Dear Neighbors,

We would like to share our upcoming project with you, an active senior living apartment complex. It will take the place of 159 Buena Vista and the empty lot on Buena Vista, next door to the Aventine Court Apartments.

We had a community outreach back in March of this year to show the plans with the neighborhood, many of you came out to ask questions and give your feedback. In follow up to that meeting we are coming to you one on one to show you the site plans, landscaping and building, so you can review the project. Your questions are appreciated and welcome.

Now that you have had an opportunity to review the project, would you be so kind to sign below showing you are ok with the project.

Thank you,

Neighbors Name (Printed) TEdVO FRANCE

Address: 153 NBUENA UKTA AUK

Signature Pada France

Owner Information

Pete Nyiri

951-737-2121

pnyiri@earthlink.net

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Thank you,

Neighbors Name (Printed) MOVIO HOVES

Address ISS NI RAPDON VISTON AVE 97887

Signature I

Owner Information

Pete Nyiri

951-737-2121

pnyiri@earthlink.net

Mrs Flores raised concerns about proposed screen trees manifesting rats/mice infestation. Developer will put in place a vector control program thought all site grounds.

August 25, 2017

I have viewed the plans for the Buena Vista Senior Apartments and think the project looks good and is a good addition to the neighborhood.

Name and address
Name and address 1238
Mrs, Torres - 820 Vication avanage
dranage
neighbor topt suarlable to his dagliter.

Thank you for your time.

No signature. Resident had concerns about existing cross lot drainage. Pertinent pages the drainage report was shared and explained to the resident.

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Thank you,

Neighbors Name (Printed) GERONIMO REYES

Address: 824 DE ANZA CIR.

Signature Geronimo Royes

Owner Information

Pete Nyiri

951-737-2121

pnyiri@earthlink.net

Resident had concerns about existing cross lot drainage. Pertinent pages the drainage report was shared and explained to the resident.



### **BUENA VISTA SENIOR HOUSING**

Corona, CA

# PRELIMINARY DRAINAGE STUDY

May 01, 2017

Revised on July 15, 2017

PREPARED FOR:

Peter Nyiri

**PREPARED** BY:

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Riverside, CA 92505

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nibrahim@NIAssoc.com

R.C.E. 45812 Exp. Date 12/31/2018

### SECTION 1 - SUMMARY



#### INTRODUCTION

This report includes hydrologic calculations performed for the design of drainage facilities for the proposed Buena Vista Senior Housing project in the City of Corona, County of Riverside, California. The proposed infill project consists of approximately 2.16 acres, fronting Buena Vista Ave on the west and surrounded by residential developments on all sides. There is one single family residence on the property. This project proposes one building consisting of 64-unit multifamily apartments for seniors. The site is tributary to Area 2 of the Corona Drainage Master Plan (DMP). As documented in a separate Water Quality Management Plan (WQMP), site design will include an infiltration trench (or infiltration chambers), with storage capacity of 3,950 c.f., as well as, an underground detention basin with storage capacity of 475 c.f.

The primary objectives of this report are as follows:

- 1. Delineate the tributary drainage areas to proposed facilities.
- Based on drainage patterns, ground slope, land use and soil type and using the Rational Method, determine the 10-year and 100-year peak flow rates, for pre and post development conditions, in accordance with the Riverside County Flood Control & Water Conservation District Hydrology Manual (RCFC&WCD).
- 3. Based on the hydrology results, and physical site and offsite limitations, design the storm drainage facilities to convey the computed design discharges.
- 4. Perform 100-year pre and post development analysis to quantify the impact of development on existing storm drain facilities in Buena Vista Ave. (Public Works DPR Comments # 32 & 33).

#### **EXISTING CONDITIONS**

The site is mostly vacant, with only one single family house occupying 0.2 acres. The remaining 2.0 acres are disked annually for fire hazard prevention. There are existing concrete walls delineating flows along the south and east side of the site. The site receives runoff from three single family lots bordering on the west. We omitted the detention affect created by existing concrete garden walls around two of these offsite lots. The total drainage area is about 3.0 acres. We have divided the site into two subareas (A&B).

Onsite runoff mostly runs in sheet flow pattern, concentrated on the northeast side of the site. Flows from the site cross the backyard of 205 N Buena Vista Ave and eventually reach De Anza Circle through the back/side yards of two residential lots. From De Anza Cir, flows travel north on Vicentia Ave. Runoff from Vicentia Ave is intercepted by an existing catch basin inlet on the south side of Railroad Street (DMP Area 2, Node 020805). There is an existing 54-inch storm drain in Buena Vista Ave, which is the main trunk-line for Drainage Area 2 of the Corona DMP.

We performed a cursory review of two DMP tables, provided by Public Works, for Area 2 and the receiving downstream Area 5. We believe that data segments 020027~020028 and 050025~050026 are incorrect or incomplete. Rather, segment 020027~020028 should reflect a 48" pipe and 60" pipe, extending from Railroad Street to the BNSF railroad right-of-way (under the US Tile yard); Segment 050025~050026 should reflect double 60" pipes extending from the BNSF railroad right-of-way to the North Main Channel (under the City's Corp Yard parking lot). In addition, the DMP is missing a series of structures (open channel, bridge and transitions), which connect node 020028 to node 050025. We are aware that the system for Area 2 (north of Sixth Street) lacks adequate inlet capacity, which necessitated enlarging and adding new inlets along Railroad St, between Vicentia Ave and Violet St (Corona CIP project).

#### PROPOSED CONDITIONS



Under the proposed conditions, the site will be graded to drain from the southwest to the northeast, consistent with the existing site drainage pattern. We have divided the site into three distinct subareas. These areas are being Subareas A, B, C.

From the northeast east corner of the site, drainage will be connected via underground pipes to discharge to the existing 54-inch Storm Drain in Buena Vista Ave. The onsite storm drain system will pass through an infiltration trench (or chambers), terminating into a weir control box, with storage capacity of 3,950 cf. The weir control box will be designed to direct flows in excess of the maximum allowed post-development discharge (5.81 cfs) to an underground detention basin. The detention basin will have a capacity of 475 cf. Outlet discharge will be conveyed in an offsite storm drain (within a private easement), connecting into the existing Buena Vista Ave storm.

To provide for a safe driveway entry to the site, we are proposing a catch basin on Buena Vista Ave, just south of the main driveway approach. Lateral system will also intercept offsite runoff from an existing thru-curb drain for the property to the south.

#### METHODOLOGY

#### **HYDROLOGY**

Hydrologic calculations were performed using the Riverside County Rational Method from RCFCD & WCD\_ Hydrology Manual, dated April 1978. The 10-year and 100-year discharges were computed using spreadsheets modeled after Plate D-2 of Hydrology Manual using data from the hydrology maps. The results are included in Section 2. The following assumptions/guidelines were applied for use of the Rational Method:

- 1. The Soils Group Maps of the Hydrology Manual indicates that the study area is Group "B" soil.
- Initial sub-areas were drawn to be less than 10-acres in size and less than 1,000 feet in length. Time of
  concentration for the initial sub-area is based on Time of Concentration Nomograph for Initial Sub-area
  from the Hydrology Manual.
- 3. Standard intensity-duration curve data for the project area was used for the Corona area.
- 4. For the Pre-Development condition, the runoff coefficients specified are based on undeveloped-fallow land use for Subarea A, and residential land use for Subarea B. Impervious percentage was derived from the existing site plan, rounded upward to the nearest 5%.
- 5. For the Post-Development condition, the runoff coefficients specified are based residential land use for all subareas. Impervious percentages were measured from the proposed site plan, rounded upward to the nearest 5%.
- 6. Antecedent Moisture Condition II was used for both 10-year and 100-year storm events.
- 7. The Dimensionless Unit Hydrograph (DUH) Method was used to develop the hydrographs for the Post Development Drainage Impact Analysis.
- All maps and nomographs used to develop the hydrologic analyses have been included in the References Section.

The resulting 10-year and 100-year discharges at proposed locations are flagged on the Rational Method summaries and are shown on the pre and post Hydrology Maps.

#### **HYDRAULICS**

Detailed hydraulic calculations are not part of this preliminary study, but will be included in the Final Drainage Report. For the hydrology analysis, the Velocity-Discharge Curve for circular concrete pipes flowing full (Plate D-8.1) was used and results were accepted for preliminary purposes to analyze the design discharge of the 10-year and 100-year frequency storm events.

#### CONCLUSIONS

Based on the results of this report it is concluded that discharging the site to the exiting storm drain in Buena Vista is the prudent approach for developing the site, without exacerbating existing downstream conditions. In addition to the 10-year and 100-year peak discharge analysis, hydrographs were prepared for the 100-year storm to assess the impact the project will have on downstream facilities. Concurrent to the 100-year runoff mitigation, the project must also address smaller storm impacts as part of the city and county water quality management program. The project WQMP identifies facilities, including an infiltration trench (or chambers) with storage capacity (3,950 cf). In addition we are proposing an underground detention basin which will fully capture the 100-year runoff increase (475 cf) modeled in this study. The total combined storage capacity is 4,425 cf. The proposed system will reduce the 100-year peak from 6.77 cfs (pre-development) to post-development discharge of 5.81 cfs.