1. Civil

A. Interview with the Board of Equalization building management and maintenance staff:

Discussed all known underground utility service deficiencies. Maintenance staff indicated that Stantec should be made aware that a roof drainage pipe burst a couple years earlier. A maintenance crew was contacted and the broken pipe replaced. No problems have been encountered since that repair took place.

Stantec reviewed the off-site civil record drawings or (As-Builts) prepared by Morton and Pitalo Engineering and Dreyfuss & Blackford Architects to verify the building sanitary sewer and drainage outfall piping is adequately sized for the flows in for which it was designed to convey utilizing the following information and methods.

Sewer

1. Based on the record drawings there are three sewer outfall locations, one (8) inch line connecting the City system on 5th Street just south of "N" Street. Another (6) inch sewer outfall is located further south on 5th Street. The third (6) inch sewer outfall location is westerly off 4th Street directly west of the kitchen area.

2. In coordination with the mechanical and plumbing survey along with a thorough review of the record drawings we where not able to come up with a complete plumbing fixture count to precisely address the sewer flow rates for each of these three sewer outfall pipes and there maximum capacities based on fixture units at each service.

Capacity
The capacity established for an (8) inch pipe flowing at (7) tenths full as required by the Sacramento County Sewer design manual for 1992 requires VCP pipe with an "N" friction coefficient of 0.015 and minimum slope of 0.0035 utliizing "Mannings" formula this equates to **0.38 million gallons per day (MGD)** capacity. In addition there are two six inch services, these are required by the same design manual as being VCP with an "N" friction coefficient of 0.015 and minimum slope of 0.005 this equates to a maximum capacity at (7) tenths full equals 0.19 MGD. All three pipes have a maximum outfall capacity of **0.76 MGD**.

Based on an assumed occupancy of **2,554** this allows for 125 gallons per day per person of outflow capacity. In addition includes, mechanical system cooling tower blow-down discharge, estimated at 1000 gallons per peak season day.

Results
The sewer capacity as established in this survey have determined that the in place sewer system is estimated at approximately double the minimum capacity required by code. In conclusion, the desire for future updating of the plumbing fixtures will include great

reductions in sewer out flow and also domestic water usage. In addition, if the desire to expand the size of the building and plumbing fixture count, there is additional capacity to do so.

Drainage
There exists a (12) inch drain line outfall into the north drain, "N" Street mid block. The City of Sacramento utilizes Sacramento County and the "Nolte" Method for establishing hydraulic flow rates for commercial development. The record drawing information and the "Nolte" method determined that the existing (12) inch drain pipe connecting into "N" Street can convey up to **2.3 cfs**. This flow assumes that the connection in the street contains the existing hydraulic grade line within the existing pipe.

The drainage shed area was calculated by the roof area as indicated on the record drawings. The area of 28,850 square feet or 0.66 acres was established. This is the contribution to the north drain as direct flows from the roof drainage system.

Results
Based on the previous criteria the flows established are 0.5 cfs per acre as established by the "Nolte" method. The area is actually 0.66 acre therefore the adjusted flows are established at **0.30 cfs** well within the 2.3 cfs capacity of the existing pipe, based on the 100 year flow rates. We checked the flows for a storm intensity of two inches in an hour and it indicated a 1.3 cfs flow rate, still within the capacity of the existing north outfall pipe. No high rise building velocities where taken into consideration in these calculations.

B. ADA Accessibility

Overview
Civil site visits took place February 9th & 10th, 2009, to observe site characteristics that pertain to Americans with Disabilities Act (ADA) accessibility compliance for the 450 N Street building from the public sidewalk to the building entrances.

1. Accessibility

The building entrances were visually assessed for compliance with the 2007 California Building Code (CBC) and current Americans with Disabilities Act Accessibility Guidelines (ADAAG) requirements. The following information was documented.

CONDITION NO. 1

Photo of main entrance at northeast corner of building off "N" Street.

The longitudinal slope up to the landing is 7% and exceeds the 5% maximum slope and therefore would require handrails per CBC 1133B.7.3, 1133B.5.1. Remedial concrete repair could be done to eliminate that need. The landing slope at the threshold is 3%. These slopes are not in compliance with CBC section 1133B.5.1 through B.5.8 as they exceed the maximum slope criteria for longitudinal, cross slope and landing slope. In addition, the walkway mat shall be secured in place per CBC section 1124B.1.

CONDITION NO. 2

This photo indicates the cross slope at the drain in front of the rounded concrete bench.

The walkway in front of the rounded concrete bench has 8% to 3% variable cross slope to a drain just in front of the bench. These cross slopes are not in compliance with CBC section 1133B.5.3.1 and will require reconstruction at a maximum cross slope of 2%.

CONDITION NO. 3

This photo shows the entrance off 5th Street.

This sidewalk slopes up to the northeast entrance off 5th Street and is sloped at 7% and exceeds the 5% maximum slope and therefore would require handrails per CBC 1133B.7.3, 1133B.5.1. Remedial concrete repair could be done to eliminate that need. The landing at the threshold that indicates a 3% longitudinal slope, cross slope at concrete bench varies from 8.2% to 2.8%. This condition is not in compliance with CBC section 1133B.5.1 through B.5.8 and the area will need to be reconstructed as also noted in previous condition 2.

CONDITION NO. 4

This photo is the pedestrian access to the Fire Control Room and stairwell (northeast).

This entrance is a straight gradient from the back of the public sidewalk to the door threshold and at 5.93%. Since this slope is less than 6% but exceeds the 5% maximum slope, the condition would require handrails per CBC 1133B.7.3, 1133B.5.1. The walkway requires a slip resistant surface to be in compliance with CBC section 1133B.7.1 for walkways with less than 6 percent slope. The walkway meets criteria with the addition of a slip resistant surface and handrails.

CONDITION NO. 5

Employee cardlock entrance, mid-block off 5th street.

The ramp has a longitudinal slope of 7% which exceeds the 5% maximum slope and therefore would require handrails per CBC 1133B.7.3, 1133B.5.1. The landing slope at the threshold is 4.7%. Although the cross slope is under 2%, the existing access will need to be replaced so as to comply with CBC section 1133B.5.1 through B.5.8. In addition the non-slip surface mat needs to be secured in place.

CONDITION NO. 6

This is the southeastern employee cardlock entrance off "O" Street.

The concrete landing at the threshold and the public sidewalk approaching it has very radical slopes, 13.8% easterly to the public sidewalk, 7.3% southerly to the sidewalk. This condition is not in compliance with CBC section 1133B.2.4.2 and needs attention.

Also, Figure 11B-26A-Level Maneuvering Clearance at Doors denotes the minimum landing requirements at a door threshold. The landing requirements are likely to dictate the remaining remedial work to be constructed in this area. If the remedial work requires 5% slope on the ramp, handrails will be required also per CBC 1133B.7.3, 1133B.5.1.

ADDITIONAL PHOTO AT CONDITION NO. 6A

The public sidewalk as it slopes to the east includes a variable cross slope from 1.5% just to the north, to a 4.5% cross slope at this entrance. Approximately 45 feet of the public sidewalk will need to be reconstructed to be in compliance with CBC Section 1133B.7.1.3, Surface Cross Slopes.

CONDITION NO. 7

Photo of passenger drop off at children's day care center off 4th Street.

The concrete slab has lifted an inch plus, creating an undesirable tripping hazard. Two of these conditions exist along 4th Street. These conditions are not in compliance with CBC section 1133B.7.4, Changes in Level, and will require removal and reconstruction.

CONDITION NO. 8

Accessible parking in garage lower level. Entrance off "O" Street.

Slopes on ramps exceed maximum allowed 6 inches in rise, 6 feet in run, 8.3% maximum. Not in compliance with CBC section 1133B.5.3.

The southerly three of the four ramps are not in compliance with CBC section 1133B.5.3.

Accessible van stall parking striping is also not in compliance. Accessible stall diagonal striping shall have a "NO PARKING" legend painted at the outside edge per CBC figure 11B-18C diagonal parking stalls.

CONDITION NO. 9

ADA Path from accessible parking stalls to 4th Street public sidewalk.

The hatched ADA access path has an existing cross slope that varies from 5.6% to 5.9%. Code requires a maximum of 2% cross slope.

This is not compliant with CBC section 1133B.7.1.3, Travel Path Surface Cross Slopes.

CBC Section 1133B.8.5, Detectable Warning at Hazardous Vehicular Areas, requires a separation of pedestrians and vehicles which is not present.

CONDITION NO. 10

Accessible ramp at street level parking garage north employee entrance.

Ramp is at 8% slope up to entrance door landing. The landing cross slope exceeds the 2% maximum. The landing at this doorway will have to be reconfigured to be in compliance with Figure 11B-26A. This remedial landing repair work will then also require adjustments to the existing ramp. This new ramp must have a rise not in excess of 30-inches and a run not in excess of 30 feet without intervening landings.

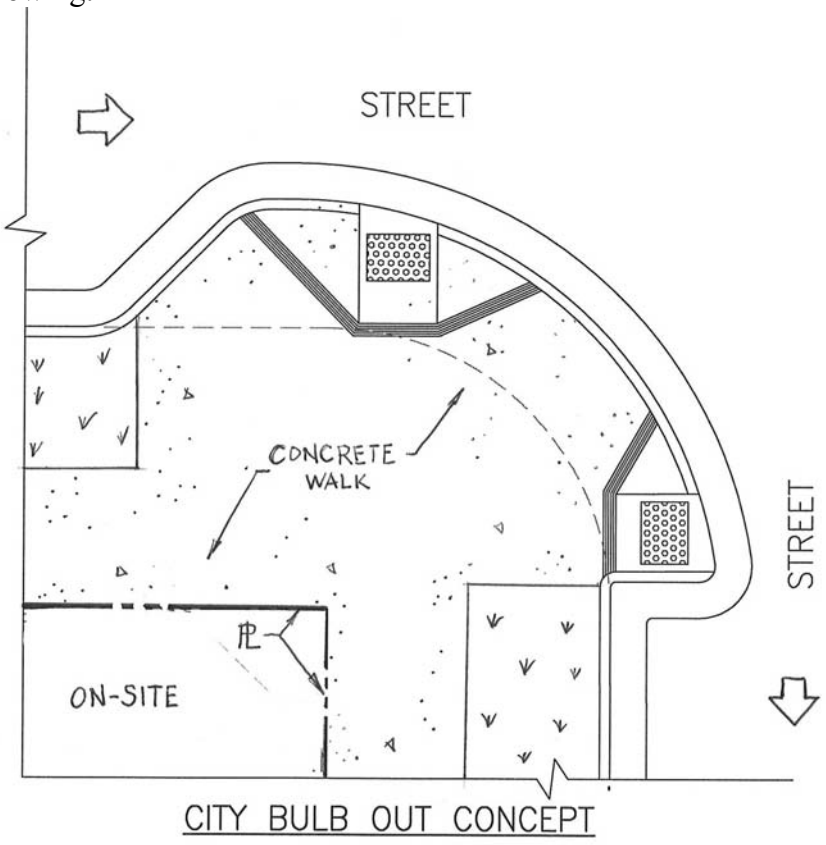
The ramp also has a cross slope of 5.9% from bottom of landing.

Final conditions must be in compliance with CBC section 1133B.5.1 through B.5.8.

CBC Section 1133B.8.5, Detectable Warning at Hazardous Vehicular Areas, requires a separation of pedestrians and vehicles which is not present.

Future City of Sacramento anticipated frontage improvements:

Stantec Civil is (at this time) involved with an existing State Building renovation project at 6th and Q Streets. We are familiar with what the City is looking for relative to ultimate public improvements regarding the frontage improvements for the 450 N Street site. The City of Sacramento Development Services personnel confirmed Stantec's assumptions regarding these frontage improvement requirements and will require the following:



This is a conceptual detail of a standard "Bulb Out" Detail. This is the City's design concept to address the high pedestrian traffic flows at the signalized pedestrian cross walks. Most likely this will be required in two locations north "N" Street intersection and south "N" street intersection.