

STRUCTURAL

1. Design Criteria:
 - a. Building code: 2021 International Building Code
 - b. Building risk category: II
 - c. Loads
 - i. Superimposed dead loads
 1. Garage: 5 psf
 - ii. Live loads
 1. Stairs, ramps and exits: 100 psf
 2. Garage: 40 psf
 - iii. Wind loads
 1. Ultimate wind speed: 107 mph - 3 sec gust
 2. Exposure category: B
 3. Internal pressure: +/- 0.18
 - iv. Seismic criteria
 1. Seismic design category: B
 - v. Deflection/drift
 - vi. Live load deflection: L/360 (floors), L/240 (roof)
 - vii. Total load deflection: L/240 (long-term)
 - viii. Spandrel deflection supporting cladding: 3/8" MAX
 - ix. Story drift (wind): H/400 (10-yr wind)
 - d. Concrete:
 - i. Foundations and basement walls: 4,000 psi NW at 56 days
 - ii. Grade beams: 4,000 psi NW at 56 days
 - iii. Slab-on-grade: 3,000 psi NW at 56 days
 - iv. Horizontal framing: 5,000 psi NW at 28 days
 - v. Columns: 5,000 psi NW at 28 days
 - vi. Slab on metal deck: 3,500 psi NW at 28 days
 - e. Concrete reinforcement and post-tensioning:
 - i. All reinforcing steel shall be ASTM A615 grade 60
 - ii. All pt strands shall be ASTM A416 low relaxation type with 270 ksi minimum ultimate strength.
 - f. Structural steel:
 - i. Wide flanges: ASTM A992
 - ii. Rectangular HSS: ASTM A500, grade C

2. Foundations:
 - a. A geotechnical report was not available as of the writing of this narrative
 - b. Description: for pricing purposes, assume that the foundation will consist of 36" diameter drilled piers extending 35'-0" bearing into rock (assume a 3'-0" socket).
 - c. Floor slab is a 5" thick slab on compacted select fill. For pricing purposes, assume 4'-0" replacement of existing soil with select fill. Reinforcement will be #3@12" each way with 0.5 psf of additional reinforcement.
 - d. Columns: Refer to plan for column sizes
 - e. Quantities:
 - i. Drilled piers: 120 PCY
 - ii. Columns: 325 PCY
3. Elevated structure:
 - a. Description: Refer to plan for description of the structural system at the floors.
 - b. Quantities: Refer to plan.
4. Miscellaneous:
 - a. Retail cladding steel: The east side of the garage is planned to have cladding. Allow for 0.25 PSF of floor area of structural steel for cladding back up support
 - b. Elevator structural support: For pricing purposes, assume that the elevators will need a divider beam between elevator cabs, a hoist beam above each elevator and guiderail supports at the bottom and top floors of the garage. Allow for 20 tons of structural steel.
 - c. Vehicle barrier: barriers for vehicle fall protection will consist of (11) ½" ø seven wire strand barrier cables at perimeter and at both sides of bays with ramps. If span of cables is greater than 30 ft, provide a 1'-0" x 1'-0" x 4'-0" tall concrete stub column reinforced with 4-#6 vertical and #3 ties @4".



△	Date	Description
---	------	-------------

Seal / Signature

Project Name

UofA Razorback Rd Parking
Garage

Project Number

M28-26001-00

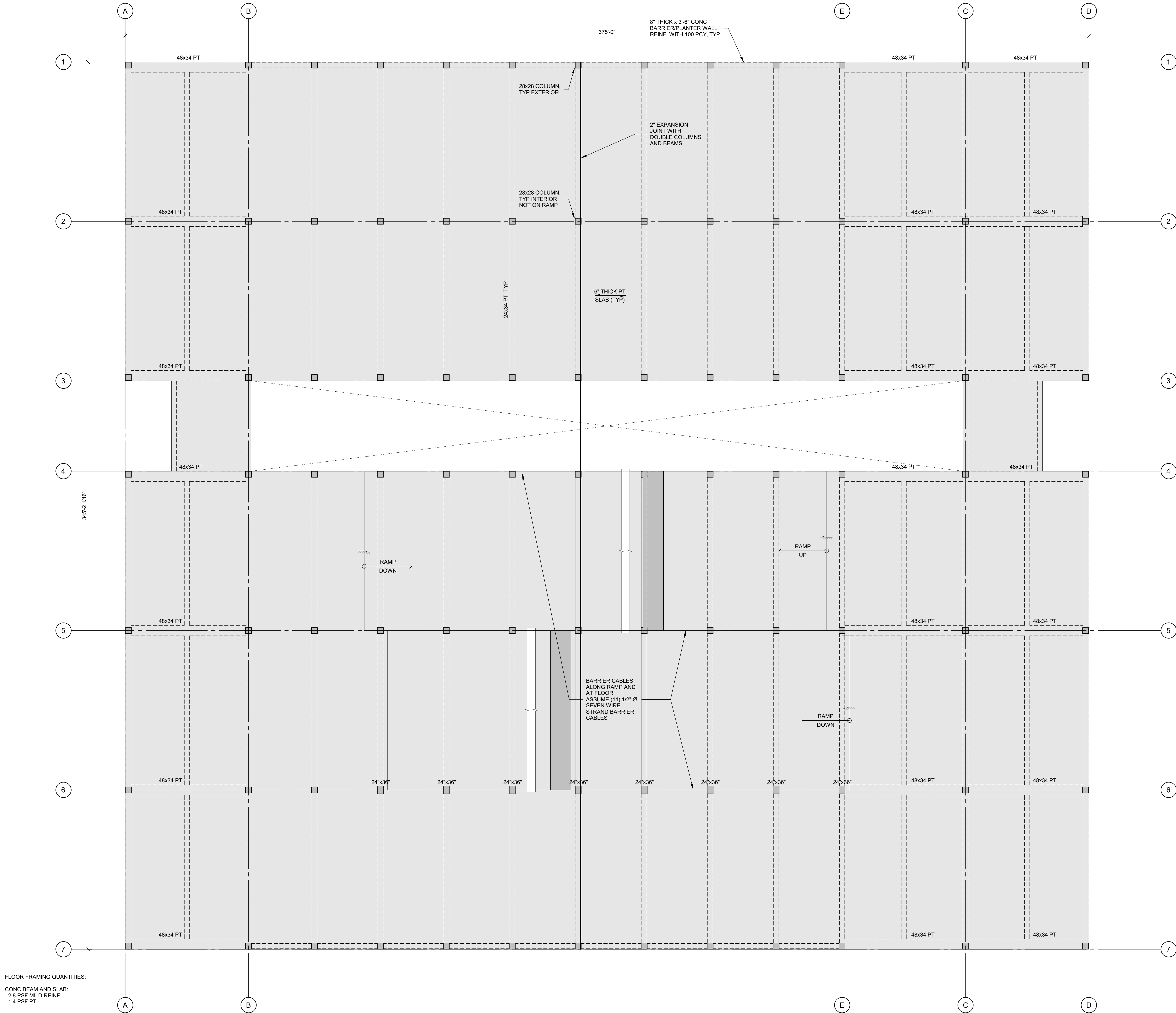
Description

TYPICAL STRUCTURAL PLAN -
BREEZEWAY

Scale

1/16" = 1'-0"

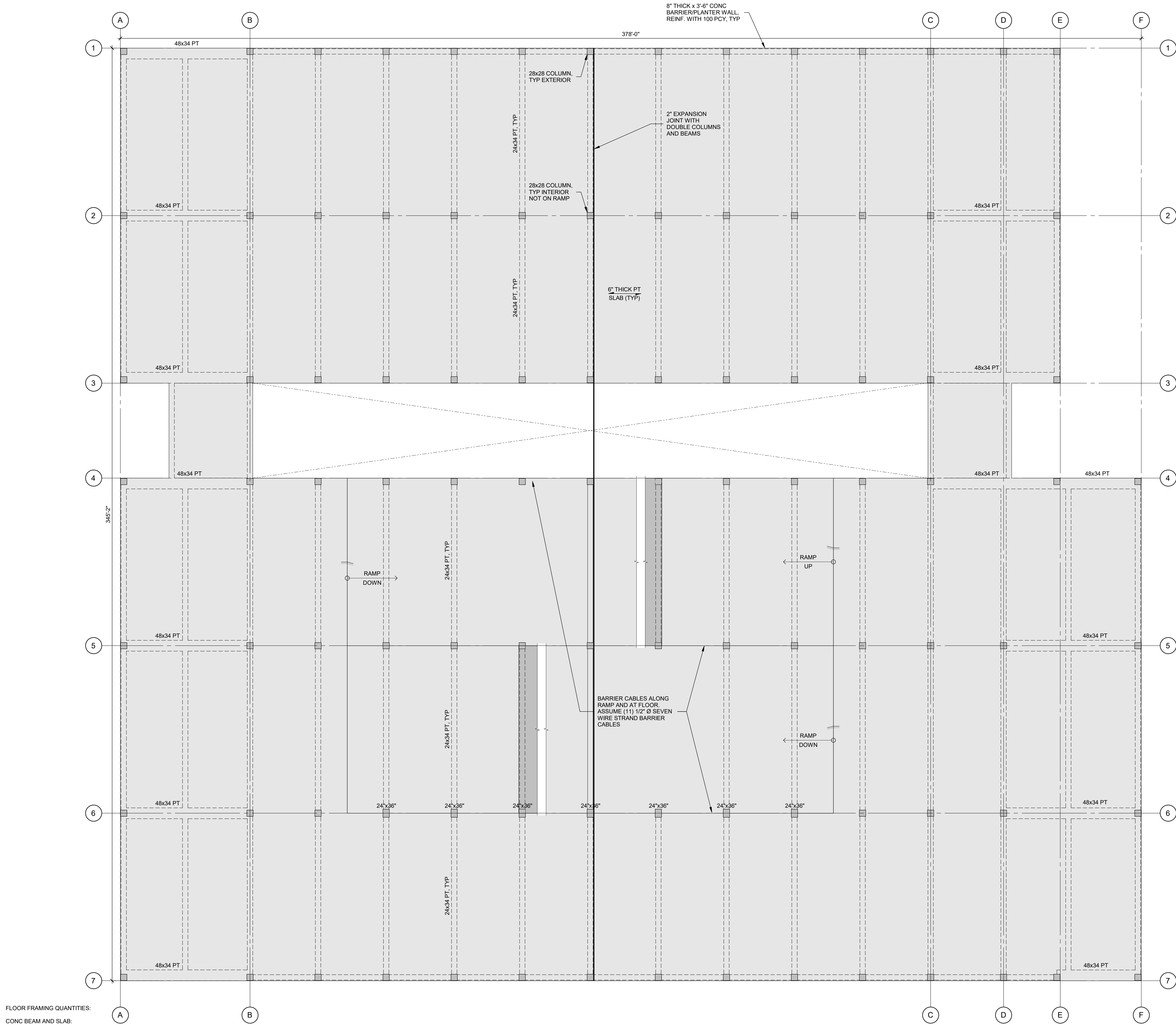
S101A



1

TYPICAL STRUCTURAL PLAN - BREEZEWAY

1/16" = 1'-0"



FLOOR FRAMING QUANTITIES:
CONC BEAM AND SLAB:
- 2.8 PSF MILD REINF
- 1.4 PSF PT

1 TYPICAL STRUCTURAL PLAN - TWO STEP
1/16" = 1'-0"

Date	Description
------	-------------

Seal / Signature

Project Name

UofA Razorback Rd Parking
Garage

Project Number

M28-26001-00

Description

TYPICAL STRUCTURAL PLAN - TWO
STEP

Scale

1/16" = 1'-0"