



February 4, 2016

GDC Project No. GF-2078

Resch Polster & Berger, LLP
On behalf of Rodeo Holdings, LLC
1840 Century Park East, 17th Floor
Los Angeles, California

Attention: Mr. Robert Barnes, Esq.

Subject: Summary of Observations
Sidewalk Removal by City of Pasadena
497 S. Lake Avenue, Pasadena, California 91101

Dear Mr. Barnes,

At the request of Resch Polster & Berger, LLP on behalf of Rodeo Holdings, LLC, Group Delta Consultants (GDC) made a visual and photographic record of the removal of the sidewalk by the City of Pasadena in front of 497 S. Lake Avenue on January 20, 2016. This site visit follows our engineering investigation performed on October 20, 2015 of the distress to 497 S. Lake Avenue, which is discussed in our Engineering Investigation Report, dated November 9, 2015. In addition, Taylor Leak Detection, Inc. was present to evaluate the blocked subject building drain line during the sidewalk removal. A summary of our observations and those made by Taylor Leak Detection, Inc. are discussed in detail below.

OBSERVATIONS

The sidewalk was demolished with a Bobcat jackhammer and the removal exposed numerous roots beneath the sidewalk adjacent to the subject building (Photos 1 - 6). Some roots are over 6 inches in diameter. A section of the sidewalk adjacent to the northeast corner of building was not demolished because there is a survey point that is likely for the property line (Photo 7).

Sidewalk removal began about 9.5 feet north of the subject building (Photos 1 - 3) and extended to the south (Photos 4, 6) a total distance of about 82 feet, 8 feet south of the south end of the building (Photo 5). The 9 feet 10-inch wide sidewalk sections were removed, with two wider sections of sidewalk removed south of the north tree planter and south of the southernmost tree planter. The sidewalk varied in thickness, but typically about 4 to 5 inches and there was no apparent steel reinforcement.

Several large roots were encountered at a roughly 4 x 6-foot depression adjacent to the northernmost tree (Photos 8 - 10). The depression was about 1-foot deep and 4 feet east of the building perimeter. At this location, some roots are over 6 inches in diameter (Photo 11). The

general contractor, Vart Construction, Inc. backfilled the depression during the demolition work, apparently because of fall/trip hazard.

At the northeast building corner, just below the sidewalk, is 4-inch cast iron drain line that extended out of the building (Photos 12 – 14). The line had a cast iron elbow directing the pipe to the southeast toward the street. The pipe extended out several feet where it connected with a 4-inch plastic pipe (Photo 15). There was a roughly 2-foot section of the plastic pipe that was broken adjacent to the depression (Photos 16, 17). Roots were observed growing inside this portion of the drain line. The cast iron pipe was opened up at the elbow and was found to be completely filled with roots (Photos 18 - 26). We observed a ½-inch wide root (Photos 27 – 29) and numerous smaller roots that completely filled the pipe and continue into the cast iron pipe and into the building.

North of the depression are two easterly trending drain lines that appear to be for the vacated neighboring building to the north (Photo 30). About 7 feet north of the subject building is a cast iron line that was observed to be broken near the street and with roots growing in the pipe (Photos 31, 32). The outlet at the street is completely blocked (Photo 33). At about 4.5 feet north of the subject building is a plastic drain line that is damaged at one location where we observed standing water (Photos 34, 35). The curb outlet for this pipe is completely blocked (Photo 36). There are two roots about 1 to over 1.5-inches in diameter that trend along this pipe and go to the west under a landscaping curb (Photo 37).

A large mass of roots at the ground surface fan out northward of the north tree (Photo 38). Another large mass of roots fan out to the southwest toward the north portion of the building (Photo 39). These surface roots, directly beneath the sidewalk extend all the way toward the building.

The general contractor had the Bobcat Jackhammer operator disturb the ground surface adjacent to the north front entrance a total depth of about 1 foot and a linear distance of about 7 feet (Photos 40, 41). We hand excavated deeper and along the disturbed ground to expose the slab edge and open up the disturbed ground (Photo 42). This work exposed a ¾-inch root and smaller roots going under the adjacent slab (Photos 43, 44). This slab appeared to be about 3½ inches thick and our metal detector did not indicate the presence of metal reinforcement (Photo 45). The general contractor did not want to excavate any further because he said that there is a gas line in the vicinity of this portion of the building.

A significant number of surface roots were directly beneath the sidewalk between the middle and south trees (Photo 46). Removal of the sidewalk in between the south and middle trees resulted in detachment of a section of the marble facing (Photos 47, 48). Removal of the sidewalk showed that the sidewalk butted up against the cracked wall facing (Photos 49, 50) that was observed during our original site visit (Photos 51, 52). This confirmed that the growth of the south tree root mass most likely caused the compression damage to the sidewalk and likely pushed the

sidewalk northwestward and into the building facing (Photo 53). This may have been exacerbated by the growth of roots directly beneath this portion of the sidewalk (Photo 54).

About 10 feet north of the south tree, a linear 3.5-inch diameter iron drain line extends from the building toward the street (Photo 55). The outlet for this pipe is complete blocked with debris/soil (Photo 56). A section of this pipe was broken and roots were visible inside (Photo 57). There is no indication that this drain line is connected.

The general contractor disturbed the ground surface adjacent to the front entrance slab of the south building entrance (Photos 58, 59). The disturbance was about 0.5 to 1 foot deep and about 12 feet long. We hand excavated deeper and exposed a root about 5 to 6 inches in diameter about 4 feet south of the north end of the entrance slab (Photos 60 - 65). Several smaller roots splayed off the larger root (Photo 66). Mr. Kenny Graham, City of Pasadena Forestry Supervisor, had a couple of City personnel excavate around these roots and dig slightly deeper (Photos 67 - 69). It was discovered that the 5 to 6-inch thick root turns down into the ground and it is not known where it goes (Photo 70). The small roots were observed to have grown into the slab/footing edge of the entrance slab and then turned away. It was discovered that the entrance slab edge/footing is at least 14 inches deep at this location (Photo 71), with an apparent separate pour of 5-inch thick slab/tile installation on top. Our metal detector indicated the presence of metal reinforcement in this slab, possibly rebar.

About 10 inches south of the south entrance slab is a 4-inch diameter cast iron drain line that trends east to an outlet at the street (Photo 72). The outlet is completely filled with soil (Photo 73). Near the building the pipe was found to be abandoned and filled with soil (Photo 74).

Beneath the south end of the sidewalk removal (Photo 75), large root(s), typically 4 to 4.5 inches in diameter extended to the south from an area between the south building entrance slab and the south tree (Photos 76 – 78). This tree root system extends at least 21 feet from the tree and continues beneath the remaining sidewalk with a root diameter of about 3 inches (Photo 79).

The trees and roots adjacent to the curb and street are massive (Photos 80 - 83) and the curbs have apparent long-term heave from continued growth of the three ficus trees (Photos 84 and 85).

BUILDING DRAIN LINE EVALUATION

Taylor Leak Detection, Inc. was present on January 20, 2016 to inspect the building drain line exposed during removal of the sidewalk. The following is excerpted from their report (see Appendix B) of the same date.

“The north downspout line runs down the inside of the north wall of the building and then turns to run roughly horizontally under the sidewalk to the curb outfall. During our October 22, 2015 inspection, the line was completely impacted with mud.”

Though unable to enter the impacted line with a locating device, we presumed that the line turned into the north side yard and then turned east to run to the curb opening.

As there was a question as to whether the line was only impacted with mud or whether it was also impacted with roots, on January 20, 2016, the City of Pasadena excavated the sidewalk so that the line could be uncovered.

We uncovered the line under the sidewalk and found that it was, in fact, impacted with roots which stopped up the line.

We found that the line coming down the north wall does not turn into the north side yard. Instead, the line runs directly east, and runs under the finished floor of the first floor unit in the building for a distance of approximately 10 to 15 feet.

We uncovered the line where it exits from under the east wall of the first floor unit. The line is cast iron. Where the line exits from under the building there is root infiltration into the line. We attempted to extract roots from the line under the first floor of the building but were unable to do so. The infiltration was too extensive."

SUMMARY OF FINDINGS

Based on our findings to date, our opinions and conclusions include:

- Our observations are consistent with our findings during our original investigation on October 20, 2015 and reported in our Engineering Investigation Report, dated November 9, 2015.
- Significantly large tree roots, up to 5-6 inches in diameter were discovered underlying the distressed sidewalk. The tree roots were found to extend horizontally from the trees more than 21 feet from the trunk. Roots up to 5 to 6 inches in diameter were encountered extending up to the building's south entrance slab and turn down into the ground, possibly growing beneath this slab. Roots were observed extending beneath the north entrance slab.
- Roots were observed growing beneath the adjacent sidewalk sections that were not removed.
- Evaluation of the drain line for the northeast building roof shows that this drain line is impacted with roots from the subject trees and these roots intrude into the building several feet.
- Removal of the sidewalk exposed root damaged/blocked drain lines for the neighboring property, north of the subject building.
- The drain line for the subject building is a potential source of water for the tree roots, as it was found to be deteriorated and subject to stoppage as discussed in our Engineering Investigation Report. This drain line would be a location beneath the foundation where the tree roots would likely grow.

- Apparent uplift of the curb adjacent to the subject trees indicates that the tree roots are growing beneath and heaving the curb and under the street. Ongoing uplift of the curb and heave of the sidewalk will likely continue to result in distress in front of the building.
- Based on these findings, it is our opinion that if the trees are not removed the subject tree roots will continue to grow beneath the subject building, the sidewalk and the street. Ongoing growth of the tree roots will continue to damage these structures and will continue to harm the drain lines of the building and neighboring property.

CLOSURE

Our investigation and evaluations were performed in accordance with generally accepted local standards using that degree of care and skill ordinarily exercised under similar circumstances by reputable geotechnical consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional advice included in this report.

The following are attached and complete this report:

APPENDICES

Appendix A Photographs
Appendix B Taylor Leak Detection, Inc. Report

Sincerely,
Group Delta Consultants



Sean D. Wilson, PG, CEG 2245
Associate Engineering Geologist

Distribution: digital copy (email to addressee)

GF-2078
Summary of Observations
497 S. Lake Avenue, Pasadena, California

February 4, 2016

APPENDIX A
PHOTOS



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17



Photo 18



Photo 19



Photo 20



Photo 21



Photo 22



Photo 23



Photo 24



Photo 25



Photo 26



Photo 27



Photo 28



Photo 29



Photo 30



Photo 31



Photo 32



Photo 33



Photo 34



Photo 35



Photo 36



Photo 37



Photo 38



Photo 39



Photo 40



Photo 41



Photo 42



Photo 43



Photo 44



Photo 45



Photo 46



Photo 47



Photo 48



Photo 49



Photo 50



Photo 51



Photo 52



Photo 53



Photo 54



Photo 55



Photo 56



Photo 57



Photo 58



Photo 59



Photo 60



Photo 61



Photo 62



Photo 63



Photo 64



Photo 65



Photo 66



Photo 67



Photo 68



Photo 69



Photo 70



Photo 71



Photo 72



Photo 73



Photo 74



Photo 75



Photo 76



Photo 77



Photo 78



Photo 79



Photo 80

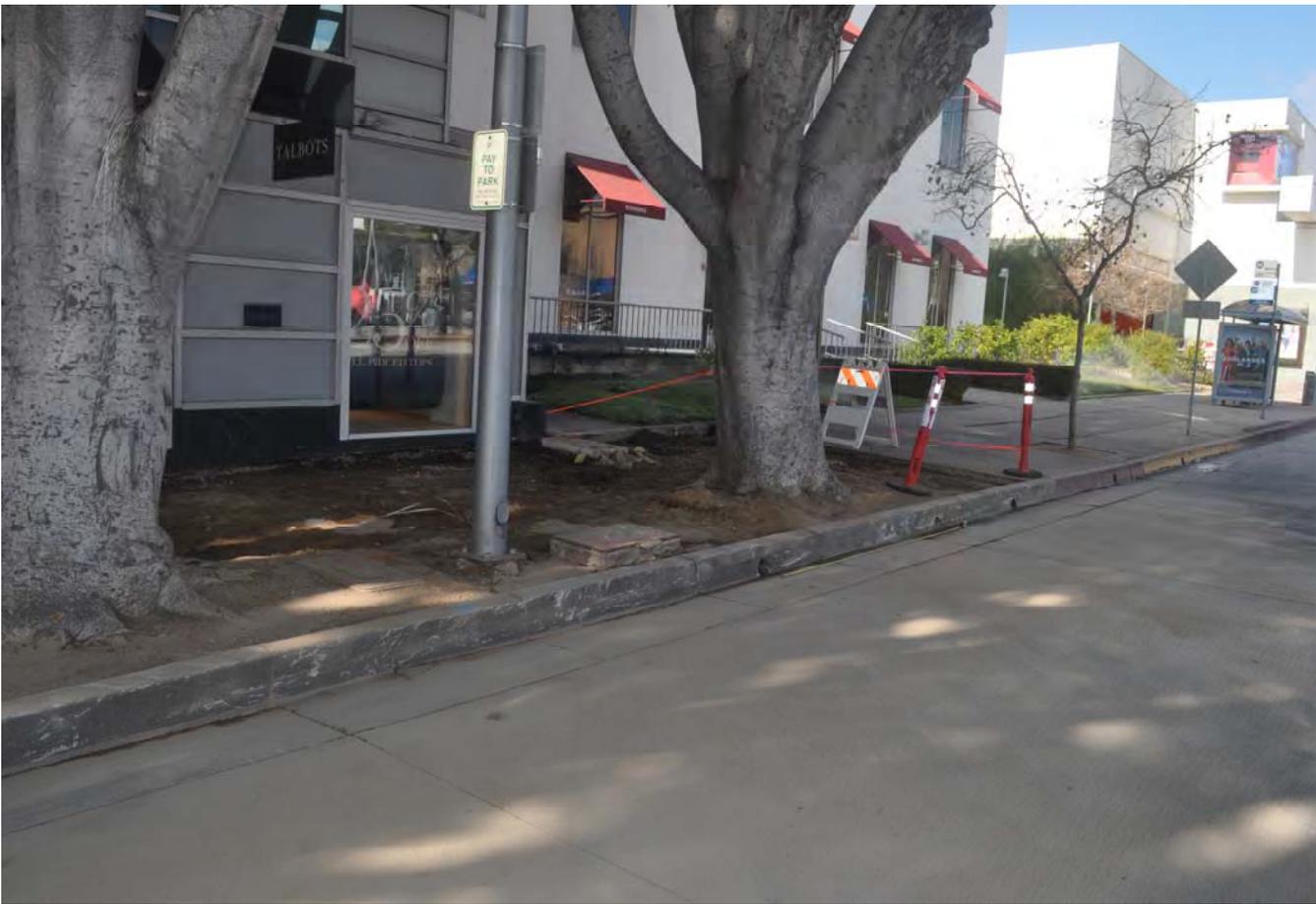


Photo 81



Photo 82



Photo 83



Photo 84



Photo 85

APPENDIX B
TAYLOR LEAK DETECTION REPORT

TAYLOR LEAK DETECTION, INC.
Pipe and Leak Locating

**13455 Ventura Blvd., Suite 204
Sherman Oaks, CA 91423-6121
(800) 252 0070
Fax (818) 789 0115
Email – taylorleak@gmail.com**

January 20, 2016

Group Delta Consultants, Inc.
370 Amapola Ave., Suite 212
Torrance, CA 90501
Attn: Sean D. Wilson PG, CEG

Re: Job Site : 497-511 S. Lake Ave., Pasadena

Dear Mr. Wilson,

On October 22, 2015, we inspected the sewer and north rain downspout at the site. The structure at the site consists of a two story commercial building. Our investigation concerned a first floor unit in the 497 building.

With respect to the inspection of the sewer, we forwarded our findings in our report dated October 22, 2015. During our October 22, 2015 inspection, we also examined the north rain water downspout.

The north downspout line runs down the inside of the north wall of the building and then turns to run roughly horizontally under the sidewalk to the curb outfall. During our October 22, 2015 inspection, the line was completely impacted with mud.

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