MILLER PACIFIC ENGINEERING GROUP

October 11, 2018
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Burbank Housing Development Corporation
790 Sonoma Avenue
Santa Rosa, California 95404

Attention: Marianne Lim, Director of Housing

Re: Geotechnical Engineering Consultation
Evaluation of Salvador Creek Channel Slope Stability
Valle Verde and Heritage House Projects
3700 and 3710 Valle Verde Drive
Napa, California

Introduction

As authorized, Miller Pacific Engineering Group is providing geotechnical engineering services for the proposed Valle Verde project at 3710 Valle Verde Drive and the proposed Heritage House project at 3700 Valle Verde Drive in Napa, California. Miller Pacific Engineering Group previously conducted a geotechnical investigation of the subject site, and prepared a geotechnical report dated January 13, 2011. The purpose of our current scope of services is to provide an updated geotechnical report based on additional geotechnical investigation to further delineate the soil profile beneath the project site with additional exploratory borings extending to depths of a much as 50 feet below grade, in order to fully evaluate liquefaction potential at the project site. In addition, the updated geotechnical report will provide updated seismic design recommendations, per CBC 2016, and other supplemental/updated geotechnical design criteria, as needed.

We understand the project includes the renovation of existing buildings at 3700 Valle Verde Drive (Heritage House project) to include 66 bedrooms in three story buildings. The project also includes the construction of 24 new units in new three story structures (Valle Verde project). The development will also include new asphalt paved driveway and parking areas, underground utilities, and landscaping improvements.

Based on our review of available regional geologic maps and our previous study of the project site, the site is underlain by over 50 feet of younger alluvial soils. Some of the surficial soil has medium plasticity and moderate to high expansion potential.

As a part of our current geotechnical services, we have undertaken a preliminary evaluation of the stability of the creek channel slope adjacent to the project site. We conducted a site reconnaissance on September 21, 2018 to evaluate the stability of the channel slopes along Salvador Creek, which borders the project site on the northeast side.

Salvador Creek flows in a generally east/southeasterly direction in the vicinity of the subject site, and drains into the Napa River approximately one quarter mile east of the site. The creek channel adjacent to the site is approximately twelve to fifteen feet deep, with channel side slopes inclined between 2 horizontal to 1 vertical and 1 horizontal to 1 vertical, or steeper in some areas.

Based on our recent observations and evaluation of the creek channel slopes, it is apparent that active erosion is occurring along portions of the channel slope adjacent to the project site. Areas of active erosion include two sections of the creek channel adjacent to the existing asphalt paved driveway and parking area at 3700 Valle Verde Drive (Valle Verde project). One area of creek channel erosion extends for approximately 85 lineal feet and is located adjacent to the most northwesterly portion of the existing asphalt paved driveway. A second area of erosion extends for approximately 100 lineal feet adjacent to the most southeasterly portion of the existing paved driveway.

Erosion of the creek channel slope adjacent to portions of the site has resulted in over-steepened slope inclinations. In these areas, lateral creep or yielding of the channel slope has resulted in cracking, settlement, and lateral spreading of the asphalt paved driveway areas located near the top of the creek channel. Cracking and distress of the existing pavement surface extends back approximately 25 to 30 feet from the top of the slope.

In our opinion, unless remedial measures are taken, it is anticipated that additional yielding and lateral creep of the creek channel slope will occur in the future, which will result in additional settlement and cracking of the adjacent asphalt paved driveway surface over time.

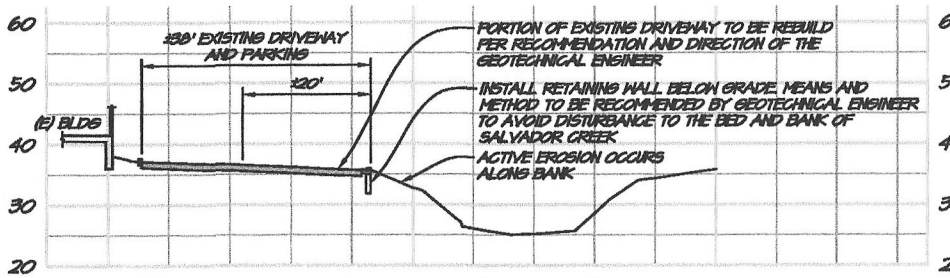
We are pleased to have been of service to you. If you have any questions, please call us at your convenience.

Very truly yours,
MILLER PACIFIC ENGINEERING GROUP

Daniel S. Caldwell
Geotechnical Engineer No. 2006
(Expires 9/30/19)

Cc: Mike Rogers, Consulting Engineer
RSA Consulting Civil Engineers, Attention: Hugh Linn

HERITAGE HOUSE
DRIVEWAY REPAIR EXHIBIT
NAPA CALIFORNIA



SECTION X - X (TYPICAL)
SCALE: 1" = 20'

LEGEND:

PORTIONS OF EXISTING DRIVEWAY SHOWS CRACKING, SETTLEMENT AND LATERAL SPREADING DUE TO EROSION OF CREEK CHANNEL SLOPE. PER MILLER PACIFIC GROUP'S RECOMMENDATION DATED OCTOBER 11, 2018, THESE AREAS WILL BE REPAIRED (SEE SECTION X - X)

ACTIVE EROSION OCCURS ALONG THIS BANK.

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SALVADOR CREEK

EXISTING DRIVEWAY

EXISTING PARKING

EXISTING BUILDING

EXISTING DRIVEWAY

SHELTER CREEK DR

FIREFLY LN

VALLE VERDE DR

GRAPHIC SCALE
40 0 40 80
(IN FEET)
1 Inch = 40 FT

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