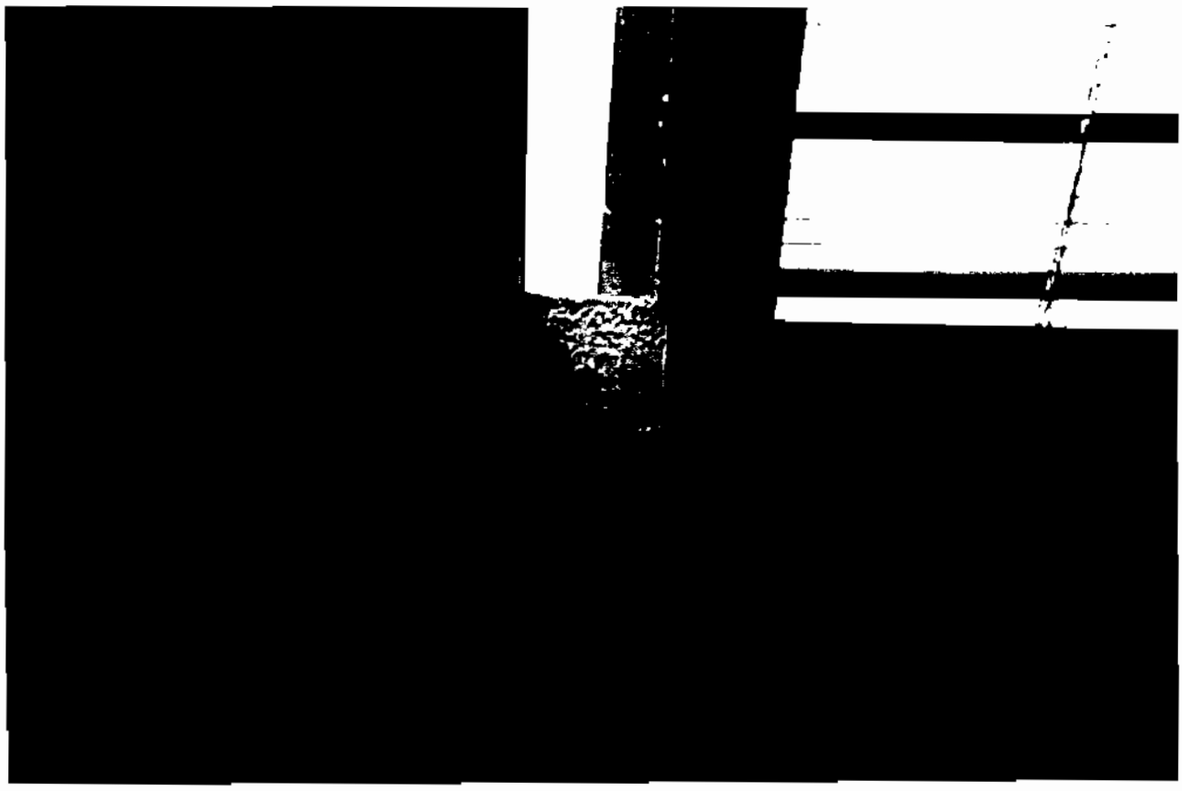


NORTH ENTRY

NORTH ELEVATION



EXISTING AUTOMATIC SWING DOOR
PUSH SWITCH @ SOUTH ENTRY



TYPICAL ENTRY BASE DETAIL

EAST ENTRY TRANSOM

NORTH ENTRY REVOLVING DOOR

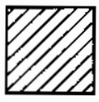
DRAWINGS OF FIELD INVESTIGATION FINDINGS OF EXTERIOR WALL CONDITIONS AT

CULKIN HALL, MAHAR HALL & WILBER HALL

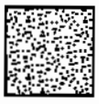
CULKIN HALL: DRAWING No.'s 1C, 2C, 3C & 4C
MAHAR HALL: DRAWING No.'s 1M, 2M, 3M & 4M
WILBER HALL: DRAWING No.'s 1W through 6W

DRAWING LEGEND

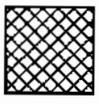
SPALLED-OFF CEMENTITIOUS COAT (PARGING)



CONCRETE SPALL

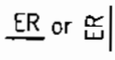


CONCRETE DELAMINATION

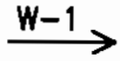


SPALLED-OFF CONCRETE COVER AT EMBEDDED STEEL PLATE

CRACK



EXPOSED REINFORCING BAR, WITH SPALLED-OFF CONCRETE COVER



PHOTOGRAPH No. & VIEW DIRECTION
(e.g. W-1 DENOTES WILBER HALL PHOTO No. 1)

INDICATES NOTE No., REFER TO DRAWINGS FOR NOTES.