

Brewery South Apartments – Silver Ventures

San Antonio, TX

July 27, 2016

Structural System Narrative

Project Description: 4-Story Building with 219 units. The apartments are supported by a podium slab over 1 level of below grade level parking. The building will be designed as a Type V wood-framed structure.

Foundations: The geotechnical report has not been completed at this time, but the anticipated foundation system will consist of drilled pier foundation under all columns and distributed along the basement wall. Using geotechnical information from the adjacent site dated February 23, 2011 from Raba-Kistner, each column will have a 20/60 diameter underream drilled pier reinforced with 4-#8 verticals and #3 ties at 12" o.c. The perimeter basement walls will have 12/36 diameter underream drilled piers (4-#5 verticals w/#3 ties at 12" o.c.) at 20'-0" o.c. typical spacing along the wall. All piers bear on the clay shale at a depth of approximately 46' below existing grade (approximate pier length of 35'). Due to the presence of groundwater approximately 4' below the basement floor elevation, temporary casing of the piers will be required. The basement slab on grade for the parking areas will be 5" thick and reinforced with #3@15" o.c. conventional reinforcing each way. The basement wall will typically be 12" thick cast-in-place concrete (Concrete = 3500 psi, Rebar = 175 #/CY) around the perimeter of the building.

Wall Framing: Exterior walls –2x6 wood studs at 16" o.c. maximum. Interior walls –2x4 and 2x6 studs at 16" o.c. maximum. Actual stud spacing will vary depending on loading requirements and multiple stud packs will be required at lower floor conditions. Stud species will be Spruce-Pine-Fir (SPF), Southern Yellow Pine (SYP), or Doug-Fir-Larch (DFL) for all load bearing and structural walls. #2 Grade materials will be used for structural wall studs. Specific sheathing nailing will be required at shearwall locations indicated on the plans and described below.

Floor Framing: 23/32" T&G Wood Structural Panel (WSP) sheathing glued and nailed on 18" deep pre-engineered open web wood trusses at 24" o.c. maximum supported by load bearing interior and exterior walls.

Corridor Framing: 23/32" T&G Wood Structural Panel (WSP) sheathing glued and nailed on 18" open web floor trusses at 24" o.c.

Balcony Framing: 23/32" T&G Wood Structural Panel (WSP) sheathing glued and nailed on sloped top chord open web floor trusses at 24" o.c.

Roof Framing: 19/32" T&G Wood Structural Panel (WSP) sheathing on pre-engineered open web wood trusses at 24" o.c. maximum. Trusses will typically span from corridor to exterior wall.

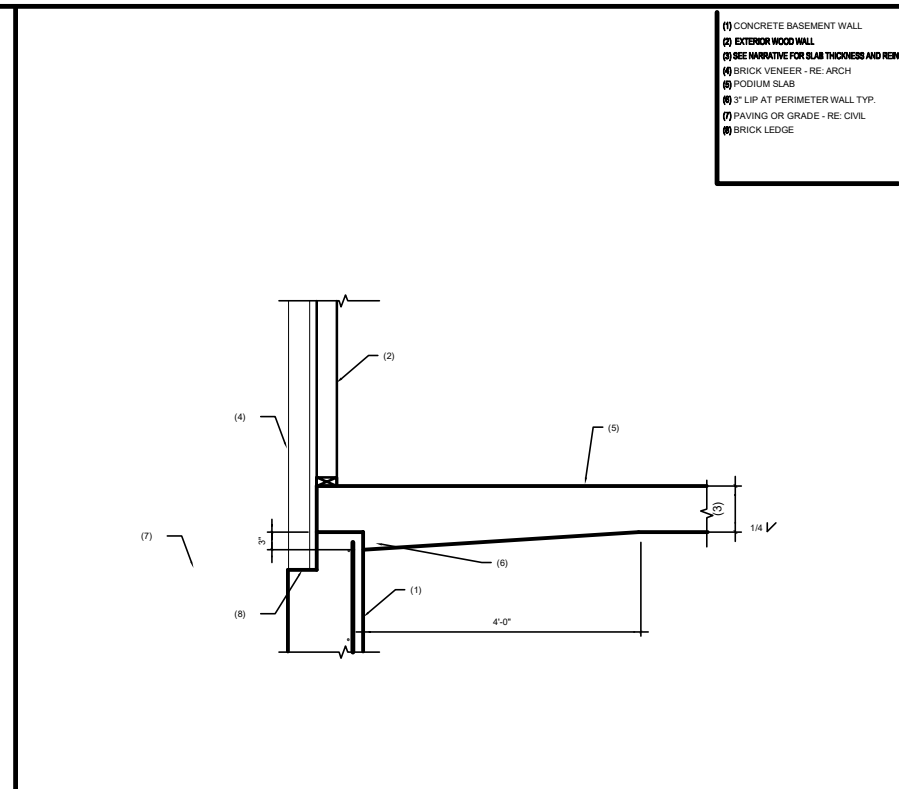
Shearwalls: Portions of both the interior and exterior walls will be utilized as wood structural panel (WSP) shearwalls for the lateral load resisting system. Shearwall locations and holddown connectors will be indicated in the structural drawings. Locations of interior WSP shearwalls will be coordinated with the architectural drawings.

Shearwall and Wind Uplift Connectors: Connection anchors for shearwall end conditions will be provided utilizing a full height, all-thread rod system. Wind uplift on the roof trusses will be resisted by a combination of clips and floor to floor anchors as required to achieve a continuous load path. Both Simpson and another manufacturer – Earthbound or Zone 4 – will be specified on the drawings.

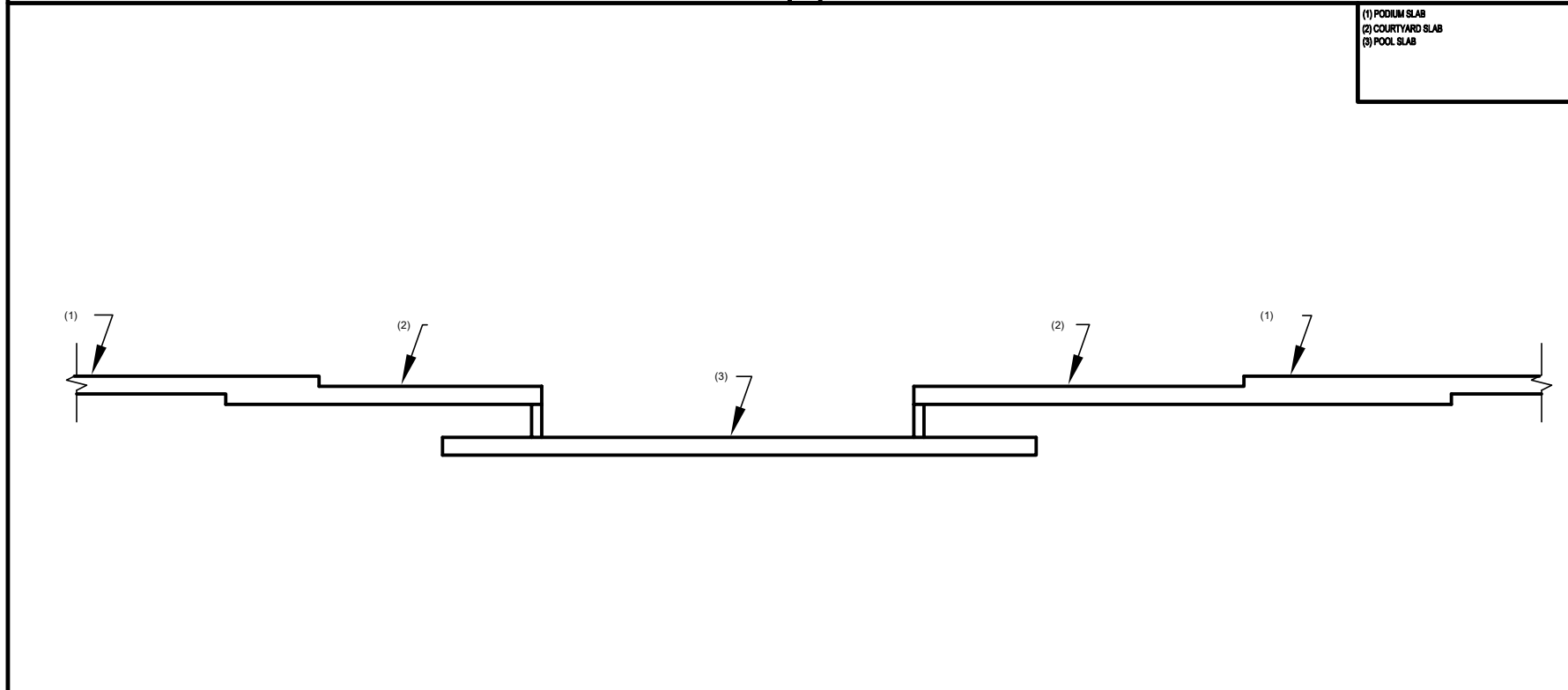
Leasing/Fitness/Amenity Areas: The wood framed units above will be supported by a combination of load bearing walls, wood beams, and steel transfer beams. The use of steel beams will be minimized and depth of the beams will be contained within the floor cavity. The steel beams will be supported by steel columns, whose location will be coordinated with the architect and interior designer. Refer to the architectural drawings for additional fire rating requirements which may occur at the steel beam locations.

Public Terrace Area Framing: Pavers on 23/32" T&G Wood Structural Panel (WSP) sheathing glued and nailed on sloped top chord open web floor trusses at 24" o.c. Truss spans may require interior bearing supports which may consist of wood or steel beams supported by steel columns. The column locations will be minimized to be less intrusive in the open amenity areas and will be coordinated with architectural and interior design plans.

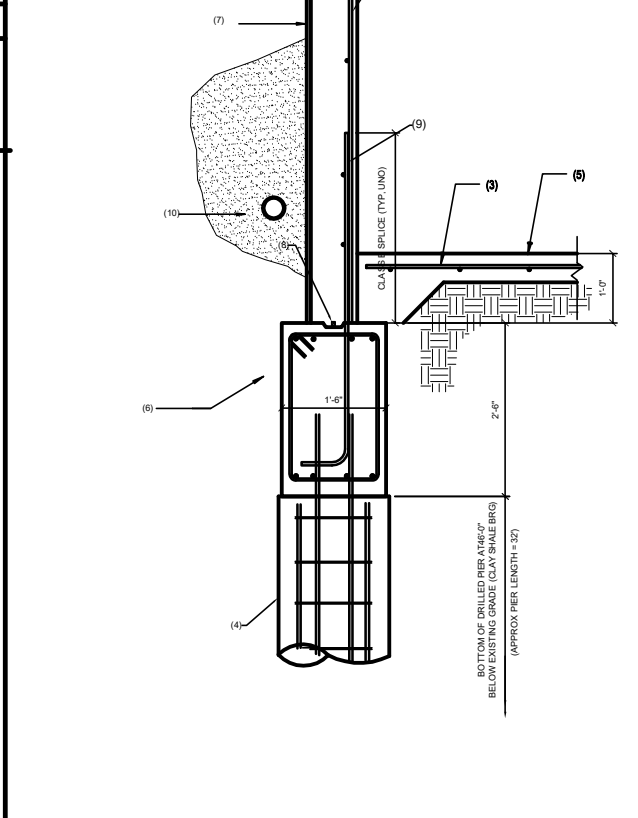
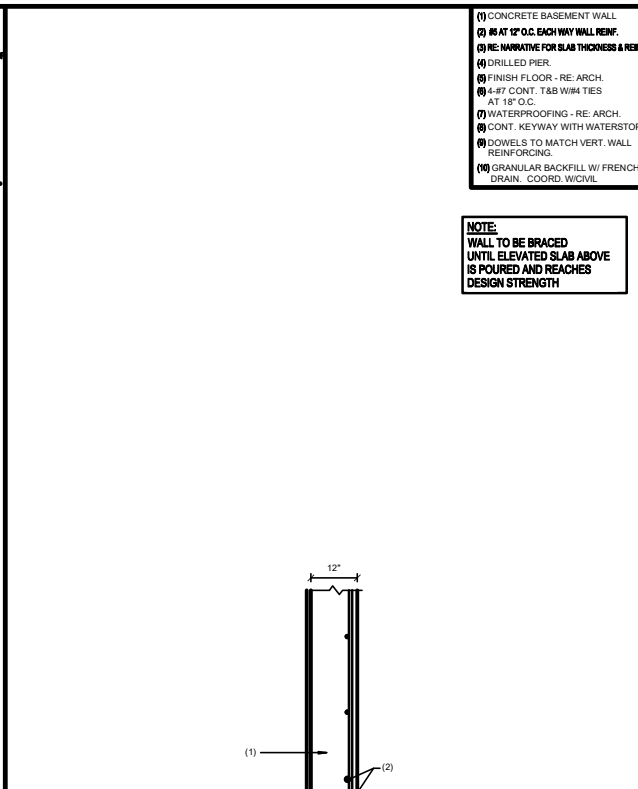
Podium Slab: The wood framed building will be supported by a concrete "podium" slab. The slab will be constructed as cast-in-place, post-tensioned concrete approximately 12" thick (PT=1.6#/SF, Rebar=2.8#/SF). The bottom of the slab will be generally flat (no beams) with some column capitals as required. Stud rails within the slab will be utilized to minimize the use of column capitals. The slab will be supported by cast-in-place concrete columns. Column layout and locations will be coordinated with the architectural parking layout. Column sizes are typically 12x30 (Rebar=375#/CY), but may depend on column spacing. All columns and elevated slabs shall be 5000 psi concrete. The courtyards will also have a 12" thick concrete slab stepped down approximately 8" from the building finish floor elevation and will be sloped to drain. The pool will be supported with a cast-in-place, post-tensioned concrete approximately 14" thick (PT=1.9#/SF, Rebar=3.4#/SF). The footprint of the pool support slab will be slightly larger than the pool footprint by extending to the nearest concrete columns. This slab will be approximately 4'-0" below the courtyard level.



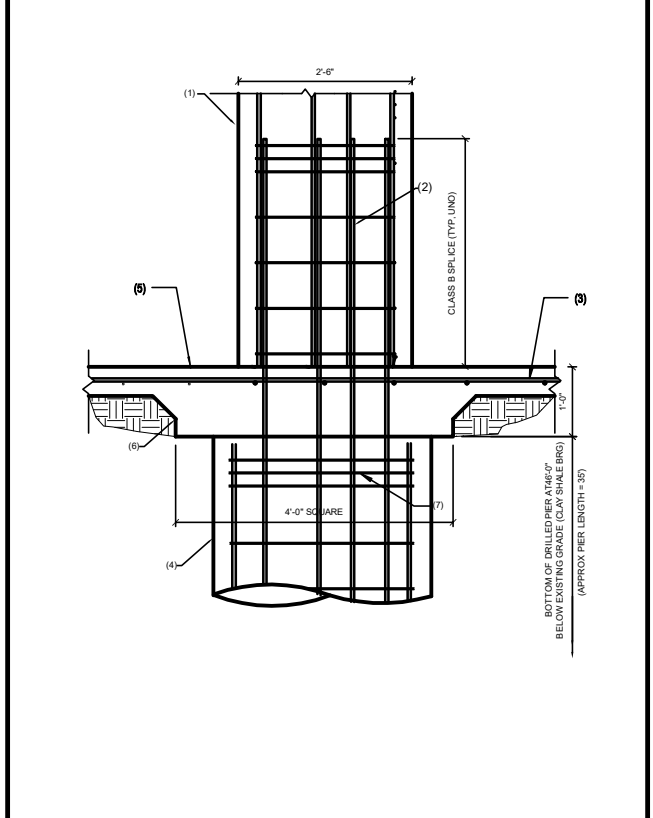
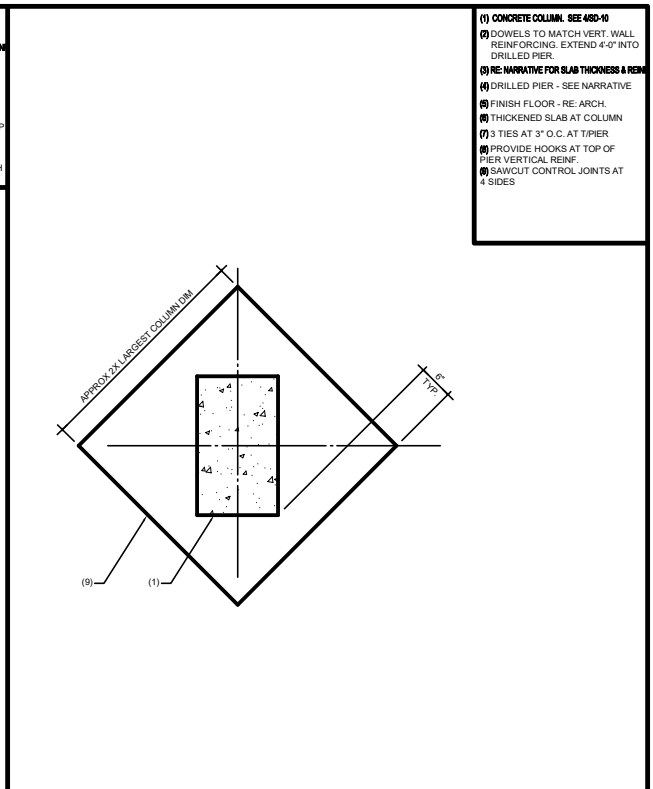
4 SECTION AT EXTERIOR WALL



3 COURTYARD/POOL SECTION



2 BASEMENT WALL DETAIL



1 TYPICAL INTERIOR COLUMN

MSP
Engineering Group, PLLC
Consulting Structural Engineers
16107 Kensington Drive, Suite 278
Sugar Land, Tx 77479
O- 832-431-4560 F- 281-313-1965
www.mspeng.com

TEXAS FIRM #17400

BREWERY SOUTH APARTMENTS

SAN ANTONIO, TX

DRAWN: TR
ENGINEER: GW
DATE: 07/27/17
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