

June 1, 2021

via email: greg.berlin@alston.com

Mr. Greg Berlin
Alston & Bird
333 South Hope Street, 16th Floor
Los Angeles, California 90071

Regarding: 11971 San Vicente Boulevard – Retrofit Schemes
Englekirk Job No. 21-L023

Dear Mr. Berlin:

This letter summarizes the structural analysis work that you have requested we perform for the above noted building. You have requested that we perform a structural analysis to repair the building to conform to the City of Los Angeles Soft Story Ordinance (Ordinance No. 183893). We were also requested to provide structural sketches that convey the structural work required to conform to this ordinance. This work is identified as a Phase I level repair work. For a Phase II level repair work, we were to develop structural sketches that will conform to ASCE 41-13 level of repair using the Basic Service Earthquake – 1E (BSE-1E) as the design criterion.

Existing Building Description

The existing building is a two-story wood framed structure. The floor plan is 100' x 107' with an open 43' x 56' courtyard. The courtyard essentially separates the building into four wings. The north and south wings at the second floor and roof are raised by about 1'-6" from the east and west wings. This essentially creates four separate structural building elements with no common floor or roof diaphragm.

The first floor consists of a 4" concrete slab-on-grade. The second-floor system consists of a 2" diagonal sheathed wood floor supported by sawn lumber joists. The roof system consists of 1" diagonal sheathing supported by sawn lumber joists. Both the floor and roof levels have a ceiling. Typical bearing walls are 2x4 studs. The story height is about 12' at the first floor and 11'-6" at the second floor.

The lateral bracing for this building consists of the horizontal floor and roof diaphragms and the perimeter vertical shear walls. The second floor and roof consist of diagonal sheathing. The nailing pattern for the sheathing is unknown. This diagonal sheathed floor and roof diaphragm span to the exterior perimeter walls. These exterior walls serve as the vertical shear walls that brace this building. The interior demising walls do not form a complete lateral bracing system as they are discontinuous between floors, and several of these walls have been removed and the wall locations are irregularly distributed.

The foundation system consists of continuous and spread footings that bear on the foundation soil. The plans note that the design bearing pressure is 2,000 psf. The bearing walls are founded on an 8" continuous stem wall which is then supported on a 16" wide x 8" deep continuous footing.

The south wing that faces San Vicente Boulevard utilizes a pass-through at the ground floor that accesses the interior courtyard. As a result, there are no bearing walls that extend to the foundation. Instead, the second floor is supported on a series of steel columns. There are some exterior walls on the eastern side, but they are discontinuous between floors.

Phase I – City of Los Angeles Soft Story Ordinance

We have reviewed the Ordinance and have determined that this ordinance will apply to the building south wing as there is no ascertainable lateral system. The wing is supported on isolated steel columns. Therefore, we have developed a seismic retrofit solution that addresses this building portion only. The

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Milton S. Shiosaki
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Edward Silver, PE, SE
Kimberly F. Tanouye

Ordinance stipulates a seismic design force level of 75% of the current California Building Code. Additionally, because of the historic nature of the building, a structural solution that minimizes the architectural impacts on the building was selected.

The seismic retrofit scheme consists of steel moment frame structures that are located within the building and are supported on new concrete footings. These steel moment frame structures provide lateral bracing for this south wing. In addition, there are some new wood shear walls that are placed to minimize architectural impact on the building. New footings are added, and the first floor, second floor and roof diaphragms are added and strengthened.

This scheme is depicted in the attached sketches.

Phase II – ASCE 41-13 Retrofit

This scheme delineates the structural retrofit work that is needed beyond the Phase I work described above. This work includes the work to the north, east and west wings that are not retrofitted in the Phase I scheme.

The seismic retrofit scheme consists of new and strengthened wood shear walls that are sheathed with 12" plywood sheathing and wall anchors. There are new foundations to support the seismic loads resisted by the new shear walls. These walls are distributed throughout the wings. The locations of these walls are general in nature and can be located more precisely in the future. The first floor, second floor and roof diaphragms are added and strengthened.

This scheme is depicted in the attached sketches.

Summary

The two schemes presented are conceptual in nature and do not represent final construction repair plans. These plans can be used to develop conceptual budgeting pricing only for the seismic related retrofit work. Additional non-structural costs such as American with Disabilities (ADA) compliance, MEP relocation, construction sequencing, etc. should be reviewed and assessed by a qualified Contractor or Cost Estimator.

Respectfully submitted,



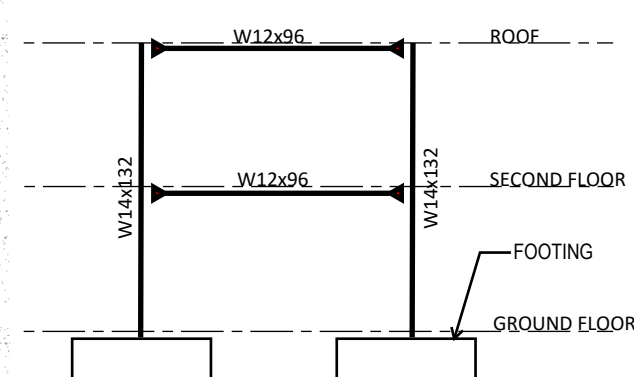
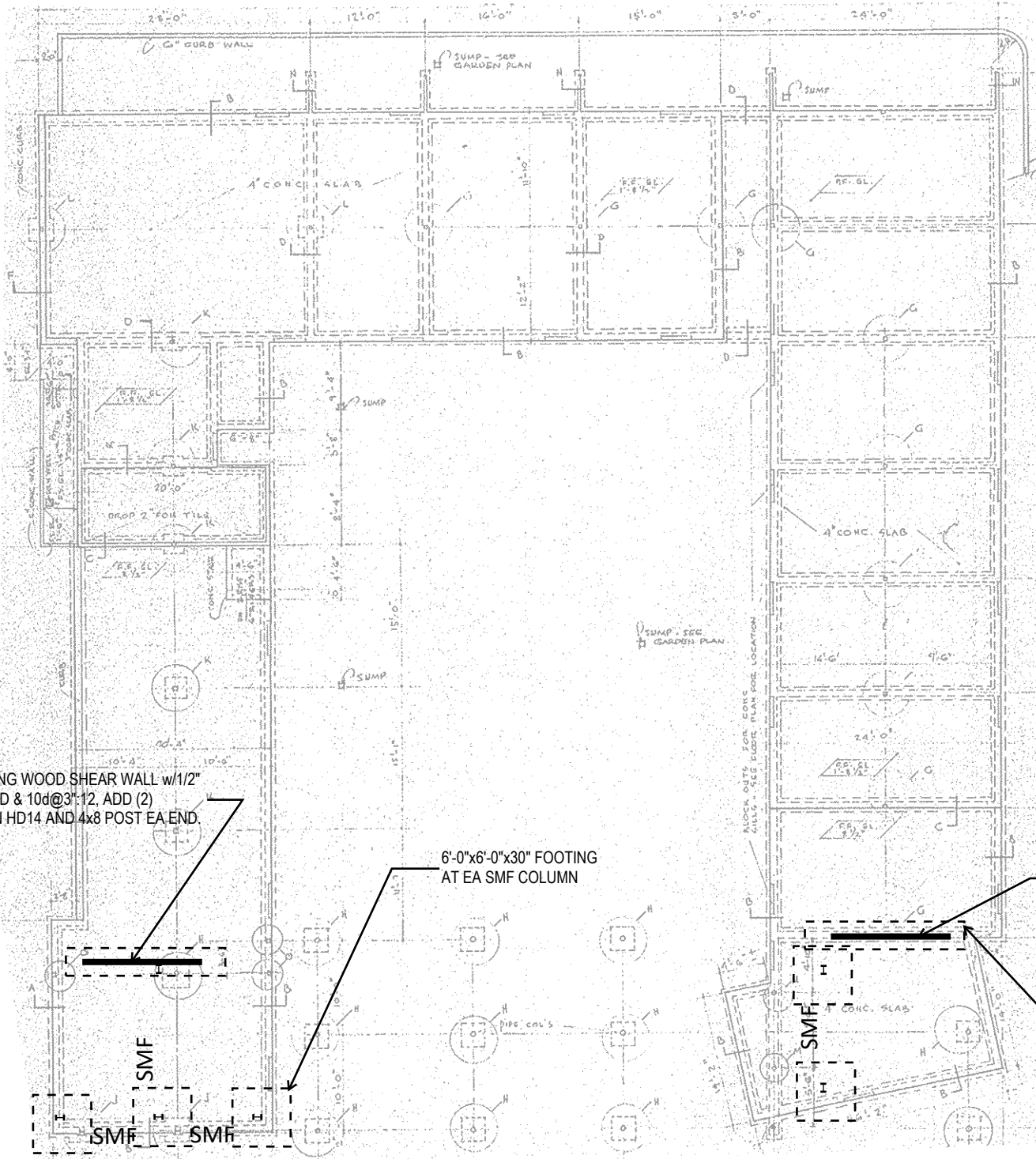
Russell Tanouye, PE, SE, LEED AP
Principal



06/01/2021

RT:gh

Attachments

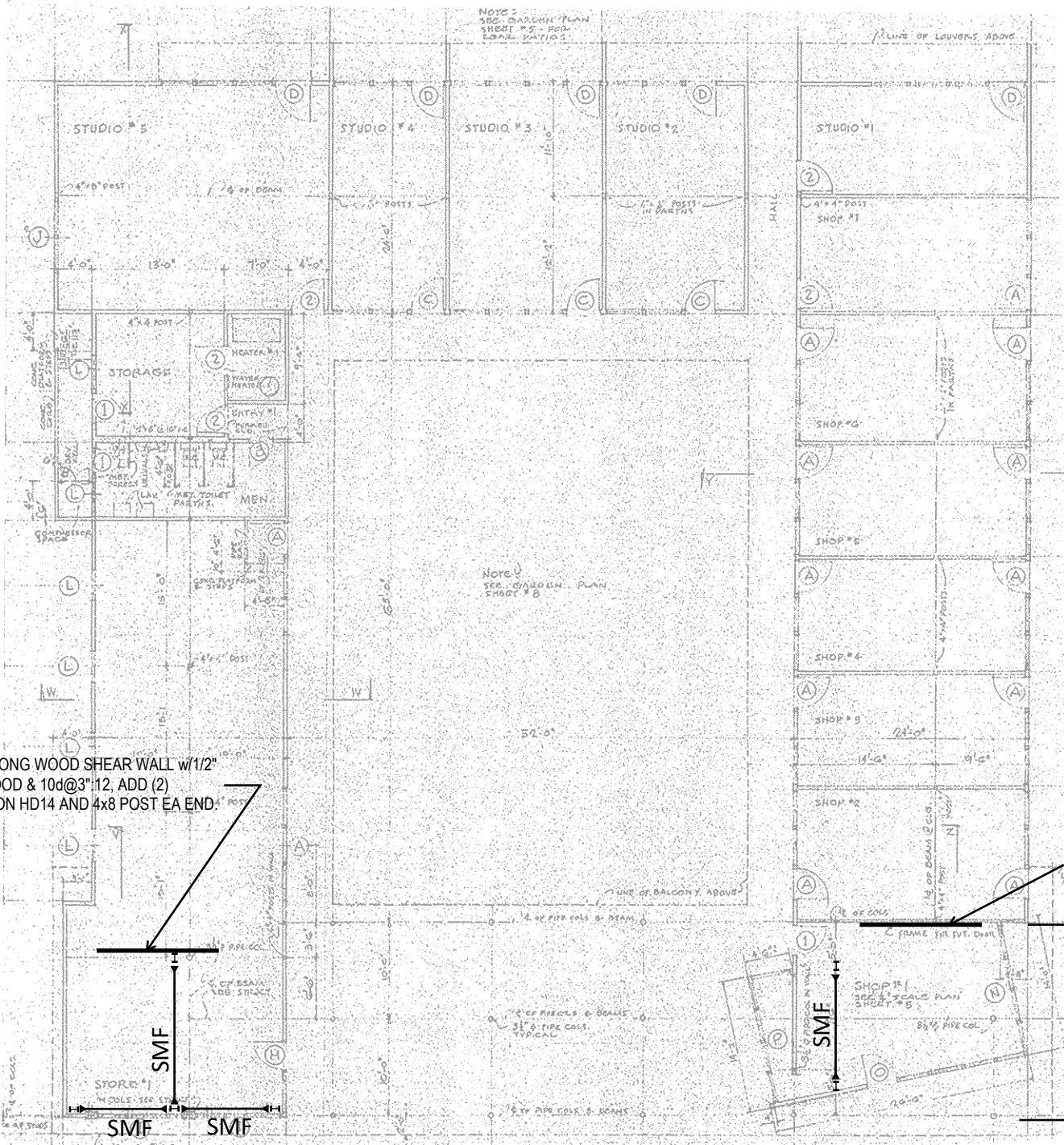


10'-0" LONG WOOD SHEAR WALL w/1/2" PLYWOOD & 10d@3":12, ADD (2) SIMPSON HD14 AND 4x8 POST EA END.

6'-0"x6'-0"x30" FOOTING AT EA SMF COLUMN

10'-0" LONG WOOD SHEAR WALL w/1/2" PLYWOOD & 10d@3":12, ADD (2) SIMPSON HD14 AND 4x8 POST EA END.

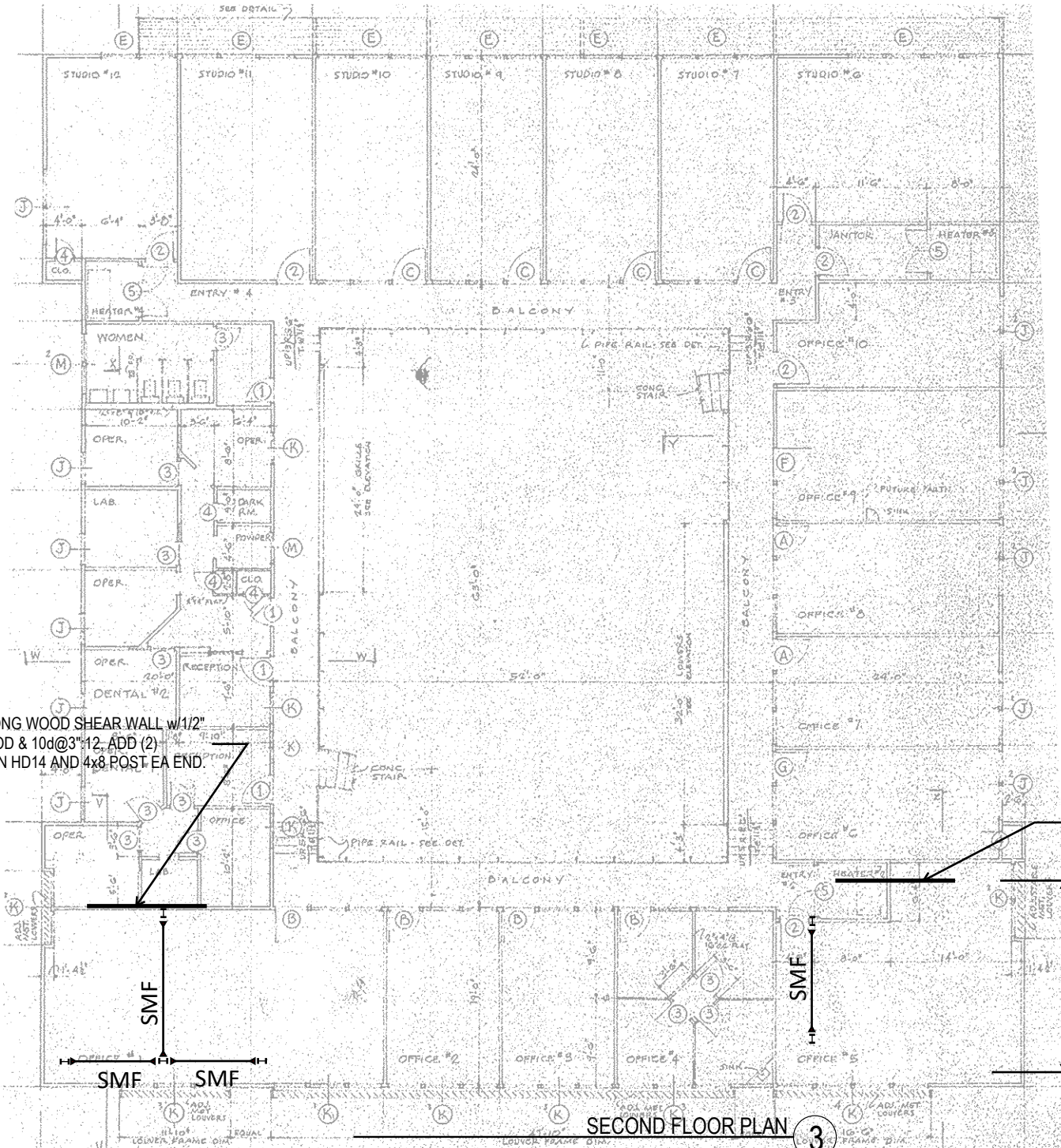
3'-0"x30" FOOTING AT EA WOOD SHEAR WALL



10'-0" LONG WOOD SHEAR WALL w/1/2" PLYWOOD & 10d@3":12, ADD (2) SIMPSON HD14 AND 4x8 POST EA END.

10'-0" LONG WOOD SHEAR WALL w/1/2" PLYWOOD & 10d@3":12, ADD (2) SIMPSON HD14 AND 4x8 POST EA END.

ADD 3/4" FLOOR AND ROOF PLYWOOD OVER (E) SHEATHING AND NAIL w/10d@4:12.



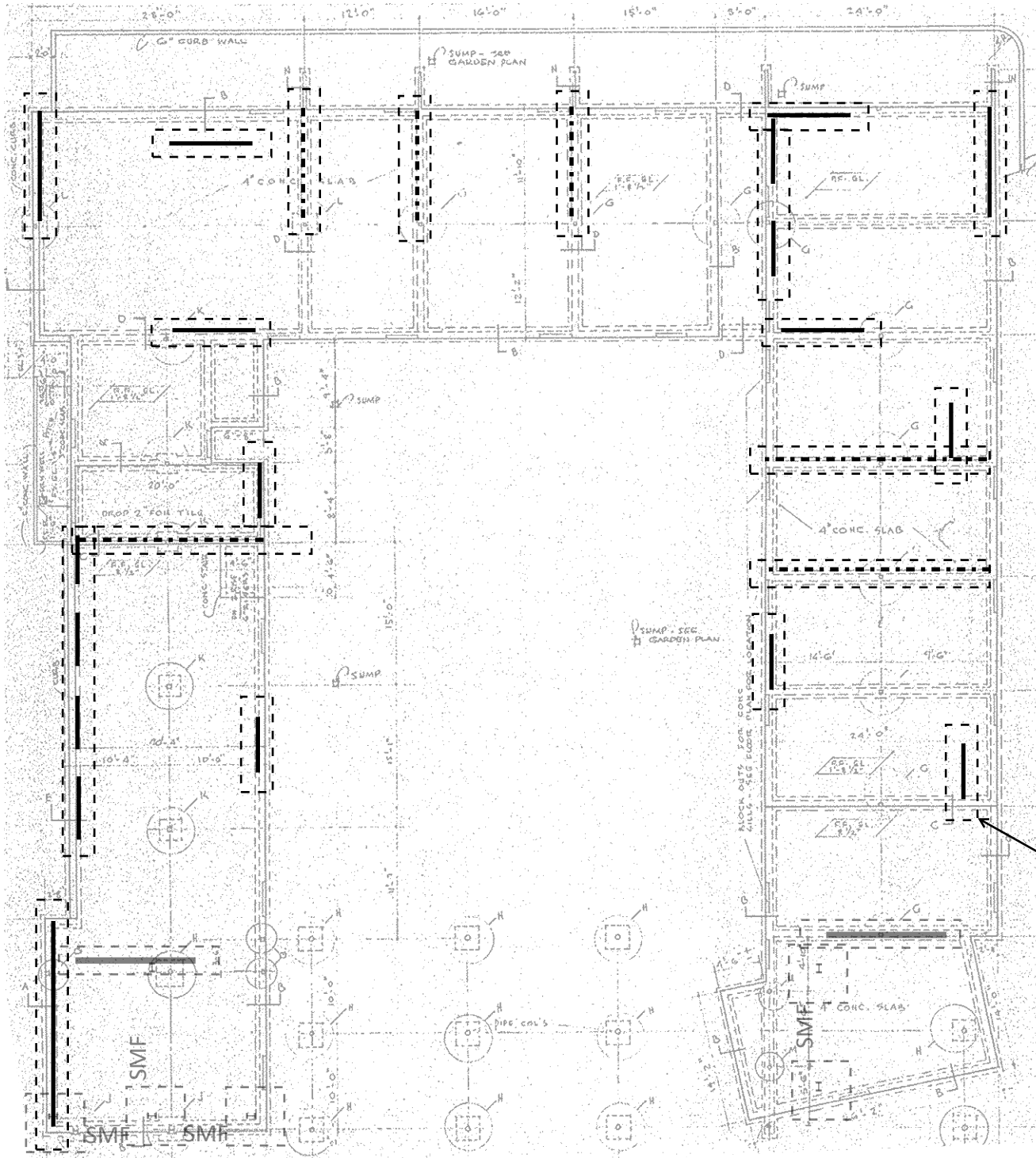
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ADD 3/4" FLOOR AND ROOF PLYWOOD OVER (E) SHEATHING AND NAIL w/10d@4:12.

SECOND FLOOR PLAN 3

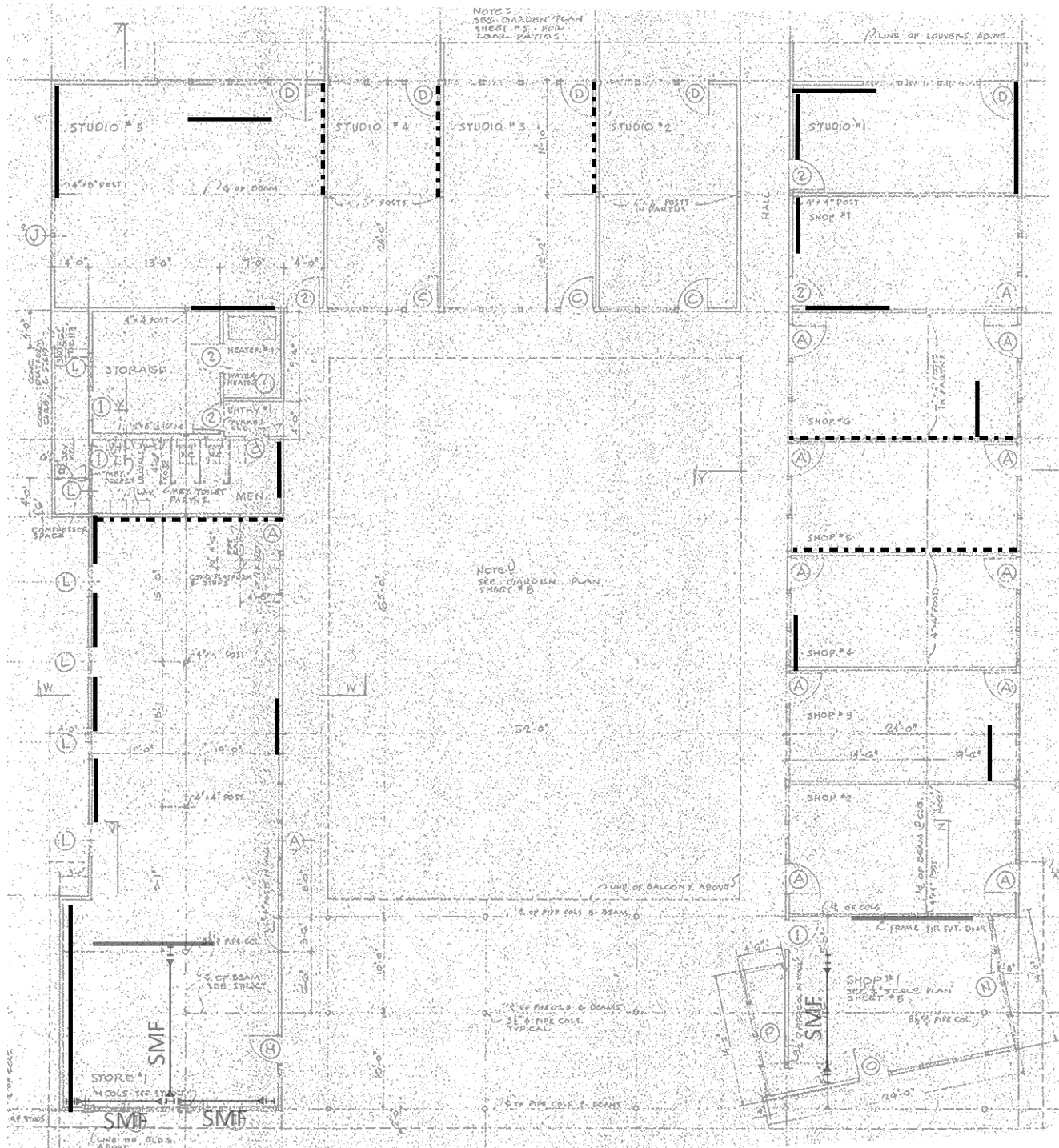
PHASE I - SOFT STORY RETROFIT



— 10'-0" LONG WOOD SHEAR WALL w/1/2" PLYWOOD & 10d@3":12, ADD (2) SIMPSON HD14 AND 4x8 POST EA END.

- - - - - STRENGTHEN (E) WOOD SHEAR WALL w/1/2" PLYWOOD & 10d@3":12, ADD (2) SIMPSON HD14 AND 4x8 POST EA END.

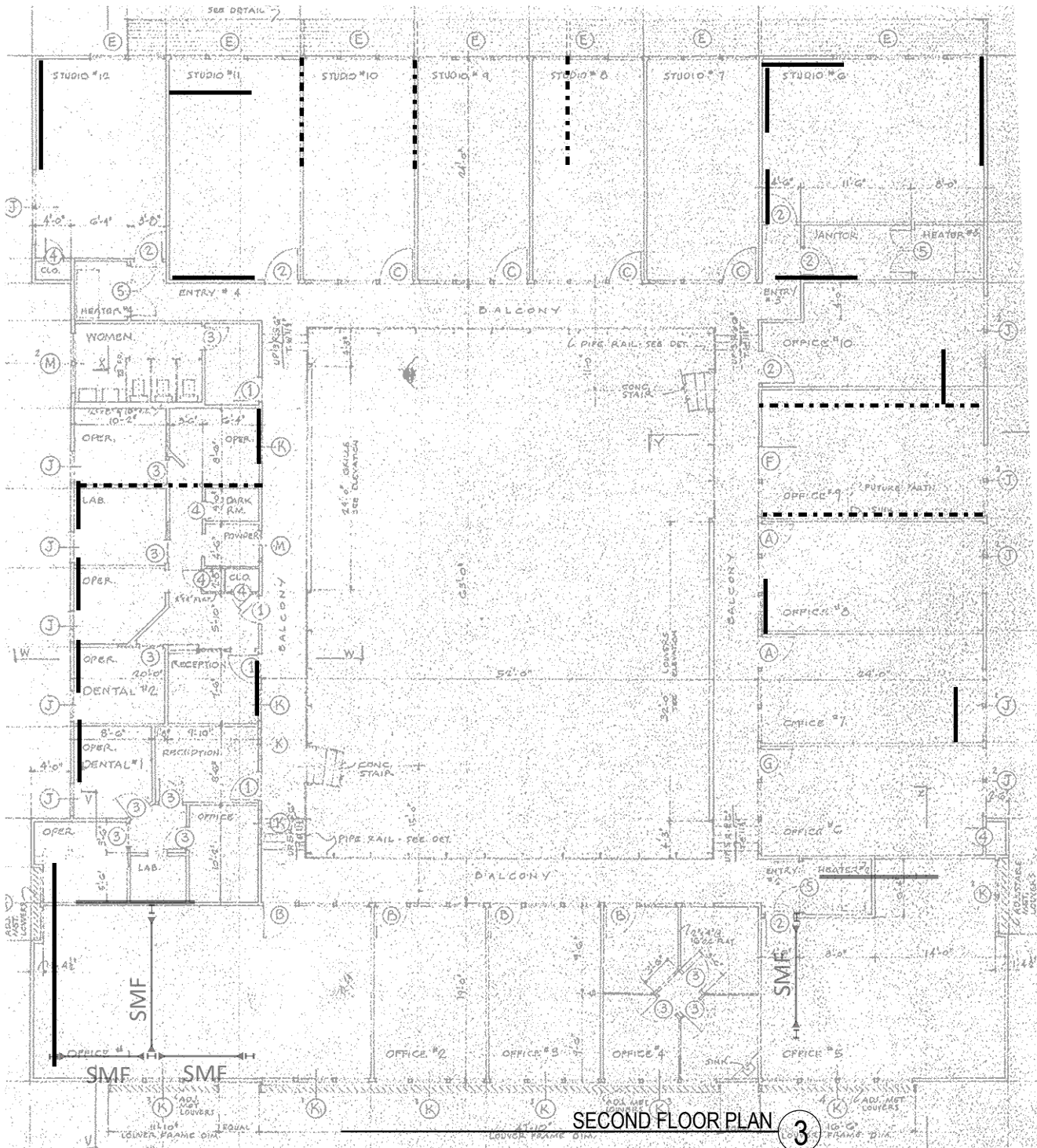
3'-0"x30" FOOTING AT EA WOOD SHEAR WALL



——— 10'-0" LONG WOOD SHEAR WALL w/1/2" PLYWOOD & 10d@3":12, ADD (2) SIMPSON HD14 AND 4x8 POST EA END.

- - - - - STRENGTHEN (E) WOOD SHEAR WALL w/1/2" PLYWOOD & 10d@3":12, ADD (2) SIMPSON HD14 AND 4x8 POST EA END.

**TYPICAL AT ALL FLOOR AND ROOF:
ADD 3/4" FLOOR AND ROOF PLYWOOD OVER (E) SHEATHING AND NAIL w/10d@4:12.**



— 10'-0" LONG WOOD SHEAR WALL w/1/2" PLYWOOD & 10d@3":12, ADD (2) SIMPSON HD14 AND 4x8 POST EA END.

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