MOORE TWINING ASSOCIATES, INC.

May 11, 2017 E75208.02

Mr. Jeff Lochner
Athena Property Management
16795 Von Karman, Suite 200
Irvine, CA 92606

Subject: **Addendum No. 1 to Geotechnical Engineering Investigation**
Proposed Pads 1 and 2 and Expansion of Existing Shops Building - Retaining Walls
Riviera Shopping Center
Northeast Corner of Telephone Road and Westinghouse Street
Ventura, California

Reference: Geotechnical Engineering Investigation, Proposed Pads 1 and 2 and Expansion of Existing Shops Building, Riviera Shopping Center, Northeast Corner of Telephone Road and Westinghouse Street, Ventura, Ventura County, California, prepared by Moore Twining Associates, Inc., dated February 8, 2017

Dear Mr. Lochner:

We are pleased to submit this addendum letter to our February 8, 2017 geotechnical engineering investigation report for the proposed pads 1 and 2 and expansion of the existing shops building at the Riviera Shopping Center in Ventura, California.

Based on our review of plans recently provided to our office, it has come to our attention that the expansion of the existing shops building will include a new loading dock with a retaining wall. The referenced geotechnical report did not provide recommendations for design of retaining walls, since this information was not known at the time the report was prepared. Accordingly, this addendum to the report has been prepared to provide recommendations for the retaining walls.

The following supplemental recommendations are provided for design of the loading dock retaining walls for the expansion of the existing shops building:

Structural loads for retaining walls or screen walls should be supported on engineered fill prepared in accordance with the recommendations in the Site Preparation section of this report for the building pad areas (Section 8.3.4). Footings may be designed for a maximum net allowable soil bearing pressure of 2,000 pounds per square foot for dead-plus-live loads. These values may be increased by one-third for short duration wind or seismic loads.

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The onsite clay soils are not recommended for backfill of retaining walls. Retaining walls should be constructed with imported, granular backfill placed within the zone extending laterally from the bottom of the wall footing at a 1 horizontal to 1 vertical gradient to the surface. This requirement should be detailed on the construction drawings. The granular wall backfill should meet the following requirements:

Percent Passing 3-Inch Sieve	100
Percent Passing No. 4 Sieve	80 - 100
Percent Passing No. 200 Sieve	0-20
Plasticity Index	Less than 5
Angle of Internal Friction	30 degrees minimum

The imported granular fill material should be tested and approved as recommended under the subsection entitled "Engineered Fill" in the recommendations section of our referenced February 8, 2017 geotechnical engineering investigation report.

Granular wall backfill should be compacted to at least 92 percent of the maximum dry density as determined by ASTM Test Method D1557.

Retaining walls should be constructed with a drain system including, as a minimum, drain pipes surrounded by at least 1.0 cubic foot of ¾-inch open graded rock fully encapsulated by geotextile filter fabric (140N or equivalent).. Drain pipes should be located near the wall to adequately reduce the potential for hydrostatic pressures behind the wall. Drain pipe outlet invert elevations should be sufficient (a bypass should be constructed if necessary) to preclude hydrostatic surcharge to the wall in the event the storm drain system do not function properly. Clean out and inspection points should be incorporated into the drain system. Drainage should be directed to the site storm drain system.

The bottom surface area of concrete footings or concrete slabs in direct contact with engineered fill can be used to resist lateral loads. An allowable coefficient of friction of 0.30 can be used for design.

The allowable passive resistance of the native soils and engineered fill may be assumed to be equal to the pressure developed by a fluid with a density of 250 pounds per cubic foot. The upper 6 inches of subgrade soils in landscape areas should be neglected in determining the total passive resistance.

The active and at-rest pressures of the native granular engineered fill may be assumed to be equal to the pressures developed by a fluid with a density of 45 and 67 pounds per cubic foot, respectively. These pressures assume level ground surface and do not include the surcharge effects of construction equipment, loads imposed by nearby foundations and roadways and hydrostatic water pressure.

The at-rest pressure should be used in determining lateral earth pressures against walls which are not free to deflect. For walls which are free to deflect at least one percent of the wall height at the top, the active earth pressure may be used.

The above earth pressures assume that the backfill soils will be drained. Therefore, all retaining walls should incorporate the use of a drain and a filter fabric encased gravel section to prevent hydrostatic pressures from acting on the walls.

Retaining walls may be subject to lateral loading from pressures exerted from the soils, groundwater, slabs-on-grade, and pavement traffic loads, adjacent to the walls. In addition to earth pressures, lateral loads due to slabs-on-grade, footings, or traffic above the base of the walls should be included in design of the walls. The designer should take into consideration the allowable settlements for the improvements to be supported by the retaining wall.

CLOSING

This addendum supplements the referenced geotechnical engineering investigation report and the recommendations, notifications and limitations, except as amended herein, remain valid for the project. The recommendations of the February 8, 2017 geotechnical engineering investigation report remain applicable for design and construction.

Our professional services were performed, our findings obtained, and our recommendations prepared in accordance with generally-accepted engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied.

We appreciate the opportunity to be of service to Athena Property Management. If you have any questions regarding this matter, or if we can be of any further assistance, please contact us at your convenience.

Sincerely,
MOORE TWINING ASSOCIATES, INC.

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