

ADDENDUM #1 TO THE TECHNICAL DRAINAGE STUDY

FOR

Rainbow and Rancho Multi-family Residential

CLD-22-023

City of Las Vegas

DS-5674

June 2023

Prepared for:

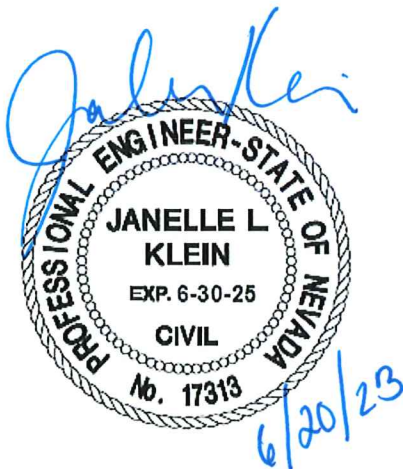
The Calida Group

Jake Roach

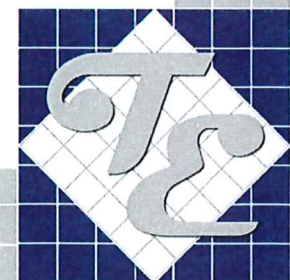
10777 W. Twain Ave, Ste. 115

Las Vegas, NV 89135

Tel: 702-947-2000



TANEY & ENGINEERING



6030 S. Jones Blvd.
Las Vegas, NV 89118
Phone (702) 362-8844
Fax (702) 362-5233

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Rainbow and Rancho Date: June 20 2023

Location of Development: a) Descriptive (Cross Streets) North/South: Rainbow Boulevard
East/West: Rancho Drive

b) Section: 35 Township: 19 S Range: 60 E

c) APN : 125-35-301-021

Name of Owner: The Calida Group

Telephone No.: 702-947-2000 Fax No.: _____ E-Mail Address: jroach@thecalidagroup.com

Address: 10777 W. Twain Ave, Ste. 115, Las Vegas, NV, 89135

Contact Person-Name: Janelle Klein, P.E. Telephone No.: (702) 362-8844

* E-Mail Address: JanelleK@taneycorp.com Fax No.: (702) 362-5233

Firm: Taney Engineering

Address: 6030 S. Jones, Suite 100, Las Vegas NV. 89118

Type of Land Development/Land Disturbance Process:

☐	Rezoning	☒	Subdivision Map	☐	Clearing and Grading Only
☐	Parcel Map	☐	Planned Unit Development	☐	Other (Please specify below)
☐	Large Parcel Map	☐	Building Permit		

1. Total Owned Land Area: At Site: 12.05+/- acres Being Developed/Disturbed: 12.05+/- acres

2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ Yes** ☒ No

3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☐ Yes** ☒ No

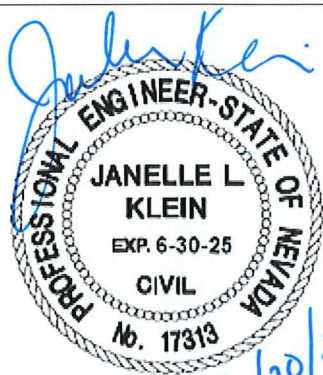
4. Proposed type of development (Residential, Commercial, Etc.): Multi family Residential

5. Approximate upstream land area which drains to the subject site: 0+/- acres

6. Has the site drainage been evaluated in the past? ☐ YES ☒ NO If yes, please identify documentation: Technical Drainage Study for Dove Point I & II CLV DS5469

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: The site will discharge to Dove Point Place southeast corner of the site.

8. Briefly describe your proposed schedule for the subject project: A.S.A.P



Engineer's Seal

Submit this form as part of the required drainage study to the local entity which has jurisdiction over the subject property. This form may provide sufficient information to serve as the Conceptual Drainage Study.

***New Required Field**

****Review and concurrence of the Clark County Regional Flood Control District is required.**

CLV DS5674 Local Entity File No.	Revision	Date

REFERENCE:

STANDARD FORM 1



TANEY ENGINEERING

6030 S. JONES BLVD. LAS VEGAS, NV 89118
PHONE: (702) 362-8844 | FAX: (702) 362-5233
TANEYCORP.COM

Job No. CLD-22-023

Date: June 13, 2023

JURISDICTION:

Albert Sung, P.E.
Flood Control
City of Las Vegas Public Works
495 South Main Street
Las Vegas, NV 89101

**ADDENDUM #1 to the Technical Drainage Study for Rainbow and Rancho
DS 5674**

Dear Mr. Sung:

Taney Engineering is submitting Addendum #1 in response to comments and questions on the Technical Drainage Study for **Rainbow and Rancho**. A response to each comment from City of Las Vegas review memorandum dated May 25, 2023, is provided below.

Comment 1: Provide a copy of the zoning/planning conditions associated with this site (22-0265-GPA1; 22-0265SDR1; 22-0265-ZON1 & 22-0265-VAR1) with the next submittal to verify compliance with conditions. Flood Control will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the City Council). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.

A copy of zoning/planning conditions associated with this site (22-0265-GPA1; 22-0265SDR1; 22-0265-ZON1 & 22-0265-VAR1) has been included with the submittal.

Comment 2: Sites with a grade difference of 2 feet above or below existing grades are required to have approval from the City of Las Vegas Planning and Development Department. The engineer must submit copies of the grading plans and detail sheet with a letter justifying the grade difference to the City Planning Department (229-6301). The engineer must provide City Planning approval with the next submittal.

A copy of City Planning approval has been included with the submittal.

Comment 3: The adjacent development "Dove Point I & II" is under construction which presents the true existing and developed offsite features and drainage conditions.



Figures 6, 7 & 8 provided in the last submittal showed features that were pre-construction of Dove Point I & II and is not acceptable, ie, the existing condition is not truly represented. Show the site layout with lot lines and interior roadways on the adjacent properties. Update the existing and developed condition exhibits to show the existing graded features in the next submittal.

The contours on the plans cannot be updated at this time due to the north property being under construction and not completed however the site layout with lot lines and interior roadways on the south side has been updated in the developed condition exhibit and included with the submittal.

The existing condition was modeled as per the proposed condition of Dove Point Study and the referenced Proposed Condition Exhibit has been included with the submittal.

Comment 4: It is almost illegible to see how the onsite drainage occurs with an 11"x17" size drainage map. Provide a full size (24"x36") Developed Condition Drainage Map in the next submittal.

Developed Condition Drainage Map of 24"X36" has been included with the submittal.

Comment 5: Per the Basin Summary Table, the proposed discharge from the site (DON1) has increased from $Q_{100}=20\text{cfs}$ (XON1) to $Q_{100}=33\text{cfs}$.

It appears that the whole developed site will drain to the southeast corner into the adjacent street Dove Point Place. There are houses adjacent to the south side of Dove Point Place. Address the impact to those houses due to the proposed increase of 100-year flow.

As the proposed discharge from the site (DON1) has increased from $Q_{100}=20\text{ cfs}$ to $Q_{100}=33\text{ cfs}$, the updated runoff of $Q_{100}=33\text{ cfs}$ for the developed condition of onsite basin was used for hydraulic analysis of the downstream street sections and freeboard was found to be sufficient for the increased flow on comparing with the grading plans of Dove Point I & II study.

The D-Sec shows flow depth of 0.6ft on the south side adjacent to our site and the free board provided as per the approved TDS Dove point II is sufficient and meets the finished floor criteria as per CCRFD. The grading plan of approved TDS of Dove Point 2 (GD4, GD5) is attached for the reference.

Comment 6: Bavaria Estates is an existing residential development adjacent and downstream of Dove Point I & II. The proposed increase of flow in Dove Point Place will eventually impact a drainage easement in the southern portion of Bavaria Estates. The engineer must address the



approved design flow in the easement in Bavaria Estates in the next submittal. The proposed flow by the subject development shall not negatively impact the downstream properties.

The drainage easement within the southern portion of Bavaria Estates, specifically labeled as ES2 and ES3 in the approved TDS for Dove Point I & II, has been effectively utilized to conduct the FlowMaster Calculation for the downstream sections. This calculation accounts for the increased flow resulting from the proposed subject site. The attached submittal includes the FlowMaster Calculation for these sections, as outlined in the Dove Point Study, and considering the additional flow. It demonstrates that the proposed flow generated by the subject development does not impose any adverse effects on the properties downstream.

The FlowMaster sections have been included with the submittal. The approved grading plan (GD4, GD5) for Dove Point Study is attached for reference.

Comment 7: Existing Condition Exhibit: Hydraulic Section X-SEC Rainbow-Half Street-100-yr-Ex shows a depth of 0.4 feet, the depth calculated on the Flowmaster provided is 0.5 feet. Clarify the discrepancy.

The table for Hydraulic Section X-Sec Rainbow- Half Street 100-yr Ex has been updated in the Existing Condition Exhibit to match with the FlowMaster Calculation.

Comment 8: Developed Condition Exhibit: Hydraulic Section ES3 100-yr DEV, the slope shown on the table is 0.4% which does not match the Flowmaster provided showing 0.5%.

The table on Developed Condition Exhibit has been updated with the 0.5% slope to match with the FlowMaster Calculation.

Comment 9: Sheet G1 to Sheet G3: The existing contour lines in the residential lots adjacent to the north appear to drain towards the subject development. Confirm whether this is the true condition. If not, revise the grading to show positive drainage in the adjacent lots.

The property located north of our project site is currently undergoing development, resulting in a change to the existing topography, which ensures that this project drains away from our project site. The contours on the plans cannot be updated at this time due to the north property being under construction and not completed; however, the tags and sections provided accurately represent what the edge condition will look like once the development is completed. Once the retaining walls are put in place for the north project, they will be able to backfill the scarping section which will remove the sloping of the ground to our site.



Comment 10: Sheet G5 and Sheet G6: Two 12"-storm drains are proposed under the footing of Building 300 and Building 400. Obtain approval from the City Building & Safety Department prior to the final approval of the subject drainage study.

The developer/engineer may consider surface drainage for the courtyard area without using any storm drains.

A phone conversation with Albert was had in which we both agreed that approval from the city building & safety department will be needed prior to final IP approval, not TDS approval. It is understood if the city building & Safety Department does not approve, a TDS update will be needed.

Comment 11: In the proposed drainage system in the courtyard area, address whether there are any emergency overflow paths provided in case the grate inlets are totally clogged.

If the grate inlets are clogged, the emergency overflow path would be for the runoff to be released to the west through breezeway corridors as the ponding depth would overtop the SW/HP and continue to the meandering sidewalk located between buildings 200, 300 & 400.

Comment 12: Sheet G-6: Detail Y/GD1 refers to Sheet GD1, however the detail is provided on Sheet GD2. Provide better QA/QC in the next submittal.

The cross-section flag has been revised to callout GD2.

Comment 13: Per Detail Y/GD2, there appears to be a swale in the landscape area between the building and the sidewalk next to the GARAGE. Identify the swale on plan and label with flow line elevations in regular intervals.

The swale has been added to the grading sheet, along with FL tags and slopes.

Comment 14: Sheet G7 to Sheet G9: Show clearly the alignment and right-of-way limit of the existing Dove Point Place driveway along the south boundary of the subject development.

The driveway for the south development has been added to these sheets.

Comment 15: Sheet G7 to Sheet G9: Show the lot lines of the existing houses along the south side of Dove Point Place and label with the finished floor elevations on the grading plans.

The lot lines have been added to the plan set, along with FFE labels.



Comment 16: Sheet G9: The development discharges at the southeast corner of the site. But it is not clear how the flow discharges to Dove Point Place: Is it through a concrete channel and then a sidewalk underdrain. Address and resolve in the next submittal.

Per the Dove Point approved plans, the runoff enters their site through a block wall opening and then is conveyed in a Valley gutter until it combines in Dove Point FL through a curb cut.

Comment 17: Sheet GD2: There is a line with delineation between Clark, Nevada and San Bernardino, California that goes over the details. It looks like it should not be there.

The line with delineation between Clark, Nevada and San Bernardino, California has been removed and the updated Sheet is included with the submittal.

Comment 18: The following finish floors do not meet the Regional Flood Control District minimum criteria of twice the Q_{100} depth of flow up to 18-inches above the water surface (CCRFCD Manual Section 304.4.E.1) or 6-inch minimum above the highest adjacent top of curb (CCRFCD Manual Section 1602 304.4.E.1). The following finish floors should be revised, or alternate flood protection provided.

Building	FF shown	Min FF
Garage	2322.50 (GFF)	2323.20
Garage	2322.00 (GFF)	2322.84
Clubhouse	2323.00	2323.40

As an alternate each lot must be discussed in the drainage study, shown to be flood protected, and any necessary flood improvements shown on the grading plan.

The developed condition figure has been updated to include additional section P1 and the depth of flow from FlowMaster calculation has been used to check the Finished floor criteria. The submittal includes the FlowMaster calculation for this section. Prorated flow was used to determine the flow depth in the section.

Building	FL Elevation	Depth of flow	Min FF required	Proposed FF _p	Remarks
Garage	2321.90'	0.17'	2322.24'	2322.50'	FF _p >FL+2*DOF
Garage	2321.41	0.17'	2321.75'	2322.00'	FF _p >FL+2*DOF
Clubhouse	2321.03	0.5'	2322.03'	2323.00	FF _p >FL+2*DOF

A phone conversation was had with Albert in which we agreed that the TC to FF difference of 0.1' minimum would be adequate for TC on the west



side of the clubhouse in order to maintain ADA accessibility to the front doors.

Comment 19: Provide a note in the "CLV Stormwater Runoff Management Notes" column on Sheet C2 as Standard Note #6:

Post-Construction BMPs (PCBMPs) / Control Measures noted on the Grading Plans are mandatory permanent regulatory stormwater pollution controls. These PCBMPs must be installed per the approved plans and must be permanently maintained.

The above-mentioned note has been added on Sheet C2.

A copy of the Clark County Public Works comments has been provided directly following this letter. If you need any additional information, please do not hesitate to call our office.

Sincerely,
TANEY ENGINEERING

Udaya Neupane,
Water Resource Specialist I



**LAS VEGAS
CITY COUNCIL**

CAROLYN G. GOODMAN
Mayor

STAVROS S. ANTHONY
Mayor Pro Tem

MICHELE FIORE

CEDRIC CREAR

BRIAN KNUDSEN

VICTORIA SEAMAN

OLIVIA DIAZ

JORGE CERVANTES
City Manager

DEPARTMENT OF PLANNING

SETH T. FLOYD

DIRECTOR OF
COMMUNITY DEVELOPMENT

CITY HALL

495 S. MAIN ST.
3RD FLOOR
LAS VEGAS, NV 89101
702.229.6301 | VOICE
702.464.2545 | FAX
711 | TTY



cityoflasvegas
lasvegasnevada.gov

August 17, 2022

Harvey Gettleson
Rancho Drive LLC
16000 Ventura Boulevard Suite 900
Encino, California 91436

**RE: 22-0265 [GPA1, ZON1, AND SDR1]
CITY COUNCIL MEETING OF AUGUST 17, 2022**

Dear Applicant:

The City Council at a regular meeting held on **August 17, 2022** voted to **APPROVE** the following Land Use Entitlement project requests on 12.05 acres on the east side of Rainbow Boulevard, approximately 490 feet north of Rancho Drive (APN 125-35-301-021), Ward 6 (Fiore)

22-0265-GPA1 - GENERAL PLAN AMENDMENT - FROM: SC (SERVICE COMMERCIAL) TO: H (HIGH DENSITY RESIDENTIAL)

22-0265-ZON1 - REZONING - FROM R-E (RESIDENCE ESTATES) TO: R-4 (HIGH DENSITY RESIDENTIAL)

22-0265-SDR1 - SITE DEVELOPMENT PLAN REVIEW - FOR A PROPOSED FOUR-STORY, 334-UNIT MULTI-FAMILY RESIDENTIAL DEVELOPMENT

This approval is subject to the following conditions:

22-0265-GPA1 and 22-0265-ZON1 are approved with no conditions

22-0265-SDR1 Conditions:

Planning

1. Approval of a General Plan Amendment (22-0265-GPA1) and Rezoning (22-0265-ZON1) shall be required, if approved.
2. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
3. All development shall be in conformance with the site plan, landscape plan, and building elevations, date stamped 06/15/22, except as amended by conditions herein.

4. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
5. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
6. A technical landscape plan, signed and sealed by a Registered Architect, Landscape Architect, Residential Designer or Civil Engineer, must be submitted prior to or at the same time application is made for a building permit. A permanent underground sprinkler system is required, which shall be permanently maintained in a satisfactory manner; the landscape plan shall include irrigation specifications. Installed landscaping shall not impede visibility of any traffic control device.
7. A fully operational fire protection system, including fire apparatus roads, fire hydrants and water supply, shall be installed and shall be functioning prior to construction of any combustible structures.
8. Prior to the submittal of a building permit application, the applicant shall meet with Department of Planning staff to develop a comprehensive address plan for the subject site. A copy of the approved address plan shall be submitted with any future building permit applications related to the site.
9. A revised site plan shall be submitted to and approved by the Department of Planning Department, prior to the time application is made for a building permit, to reflect the changes herein. The applicant is required to submit a revised site plan that provides one additional ADA parking space, for a total of 11 overall ADA parking spaces.
10. All City Code requirements and design standards of all City Departments must be satisfied, except as modified herein.

Public Works

11. The sidewalks along Rainbow Boulevard adjacent to this site shall meet Public Right of-Way Accessibility Guidelines (PROWAG) in accordance with code requirements of Title 13.56.040 to the satisfaction of the City Engineer concurrent with development of this site. Grant any Pedestrian Access Easement, if any, needed to complete this requirement. All existing paving damaged or removed by this development shall be restored at its original location and to its original width concurrent with development of this site.
12. Coordinate the sewer connection at a size, depth, and location acceptable to the Sanitary Sewer Section of the Department of Public Works. There is a point of connection to the east that goes through the future residential development, but would require potential offsite sewer relief downstream.

13. All landscaping and private improvements installed with this project shall be situated and maintained so as to not create sight visibility obstructions for vehicular traffic at all development access drives and abutting street intersections.
14. Contact the City Engineer's Office at 702-229-6272 to coordinate the development of this project with the "Rancho Complete Street NEPA (Mesquite to Rainbow)" project and any other public improvement projects adjacent to this site. Comply with the recommendations of the City Engineer
15. A Traffic Impact Analysis must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits, submittal of any construction drawings or the recordation of a Map subdividing this site, whichever may occur first. The Traffic Impact Analysis shall also include a pedestrian circulation/access plan to identify nearby pedestrian attractors and recommend measures to accommodate pedestrians, such as but not limited to pedestrian access, crosswalk, pedestrian activated flashers and temporary sidewalks. Comply with the recommendations of the approved Traffic Impact Analysis prior to occupancy of the site. Phased compliance will be allowed if recommended by the approved Traffic Impact Analysis. No recommendation of the approved Traffic Impact Analysis, nor compliance therewith, shall be deemed to modify or eliminate any condition of approval imposed by the Planning Commission or the City Council on the development of this site.
16. A Drainage Plan and Technical Drainage Study must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits or submittal of any construction drawings, whichever may occur first. Provide and improve all drainageways recommended in the approved drainage plan/study. The developer of this site shall be responsible to construct such neighborhood or local drainage facility improvements as are recommended by the City of Las Vegas Neighborhood Drainage Studies and approved Drainage Plan/Study concurrent with development of this site.

The Notice of Final Action was filed with the Las Vegas City Clerk on August 17, 2022.

Sincerely,



Seth T. Floyd
Director of Community Development
Department of Planning

STF:PL:ew

cc:

Brian Fridman
Calida Residential LLC
10777 West Twain Avenue Suite 115
Las Vegas, Nevada 89135

Tony Celeste
Kaempfer Crowell
1980 Festival Plaza Drive Suite 650
Las Vegas, Nevada 89135



TANEY ENGINEERING

6030 S. JONES BLVD. LAS VEGAS, NV 89118
PHONE: (702) 362-8844 | FAX: (702) 362-5233
TANEYCORP.COM

June 13, 2023
Job No: CLD-22-023

Romeo Gumarang
City of Las Vegas
Case Planning Division
333 N Rancho Dr
Las Vegas, NV 89106

APPROVED
DEPARTMENT OF PLANNING
CITY OF LAS VEGAS, NEVADA
2-Foot Grade Difference Only
rgumarang
Jun 20 2023

RE: RAINBOW & RANCHO EXCESS FILL

To Whom it May Concern:

I am writing this letter to provide a comprehensive justification for the excess filling of the site by more than 2 feet above the existing ground level. The project in question requires a flat pad for building construction, and due to certain site conditions, this additional fill is necessary. I would like to outline the reasons behind this decision and explain how all edge conditions align with the existing grades.

1. Flat Pad Needed for Building: One of the primary reasons for the excess filling is the requirement for a flat pad to accommodate the construction of the proposed building. By filling the site, we can create a uniform foundation, eliminating any irregularities or undulations that may compromise the construction process and the long-term safety of the structure.
2. Only the Middle of the Project is Raised: While it may appear that excess filling is being done across the entire site, it is important to note that only the middle portion of the project is being raised. This approach is aimed at achieving a gradual transition from the existing grades on both the north and south sides of the site. By raising the middle area, we can maintain a better integration with the surrounding topography, thereby minimizing the visual impact of the site filling.

In conclusion, the decision to fill the site in excess of 2 feet above the existing ground level is essential to create a flat pad for building construction, accommodate the natural variation in elevation, and maintain a better integration with the existing grades.

Attached are the grading plan and details of the site.

Thank you,

Jeff Thomson



Robert D
Cunningham

Digitally signed by Robert
D Cunningham
Date: 2023.06.15 09:39:10
-07'00'



APPENDIX

APPENDIX A

Comment Letter

APPENDIX B

Figures

APPENDIX C

Hydraulic Calculations

APPENDIX D

Reference Material

APPENDIX E

Improvement Plans



APPENDIX A

Comment Letter

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		May 25, 2023
TO: Land Development Services Department of Building & Safety		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for:	COPIES TO:
Rainbow and Rancho Multi-Family Residential		Taney Engineering
Cross Streets:	NEC of Rainbow Boulevard & Rancho Drive	The Calida Group
File Number:	F:\Depot\DSMemos\DS5674A.doc	Bart Anderson, P.E.; DevCo
Parcel Number:	125-35-301-021	
Zoning Action:	22-0265-GPA1; 22-0265-SDR1; 22-0265-ZON1 & 22-0265-VAR1	
FEMA Flood Zone	YES NO X	
Proposed Storm Drain	YES NO X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal (Paid on 5/16/2023)	5/8/2023 & 5/16/2023	5/25/2023	See Comments Below	\$400.00	5276109: \$400
			TOTAL FEES (LDDRS):	\$400.00	----

REMARKS:

The Drainage Study for the subject project has been reviewed and:

	is approved subject to conformance to all City standards and the following conditions:
X	must be resubmitted or supplemented including the following:
	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
	is conditionally approved subject to Clark County Public Works Department concurrence.

1. Provide a copy of the zoning/planning conditions associated with this site (**22-0265-GPA1; 22-0265-SDR1; 22-0265-ZON1 & 22-0265-VAR1**) with the next submittal to verify compliance with conditions. *Flood Control* will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the *City Council*). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.
2. Sites with a grade difference of 2 feet above or below existing grades are required to have approval from the *City of Las Vegas Planning and Development Department*. The engineer must submit copies of the grading plans and detail sheet with a letter justifying the grade difference to the *City Planning Department* (229-6301). The engineer must provide *City Planning* approval with the next submittal.
3. The adjacent development "*Dove Point I & II*" is under construction which presents the true existing and developed offsite features and drainage conditions.

Figures 6, 7 & 8 provided in the last submittal showed features that were pre-construction of *Dove Point I & II* and is not acceptable, ie, the existing condition is not truly represented. Show the site layout with lot lines and interior roadways on the adjacent properties. Update the existing and developed condition exhibits to show the existing graded features in the next submittal.

4. It is almost illegible to see how the onsite drainage occurs with an 11"x17" size of drainage map. Provide a full size (24"x36") *Developed Condition Drainage Map* in the next submittal.
5. Per the *Basin Summary Table*, the proposed discharge from the site (DON1) has increased from $Q_{100}=20\text{cfs}$ (XON1) to $Q_{100}=33\text{cfs}$.

It appears that the whole developed site will drain to the southeast corner into the adjacent street *Dove Point Place*. There are houses adjacent to the south side of *Dove Point Place*. Address the impact to those houses due to the proposed increase of 100-year flow.
6. *Bavaria Estates* is an existing residential development adjacent and downstream of *Dove Point I & II*. The proposed increase of flow in *Dove Point Place* will eventually impact a drainage easement in the southern portion of *Bavaria Estates*. The engineer must address the approved design flow in the easement in *Bavaria Estates* in the next submittal. The proposed flow by the subject development shall not negatively impact the downstream properties.
7. **Existing Condition Exhibit:** Hydraulic Section X-SEC Rainbow-Half Street-100-yr-Ex shows a depth of 0.4 feet, the depth calculated on the Flowmaster provided is 0.5 feet. Clarify the discrepancy.
8. **Developed Condition Exhibit:** Hydraulic Section ES3 100-yr DEV, the slope shown on the table is 0.4% which does not match the Flowmaster provided showing 0.5%.
9. **Sheet G1 to Sheet G3:** The existing contour lines in the residential lots adjacent to the north appear to drain towards the subject development. Confirm whether this is the true condition. If not, revise the grading to show positive drainage in the adjacent lots.
10. **Sheet G5 and Sheet G6:** Two 12"-storm drains are proposed under the footing of **Building 300** and **Building 400**. Obtain approval from the *City Building & Safety Department* prior to the final approval of the subject drainage study.

The developer/engineer may consider surface drainage for the courtyard area without using any storm drains.
11. In the proposed drainage system in the courtyard area, address whether there are any emergency overflow paths provided in case the grate inlets are totally clogged.
12. **Sheet G-6:** *Detail Y/GD1* refers to *Sheet GD1*, however the detail is provided on *Sheet GD2*. Provide better QA/QC in the next submittal.
13. Per *Detail Y/GD2*, there appears to be a swale in the landscape area between the building and the sidewalk next to the GARAGE. Identify the swale on plan and label with flow line elevations in regular intervals.
14. **Sheet G7 to Sheet G9:** Show clearly the alignment and right-of-way limit of the existing *Dove Point Place* driveway along the south boundary of the subject development.
15. **Sheet G7 to Sheet G9:** Show the lot lines of the existing houses along the south side of *Dove Point Place* and label with the finished floor elevations on the grading plans.
16. **Sheet G9:** The development discharges at the southeast corner of the site. But it is not clear how the flow discharges to *Dove Point Place*: Is it through a concrete channel and then a sidewalk underdrain. Address and resolve in the next submittal.
17. **Sheet GD2:** There is a line with delineation between *Clark, Nevada* and *San Bernardino, California* that goes over the details. It looks like it should not be there.

18. The following finish floors do not meet the Regional Flood Control District minimum criteria of twice the Q_{100} depth of flow up to 18-inches above the water surface (CCRFCD Manual Section 304.4.E.1) or 6-inch minimum above the highest adjacent top of curb (CCRFCD Manual Section 1602 304.4.E.1). The following finish floors should be revised or alternate flood protection provided.

Building	FF shown	Min FF
Garage	2322.50 (GFF)	2323.20
Garage	2322.00 (GFF)	2322.84
Clubhouse	2323.00	2323.40

As an alternate each lot must be discussed in the drainage study, shown to be flood protected, and any necessary flood improvements shown on the grading plan.

19. Provide a note in the "CLV Stormwater Runoff Management Notes" column on **Sheet C2** as *Standard Note #6*:

Post-Construction BMPs (PCBMPs) / Control Measures noted on the Grading Plans are mandatory permanent regulatory stormwater pollution controls. These PCBMPs must be installed per the approved plans and must be permanently maintained.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the Nevada Division of Environmental Protection a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see <http://ndep.nv.gov/bwpc/storm01.htm> or call (775) 687-9429.

END OF REMARKS
HDR/AYS

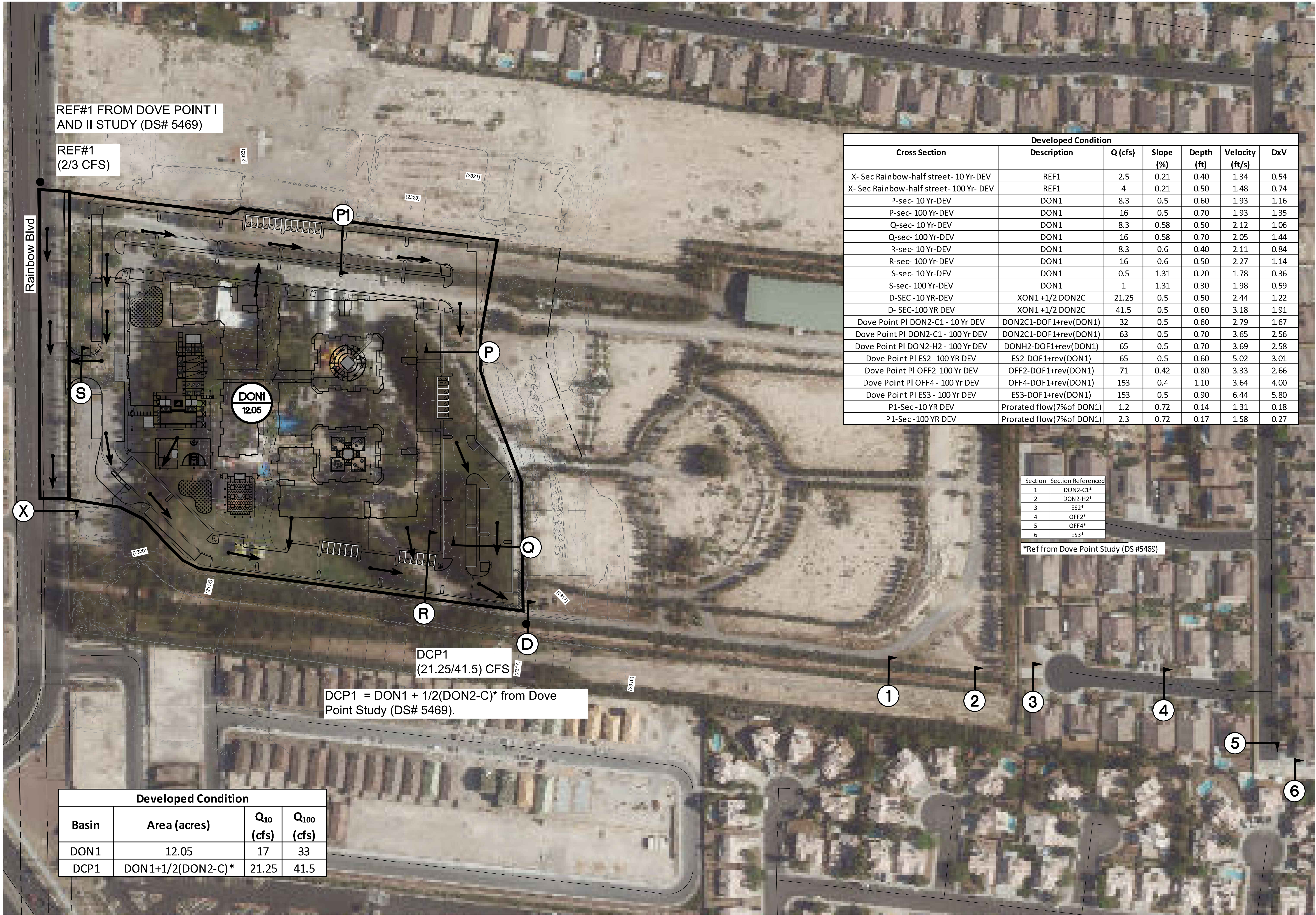
T/R/S: T19S/R60E/35
AREA G-35



APPENDIX B

Figures





REF#1 FROM DOVE POINT I
AND II STUDY (DS# 5469)

REF#1
(2/3 CFS)

Developed Condition						
Cross Section	Description	Q (cfs)	Slope (%)	Depth (ft)	Velocity (ft/s)	DxV
X- Sec Rainbow-half street- 10 Yr-DEV	REF1	2.5	0.21	0.40	1.34	0.54
X- Sec Rainbow-half street- 100 Yr- DEV	REF1	4	0.21	0.50	1.48	0.74
P-sec- 10 Yr-DEV	DON1	8.3	0.5	0.60	1.93	1.16
P-sec- 100 Yr-DEV	DON1	16	0.5	0.70	1.93	1.35
Q-sec- 10 Yr-DEV	DON1	8.3	0.58	0.50	2.12	1.06
Q-sec- 100 Yr-DEV	DON1	16	0.58	0.70	2.05	1.44
R-sec- 10 Yr-DEV	DON1	8.3	0.6	0.40	2.11	0.84
R-sec- 100 Yr-DEV	DON1	16	0.6	0.50	2.27	1.14
S-sec- 10 Yr-DEV	DON1	0.5	1.31	0.20	1.78	0.36
S-sec- 100 Yr-DEV	DON1	1	1.31	0.30	1.98	0.59
D-SEC -10 YR-DEV	XON1 +1/2 DON2C	21.25	0.5	0.50	2.44	1.22
D- SEC-100 YR DEV	XON1 +1/2 DON2C	41.5	0.5	0.60	3.18	1.91
Dove Point PI DON2-C1 - 10 Yr DEV	DON2C1-DOF1+rev(DON1)	32	0.5	0.60	2.79	1.67
Dove Point PI DON2-C1 - 100 Yr DEV	DON2C1-DOF1+rev(DON1)	63	0.5	0.70	3.65	2.56
Dove Point PI DON2-H2 - 100 Yr DEV	DONH2-DOF1+rev(DON1)	65	0.5	0.70	3.69	2.58
Dove Point PI ES2 -100 YR DEV	ES2-DOF1+rev(DON1)	65	0.5	0.60	5.02	3.01
Dove Point PI OFF2 100 Yr DEV	OFF2-DOF1+rev(DON1)	71	0.42	0.80	3.33	2.66
Dove Point PI OFF4 - 100 Yr DEV	OFF4-DOF1+rev(DON1)	153	0.4	1.10	3.64	4.00
Dove Point PI ES3 - 100 Yr DEV	ES3-DOF1+rev(DON1)	153	0.5	0.90	6.44	5.80
P1-Sec -10 YR DEV	Prorated flow(7%of DON1)	1.2	0.72	0.14	1.31	0.18
P1-Sec -100 YR DEV	Prorated flow(7%of DON1)	2.3	0.72	0.17	1.58	0.27

Section	Section Referenced
1	DON2-C1*
2	DON2-H2*
3	ES2*
4	OFF2*
5	OFF4*
6	ES3*

*Ref from Dove Point Study (DS #5469)

Developed Condition			
Basin	Area (acres)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
DON1	12.05	17	33
DCP1	DON1+1/2(DON2-C)*	21.25	41.5

DRAINAGE LEGEND	
	BASIN IDENTIFICATION
	BASIN AREA (ACRES)
	BASIN BOUNDARY
	CONCENTRATION POINT
	FLOW PATH
	PROJECT SITE
	CROSS SECTION
	10-YR/100-YR FLOW (CFS)
	REFERENCE FLOW (CFS)

FIGURE 7

DATE: 6.20.2023
JOBNO: CLD-22-023

Developed Condition



APPENDIX C

Hydraulic Calculations

Worksheet for X-SEC RAINBOW HALF STREET EX-100 YR

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.21 %
Discharge	3.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	21.07
0+05.00	20.97
0+05.00	20.47
0+07.00	20.64
0+50.00	21.96

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 21.07)	(0+07.00, 20.64)	0.013
(0+07.00, 20.64)	(0+50.00, 21.96)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

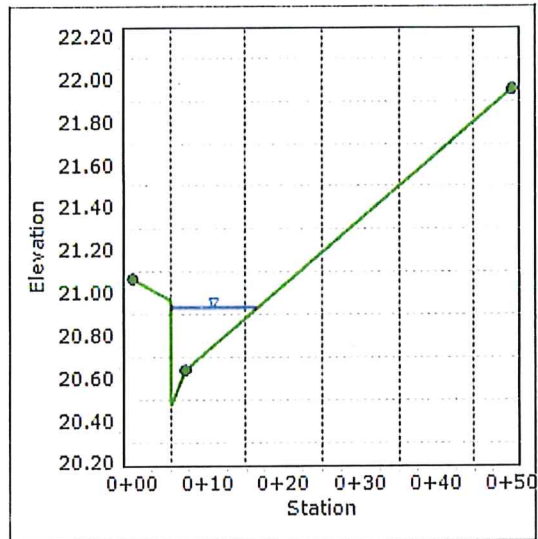
Normal Depth	0.5 ft
Roughness Coefficient	0.015
Elevation	20.93 ft
Elevation Range	20.47 to 21.96 ft
Flow Area	2.1 ft ²
Wetted Perimeter	11.98 ft
Hydraulic Radius	0.2 ft
Top Width	11.51 ft
Normal Depth	0.5 ft
Critical Depth	0.4 ft
Critical Slope	0.69 %
Velocity	1.40 ft/s
Velocity Head	0.03 ft
Specific Energy	0.49 ft
Froude Number	0.573

Worksheet for X-SEC RAINBOW HALF STREET EX-100 YR

Results	
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 ft
Length	0.00 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	0.5 ft
Critical Depth	0.4 ft
Channel Slope	0.21 %
Critical Slope	0.69 %

Cross Section for X-SEC RAINBOW HALF STREET EX-100 YR

Project Description	
Friction Method	Manning
	Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.21 %
Normal Depth	0.5 ft
Discharge	3.00 cfs



Worksheet for P1-SEC 10 Yr Dev

Project Description		
Friction Method	Manning Formula	
Solve For	Normal Depth	
Input Data		
Channel Slope	0.72 %	
Discharge	1.20 cfs	
Section Definitions		
Station (ft)	Elevation (ft)	
0+00.00	21.93	
0+00.00	21.43	
0+18.50	21.06	
0+41.00	20.61	
0+42.50	20.58	
0+44.00	20.61	
0+61.00	20.95	
0+61.00	21.45	
Roughness Segment Definitions		
Start Station	Ending Station	Roughness Coefficient
(0+00.00, 21.93)	(0+00.00, 21.43)	0.013
(0+00.00, 21.43)	(0+41.00, 20.61)	0.016
(0+41.00, 20.61)	(0+44.00, 20.61)	0.013
(0+44.00, 20.61)	(0+61.00, 20.95)	0.016
(0+61.00, 20.95)	(0+61.00, 21.45)	0.013
Options		
Current Roughness Weighted Method	Pavlovskii's Method	
Open Channel Weighting Method	Pavlovskii's Method	
Closed Channel Weighting Method	Pavlovskii's Method	
Results		
Normal Depth	0.13 ft	
Roughness Coefficient	0.015	
Elevation	20.71 ft	
Elevation Range	20.58 to 21.93 ft	
Flow Area	0.9 ft ²	
Wetted Perimeter	13.35 ft	
Hydraulic Radius	0.07 ft	
Top Width	13.34 ft	
Normal Depth	0.13 ft	

Worksheet for P1-SEC 10 Yr Dev

Results

Critical Depth	0.13 ft
Critical Slope	0.86 %
Velocity	1.35 ft/s
Velocity Head	0.03 ft
Specific Energy	0.16 ft
Froude Number	0.920
Flow Type	Subcritical

GVF Input Data

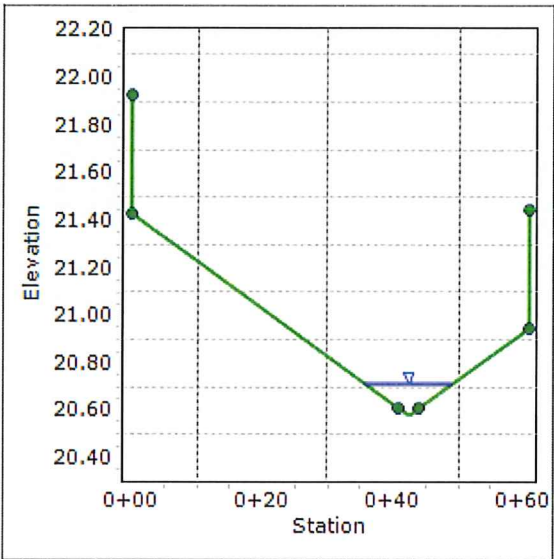
Downstream Depth	0.00 ft
Length	0.00 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.00 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	0.13 ft
Critical Depth	0.13 ft
Channel Slope	0.72 %
Critical Slope	0.86 %

Cross Section for P1-SEC 10 Yr Dev

Project Description	
Friction Method	Manning
	Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.72 %
Normal Depth	0.13 ft
Discharge	1.20 cfs



Worksheet for P1-SEC 100 Yr Dev

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.72 %
Discharge	2.30 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	21.93
0+00.00	21.43
0+18.50	21.06
0+41.00	20.61
0+42.50	20.58
0+44.00	20.61
0+61.00	20.95
0+61.00	21.45

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 21.93)	(0+00.00, 21.43)	0.013
(0+00.00, 21.43)	(0+41.00, 20.61)	0.016
(0+41.00, 20.61)	(0+44.00, 20.61)	0.013
(0+44.00, 20.61)	(0+61.00, 20.95)	0.016
(0+61.00, 20.95)	(0+61.00, 21.45)	0.013

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.17 ft
Roughness Coefficient	0.016
Elevation	20.75 ft
Elevation Range	20.58 to 21.93 ft
Flow Area	1.5 ft ²
Wetted Perimeter	17.06 ft
Hydraulic Radius	0.09 ft
Top Width	17.06 ft
Normal Depth	0.17 ft

Worksheet for P1-SEC 100 Yr Dev

Results

Critical Depth	0.17 ft
Critical Slope	0.80 %
Velocity	1.58 ft/s
Velocity Head	0.04 ft
Specific Energy	0.21 ft
Froude Number	0.954
Flow Type	Subcritical

GVF Input Data

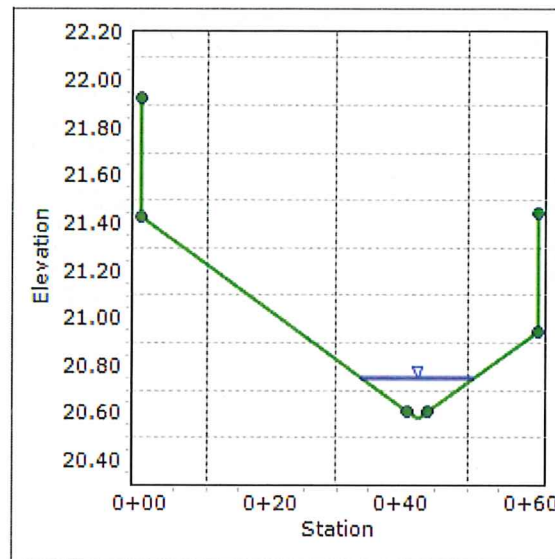
Downstream Depth	0.00 ft
Length	0.00 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.00 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	0.17 ft
Critical Depth	0.17 ft
Channel Slope	0.72 %
Critical Slope	0.80 %

Cross Section for P1-SEC 100 Yr Dev

Project Description	
Friction Method	Manning
	Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.72 %
Normal Depth	0.17 ft
Discharge	2.30 cfs



Worksheet for ES2 DEV-100 YR

Project Description	
Friction Method	Manning
	Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.50 %
Discharge	65.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	6.00
0+00.00	0.00
0+10.00	0.00
0+20.00	0.00
0+20.00	6.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 6.00)	(0+20.00, 6.00)	0.015

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.6 ft
Roughness Coefficient	0.015
Elevation	0.65 ft
Elevation Range	0.00 to 6.00 ft
Flow Area	12.9 ft ²
Wetted Perimeter	21.29 ft
Hydraulic Radius	0.6 ft
Top Width	20.00 ft
Normal Depth	0.6 ft
Critical Depth	0.7 ft
Critical Slope	0.41 %
Velocity	5.02 ft/s
Velocity Head	0.39 ft
Specific Energy	1.04 ft
Froude Number	1.101
Flow Type	Supercritical

Worksheet for ES2 DEV-100 YR

GVF Input Data

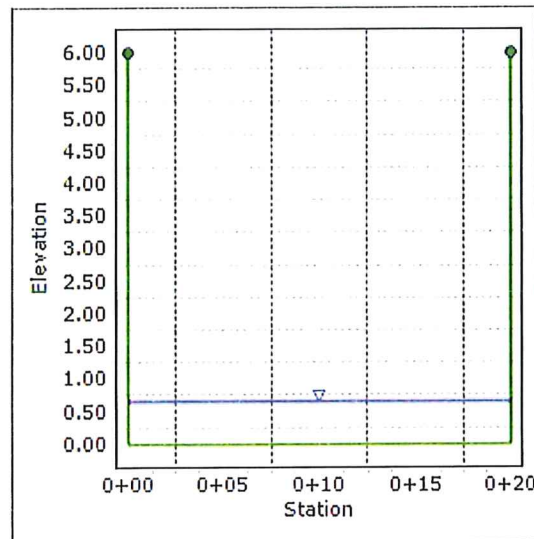
Downstream Depth	0.0 ft
Length	0.00 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.6 ft
Critical Depth	0.7 ft
Channel Slope	0.50 %
Critical Slope	0.41 %

Cross Section for ES2 DEV-100 YR

Project Description	
Friction Method	Manning
	Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.50 %
Normal Depth	0.6 ft
Discharge	65.00 cfs



Worksheet for ES3 DEV-100 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.50 %
Discharge	153.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	6.00
0+00.00	0.00
0+12.50	0.00
0+25.00	0.00
0+25.00	6.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 6.00)	(0+25.00, 6.00)	0.015

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	0.9 ft
Roughness Coefficient	0.015
Elevation	0.95 ft
Elevation Range	0.00 to 6.00 ft
Flow Area	23.7 ft ²
Wetted Perimeter	26.90 ft
Hydraulic Radius	0.9 ft
Top Width	25.00 ft
Normal Depth	0.9 ft
Critical Depth	1.1 ft
Critical Slope	0.36 %
Velocity	6.44 ft/s
Velocity Head	0.65 ft
Specific Energy	1.60 ft
Froude Number	1.166
Flow Type	Supercritical

Worksheet for ES3 DEV-100 YR

GVF Input Data

Downstream Depth	0.0 ft
Length	0.00 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.9 ft
Critical Depth	1.1 ft
Channel Slope	0.50 %
Critical Slope	0.36 %

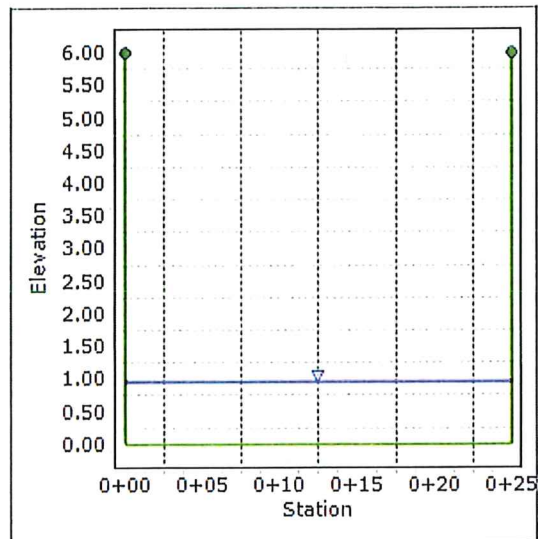
Cross Section for ES3 DEV-100 YR

Project Description

Friction Method	Manning
	Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.50 %
Normal Depth	0.9 ft
Discharge	153.00 cfs



Worksheet for D-SEC -DEV 100 YR

Project Description			
Friction Method	Manning Formula		
Solve For	Normal Depth		
Input Data			
Channel Slope	0.50 %		
Discharge	41.50 cfs		
Section Definitions			
	Station (ft)	Elevation (ft)	
	0+00.00	0.48	
	0+05.00	0.38	
	0+06.50	0.00	
	0+07.50	0.08	
	0+07.50	0.13	
	0+23.00	0.44	
	0+38.50	0.13	
	0+38.50	0.08	
	0+39.50	0.00	
	0+41.00	0.38	
Roughness Segment Definitions			
	Start Station	Ending Station	Roughness Coefficient
	(0+00.00, 0.48)	(0+07.50, 0.13)	0.013
	(0+07.50, 0.13)	(0+38.50, 0.13)	0.016
	(0+38.50, 0.13)	(0+41.00, 0.38)	0.013
Options			
Current Roughness Weighted Method	Pavlovskii's Method		
Open Channel Weighting Method	Pavlovskii's Method		
Closed Channel Weighting Method	Pavlovskii's Method		
Results			
Normal Depth	0.60 ft		
Roughness Coefficient	0.015		
Elevation	0.60 ft		
Elevation Range	0.00 to 0.48 ft		
Flow Area	13.1 ft ²		
Wetted Perimeter	41.55 ft		
Hydraulic Radius	0.31 ft		
Top Width	41.00 ft		
Normal Depth	0.60 ft		

Worksheet for D-SEC -DEV 100 YR

Results

Critical Depth	0.60 ft
Critical Slope	0.51 %
Velocity	3.18 ft/s
Velocity Head	0.16 ft
Specific Energy	0.76 ft
Froude Number	0.992
Flow Type	Subcritical

GVF Input Data

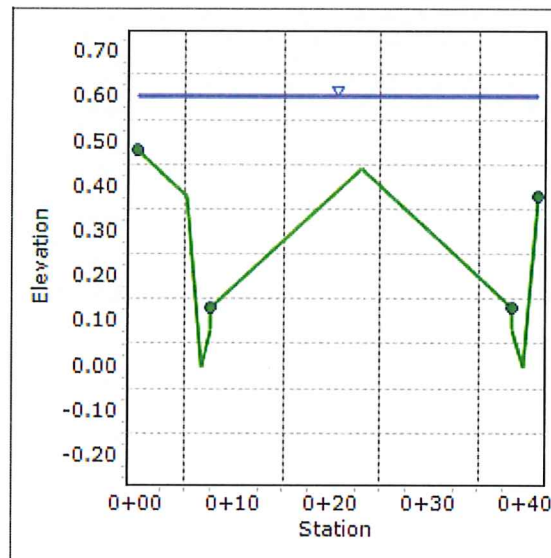
Downstream Depth	0.00 ft
Length	0.00 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.00 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	0.60 ft
Critical Depth	0.60 ft
Channel Slope	0.50 %
Critical Slope	0.51 %

Cross Section for D-SEC -DEV 100 YR

Project Description	
Friction Method	Manning
	Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.50 %
Normal Depth	0.60 ft
Discharge	41.50 cfs





APPENDIX D

Reference Material

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Dove Point I & II Date: June 2021
Location of Development: a) Descriptive (Cross Streets) North/South: North Rainbow Boulevard
East/West: North Rancho Drive
b) Section: 35 Township: 19S Range: 60E
c) APN: 125-35-301-019 & -020

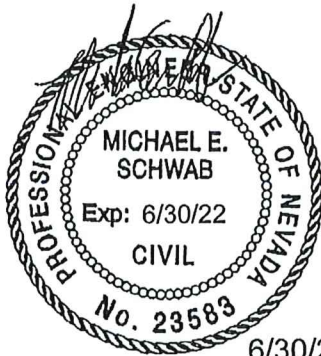
Name of Owner: Richmond American Homes of Nevada, Inc.
Telephone No.: 702.240.5605 Fax No.: _____ E-Mail Address: angela.pinley@mdch.com
Address: 7770 Dean Martin Drive, Suite 308 Las Vegas, NV 89139

Contact Person-Name: Michael Schwab, P.E. Telephone No.: 702.790.0206
* E-Mail Address: michael.schwab@kimley-horn.com Fax No.: _____
Firm: KIMLEY-HORN
Address: 6671 Las Vegas Boulevard South, Suite 320 Las Vegas, NV 89119

Type of Land Development/Land Disturbance Process:

☐	Rezoning	☐	Subdivision Map	☐	Clearing and Grading Only
☐	Parcel Map	☒	Planned Unit Development	☒	Other (Please specify below)
☐	Large Parcel Map	☐	Building Permit	GRADING PERMIT	

1. Total Owned Land Area: At Site: +/- 33.86 acres Being Developed/Disturbed: +/- 33.86 acres
2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ Yes** ☒ No
3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☐ Yes** ☒ No
4. Proposed type of development (Residential, Commercial, Etc.): Residential
Approximate upstream land area which drains to the subject site: N/A
6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: TDS for Bavaria Estates
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Bavaria Estates residential development to the east
8. Briefly describe your proposed schedule for the subject project: ASAP



Engineer's Seal

Submit this form as part of the required drainage study to the local entity which has jurisdiction over the subject property. This form may provide sufficient information to serve as the Conceptual Drainage Study.

***New Required Field**

****Review and concurrence of the Clark County Regional Flood Control District is required.**

	Revision	Date
Local Entity File No. _____		

REFERENCE:

STANDARD FORM 1

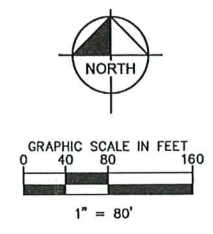
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STREET HYDRAULIC SECTIONS									
STREET SECTION	SLOPE	Q ₁₀₀	FLOW DEPTH	VELOCITY	D _V	Q ₁₀	FLOW DEPTH	VELOCITY	D _V
	%	(cfs)	(ft)	(ft/s)	(ft/s)	(cfs)	(ft)	(ft/s)	(ft/s)
RNB1	0.40	1.0	0.31	1.22	0.38	0.5	0.26	1.06	0.28
RNB2	0.21	3.0	0.44	1.23	0.54	2.0	0.40	1.12	0.45

SWALE / EASEMENT HYDRAULIC SECTIONS									
STREET SECTION	TRIBUTARY BASINS	CHANNEL SLOPE	Q ₁₀₀	FLOW DEPTH	VELOCITY	D _V			
		%	(cfs)	(ft)	(ft/s)	(ft/s)			
SW2	DOF1	0.25	19	2.58	3.74	9.57			
DON2-G2	DON1 + DON2-A + DON2-G	0.53	50.0	0.35	3.32	1.16			
DON2-H2	CP1 - DON1 - DON2-A - DON2-G	1.41	51.0	0.42	6.05	2.54			
ES1	DON1 + DON2-A + DON2-G	0.50	50.00	0.55	4.54	2.50			
ES2	CP1 - DON1 - DON2-A - DON2-G	0.50	51.00	0.56	4.58	2.56			
ES3	*CP3	0.50	139.00	0.90	6.21	5.59			

OFFSITE HYDRAULIC SECTIONS									
STREET SECTION	TRIBUTARY BASINS	CHANNEL SLOPE	Q ₁₀₀	FLOW DEPTH	VELOCITY	D _V			
		%	(cfs)	(ft)	(ft/s)	(ft/s)			
OFF1	DON1 + DON2-A + DON2-G + *PROP4	0.42	55.0	0.69	2.35	1.62			
OFF2	CP1 - DON1 - DON2-A - DON2-G + *PROP5	0.42	57.0	0.74	3.06	2.28			
OFF3	DON1 + DON2-A + DON2-G + *PROP4 + *CP2	0.50	88.0	0.80	3.18	2.54			
OFF4	*CP3	0.40	139.0	1.02	3.51	3.58			

ONSITE HYDRAULIC SECTIONS									
STREET SECTION	TRIBUTARY BASINS	CHANNEL SLOPE	Q ₁₀₀	FLOW DEPTH	VELOCITY	D _V			
		%	(cfs)	(ft)	(ft/s)	(ft/s)			
DON1-A1	DON1-A	0.51	11.0	0.50	2.54	1.27			
DON1-A2	DON1-A	0.51	11.0	0.44	1.99	0.88			
DON1-B1	1/2 DON1-B	0.51	9.0	0.48	2.13	1.02			
DON1-B2	DON1-B	0.51	18.0	0.48	2.23	1.07			
DON1-B3	DON1-B	0.50	18.0	0.48	2.22	1.07			
DON2-A1	DON1-A + 1/4 DON2-A	0.67	14.3	0.44	2.27	1.00			
DON2-A2	DON1-A + 1/4 DON2-A	0.50	14.3	0.45	2.05	0.92			
DON2-A3	DON1-A + 1/4 DON2-A	0.50	14.3	0.45	2.05	0.92			
DON2-A4	DON1-A + 1/4 DON2-A	0.50	24.0	0.52	2.49	1.29			
DON2-B1	DON2-B	0.50	3.0	0.29	1.44	0.42			
DON2-C1	DOF1 + DON2-B + DON2-C + DON2-D + DON2-E + DON2-F	0.50	49.0	0.65	3.30	2.15			
DON2-D1	DON2-D	0.60	2.0	0.25	1.41	0.35			
DON2-E1	DON2-D + DON2-E	0.50	6.0	0.35	1.70	0.60			
DON2-F1	DON2-D + DON2-E + DON2-F	0.50	10.0	0.41	1.89	0.77			
DON2-G1	DON1-A + DON1-B + DON2-A + DON2-G	0.50	50.0	0.65	3.33	2.16			
DON2-H1	DON2-B + DON2-C + DON2-D + DON2-E + DON2-F + DON2-H	0.50	33.0	0.57	2.82	1.61			



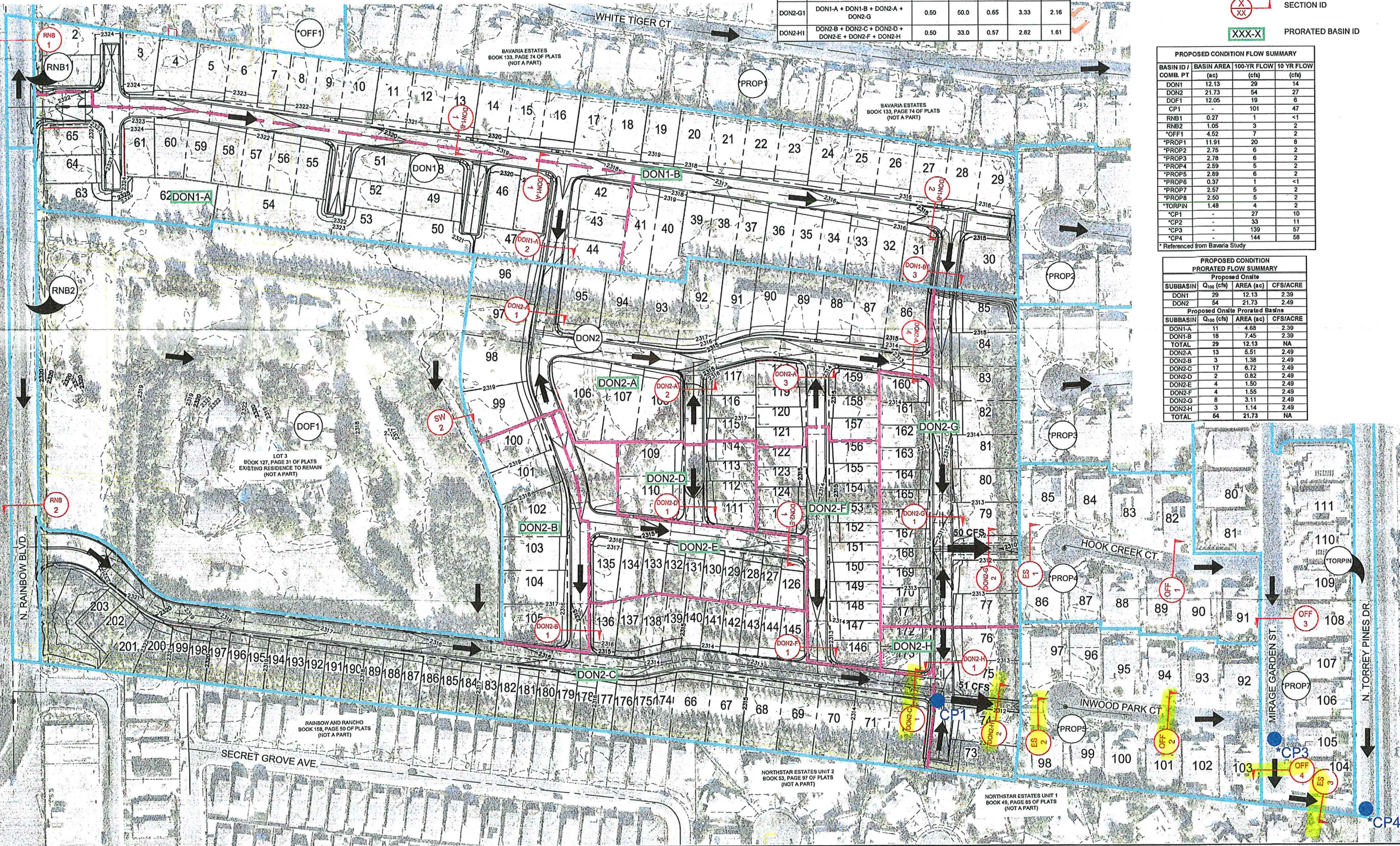
LEGEND

- SITE BASIN ID
- BASIN BOUNDARY
- PRORATE BASIN BOUNDARY
- XX CFS 100YR CFS
- FLOW ARROW
- CPX CONCENTRATION POINT
- XX SECTION ID
- XXX-X PRORATED BASIN ID

PROPOSED CONDITION FLOW SUMMARY				
BASIN ID / COMB. PT	BASIN AREA (ac)	100-YR FLOW (cfs)	10 YR FLOW (cfs)	
DON1	12.13	29	14	
DON2	21.73	54	27	
DOF1	12.05	19	6	
CP1		101	47	
RNB1	0.27	1	<1	
RNB2	1.05	3	2	
*OFF1	4.52	7	2	
*PROP1	11.91	20	8	
*PROP2	2.75	6	2	
*PROP3	2.78	6	2	
*PROP4	2.59	5	2	
*PROP5	2.89	6	2	
*PROP6	0.37	1	<1	
*PROP7	2.57	5	2	
*PROP8	2.50	5	2	
*TORPIN	1.48	4	2	
*CP1		27	10	
*CP2		33	11	
*CP3		139	57	
*CP4		144	58	

* Referenced from Bavaria Study

PROPOSED CONDITION PRORATED FLOW SUMMARY				
Proposed Onsite				
SUBBASIN	Q ₁₀₀ (cfs)	AREA (ac)	CFS/ACRE	
DON1	29	12.13	2.39	
DON2	54	21.73	2.49	
Proposed Onsite Prorated Basins				
SUBBASIN	Q ₁₀₀ (cfs)	AREA (ac)	CFS/ACRE	
DON1-A	11	4.53	2.39	
DON1-B	18	7.45	2.39	
TOTAL	29	12.13	NA	
DON2-A	13	5.51	2.49	
DON2-B	3	1.38	2.49	
DON2-C	17	6.72	2.49	
DON2-D	2	0.82	2.49	
DON2-E	4	1.50	2.49	
DON2-F	4	1.55	2.49	
DON2-G	8	3.11	2.49	
DON2-H	3	1.14	2.49	
TOTAL	64	21.73	NA	



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6671 LAS VEGAS BOULEVARD S., SUITE 320
LAS VEGAS, NEVADA 89119
WWW.KIMLEY-HORN.COM
PHONE: 702-862-3600

PROPOSED CONDITION DRAINAGE MAP

DOVE POINT
PREPARED FOR
RICHMOND AMERICAN

CITY OF LAS VEGAS
NEVADA

CNVL # _____
SHEET NUMBER
PRO

DATE: 06/28/2021
SCALE: AS SHOWN
DESIGNED BY: EM
DRAWN BY: EM
CHECKED BY: MS

REVISIONS

NO.	DATE	BY

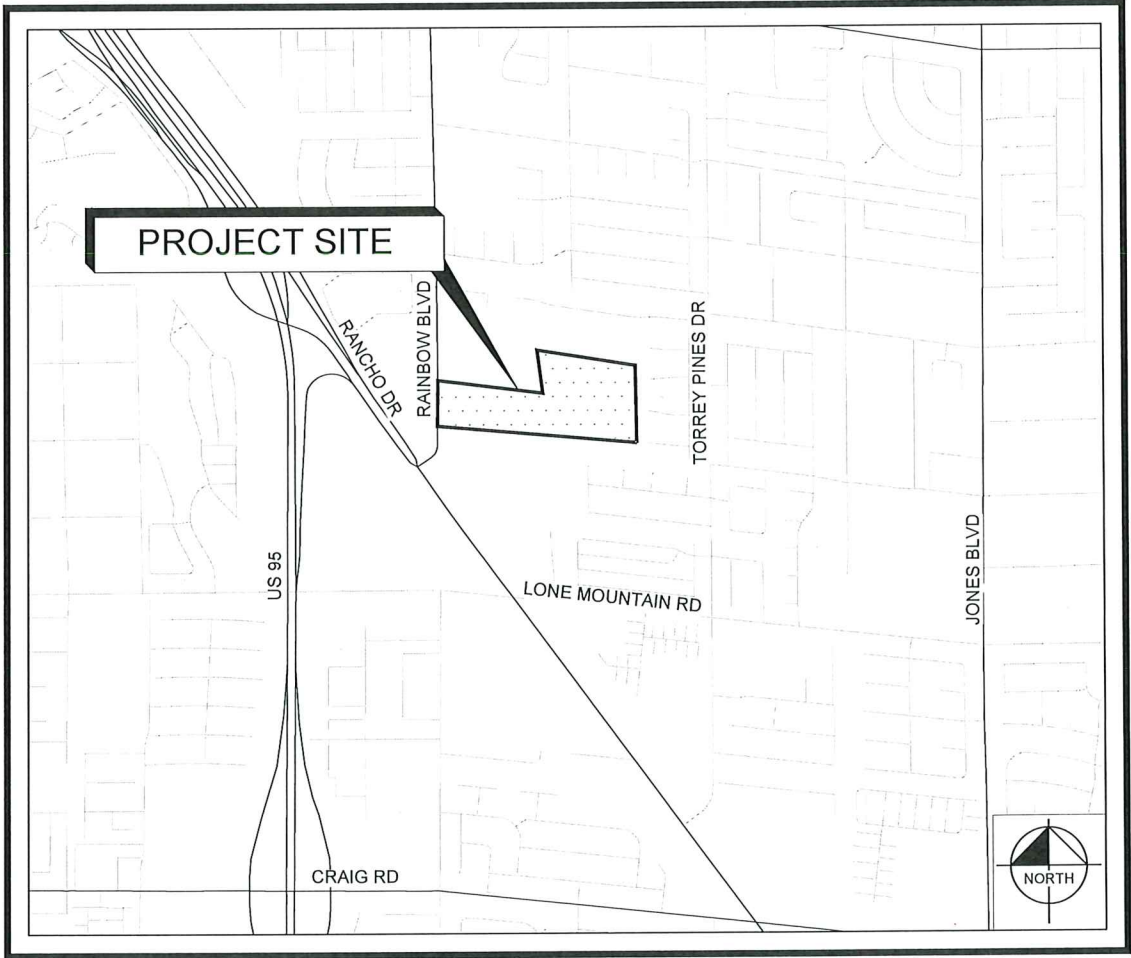
PROJECT CONTACTS
OWNER/DEVELOPER
RICHMOND AMERICAN HOMES OF NEVADA, INC.
7770 DEAN MARTIN DRIVE, SUITE 308
LAS VEGAS, NEVADA 89139
CONTACT: ANGELA PINLEY, PE
(702) 240-5605
CIVIL ENGINEER
KIMLEY-HORN AND ASSOCIATES, INC.
6671 LAS VEGAS BOULEVARD SOUTH, SUITE 320
LAS VEGAS, NEVADA 89119
CONTACT: ERIC HOPKINS, PE
(702) 623-7233
PROJECT INFORMATION
NUMBER OF LOTS: 138
ACREAGE: ±21.73 ACRES (GROSS)
EXISTING ZONING: R-E
PROPOSED ZONING: R-CL
BENCHMARK
CITY OF LAS VEGAS VERTICAL CONTROL STATION SLV9034E4
RIVET AND PLATE IN TOP OF CURB AT NW CORNER OF RAINBOW AND WELCOME LANE.
ELEVATION = 707.66 METERS
ELEVATION = 2321.70 U.S. SURVEY FEET (NAVD 88 v.2008)
FIRE SPRINKLER MOU NOTE
NO MOU ITEMS UTILIZED.
UTILITY PROVIDERS
WATER LAS VEGAS VALLEY WATER DISTRICT
SEWER CITY OF LAS VEGAS
ELECTRICAL NV ENERGY
SOLID WASTE DISPOSAL REPUBLIC SERVICES
GAS SOUTHWEST GAS
TELEPHONE CENTURY LINK
COMMUNICATIONS COX COMMUNICATIONS
LEGAL DESCRIPTION
LOT 2 AS SHOWN BY THE PARCEL MAP THEREOF IN FILE 127, PAGE 31 OF PARCEL MAPS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA, LYING WITHIN THE NORTH HALF (N1/2) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 35, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.
CONTAINING 21.73 TOTAL ACRES
FLOOD ZONE NOTE
THE PARCEL DESCRIBED HEREON LIES WITHIN THE FLOOD HAZARD ZONE HAVING A ZONE DESIGNATION OF "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), AS SHOWN PER FEMA MAP 32003C1765F DATED NOVEMBER 16, 2011.
GEOTECHNICAL NOTE
ALL GRADING AND PAVEMENT SECTIONS SHALL CONFORM TO THE GEOTECHNICAL REPORT:
ENGINEER: ANGLE ENGINEERING
REPORT DATED: 03/26/2021
PROJECT NO.: 26250-1
UTILITY NOTE
KIMLEY-HORN AND ASSOCIATES TAKES NO RESPONSIBILITY FOR EXISTING UTILITIES SHOWN HEREIN. THE EXISTING UTILITIES SHOWN ARE BASED ON INFORMATION PROVIDED BY OTHER PARTIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND VERIFY THE LOCATIONS AND INVERTS OF THE EXISTING UTILITIES WITHIN THE VICINITY OF CONSTRUCTION ACTIVITIES. IF A CONFLICT IS FOUND TO EXIST, THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ENGINEER, PROJECT ARCHITECT, AND THE OWNER IMMEDIATELY.
EARTHWORKS QUANTITIES
NOTE: THESE QUANTITIES ARE APPROXIMATE RAW VOLUMES AND ARE USED FOR BIDDING PURPOSES ONLY. OVEREXCAVATION, SUBSIDENCE, SHRINKAGE & BULKING FACTORS ARE NOT TAKEN INTO ACCOUNT.
CUT = 4,000 CY
FILL = 62,000 CY
NET = 58,000 CY (FILL)
BASIS OF BEARING
NORTH 00°40'07" WEST, BEING THE WEST LINE OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 35, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 158, PAGE 50 OF PLATS, OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

SHEET INDEX		
PAGE	SHEET NO.	SHEET TITLE
1	CV	COVER SHEET
2	NT	GENERAL NOTES
3	ML	MASTER LEGEND & QUANTITIES
4	G00	OVERALL GRADING PLAN
5	G01	GRADING PLAN 1 OF 5
6	G02	GRADING PLAN 2 OF 5
7	G03	GRADING PLAN 3 OF 5
8	G04	GRADING PLAN 4 OF 5
9	G05	GRADING PLAN 5 OF 5
10	XS	TYPICAL CROSS SECTIONS
11	UT0	OVERALL UTILITY PLAN
12	UT1	UTILITY PLAN 1 OF 5
13	UT2	UTILITY PLAN 2 OF 5
14	UT3	UTILITY PLAN 3 OF 5
15	UT4	UTILITY PLAN 4 OF 5
16	UT5	UTILITY PLAN 5 OF 5
17	PP1	DOVE POINT PLACE STA 9+00 - 15+00
18	PP2	DOVE POINT PLACE STA 15+00 - 21+00
19	PP3	DOVE POINT PLACE STA 21+00 - 27+50
20	PP4	PERCH COO AVE
21	PP5	COLUMBIA AVE STA 9+75 - 15+00
22	PP6	COLUMBIA AVE STA 15+00 - 17+50; CE D 10+00-12+00
23	PP7	PEACEFUL PARADISE ST STA 9+75 - 15+00
24	PP8	PEACEFUL PARADISE STA15+00-17+75; TRANQUIL VIEW STA15+75-18+75
25	PP9	DULE GROVE ST
26	PP10	SERENE SKIES ST
27	PP11	TRANQUIL VIEW ST STA 9+75 - 15+75
28	PP12	LA MADRE WAY OFFSITE SEWER
29	DT	TYPICAL DETAILS
30	FT1	FIRE & TRAFFIC CONTROL PLAN 1 OF 5
31	FT2	FIRE & TRAFFIC CONTROL PLAN 2 OF 5
32	FT3	FIRE & TRAFFIC CONTROL PLAN 3 OF 5
33	FT4	FIRE & TRAFFIC CONTROL PLAN 4 OF 5
34	FT5	FIRE & TRAFFIC CONTROL PLAN 5 OF 5

LANDSCAPE PLANS		
PAGE	SHEET NO.	SHEET TITLE
1	CVR	COVER SHEET
2	LA0.0	OVERALL SITE AMENITIES PLAN
3-4	LA1.0 - LA1.1	SITE AMENITIES PLAN
5-6	LA2.0 - LA2.1	SITE AMENITY DETAILS
7	LP0.0	OVERALL PLANTING PLAN PLANTING AREA PLAN
8-16	LP1.0 - LP1.8	PLANTING PLAN
17	LP1.9	PLANT IMAGERY (TREES)
18	LP1.10	PLANTING DETAILS (SHRUBS & ACCENTS)
19	LP2.0	PLANTING DETAILS
20-27	LI1.0 - LI1.6	IRRIGATION PLAN
28	LI2.0	IRRIGATION DETAILS

CIVIL IMPROVEMENT PLANS FOR DOVE POINT 2

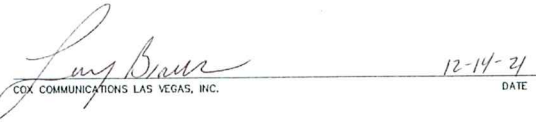
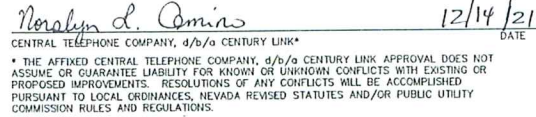
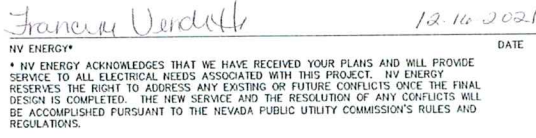
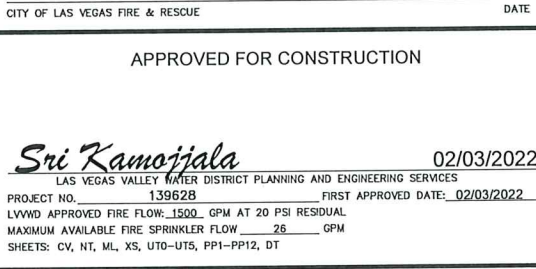
APN: 125-35-301-020
CITY OF LAS VEGAS, NEVADA



PROJECT VICINITY MAP

THIS PROJECT MUST BE APPROVED AND CONSTRUCTED CONCURRENTLY WITH PROJECT #139627, DOVE POINT 1

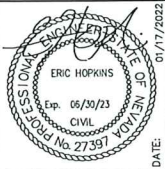
APPROVALS



DAVID FRIEDLANDER 2022HDAF38999 02/03/2022
SOUTHWEST GAS CORPORATION SWG UID DATE



Kimley»Horn
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PHONE: 702-862-3600

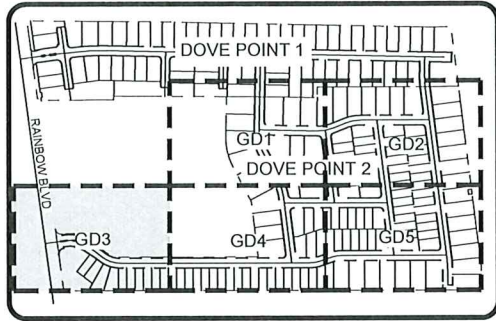
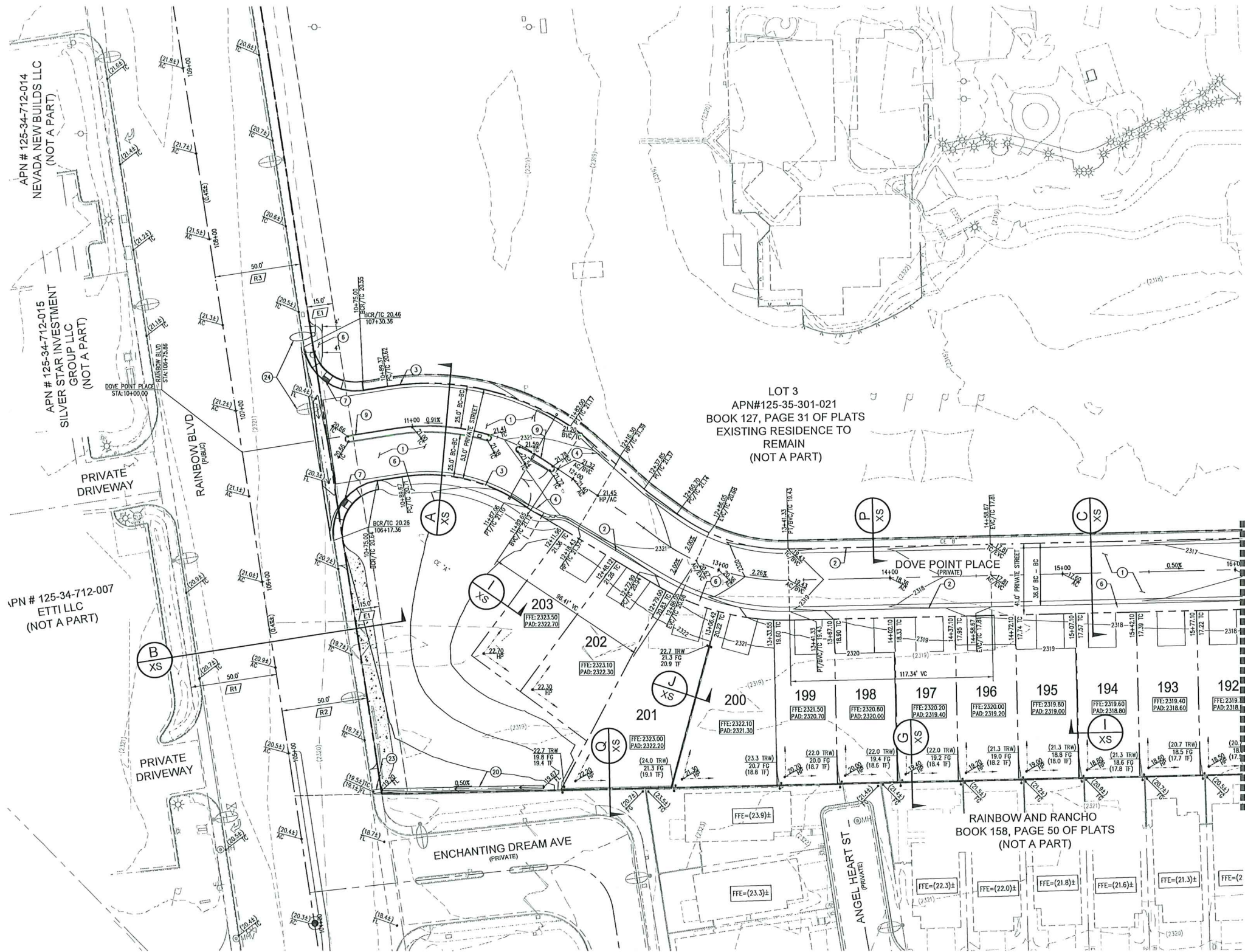


KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
29140020	01/17/2022	AS SHOWN	MK	DL	EH

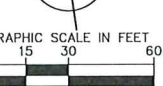
COVER SHEET

DOVE POINT 2
PREPARED FOR
RICHMOND AMERICAN
CITY OF LAS VEGAS
NEVADA
L21-01847
CLV DWG# 107Y5199-2
1 OF 34 SHEETS
CV

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KEYMAP
N.T.S.



CONSTRUCTION NOTES

1. CONSTRUCT RESIDENTIAL AC PAVEMENT PER SOILS REPORT & DETAIL 1 ON SHEET DT.
2. CONSTRUCT 30" ROLL CURB PER CCAUSD NO. 217.2.51.
3. CONSTRUCT "L" TYPE CURB & GUTTER PER CCAUSD NO. 216.
4. TRANSITION FROM "L" CURB TO ROLL CURB PER DETAIL 2 ON SHEET DT.
5. CONSTRUCT 5" THICK SIDEWALK PER CCAUSD NO. 234, WIDTH PER PLAN.
6. CONSTRUCT SIDEWALK RAMP CASE 1 PER CCAUSD NO. 235.
7. CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD NO. 219.
8. CONSTRUCT 2" WIDE VALLEY GUTTER PER DETAIL 6 ON SHEET DT.
9. INSTALL SIDEWALK DRAIN PER CCAUSD NO. 236.
10. EXIST STREET LIGHT TO BE RELOCATED PER CCAUSD 316 AND 300.53 AND CITY OF LAS VEGAS APPROVED SUPPLIER

DEDICATION NOTES:

- [E1] EX. 15' MULTI-USE TRAIL EASEMENT PER FILE 111, PAGE 36 OF PARCEL MAPS
- [R1] EX. 50' R/W PER FILE 76, PAGE 89 OF PARCEL MAPS
- [R2] EX. 50' R/W PER OR:0501:0403454
- [R3] EX. 50' R/W PER OR:0452:0364142

PRIVATE STREET NOTE

ALL PRIVATE STREETS ARE PUBLIC UTILITY EASEMENTS (PUE), PUBLIC DRAINAGE EASEMENTS (PDE) AND PUBLIC SEWER EASEMENTS (PSE) TO BE PRIVATELY MAINTAINED BY THE HOA.

CURB FLOWLINE NOTE:
CURB FLOWLINES LESS THAN 0.65 GRADE SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW SHALL BE REMOVED AND REPLACED AT NO COST TO THE CITY.

BASIS OF BEARING

NORTH 40°40'00" WEST, BEING THE WEST LINE OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 35, TOWNSHIP 19 SOUTH, RANGE 60 EAST, W.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 158, PAGE 50 OF PLATS, OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

BENCHMARK

CITY OF LAS VEGAS VERTICAL CONTROL STATION 5LV9034E4
RIVET AND PLATE IN TOP OF CURB AT NW CORNER OF RAINBOW AND WELCOME LANE.

ELEVATION = 707.66 METERS
ELEVATION = 2321.70 U.S. SURVEY FEET (NAVD 88 v.2008)

FLOOD ZONE NOTE

THE PARCEL DESCRIBED HEREON LIES WITHIN THE FLOOD HAZARD ZONE HAVING A ZONE DESIGNATION OF "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), AS SHOWN PER FEMA MAP 32003C1765F DATED NOVEMBER 16, 2011.

STORMWATER QUANTITIES

SEE SHEET G00 FOR STORMWATER QUANTITIES

STORMWATER MANAGEMENT NOTE

SEE SHEET G00 FOR STORMWATER MANAGEMENT NOTE

SIGHT VISIBILITY ZONES NOTE

SEE SHEET G00 FOR SIGHT VISIBILITY ZONE NOTE

GEOTECHNICAL NOTE

ALL GRADING AND PAVEMENT SECTIONS SHALL CONFORM TO THE GEOTECHNICAL REPORT:

ENGINEER: ANGLE ENGINEERING
REPORT DATED: 03/26/2021
PROJECT NO.: 20250-1

EARTHWORKS QUANTITIES

SEE SHEET G00 FOR EARTHWORK QUANTITIES

ENGINEER'S NOTES

SEE SHEET G00 FOR ENGINEER NOTES

LEGAL DESCRIPTION:

SEE COVER SHEET FOR FULL LEGAL DESCRIPTION

DRAINAGE CERTIFICATION

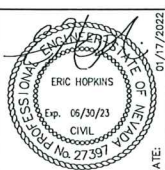
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY D505469 ON FILE WITH THE CITY OF LAS VEGAS FOR THIS PROJECT.

Eric Hopkins
ERIC HOPKINS, PE NO. 027397
01/17/2022
DATE:



Kimley-Horn

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6671 LAS VEGAS BOULEVARD S., SUITE 320
LAS VEGAS, NV 89119
WWW.KIMLEY-HORN.COM
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KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
291400020	01/17/2022	AS SHOWN	SK	DL	EH

GRADING PLAN
3 OF 5

DOVE POINT 2
PREPARED FOR
RICHMOND AMERICAN

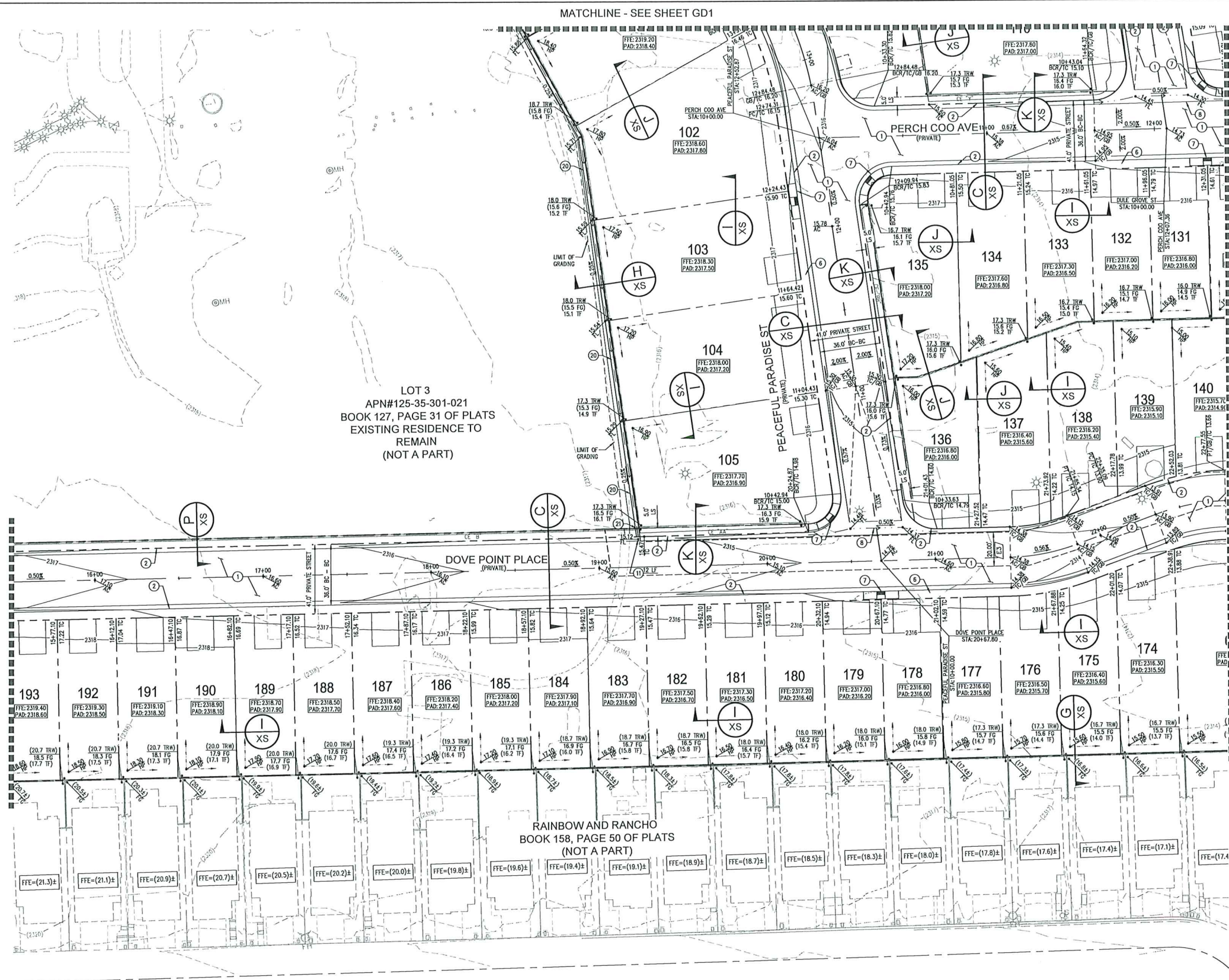
CITY OF LAS VEGAS NEVADA

L21-01847
CLV DWG# 107Y5199-2

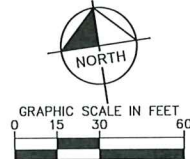
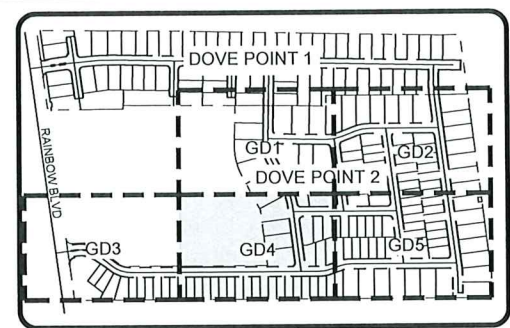
7 OF 34 SHEETS
GD3

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MATCHLINE - SEE SHEET GD3



MATCHLINE - SEE SHEET GD5



CONSTRUCTION NOTES

1. CONSTRUCT RESIDENTIAL AC PAVEMENT PER SOILS REPORT & DETAIL 1 ON SHEET DT.
2. CONSTRUCT 30" ROLL CURB PER CCAUSD NO. 217.2.51.
3. CONSTRUCT 5" THICK SIDEWALK PER CCAUSD NO. 234, WOTH PER PLAN.
4. CONSTRUCT SIDEWALK RAMP CASE 1 PER CCAUSD NO. 235.
5. CONSTRUCT 8" WIDE CROSS GUTTER PER CCAUSD NO. 228.
6. CONSTRUCT ROLL CURB OPENING PER DETAIL 5 ON SHEET DT, WOTH PER PLAN.
7. CONSTRUCT 2' WIDE VALLEY GUTTER PER DETAIL 6 ON SHEET DT.
8. CONSTRUCT 4' WALL OPENING PER DETAIL 7 ON SHEET DT.

DEDICATION NOTES:

- E3 EX. PUBLIC SANITARY SEWER EASEMENT GRANTED TO THE CITY OF LAS VEGAS PER OR:20210513:00711

PRIVATE STREET NOTE

ALL PRIVATE STREETS ARE PUBLIC UTILITY EASEMENTS (PUE), PUBLIC DRAINAGE EASEMENTS (PDE) AND PUBLIC SEWER EASEMENTS (PSE) TO BE PRIVATELY MAINTAINED BY THE HOA.

CURB FLOWLINE NOTE

CURB FLOWLINES LESS THAN ONE GRADE SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW SHALL BE REMOVED AND REPLACED AT NO COST TO THE CITY.

BASIS OF BEARING

NORTH 00°40'00" WEST, BEING THE WEST LINE OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 35, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 158, PAGE 50 OF PLATS, OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

BENCHMARK

CITY OF LAS VEGAS VERTICAL CONTROL, STATION 5LV9034E4

RIVET AND PLATE IN TOP OF CURB AT NW CORNER OF RAINBOW AND WELCOME LANE.

ELEVATION = 707.66 METERS
ELEVATION = 2321.70 U.S. SURVEY FEET (NAVD 88 v.2008)

FLOOD ZONE NOTE

THE PARCEL DESCRIBED HEREON LIES WITHIN THE FLOOD HAZARD ZONE HAVING A ZONE DESIGNATION OF "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), AS SHOWN PER FEMA MAP 32003C1765F DATED NOVEMBER 16, 2011.

STORMWATER QUANTITIES

SEE SHEET G00 FOR STORMWATER QUANTITIES

STORMWATER MANAGEMENT NOTE

SEE SHEET G00 FOR STORMWATER MANAGEMENT NOTE

SIGHT VISIBILITY ZONES NOTE

SEE SHEET G00 FOR SIGHT VISIBILITY ZONE NOTE

GEOTECHNICAL NOTE

ALL GRADING AND PAVEMENT SECTIONS SHALL CONFORM TO THE GEOTECHNICAL REPORT.

EARTHWORKS QUANTITIES

SEE SHEET G00 FOR EARTHWORK QUANTITIES

ENGINEER'S NOTES

SEE SHEET G00 FOR ENGINEER NOTES

LEGAL DESCRIPTION:

SEE COVER SHEET FOR FULL LEGAL DESCRIPTION

DRAINAGE CERTIFICATION

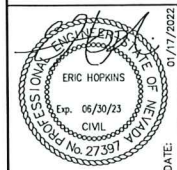
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY D505469 ON FILE WITH THE CITY OF LAS VEGAS FOR THIS PROJECT.

ERIC HOPKINS, P.E. NO. 027397

01/17/2022
DATE:



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LAS VEGAS, NV 89119
WWW.KIMLEY-HORN.COM
PHONE: 702-882-3600



KHA PROJECT
291400020
DATE
01/17/2022
SCALE AS SHOWN
DESIGNED BY MK
DRAWN BY DL
CHECKED BY EH

GRADING PLAN
4 OF 5

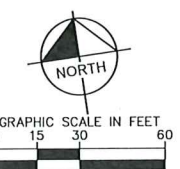
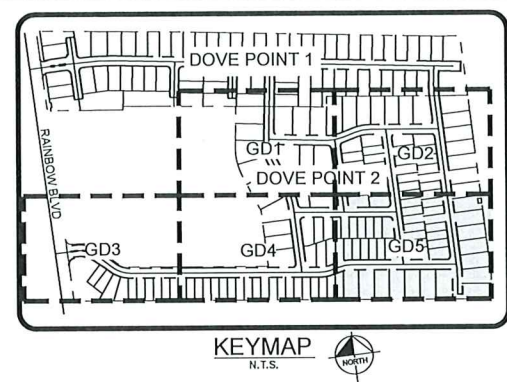
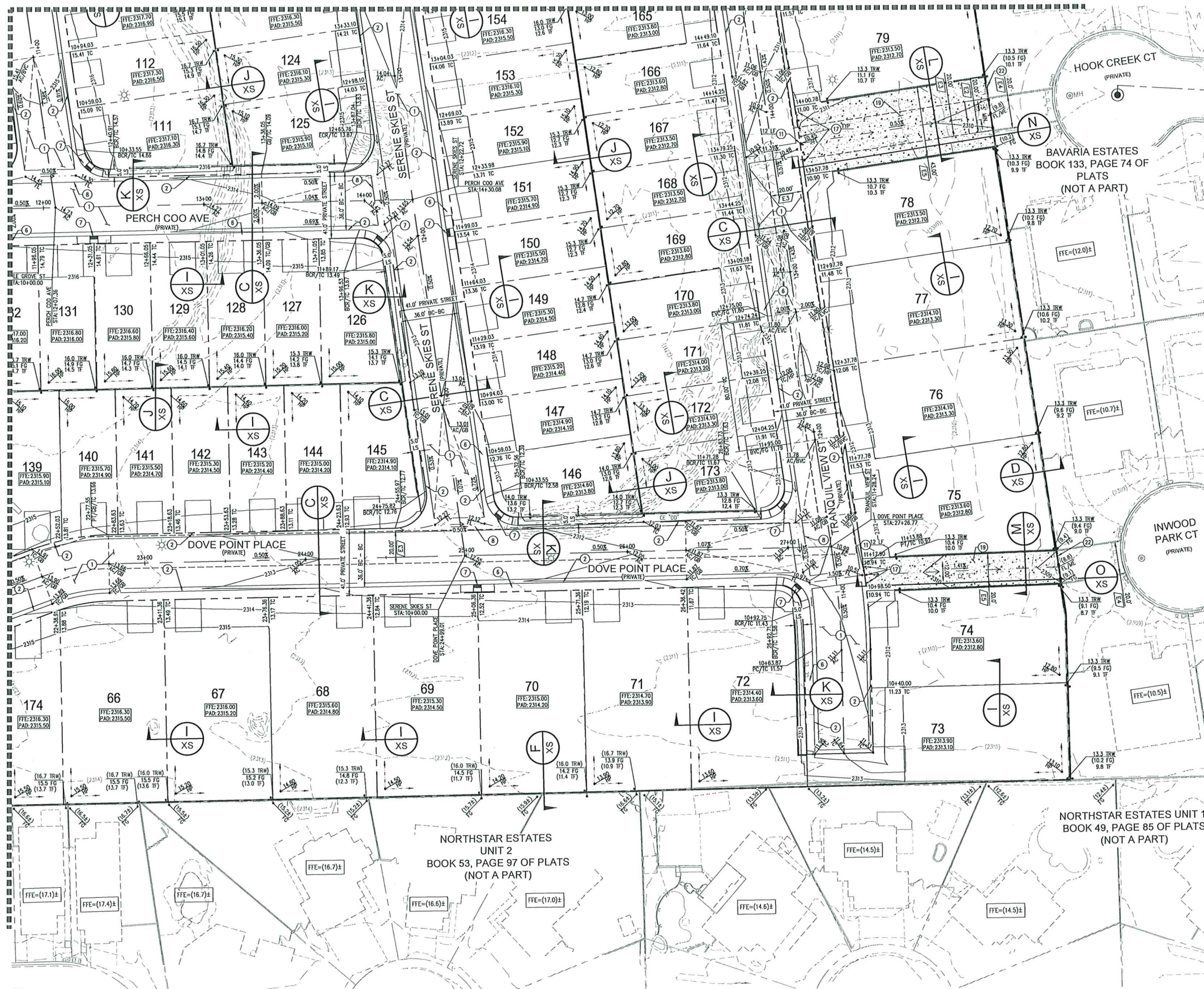
DOVE POINT 2
PREPARED FOR
RICHMOND AMERICAN
CITY OF LAS VEGAS
NEVADA

L21-01847
CLV DWG# 107Y5199-2
8 OF 34 SHEETS
GD4

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MATCHLINE - SEE SHEET GD4

MATCHLINE - SEE SHEET GD2



- CONSTRUCTION NOTES**
1. CONSTRUCT RESIDENTIAL AC PAVEMENT PER SOILS REPORT & DETAIL 1 ON SHEET DT.
 2. CONSTRUCT 30" ROLL CURB PER CCAUSD NO. 217.251.
 3. CONSTRUCT 5" THICK SIDEWALK PER CCAUSD NO. 234, WIDTH PER PLAN.
 4. CONSTRUCT SIDEWALK RAMP CASE 1 PER CCAUSD NO. 238.
 5. CONSTRUCT 8" WIDE CROSS GUTTER PER CCAUSD NO. 228.
 6. CONSTRUCT ROLL CURB OPENING PER DETAIL 5 ON SHEET DT, WIDTH PER PLAN.
 7. INSTALL REMOVABLE BOLLARDS PER CCAUSD NO. 425.51.
 8. CONSTRUCT CONCRETE VALLEY GUTTER PER CROSS SECTION L/M SHEET XS (WIDTH PER PLAN).
 9. EXIST WALL/FENCE AT DRAINAGE EASEMENT TO BE PROTECTED IN PLACE.

- DEDICATION NOTES:**
- E2 EX. CITY OF LAS VEGAS SANITARY SEWER EASEMENT PER OR:20061206:00790
 - E3 EX. PUBLIC SANITARY SEWER EASEMENT GRANTED TO THE CITY OF LAS VEGAS PER OR:20210513:00711
 - E4 EX. PUBLIC DRAINAGE EASEMENT PER OR:20060901:5396
 - E5 PR. PUBLIC DRAINAGE & PUBLIC SEWER EASEMENT TO BE PRIVATELY MAINTAINED BY HOA PER 100170-FWP

PRIVATE STREET NOTE
ALL PRIVATE STREETS ARE PUBLIC UTILITY EASEMENTS (PUE), PUBLIC DRAINAGE EASEMENTS (PDE) AND PUBLIC SEWER EASEMENTS (PSE) TO BE PRIVATELY MAINTAINED BY THE HOA.

CURB FLOWLINE NOTE:
CURB FLOWLINES LESS THAN 0.6% GRADE SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW SHALL BE REMOVED AND REPLACED AT NO COST TO THE CITY.

BASIS OF BEARING
NORTH 00°40'07" WEST, BEING THE WEST LINE OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 35, TOWNSHIP 19 SOUTH, RANGE 60 EAST, MAP 1, CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 158, PAGE 50 OF PLATS, OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

BENCHMARK
CITY OF LAS VEGAS VERTICAL CONTROL STATION 51V034E4
RIVET AND PLATE IN TOP OF CURB AT NW CORNER OF RAINBOW AND WELCOME LANE.
ELEVATION = 707.68 METERS
ELEVATION = 2321.70 U.S. SURVEY FEET (NAVD 88 v.2008)

FLOOD ZONE NOTE
THE PARCEL DESCRIBED HEREON LIES WITHIN THE FLOOD HAZARD ZONE HAVING A ZONE DESIGNATION OF "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), AS SHOWN PER FEMA MAP 32003C1765F DATED NOVEMBER 16, 2011.

STORMWATER QUANTITIES
SEE SHEET GDD FOR STORMWATER QUANTITIES

STORMWATER MANAGEMENT NOTE
SEE SHEET GDD FOR STORMWATER MANAGEMENT NOTE

SIGHT VISIBILITY ZONES NOTE
SEE SHEET GDD FOR SIGHT VISIBILITY ZONE NOTE

GEOTECHNICAL NOTE
ALL GRADING AND PAVEMENT SECTIONS SHALL CONFORM TO THE GEOTECHNICAL REPORT:

ENGINEER: ANGLE ENGINEERING
REPORT DATED: 03/26/2021
PROJECT NO.: 26250-4

EARTHWORKS QUANTITIES
SEE SHEET GDD FOR EARTHWORK QUANTITIES

ENGINEER'S NOTES
SEE SHEET GDD FOR ENGINEER'S NOTES

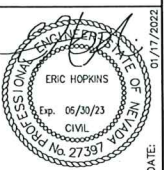
LEGAL DESCRIPTION:
SEE COVER SHEET FOR FULL LEGAL DESCRIPTION

DRAINAGE CERTIFICATION
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY D505469 ON FILE WITH THE CITY OF LAS VEGAS FOR THIS PROJECT.

Eric Hopkins
ERIC HOPKINS, PE NO. 027397
01/17/2022
DATE:



Kimley-Horn
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PHONE: 702-862-3600



KHA PROJECT	291400020
DATE	01/17/2022
SCALE	AS SHOWN
DESIGNED BY	SK
DRAWN BY	DL
CHECKED BY	EH

GRADING PLAN
5 OF 5

DOVE POINT 2
PREPARED FOR
RICHMOND AMERICAN
CITY OF LAS VEGAS
NEVADA

L21-01847
CLV DWG# 107Y5199-2
9 OF 34 SHEETS
GD5

NO.	REVISIONS	DATE	BY



APPENDIX E

Improvement Plans