DS #: 05273

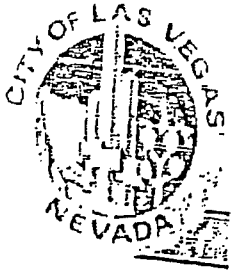
APN: 139-20-411-015

PROJECT: Rancho and Vegas Townhomes (Technical)

SUBMITTAL: 3rd

SCANNED BY/DATE:

CHECKED BY/DATE:



| CITY OF LAS VEGAS<br>INTER-OFFICE MEMORANDUM | | | | DATE:<br>July 6, 2020 |
|---|---|---|---|---|
| TO:<br>**Land Development Services**<br>Department of Building & Safety | | | | FROM:<br>Albert Sung, P.E.<br>Flood Control Project Engineer<br>Department of Public Works |
| **SUBJECT:** | Drainage Study for: | | | **COPIES TO:** |
| **Rancho and Vegas Townhomes (Technical)** | | | | Horrocks Engineers |
| **Cross Streets:** | SEC of Rancho Drive & Holly Avenue | | | Harmony Homes, LLC |
| **File Number:** | F:\Depot\DSMemos\DS5273C.doc | | | Bart Anderson, P.E., DevCo |
| **Parcel Number:** | 139-20-411-015 | | | CCPW |
| **Zoning Action:** | TMP-73061 | | | NDOT |
| **FEMA Flood Zone** | YES | NO **X** | | |
| **Proposed Storm Drain** | YES **X** | NO | | |

| HISTORY | DATE RECEIVED | DATE REVIEWED | COMMENTS | REVIEW FEES | FEES PAID Payment Trn # |
|---|---|---|---|---|---|
| 1st Submittal | 4/24/2020 | 5/7/2020 | Not Approved | $400.00 | 3824245: $400 |
| 2nd Submittal | 6/8/2020 | 6/17/2020 | Not Approved | $400.00 | 3876442: $400 |
| 3rd Submittal | 6/25/2020 | 7/6/2020 | See Comments Below | $400.00 | 3895221: $400 |
| | | | **TOTAL FEES (LDDRS):** | **$1,200.00** | **----** |

## 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: |
| | must be resubmitted or supplemented including the following: |
| | is conditionally approved subject to Clark County Regional Flood Control District concurrence. |
| **X** | is conditionally approved subject to Clark County Public Works Department concurrence. |

1. The site is adjacent to the jurisdiction of *Clark County*. The engineer must coordinate with *Clark County Public Works Department* (CCPW) and incorporate any concerns for boundary conditions along the north and west borders. CCPW concurrence is required prior to final acceptance of the study.

2. The project proposes to construct a driveway entrance off of *Rancho Road*, a *Nevada Department of Transportation* (NDOT) right-of-way. The engineer must contact NDOT for occupancy / encroachment permit for the proposed project.

3. The subject project is adjacent to an ongoing capital improvement project in *Rancho Road*, "*Rancho Road Improvements – Mesquite Avenue to Decatur Boulevard*". The engineer must coordinate with the project manager, Mr. Michael Sturdivant of *City Public Works Department* at (702) 229-6734 for acceptable street improvement design in *Rancho Road* prior to the final approval of the improvement plans.

4. ***Drainage Easement Exhibit*: ES-P5 shall be expanded to include all the common area at the back of Lot 199 all the way to Lot 234.**

5. Coordinate with the adjacent parcel owner to the east (APN: 139-20-411-012) for acceptance of the proposed drainage pattern and some offsite work may need to be done to the consent of the adjacent owner. A notarized letter of acknowledgment from the adjacent owner must be obtained prior to the final approval of the subject drainage study.

**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: T20S/R61E/20
AREA M-20

# ADDENDUM # 2

TO THE

# TECHNICAL DRAINAGE STUDY

FOR

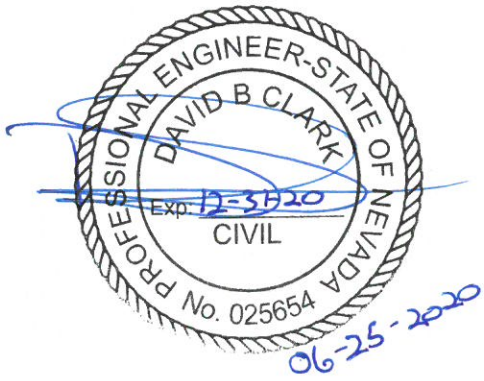
# RANCHO & VEGAS TOWNHOMES
# (APN 139-20-411-015)

IN

# THE CITY OF LAS VEGAS, NEVADA

## PREPARED FOR

Harmony Homes LLC
8912 Spanish Ridge Ave, Suite 200
Las Vegas, NV 89148
Ph. (702) 570 7223




## SUBMITTED TO

CITY OF LAS VEGAS

JUNE 2020

HORROCKS ENGINEERS PROJECT NV-2105-1911

Horrocks Engineers
1401 N Green Valley Pkwy, Suite 160
Henderson, NV 89074
702.966.4063

HORROCKS
ENGINEERS

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

# DRAINAGE STUDY INFORMATION FORM

Name of Development: RANCHO AND VEGAS TOWNHOMES Date: 06-25-2020

Location of Development: a) Descriptive (Cross Streets) North/South: Rancho Drive

East/West: Holly Avenue

b) Section: 20 Township: 20S Range: 61E

c) APN : 139-20-411-015

Name of Owner: HARMONY HOMES, LLC

Telephone No.: 702-570-7223 Fax No.: E-Mail Address: mrosenberg@Harmonyhomes.com

Address: 8912 Spanish Ridge Ave Suite 200 Las Vegas, NV 89148

**Contact Person-Name:** David B. Clark **Telephone No.:** 702.966.4063

* **E-Mail Address:** dclark@horrocks.com **Fax No.:**

**Firm:** Horrocks Engineers

**Address:** 1401 N Green Valley Pkwy, Suite 160 Henderson, NV 89014

Type of Land Development/Land Disturbance Process:

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

1. Total Owned Land Area: At Site: 17+/- acres Being Developed/Disturbed: 17+/- 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 - Townhomes
5. Approximate upstream land area which drains to the subject site: 350 acres
6. Has the site drainage been evaluated in the past? ☒ **YES** ☐ **NO** If yes, please identify documentation: HOLLY/FERRELL - DS 3893 RANCHO & VEGAS (TANEY -DS 5029)
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: 30' drainage easement at Diamond Regent, Holly Avenue, 10' drainage easement in Ferrell development, Parcel APN 139-20-411-012, Parcel APN 139-20-411-014, Parcel APN 139-20-411-004
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

Updated 05/01/2008

HORROCKS
ENGINEERS

1401 N. Green Valley Parkway, Ste. 160
Henderson, NV 89074
702-966-4063
www.horrocks.com

June 25, 2020

Albert Sung, P.E.
Department of Public Works
City of Las Vegas
333 N. Rancho Drive
Las Vegas, NV 89106

**RE: Addendum #2 to Technical Drainage Study for Rancho and Vegas Townhomes, DS 5273**

Dear Mr. Sung,

Horrocks Engineers hereby submits Addendum #2 to the Technical Drainage Study for Rancho and Vegas Townhomes DS 5273, which responds to the City's comments dated June 17, 2020. The comments are listed below together with the associated responses.

**CNLV COMMENTS AND RESPONSES**

1. **The site is adjacent to the jurisdiction of *Clark County.* The engineer must coordinate with *Clark County Public Works Department* (CCPW) and incorporate any concerns for boundary conditions along the north and west borders. CCPW concurrence is required prior to final acceptance of the study.**

   RESPONSE: Noted. The study and addenda will be submitted to CCPW upon conditional approval from CLV.

2. **The project proposes to construct a driveway entrance off of Rancho Road, a Nevada Department of Transportation (NDOT) right-of-way. The engineer must contact NDOT for occupancy / encroachment permit for the proposed project**

RESPONSE: Noted. The study and addenda will be submitted to NDOT upon conditional approval of the drainage study.

3. **The subject project is adjacent to an ongoing capital improvement project in Rancho Road, "Rancho Road Improvements — Mesquite Avenue to Decatur Boulevard'. The engineer must coordinate with the project manager, Mr. Michael Sturdivant of City Public Works Department at (702) 229-6734 for acceptable street improvement design in Rancho Road prior to the final approval of the improvement plans.**

   RESPONSE: Noted. The study will be shared with Michael Sturdivant upon receipt of conditional approval. Michael Sturdivant has been contacted to ensure that the appropriate coordination of the driveway onto Rancho Road is acceptable. The engineer received and reviewed preliminary plans (Rancho Road Improvements – Mesquite Avenue to Decatur Boulevard, hereinafter referred to as the "Rancho Drive Project".) and will continue coordination as necessary. It does not appear that the proposed improvements for the project negatively impact the current plans for the Rancho Project improvements. The proposed improvement for this project do not negatively impact the existing facilities in Rancho Road.

4. **Previous Comment #5: Per Sheet C2.9A and Sheet C2.10A, two discharge points had been added at the southern property line. Note that the more discharge points the more burden for the adjacent owner to maintain. Re-design to keep only one discharge point. Revise the grading plans and all pertinent drainage condition maps accordingly.**

   **Provide construction note for wall opening on the pertinent grading plans.**

   RESPONSE: The eastern block wall opening has been removed. The grading has been revised to the area to include one (1) block wall opening. The runoff that lands behind lots 199-234 is conveyed in a swale to the proposed block wall opening at ES-P5 near lot 204. See the Appendix for calculations for ES-P5 including the orifice/weir and swale calculation.

5. **Previous Comment 7: Revise Detail Section 1/C6.1 to provide solid grout to the bottom three (3) courses of the proposed 8"-CMU wall.**

   RESPONSE: The detail has been revised to include solid grouting to three (3) courses of the proposed wall. See detail Section 1/C6.1 for the revised callouts.

6. **Previous Comment #8: Sheet C2.2: The response in the last submittal was that besides the 30'- drainage easement to accept the 60cfs from Holly Lane, an additional eight (8) wall openings are provided to drain the flow. However, the grading plan is not clear how many wall openings and what are the spacing between the openings. Review and revise accordingly.**

   - **Detail Section M/C6.0 shows roll curb while Construction Note G3 shows "L"-curb adjacent to the wall at APN: 139-20-401-004. Review and revise accordingly.**
   - **It is not clear whether the previous parking lot is still a parking lot. Provide parking stall delineation in the next submittal.**

   RESPONSE: The drainage will enter the site through a single 30' wide plis one 48"x16" wall opening on each site of the 30' opening. The two (2) additional block wall openings provide the capacity to convey the 60 cfs into the site before it ponds up and continues east. The block wall openings have been more clearly located, labeled, and shown (hatching) on the grading plans. Immediately downstream of the block wall openings, D50 = 3" riprap is proposed to protect against erosion and sediment transport. The appropriate area through the parking lot is labeled as a public drainage easement to be privately maintained in accordance with a phone call on June 22, 2020 between CLV and Horrocks Engineers. During the 100 year event, the 30' wide opening will convey 56 cfs and the two (2) block wall openings will convey 4 cfs. Calculations for easement ES-P4 have been included in the Appendix for convenience. The design of the block wall openings hasn't changed with this submittal, however, this addenda clarifies and re-iterates the design and supporting calculations.

   Detail Section M/C.6.0 has been revised to correctly show L-curb adjacent to the wall of APN: 139-20-401-004.

The parking lot stalls are now shown on the grading plans as requested.

7. **Sheet C2.8 and Sheet C2.8A: Drainage easements ES-E2 (10'-wide) and ES-P3 (15'-wide) are located next to each other. ES-E2 is proposed to accept a 100-year flow of 25cfs while ES-P3 will accept 96cfs. The widths are not that much different however the flows are substantially different. In the study, it was stated that an orifice will regulate the flow distribution, however, the grading plans did not match. Address and resolve in the next submittal.**

   RESPONSE: The flow entering ES-E2 from the entrance at Grecian Sky Street is limited to 25 cfs so that the flow conveyed through the easement ES-E2 (along with 4 cfs from the proposed block wall opening near lot 160) Is not increased from the designed flowrate from the Holly Study (29 cfs). The details and grading plans have been revised to show the intended design more clearly. See Sheet C.6.1 for more cross section detail of the ES-E2 and ES-P3 openings. The orifice for ES-E2 has been revised to be 6' wide and 1.67' tall. The water surface elevation at the intersection of Golden Chariot Avenue and Grecian Sky St is 17.17'. This is equal to the weir depth at the entrance to ES-P3 and the orifice (controlling) depth at the entrance to ES-E2. The entrance for ES-P3 is 14.20' wide (previously 10.50' wide) and expands to the 15' wide easement after entry conveys the 96 cfs east. ES-P3 meets the DxV criteria (less than 8). The existing perimeter wall along easement ES-E2 form the Holly Study site includes three (3) courses of solid grouting that will maintain the channels independent of one another. See the Appendix for weir, orifice and normal depth calculations and the grading plans for increased detail of the easements and adjacent areas.

8. **At the east property line, per the Worksheet for ES-P3 Overflow Weir calculation, a crest length of 90' was used. However, per the grading plan, it is almost the entire east property line is used for weir. Address and resolve in the next submittal.**

   RESPONSE: The 90' used assumed a weir crest length of 180' factoring a 50% clogging factor. Upon an internal review of the calculations, the overflow weir calculation no longer uses an 50% clogging factor for the weir crest length, but should be applied as the flow is conveyed through the proposed wrought iron fence. The weir crest length used is 180'. As shown on Figure 11 (located in Appendix A for convenience) the weir crest profile is set at

15.10'. However, the southern portion of the weir crest slopes up to contain low flows entering the easement from Parnon Avenue. The raised area of the weir crest is considered ineffective for the purposes of the overflow weir calculation. The new ponding water surface elevation as shown by the overflow weir calculation is 15.59'. See Appendix A for an updated overflow weir calculation and an updated Figure 11.

9. **Sheet C6.1: Detail Section 6A shows that a proposed wrought iron gate and a portion of the concrete pad spillway are encroaching into the adjacent property (APN: 139-20-411-012). Review and revise accordingly.**

   RESPONSE: The detail and grading show that the wrought iron gate and fence are located along the property line. The wrought iron gate will replace the existing fence. Coordination between the property owner (Harmony Homes) and the parcel owner are ongoing to procure an agreement for the fence replacement and discharge flows.

10. **Coordinate with the adjacent parcel owner to the east (APN: 139-20-411-012) for acceptance of the proposed drainage pattern and some offsite work may need to be done to the consent of the adjacent owner. A notarized letter of acknowledgment from the adjacent owner must be obtained prior to the final approval of the subject drainage study.**

    RESPONSE: It is noted that a notarized letter of acknowledgement is required for final drainage study approval and will be provided to CLV upon completion. As mentioned in the response to comment 9, coordination is ongoing with the adjacent parcel (APN: 139-20-411-012) owner, and an agreement is expected.

11. **All of the proposed onsite drainage easements ES-P1 to ES-P5 are not clear to be identified on the grading plans or the drainage condition maps. Provide an overall onsite site plan with only the proposed drainage easements identified in the next submittal.**

    RESPONSE: Figure 12 is included in the Appendix and shows the extents of the existing and proposed drainage easement as requested.

It is anticipated that the responses above and the attached Addendum #2 fully address the City comments. We respectfully request City approval of the Technical Drainage Study. Please don't hesitate to contact us with any questions.

Sincerely,

**Horrocks Engineers**

David B. Clark, PE

Engineer

# Appendix

CLV Comment Letter – June 17, 2020

Figure 11 – Drainage Easement Profile

Figure 12 – Drainage Easement Exhibit

Weir Calculation

- ES-P3 Overflow
- ES-P3 Entrance

Normal Depth Calculation

- ES-P5 Conveyance Swale [Lots 199-234]
- ES-P5 Discharge

Weir Orifice Calculation

- ES-E2 Entrance
- ES-P4

Orifice Calculation

- ES-P4 Block Wall West
- ES-P4 Block Wall East
- ES-P5

# Grading Plans

| CITY OF LAS VEGAS<br>INTER-OFFICE MEMORANDUM | | | | DATE:<br>June 17, 2020 |
|---|---|---|---|---|
| TO:<br>**Land Development Services**<br>Department of Building & Safety | | | | FROM:<br>Albert Sung, P.E.<br>Flood Control Project Engineer<br>Department of Public Works |
| **SUBJECT:** | Drainage Study for: | | | **COPIES TO:** |
| **Rancho and Vegas Townhomes (Technical)** | | | | Horrocks Engineers |
| **Cross Streets:** | SEC of Rancho Drive & Holly Avenue | | | Harmony Homes, LLC |
| **File Number:** | F:\Depot\DSMemos\DS5273B.doc | | | Bart Anderson, P.E., DevCo |
| **Parcel Number:** | 139-20-411-015 | | | CCPW |
| **Zoning Action:** | TMP-73061 | | | NDOT |
| **FEMA Flood Zone** | YES | NO **X** | | |
| **Proposed Storm Drain** | YES **X** | NO | | |

| HISTORY | DATE RECEIVED | DATE REVIEWED | COMMENTS | REVIEW FEES | FEES PAID Payment Trn # |
|---|---|---|---|---|---|
| 1st Submittal | 4/24/2020 | 5/7/2020 | Not Approved | $400.00 | 3824245: $400 |
| 2nd Submittal | 6/8/2020 | 6/17/2020 | See Comments Below | $400.00 | 3876442: $400 |
| | | | **TOTAL FEES (LDDRS):** | **$800.00** | **----** |

**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. |

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2. The project proposes to construct a driveway entrance off of *Rancho Road*, a *Nevada Department of Transportation* (NDOT) right-of-way. The engineer must contact NDOT for occupancy / encroachment permit for the proposed project.

3. The subject project is adjacent to an ongoing capital improvement project in *Rancho Road*, "*Rancho Road Improvements – Mesquite Avenue to Decatur Boulevard*". The engineer must coordinate with the project manager, Mr. Michael Sturdivant of *City Public Works Department* at (702) 229-6734 for acceptable street improvement design in *Rancho Road* prior to the final approval of the improvement plans.

4. **Previous Comment #5:** Per **Sheet C2.9A** and **Sheet C2.10A**, two discharge points had been added at the southern property line. Note that the more discharge points the more burden for the adjacent owner to maintain. Re-design to keep only one discharge point. Revise the grading plans and all pertinent drainage condition maps accordingly.

   Provide construction note for wall opening on the pertinent grading plans.

5. **Previous Comment #7**: Revise **Detail Section 1/C6.1** to provide solid grout to the bottom three (3) courses of the proposed 8"-CMU wall.

6. **Previous Comment #8**: **Sheet C2.2**: The response in the last submittal was that besides the 30'-drainage easement to accept the 60cfs from *Holly Lane*, an additional eight (8) wall openings are provided to drain the flow. However, the grading plan is not clear how many wall openings and what are the spacing between the openings. Review and revise accordingly.

    - **Detail Section M/C6.0** shows roll curb while **Construction Note G3** shows "L"-curb adjacent to the wall at APN: 139-20-401-004. Review and revise accordingly.

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7. **Sheet C2.8 and Sheet C2.8A**: Drainage easements ES-E2 (10'-wide) and ES-P3 (15'-wide) are located next to each other. ES-E2 is proposed to accept a 100-year flow of 25cfs while ES-P3 will accept 96cfs. The widths are not that much different however the flows are substantially different. In the study, it was stated that an orifice will regulate the flow distribution, however, the grading plans did not match. Address and resolve in the next submittal.

8. At the east property line, per the *Worksheet for ES-P3 Overflow Weir* calculation, a crest length of 90' was used. However, per the grading plan, it is almost the entire east property line is used for weir. Address and resolve in the next submittal.

9. **Sheet C6.1: Detail Section 6A** shows that a proposed wrought iron gate and a portion of the concrete pad spillway are encroaching into the adjacent property (APN: 139-20-411-012). Review and revise accordingly.

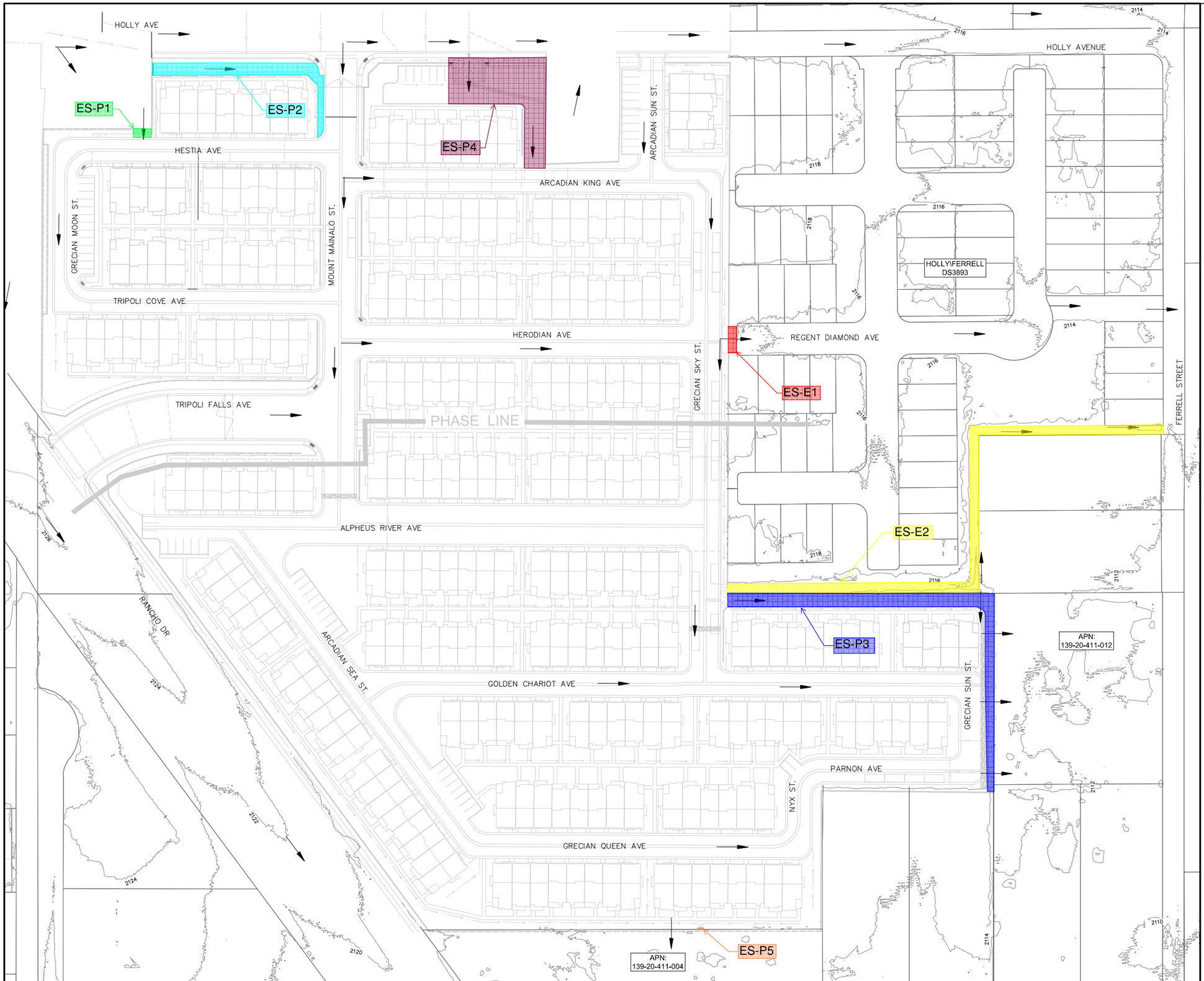
10. Coordinate with the adjacent parcel owner to the east (APN: 139-20-411-012) for acceptance of the proposed drainage pattern and some offsite work may need to be done to the consent of the adjacent owner. A notarized letter of acknowledgment from the adjacent owner must be obtained prior to the final approval of the subject drainage study.

11. All of the proposed onsite drainage easements **ES-P1** to **ES-P5** are not clear to be identified on the grading plans or the drainage condition maps. Provide an overall onsite site plan with only the proposed drainage easements identified in the next submittal.

**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: T20S/R61E/20
AREA M-20




KEY:

| EASEMENT | COLOR |
|---|---|
| ES-E1 | |
| ES-E2 | |
| ES-P1 | |
| ES-P2 | |
| ES-P3 | |
| ES-P4 | |
| ES-P5 | |

SCALE: 1" = 50'


HORROCKS ENGINEERS
1401 N. Green Valley Pkwy., Suite 160
Henderson, NV 89074
(702) 966-4063
www.lhorrocks.com


WARNING
IF THIS BAR DOES NOT MEASURE 2" THEN DRAWING IS NOT TO SCALE

REVISIONS
REV # | DATE

DRAWING INFO
DATE 03/06/2020
DESIGNED MDP
DRAWN SS
CHECKED LMB
PROJECT NV-2105-1911

*SEE GENERAL NOTES SHEET

**RANCHO AND VEGAS TOWNHOMES**
CITY OF LAS VEGAS, NEVADA

DRAINAGE EASEMENT EXHIBIT
APN 139-20-411-015

12
PAGE

H:\2019\NV-2105-1911 Rancho & Vegas Townhomes\Project Data\03 Engineering\3.01 Drainage\05_ADD2\Figures\NV-2105-1911 Figure 12.dwg - FIG12 - 6/25/2020 01:06am, ddark

# Worksheet for ES-P3 OVERFLOW WEIR

| Project Description | |
|---|---|
| Solve For | Headwater Elevation |

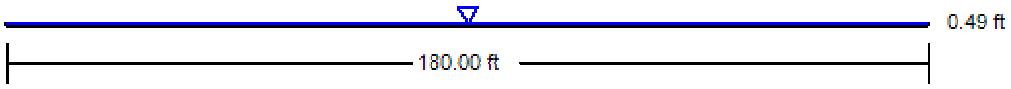
| Input Data | |
|---|---|
| Discharge | 191.00 cfs |
| Crest Elevation | 15.10 ft |
| Tailwater Elevation | 14.00 ft |
| Weir Coefficient | 3.10 ft^(1/2)/s |
| Crest Length | 180.00 ft |
| Number Of Contractions | 0 |

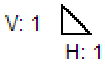
| Results | |
|---|---|
| Headwater Elevation | 15.59 ft |
| Headwater Height Above Crest | 0.49 ft |
| Tailwater Height Above Crest | -1.10 ft |
| Flow Area | 88.08 ft² |
| Velocity | 2.17 ft/s |
| Wetted Perimeter | 180.98 ft |
| Top Width | 180.00 ft |

# Cross Section for ES-P3 OVERFLOW WEIR

| Project Description | |
|---|---|
| Solve For | Headwater Elevation |

| Input Data | |
|---|---|
| Discharge | 191.00 cfs |
| Headwater Elevation | 15.59 ft |
| Crest Elevation | 15.10 ft |
| Tailwater Elevation | 14.00 ft |
| Weir Coefficient | 3.10 ft^(1/2)/s |
| Crest Length | 180.00 ft |
| Number Of Contractions | 0 |



# Worksheet for ES-P3 ENTRANCE WEIR

| Project Description | |
|---|---|
| Solve For | Headwater Elevation |

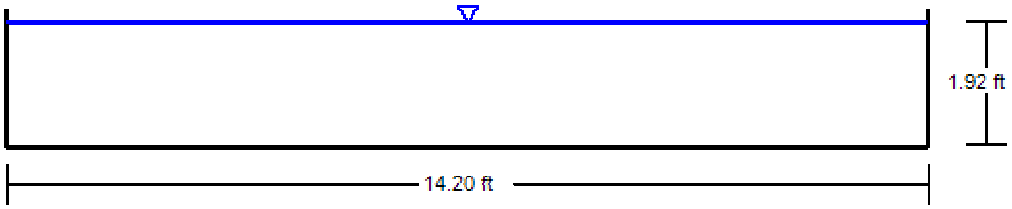
| Input Data | |
|---|---|
| Discharge | 96.00 cfs |
| Crest Elevation | 15.25 ft |
| Tailwater Elevation | 16.30 ft |
| Weir Coefficient | 3.10 ft^(1/2)/s |
| Crest Length | 14.20 ft |
| Number Of Contractions | 0 |

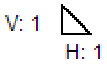
| Results | |
|---|---|
| Headwater Elevation | 17.17 ft |
| Headwater Height Above Crest | 1.92 ft |
| Tailwater Height Above Crest | 1.05 ft |
| Flow Area | 27.27 ft² |
| Velocity | 3.52 ft/s |
| Wetted Perimeter | 18.04 ft |
| Top Width | 14.20 ft |

# Cross Section for ES-P3 ENTRANCE WEIR

| Project Description | |
|---|---|
| Solve For | Headwater Elevation |

| Input Data | |
|---|---|
| Discharge | 96.00 cfs |
| Headwater Elevation | 17.17 ft |
| Crest Elevation | 15.25 ft |
| Tailwater Elevation | 16.30 ft |
| Weir Coefficient | 3.10 ft^(1/2)/s |
| Crest Length | 14.20 ft |
| Number Of Contractions | 0 |



# Worksheet for ES-P5 Conveyance Swale [Lots 199-234]

| Project Description | |
|---|---|
| Friction Method | Manning Formula |
| Solve For | Normal Depth |

| Input Data | |
|---|---|
| Roughness Coefficient | 0.025 |
| Channel Slope | 0.50 % |
| Left Side Slope | 9.000 H:V |
| Right Side Slope | 3.000 H:V |
| Discharge | 3.00 cfs |

| Results | |
|---|---|
| Normal Depth | 0.54 ft |
| Flow Area | 1.73 ft² |
| Wetted Perimeter | 6.57 ft |
| Hydraulic Radius | 0.26 ft |
| Top Width | 6.45 ft |
| Critical Depth | 0.43 ft |
| Critical Slope | 1.55 % |
| Velocity | 1.73 ft/s |
| Velocity Head | 0.05 ft |
| Specific Energy | 0.58 ft |
| Froude Number | 0.588 |
| Flow Type | Subcritical |

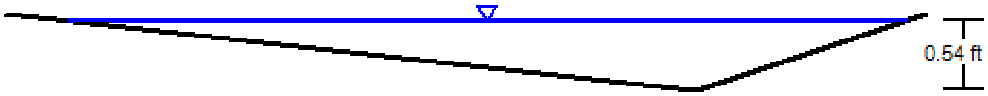
| GVF Input Data | |
|---|---|
| Downstream Depth | 0.00 ft |
| Length | 0.00 ft |
| Number Of Steps | 0 |

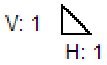
| GVF Output Data | |
|---|---|
| Upstream Depth | 0.00 ft |
| Profile Description | N/A |
| Profile Headloss | 0.00 ft |
| Downstream Velocity | 0.00 ft/s |
| Upstream Velocity | 0.00 ft/s |
| Normal Depth | 0.54 ft |
| Critical Depth | 0.43 ft |
| Channel Slope | 0.50 % |
| Critical Slope | 1.55 % |

# Cross Section for ES-P5 Conveyance Swale [Lots 199-234]

| Project Description | |
|---|---|
| Friction Method | Manning Formula |
| Solve For | Normal Depth |

| Input Data | | |
|---|---|---|
| Roughness Coefficient | 0.025 | |
| Channel Slope | 0.50 | % |
| Normal Depth | 0.54 | ft |
| Left Side Slope | 9.000 | H:V |
| Right Side Slope | 3.000 | H:V |
| Discharge | 3.00 | cfs |



# Worksheet for ES-P3 DISCHARGE.

| Project Description | |
|---|---|
| Friction Method | Manning Formula |
| Solve For | Normal Depth |

| Input Data | | |
|---|---|---|
| Channel Slope | 0.50 | % |
| Discharge | 191.00 | cfs |

## Section Definitions

| Station (ft) | Elevation (ft) |
|---|---|
| 0+00.00 | 15.10 |
| 0+60.00 | 13.83 |
| 1+48.00 | 13.83 |
| 1+93.00 | 14.75 |
| 1+93.00 | 14.75 |

## Roughness Segment Definitions

| Start Station | Ending Station | Roughness Coefficient |
|---|---|---|
| (0+00.00, 15.10) | (1+93.00, 14.75) | 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 | 0.43 | ft |
| Elevation Range | 13.83 to 15.10 | ft |
| Flow Area | 46.67 | ft² |
| Wetted Perimeter | 129.31 | ft |
| Hydraulic Radius | 0.36 | ft |
| Top Width | 129.30 | ft |
| Normal Depth | 0.43 | ft |
| Critical Depth | 0.48 | ft |
| Critical Slope | 0.33 | % |
| Velocity | 4.09 | ft/s |
| Velocity Head | 0.26 | ft |
| Specific Energy | 0.69 | ft |
| Froude Number | 1.201 | |
| Flow Type | Supercritical | |

GVF Input Data

# Worksheet for ES-P3 DISCHARGE.

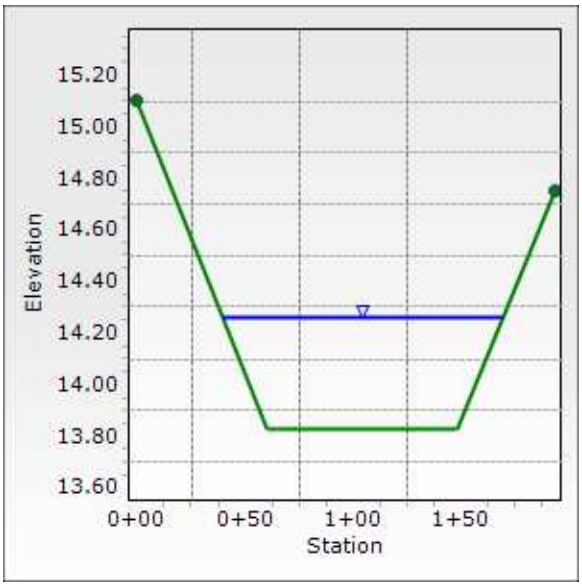
| GVF Input Data | |
|---|---|
| Downstream Depth | 0.00 ft |
| Length | 0.00 ft |
| Number Of Steps | 0 |

| GVF Output Data | |
|---|---|
| Upstream Depth | 0.00 ft |
| Profile Description | N/A |
| Profile Headloss | 0.00 ft |
| Downstream Velocity | Infinity ft/s |
| Upstream Velocity | Infinity ft/s |
| Normal Depth | 0.43 ft |
| Critical Depth | 0.48 ft |
| Channel Slope | 0.50 % |
| Critical Slope | 0.33 % |

# Cross Section for ES-P3 DISCHARGE.

| Project Description | |
|---|---|
| Friction Method | Manning Formula |
| Solve For | Normal Depth |

| Input Data | |
|---|---|
| Channel Slope | 0.50 % |
| Normal Depth | 0.43 ft |
| Discharge | 191.00 cfs |




NOTE - DOUBLE FLOW DEPTH TO SIMULATE A 50% CLOGGING FACTOR WHERE THE BOTTOM HALF OF THE OPENING IS CLOGGED. SO WSE AT THE PROPERTY LINE WOULD BE :

FL + NORMAL DEPTH X 2 = WSE

2112.5' + 0.86 = 2113.36'.

# Weir - Orifice Equation D7-DIV7 @ ES-E2

**Description:** Existing 10' Easement for 25 cfs maximum flow
**Project:** NV-2105-1911
**Cross Streets:** GRECIAN SKY STREET & PROPOSED 10' EASEMENT
**Designed By:** DBC/SBL
**Date:** 6/23/2020
**ORIFICE SIZE:** **6' WIDE X 1.67' TALL**

Orifice Equation: $Q = CA(2gh)^{1/2}$

where:

| | | | |
|---|---|---|---|
| Q = 100-year event discharge | = | 25 | |
| C = discharge coefficient | = | 0.65 | |
| H = Orifice Height (ft) | = | 1.67 | (ft) |
| W = Orifice Width (ft) | = | 6 | (ft) |
| A = Effective area ($ft^2$) | = | 10.02 ft² | |
| Clogging Factor = | = | 50% | |
| | = | 5.01 ft² | |
| g = gravitational constant | = | 32.2 $ft/s^2$ | |

h = Head, ponding depth (ft), (measured from centerline of orifice)

Solving for h, $h = \frac{(Q/cA)^2}{2g} = \frac{[\ 25.25cfs / (0.65*5.01ft^2)\ ]^2}{2*32.2ft/s^2}$ = 0.93 ft

Ponding depth for orifice = 1.77 ft

Weir Equation: $Q = CLh^{1.5}$

where:

| | | |
|---|---|---|
| Q = 100-year event discharge | = | 25.0 |
| C = broad crest weir coefficient | = | 3 |
| L = perimeter | = | 5.00 ft |
| Clogging Factor = | = | 50% |
| | = | 2.50 ft |

Solving for h, $h = [Q/(CL)]^{1.5} = [\ 4cfs / (3.0*3.14ft)\ ]^{0.67}$ = 2.24 ft

The WSE = FL (15.40') + Ponding Depth (1.77') = 17.17'. This is equal to the WSE of ponding at the intersection of Golden Chariot and Grecian Sky. (High point FL (16.18) + Normal Depth of Section J = 0.99) = 17.17

The orifice calcualtion controls the ES-E2 entrance

# Weir - Orifice Equation

**Description:** ES-P4 - 30' Proposed Drainage Easement - 60 cfs
**Project:** NV-2105-1911
**Cross Streets:** ES-P4
**Designed By:** DBC/SBL
**Date:** 6/4/2020

Orifice Equation: $Q = CA(2gh)^{1/2}$

where:

| | | | |
|---|---|---|---|
| Q = 100-year event discharge | = | 56.0 | |
| C = discharge coefficient | = | 0.65 | |
| H = Orifice Height (ft) | = | 1.01 | (ft) |
| W = Orifice Width (ft) | = | 30 | (ft) |
| A = Effective area ($ft^2$) | = | 30.30 ft² | |
| Clogging Factor = | = | 50% | |
| | = | 15.15 ft² | |
| g = gravitational constant | = | 32.2 $ft/s^2$ | |

h = Head, ponding depth (ft), (measured from centerline of orifice)

Solving for h, $h = \frac{(Q/cA)^2}{2g} = \frac{[\ 56cfs / (0.65*15.15ft^2)\ ]^2}{2*32.2ft/s^2}$ = 0.50 ft

Ponding depth for orifice = 1.00 ft

Weir Equation: $Q = CLh^{1.5}$

where:

| | | |
|---|---|---|
| Q = 100-year event discharge | = | 60.0 |
| C = broad crest weir coefficient | = | 3.1 |
| L = perimeter | = | 30.00 ft |
| Clogging Factor = | = | 50% |
| | = | 15.00 ft |

Solving for h, $h = [Q/(CL)]^{1.5} = [\ 4cfs / (3.0*3.14ft)\ ]^{0.67}$ = 1.19 ft

The 30' easement does not convey the entire 60 cfs, additional capacity is provided by block wall opneings on either side.

WSE of Weir Elevavtion over sidewalk = 20.70'

ES-P4 FL = 19.69' + 1.01' depth = 20.70

# Worksheet for ES-P4 BLOCK WALL ORIFICE - WEST

| Project Description | |
|---|---|
| Solve For | Discharge |

| Input Data | |
|---|---|
| Headwater Elevation | 20.70 ft |
| Centroid Elevation | 20.66 ft |
| Tailwater Elevation | 20.50 ft |
| Discharge Coefficient | 0.650 |
| Opening Width | 2.00 ft |
| Opening Height | 0.67 ft |

| Results | |
|---|---|
| Discharge | 1.40 cfs |
| Headwater Height Above Centroid | 0.04 ft |
| Tailwater Height Above Centroid | -0.16 ft |
| Flow Area | 1.34 ft² |
| Velocity | 1.04 ft/s |

# Worksheet for ES-P4 BLOCK WALL ORIFICE - EAST

| Project Description | |
|---|---|
| Solve For | Discharge |

| Input Data | |
|---|---|
| Headwater Elevation | 20.70 ft |
| Centroid Elevation | 20.55 ft |
| Tailwater Elevation | 20.34 ft |
| Discharge Coefficient | 0.650 |
| Opening Width | 2.00 ft |
| Opening Height | 0.67 ft |

| Results | |
|---|---|
| Discharge | 2.71 cfs |
| Headwater Height Above Centroid | 0.15 ft |
| Tailwater Height Above Centroid | -0.21 ft |
| Flow Area | 1.34 ft² |
| Velocity | 2.02 ft/s |

# Weir - Orifice Equation

**Description:**
**Project:** NV-2105-1911
**Cross Streets:** ES-P5
**Designed By:** DBC/SBL
**Date:** 6/23/2020

**ORIFICE SIZE (48" X 16")**

Orifice Equation: $Q = CA(2gh)^{1/2}$

where:

| | | | |
|---|---|---|---|
| Q = 100-year event discharge | = | 4.0 | |
| C = discharge coefficient | = | 0.65 | |
| H = Orifice Height (ft) | = | 1.33 | (ft) |
| W = Orifice Width (ft) | = | 4 | (ft) |
| A = Effective area ($ft^2$) | = | 5.32 ft² | |
| Clogging Factor = | = | 50% | |
| | = | 2.66 ft² | |
| g = gravitational constant | = | 32.2 $ft/s^2$ | |

h = Head, ponding depth (ft), (measured from centerline of orifice)

Solving for h, $h = \frac{(Q/cA)^2}{2g} = \frac{[\ 4cfs / (0.65*2.66ft^2)\ ]^2}{2*32.2ft/s^2}$ = 0.08 ft

Ponding depth for orifice = 0.17 ft

Weir Equation: $Q = CLh^{1.5}$

where:

| | | |
|---|---|---|
| Q = 100-year event discharge | = | 4.0 |
| C = broad crest weir coefficient | = | 3.1 |
| L = perimeter | = | 4.00 ft |
| Clogging Factor = | = | 50% |
| | = | 2.00 ft |

Solving for h, $h = [Q/(CL)]^{1.5} = [\ 4cfs / (3.0*3.14ft)\ ]^{0.67}$ = 0.75 ft

# Grading Plans

# IMPROVEMENT PLANS

*FOR*

# RANCHO & VEGAS

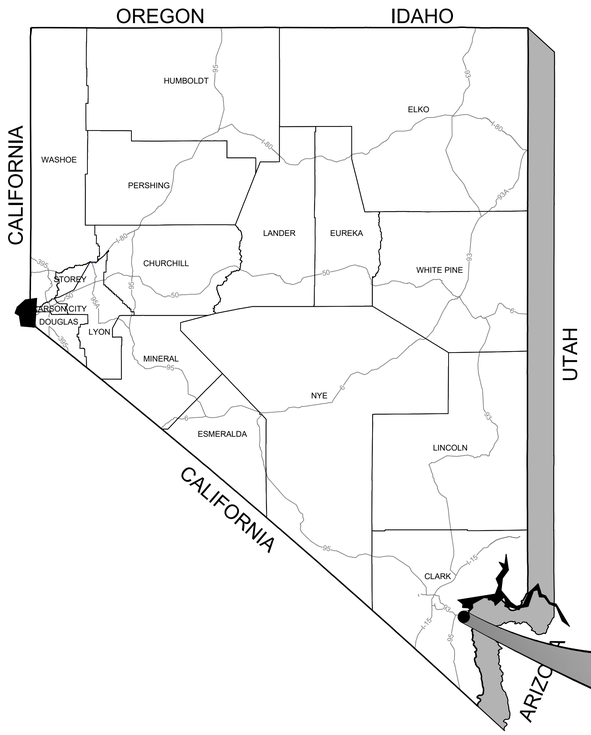
## A RESIDENTIAL SUBDIVISION

*located in*

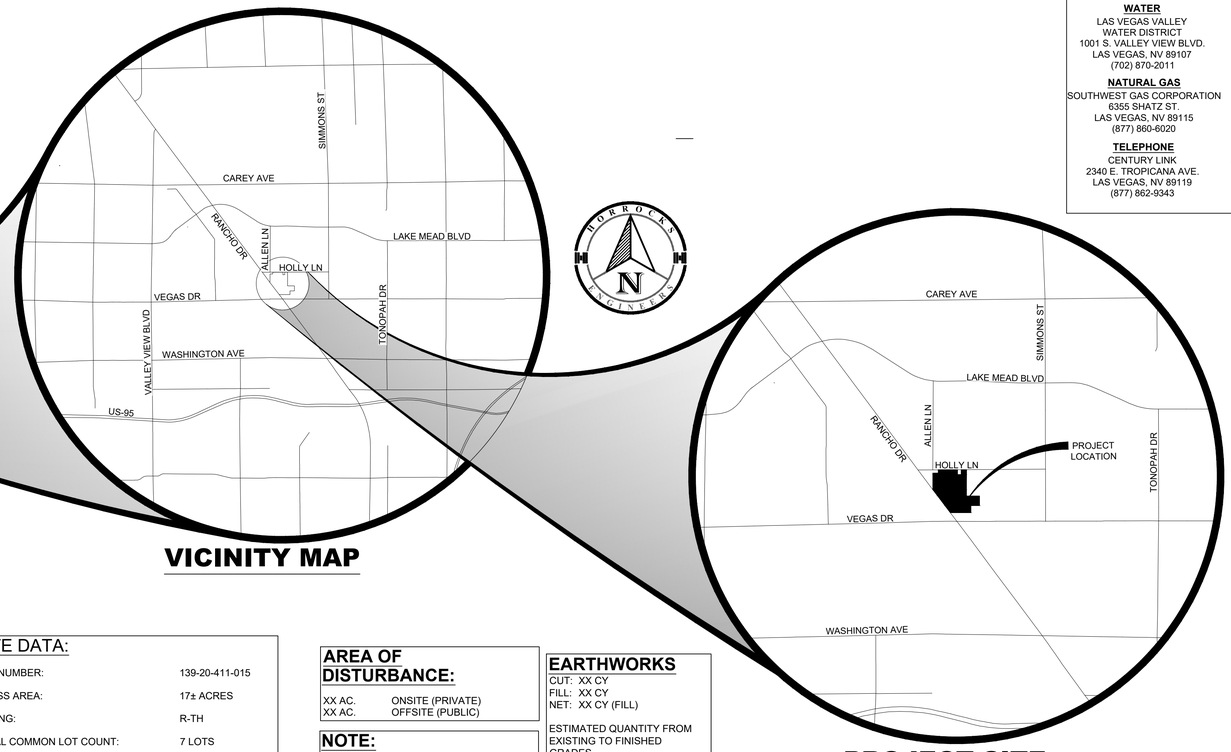
*CITY OF LAS VEGAS*

*APN # 139-20-411-015*

*17 ACRES ±*




**NEVADA STATE MAP**




**VICINITY MAP**




**PROJECT SITE**


**OWNER:**

HARMONY HOMES
8912 SPANISH RIDGE AVE, STE 200
LAS VEGAS, NV 89148
PHONE: (702)570-7213
CONTACT: MATT ROSENBERG
EMAIL: MROSENBERG@HARMONYHOMES.COM

**DEVELOPER:**

HARMONY HOMES
8912 SPANISH RIDGE AVE, STE 200
LAS VEGAS, NV 89148
PHONE: (702)570-7213
CONTACT: MATT ROSENBERG
EMAIL: MROSENBERG@HARMONYHOMES.COM

**ENGINEER:**

HORROCKS ENGINEERS
1401 N. GREEN VALLEY PKWY., STE 160
HENDERSON, NV 89074
PHONE: (702)966-4063
CONTACT: LARRY BITTON, P.E.
EMAIL: LARRYB@HORROCKS.COM


**UTILITY CONTACTS**

| | |
|---|---|
| **WATER**<br>LAS VEGAS VALLEY WATER DISTRICT<br>1001 S. VALLEY VIEW BLVD.<br>LAS VEGAS, NV 89107<br>(702) 870-2011 | **POWER**<br>NEVADA ENERGY<br>7155 LINDELL RD.<br>LAS VEGAS, NV 89118<br>(702) 402-8400 |
| **NATURAL GAS**<br>SOUTHWEST GAS CORPORATION<br>6355 SHATZ ST.<br>LAS VEGAS, NV 89115<br>(877) 860-6020 | **SEWER**<br>CITY OF LAS VEGAS<br>333 N. RANCHO DR.<br>LAS VEGAS, NV 89106<br>(702) 229-6301 |
| **TELEPHONE**<br>CENTURY LINK<br>2340 E. TROPICANA AVE.<br>LAS VEGAS, NV 89119<br>(877) 862-9343 | **CATV SERVICE**<br>COX COMMUNICATIONS<br>LAS VEGAS INC.<br>819 E. OGDEN AVE.<br>LAS VEGAS, NV 89010<br>(702) 883-4000 |

**Sheet List Table**

| Sheet Number | Sheet Description | Sheet Title |
|---|---|---|
| 01 | C.0.0 | COVER SHEET |
| 02 | C.0.1 | NOTES SHEET |
| 03 | C.0.2 | LEGEND & ABBREVIATIONS |
| 04 | C.0.3 | SITE KEY MAP |
| 05 | C.2.0 | OVERALL GRADING SHEET |
| 06 | C.2.1 | GRADING SHEET 1 |
| 07 | C.2.2 | GRADING SHEET 2 |
| 08 | C.2.3 | GRADING SHEET 3 |
| 09 | C.2.4 | GRADING SHEET 4 |
| 10 | C.2.5 | GRADING SHEET 5 |
| 11 | C.2.6 | GRADING SHEET 6 |
| 12 | C.2.7 | GRADING SHEET 7 |
| 13 | C.2.8 | GRADING SHEET 8 |
| 14 | C.2.9 | GRADING SHEET 9 |
| 15 | C.2.10 | GRADING SHEET 10 |
| 16 | C.2.5A | GRADING SHEET 1 PHASE 2 |
| 17 | C.2.6A | GRADING SHEET 2 PHASE 2 |
| 18 | C.2.7A | GRADING SHEET 3 PHASE 2 |
| 19 | C.2.8A | GRADING SHEET 4 PHASE 2 |
| 20 | C.2.9A | GRADING SHEET 5 PHASE 2 |
| 21 | C.2.10A | GRADING SHEET 6 PHASE 2 |
| 22 | C.5.0 | HOLLY AVE PLAN & PROFILE (STA 14+50 TO STA 19+25) |
| 23 | C.5.1 | HOLLY AVE PLAN & PROFILE (STA 18+75 TO STA 22+25) |
| 24 | C.5.2 | RANCHO DR PLAN & PROFILE (STA 51+00 TO STA 56+00) |
| 25 | C.5.3 | RANCHO DR PLAN & PROFILE (STA 47+00 TO STA 51+25) |
| 26 | C.5.4 | HESTIA AVE PLAN & PROFILE (STA 9+75 TO STA 13+25) |
| 27 | C.5.5 | ARCADIAN KING AVE PLAN & PROFILE (STA 9+75 TO STA 14+50) |
| 28 | C.5.6 | TRIPOLI COVE AVE PLAN & PROFILE (STA 14+75 TO STA 18+25) |
| 29 | C.5.7 | HERODIAN AVE PLAN & PROFILE (STA 9+75 TO STA 14+50) |
| 30 | C.5.8 | TRIPOLI FALLS AVE PLAN & PROFILE (STA 10+00 TO STA 14+00) |
| 31 | C.5.9 | ALPHEUS RIVER AVE PLAN & PROFILE (STA 9+75 TO STA 12+50) |
| 32 | C.5.10 | ALPHEUS RIVER AVE PLAN & PROFILE (STA 12+00 TO STA 16+50) |
| 33 | C.5.11 | GRECIAN MOON ST PLAN & PROFILE (STA 13+00 TO STA 15+00) |
| 34 | C.5.12 | MOUNT MAINALO ST PLAN & PROFILE (STA 9+75 TO STA13+50) |
| 35 | C.5.13 | MOUNT MAINALO ST PLAN & PROFILE (STA 13+00 TO STA 16+00) |
| 36 | C.5.14 | GRECIAN SKY ST PLAN & PROFILE (STA 9+75 TO STA 13+00) |
| 37 | C.5.15 | GRECIAN SKY ST PLAN & PROFILE (STA 12+75 TO 16+00) |
| 38 | C.5.16 | ARCADIAN SEA ST PLAN & PROFILE (STA 9+75 TO STA 14+75) |
| 39 | C.5.17 | GOLDEN CHARIOT AVE PLAN & PROFILE (STA 9+75 TO STA 14+25) |
| 40 | C.5.18 | GOLDEN CHARIOT AVE PLAN & PROFILE (STA 13+50 TO STA 17+50) |
| 41 | C.5.19 | GRECIAN QUEEN AVE PLAN & PROFILE (STA 14+56 TO STA 18+26) |
| 42 | C.5.20 | PARNON AVE PLAN & PROFILE (STA 19+08 TO STA 20+96) |
| 43 | C.5.21 | NYX ST PLAN & PROFILE (STA 18+26 TO STA 19+08) |
| 44 | C.6.0 | STREET SECTIONS |
| 45 | C.6.1 | DETAILS 1 |
| 46 | C.6.2 | DETAILS 2 |

**SITE DATA:**

| | |
|---|---|
| APN NUMBER: | 139-20-411-015 |
| GROSS AREA: | 17± ACRES |
| ZONING: | R-TH |
| TOTAL COMMON LOT COUNT: | 7 LOTS |
| TOTAL RESIDENTIAL LOT COUNT: | 242 LOTS |
| TOTAL DENSITY: | 14.24 DU/AC |

**AREA OF DISTURBANCE:**

XX AC. ONSITE (PRIVATE)
XX AC. OFFSITE (PUBLIC)

**NOTE:**

FOR ALL REFERENCES TO FINAL MAP #_____ SHOWN THROUGHOUT THIS SET OF PLANS, SEE PLAT BOOK ___ PAGE ___.

**EARTHWORKS**

CUT: XX CY
FILL: XX CY
NET: XX CY (FILL)

ESTIMATED QUANTITY FROM EXISTING TO FINISHED GRADES.
PER SOILS REPORT BY GEOTEK, INC., PROJECT #14379-LV, DATED OCT 2, 2018

**LEGAL DESCRIPTION:**

BEING PORTIONS OF THE NORTH HALF (N 1/2) OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 20, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, TOGETHER WITH LOTS 1, 2, 3, 4 AND THE WEST 200 FEET OF LOTS 11 AND 12 OF "SEBEC ACRES" AS SHOWN BY MAP THEREOF IN BOOK 2, PAGE 28 OF PLATS, CLARK COUNTY, NEVADA, OFFICIAL RECORDS.

**BASIS OF BEARING:**

NORTH 89°55'00" WEST, BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 20, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., AS SHOWN IN BOOK 130, PAGE 27 OF PLATS IN THE OFFICE OF THE CLARK COUNTY, NEVADA RECORDER.

**BENCHMARK:**

BENCHMARK NO. 2LV0130NES
RIVET & PLATE IN TOP OF CURB AT SW CORNER OF VEGAS DRIVE AND SILVER LAKES
ELEVATION IN METERS: 646.832
ELEVATION IN FEET: 2122.15
NAVD 88

**FLOOD ZONE:**

THIS SITE IS LOCATED IN A ZONE 'X', AREAS OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN AND PARTIALLY IN A SHADED ZONE 'X', AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE OF FLOOD PER THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL 32003C2160F, CLARK COUNTY, NEVADA DATED NOVEMBER 16, 2011.

## APPROVALS

CITY OF LAS VEGAS FIRE DEPARTMENT DATE

MIKE JANSEN DATE
CITY ENGINEER - CITY OF LAS VEGAS
APPROVAL OF THESE PLANS BY THE CITY ENGINEER IS LIMITED TO THOSE IMPROVEMENTS CONSTRUCTED IN THE DEDICATED RIGHT-OF-WAY, AND/OR DEDICATED EASEMENTS. THIS APPROVAL DOES NOT AUTHORIZE CONSTRUCTION OF ANY IMPROVEMENTS THAT DEVIATE FROM ADOPTED STANDARDS AND/OR SPECIFICATIONS EXCEPT THOSE SPECIFICALLY LISTED UNDER DEVIATIONS FROM STANDARDS. THE ENGINEER SHALL RESOLVE ANY DEVIATION OTHER THAN THOSE LISTED IN DEVIATIONS FROM STANDARD IN FAVOR OF THE UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS, CLARK COUNTY AREA, NEVADA.

SOUTHWEST GAS CORPORATION DATE

COX COMMUNICATIONS LAS VEGAS, INC DATE

CENTRAL TELEPHONE COMPANY DBA CENTURY LINK DATE
THE CENTURY LINK APPROVAL DOES NOT ASSUME OR GUARANTEE LIABILITY FOR KNOWN OR UNKNOWN CONFLICTS WITH EXISTING OR PROPOSED IMPROVEMENTS. RESOLUTION OF ANY CONFLICT WILL BE ACCOMPLISHED PURSUANT TO LOCAL ORDINANCES, NEVADA REVISED STATUTES AND/OR PUBLIC UTILITY COMMISSION RULES AND REGULATIONS.

NV ENERGY DATE
NEVADA ENERGY ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. NEVADA POWER COMPANY RESERVES THE RIGHT TO ADDRESS ANY EXISTING OR FUTURE CONFLICTS ONCE THE FINAL DESIGN IS COMPLETED. THE NEW SERVICE AND THE RESOLUTION OF ANY CONFLICTS WILL BE ACCOMPLISHED PURSUANT TO THE NEVADA PUBLIC UTILITY COMMISSION'S RULES AND REGULATIONS.

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER DATE
(PROJECT#_____), SHEETS:_____


HORROCKS ENGINEERS
1401 North Green Valley Pkwy., Suite 160
Henderson, NV 89074
(702) 966-4063
www.horrocks.com


WARNING
0 1 2
IF THIS BAR DOES NOT MEASURE 2" THEN DRAWING IS NOT TO SCALE

REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/25/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
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6/25/2020

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**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
COVER SHEET

**C.0.0**

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## CITY OF LAS VEGAS GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".

2. THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCES WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.

3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.

4. ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.

5. TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGNS TO BE APPROVED BY THE CITY, PRIOR TO THE USE ON THE PROJECT.

6. PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.

7. EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED-TYPE CURB.

8. AC PAVEMENT TO BE ONE-HALF INCH (½") ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.

9. CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.

10. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWING 235. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY INSPECTOR.

11. CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF THE TRANSITIONS TO BE AS SHOWN ON PLANS.

12. ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY THE ( COMPANY , REPORT #, DATE ) APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.

13. EXACT LOCATION OF ALL SAWCUT LINES MAY BE ADJUSTED OR DETERMINED IN THE FIELD BY A CITY OF LAS VEGAS ENGINEER IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.

14. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER AVAILABLE RECORDS IN ACCORDANCE WITH N.R.S. STATUTE NO. 625.380 & CITY OF LAS VEGAS TITLE 18, APPENDIX D.

15. UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY APRONS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER.

WALL NOTES:

16. ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF REVIEWING GRADING RELATIONSHIPS; FLOOD CONTROL AND SIGHT DISTANCE AT INTERSECTIONS. NEW WALLS REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE BUILDING DEPARTMENT.

17. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.

18. CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, AND SEWER CLEAN OUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.

19. MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NDOT OR THE CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.

20. WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC, THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO OFFSITE INSPECTION AND TESTING CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.

21. SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S) SHALL BE PROVIDED TO THE CITY AND APPROVED PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION. THE MAP(S) SHALL INCLUDE THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY, AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS. THE LOCATION SHALL BE DESCRIBED BY COORDINATES WHICH SHALL BE BASED ON THE OFFICIAL HORIZONTAL AND VERTICAL CONTROL NETWORKS OF THE CITY OF LAS VEGAS. FINAL LOCATION MAPS MUST BE SEALED AND CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTAINTIES OF ± 0.09 METERS (± 0.3 FEET) HORIZONTALLY AND VERTICALLY. A SEPARATE ELECTRONIC COMMA DELIMITED FILE FOR THE SANITARY SEWER AND STORM DRAIN COORDINATES SHALL ALSO ACCOMPANY THE SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S).

OR

SANITARY SEWER AND STORM DRAIN FACILITIES SHOWN ON THESE PLANS SHALL BE USED TO MEET THE REQUIREMENTS OF NRS 455 AND SHALL SHOW AT A MINIMUM THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, AND THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY. ANY DEVIATIONS FROM THE INFORMATION SHOWN SHALL BE NOTED AND SUBMITTED AS A REVISION TO THE PLANS AND APPROVED PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION.

22. CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTIONS NEED TO BE PERFORMED PER THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST EDITION.

23. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

## CITY OF LAS VEGAS GRADING NOTES

1. IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER/ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.

3. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.

4. THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR LEFTOVER MATERIAL FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF THE CONTRACTOR.

5. THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT.

6. CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED:

| | HORIZONTAL | VERTICAL | COMPACTION |
|---|---|---|---|
| A. PAVEMENT AREA SUBGRADE | 0.1'+ | +0.0' TO -0.1' | SEE SOILS REPORT |
| B. ENGINEERED FILL | 0.5'+ | +0.1' TO -0.1' | SEE SOILS REPORT |

COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE.

7. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.

8. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.

9. THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.

10. IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, THE OWNER AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF THE CITY ENGINEER. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

## CITY OF LAS VEAGS TRAFFIC NOTES

1. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.

2. THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.

3. BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.

4. WHEN A DESIGNATED "SAFE ROUTE TO SCHOOL" IS ENCROACHED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFIES A NEED FOR STUDENTS TO BE ASSISTED IN THE SAFE CROSSING THROUGH THAT WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A QUALIFIED "CROSSING GUARD". THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.

5. IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. ALL NEW TRAFFIC SIGNS SHALL BE FABRICATED WITH DIAMOND GRADE VIP CLASS 6 REFLECTIVE SHEETING OR APPROVED EQUAL. ALL NEW TRAFFIC SIGNS, EXCEPT STREETNAME AND SCHOOL SPEED LIMIT SIGNS, SHALL HAVE 3M SERIES 1160 OR APPROVED EQUIVALENT ANTI-GRAFFITI PROTECTIVE OVERLAY FILM; SCHOOL ZONE SIGNS SHALL HAVE 3M SERIES 1150 ANTI-GRAFFITI PROTECTIVE OVERLAY FILM. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.

7. WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5') FEET OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.

8. ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HERE UNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.

9. STREET SIGNS AND STOPS SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.

10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO INSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR IMSA WORK ZONE SAFETY SPECIALIST SET UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS RIGHT OF WAY.

11. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING CITIZENS AREA TRANSIT (C.A.T.) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.

13. GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT (PHONE # 828-3422) WHO WILL PROVIDE OFFICERS PROPERLY TRAINED IN TRAFFIC CONTROL. FEES FOR THE USE OF THESE OFFICERS SHALL BE SET BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.

14. ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS OTHERWISE DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.

15. THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) THROUGH THE PROJECT'S OFFSITE INSPECTOR PRIOR TO INITIATING PAVING TO RECEIVE DIRECTION FOR ANY PERMANENT OR TEMPORARY MODIFICATIONS TO THE APPROVED DRAWINGS REGARDING FINAL PAVEMENT TRANSITIONS, MARKINGS AND SIGNING THAT ARE REQUIRED TO MATCH ADJACENT ROADWAY SEGMENTS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DEPICTING ANY ADJUSTMENTS TO THE FINAL PAVEMENT MARKINGS AND SIGNAGE, WHICH MAY INCLUDE OMITTING, ADDING OR MODIFYING PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED

## CITY OF LAS VEGAS STREETLIGHT NOTES

1. ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION, AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION, AND ANY ADOPTED SPECIAL AREA STANDARDS.

2. NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS (ETC.) LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF TRAFFIC ENGINEERING AND THE CITY ENGINEER.

3. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION.

4. ALL STREET LIGHTING CONDUITS STUB SHALL HAVE AT LEAST ONE GREEN #8 THW WIRE INSTALLED, AS TRACER WIRE. WHEN "EMPTY" CONDUIT IS COMPLETELY INSTALLED FROM PB TO PB, IT SHALL HAVE MINIMUM OF 2 #4 AND 1 #8 THW WIRE WITH THE ENDS TAPED OR "SAFE OFF" PRIOR TO FINAL INSPECTION.

5. ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN ACCORDANCE WITH THE USD NO. 320A.

6. AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TEFO PRIOR TO ANY PRE-FINAL INSPECTION. THE AS- BUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.

7. SERVICE POINT SHALL BE COORDINATED WITH NV ENERGY COMPANY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE CIVIL PLANS.

8. IT SHALL BE ASSUMED THAT IN THE ABSENCE OF AN EXISTING, WORKABLE CIRCUIT TO ATTACH TO, ALL INSTALLATIONS SHALL REQUIRE A NEW SERVICE FOR OPERATION OF THE CIRCUIT.

9. WHEREVER THERE IS AN OVERHEAD UTILITY THAT MAY CONFLICT WITH THE INSTALLATION OF STREET LIGHTING CIRCUITS AND/OR POLES, THESE CONFLICTS MUST BE RESOLVED BETWEEN THE DEVELOPER AND THE UTILITIES INVOLVED, AT NO EXPENSE TO THE CITY OF LAS VEGAS, BEFORE STREETLIGHT BASES ARE INSTALLED.

10. THE CONTRACTOR SHALL FURNISH COMPLETE SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON PLANS.

11. THE DEVELOPER/OWNER WILL BE REQUIRED TO SUPPLY POWER TO ALL NEW PUBLIC STREET LIGHTS INSTALLED UNDER THIS DESIGN PRIOR TO BOND RELEASE OR PROJECT COMPLETION. THE DEVELOPER/OWNER WILL BE RESPONSIBLE FOR ALL ITEMS ASSOCIATED WITH THE INSTALLATION, CONSTRUCTION, ENERGIZING, MAINTENANCE AND OPERATIONAL COST OF SAID STREET LIGHTS PRIOR TO PROJECT COMPLETION. REFER TO THE PLAN FOR ANY NEW SERVICE REQUIREMENTS. THE TRANSFER OF OWNERSHIP FROM THE DEVELOPER/OWNER TO THE CITY OF LAS VEGAS FOR ALL NEW PUBLIC STREET LIGHTS AND/OR SERVICE/S INSTALLED UNDER THIS PLAN DESIGN WILL BE IN CONJUNCTION WITH THIS PROJECT COMPLETION. COORDINATE ALL MAINTENANCE AND OPERATIONAL TRANSFERS WITH THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DEPARTMENT (TEFO) AT (702) 229-6331.

## STORMWATER MANAGEMENT NOTES

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.

2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.

3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY, REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR 100000, SECTION III.A.5.

4. AT A MINIMUM, THE CONSTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR 100000, SECTION III.A.12.

5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

## SOUTHERN NEVADA - SOUTHWEST GAS CORPORATION GENERAL NOTES

1. IN THE EVENT OF A NATURAL GAS EMERGENCIES CALL 911 AND 1-877-860-6020.

2. THERE SHALL BE A MINIMUM HORIZONTAL AND VERTICAL CLEARANCE OF 12-INCHES BETWEEN NATURAL GAS FACILITIES AND ANY UNDERGROUND FACILITIES AND/OR STRUCTURES, INCLUDING BUT NOT LIMITED TO WATER, SEWER, STORM DRAIN, COMMUNICATIONS, AND ELECTRIC.

3. FOR VALVE ADJUSTMENT CONTACT 702-528-7881 14 DAYS PRIOR TO CONSTRUCTION.

4. IN THE EVENT OF A NATURAL GAS CONFLICT WITH PROPOSED UTILITIES AND/OR STRUCTURES CONTACT 702-365-2099.

5. FOR STAND BY CONTACT 702-278-8451

## CITY OF LAS VEGAS FIRE PREVENTION NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE CODE ORDINANCE # 6325 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.

2. ONLY FIRE HYDRANTS THAT ARE ON THE LAS VEGAS VALLEY WATER DISTRICT'S - **APPROVED PRODUCTS LIST** ARE ALLOWED TO BE INSTALLED.

3. A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER *BEFORE* COMMENCEMENT OF WORK. [IFC § 105.7.12]

4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED *BEFORE* COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDE AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW. [IFC § 3310, § 3312]

5. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF THE STREET ADJACENT TO THE FIRE HYDRANTS. [IFC § 507.5.7.3]

6. ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED
***BEFORE*** COVERING THE LINES. CENTER LOADING IS ACCEPTABLE FOR THE HYDRO TESTS WITH PRIOR FIRE PREVENTION APPROVAL. [IFC § 106.3]

7. ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE. [IFC § 507.2.1, NFPA 24]

8. PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE COMPLETED BEFORE APPROVAL BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION. [IFC § 507]

9. PRIVATE HYDRANTS SHALL BE PAINTED RED. [IFC § 507.5.7.1]

10. PRIOR TO THE FINAL OCCUPANCY, A FIRE FLOW TEST SHALL BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW. [IFC § 507]

11. FIRE HYDRANT SPACING SHALL BE AS FOLLOWS: [IFC § C102]
- RESIDENTIAL - 500 FT UNSPRINKLERED; 600 FT SPRINKLERED.
- COMMERCIAL - 300 FT UNSPRINKLERED; 400 FT SPRINKLERED.

12. WHERE THE WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT A MAXIMUM OF 1000 FT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR (4) OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT 500 FT ON AN ALTERNATING BASIS. [IFC § C102.8]

13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF A CUL-DE-SAC OR WITHIN 20 FT OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.

14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FT OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. [IFC § C102.12]

15. A MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FT, AS MEASURED BY AN APPROVED ROUTE. [IFC § C102.4]

16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FT, AS MEASURED BY AN APPROVED ROUTE. [IFC § C102.7]

17. THE MAXIMUM DISTANCE FROM A HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. [IFC § C102.6]

18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN. [IFC § C104]

19. ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS. [IFC § 503.2.3]

20. THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12%. ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FT PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EX

## SEWER

| EXISTING | | PROPOSED |
|---|---|---|
| ss | UNKNOWN | |
| 4" ss | 4 INCH | |
| 6" ss | 6 INCH | |
| 8" ss | 8 INCH | |
| 10" ss | 10 INCH | |
| 12" ss | 12 INCH | |
| 14" ss | 14 INCH | |
| 15" ss | 15 INCH | |
| 16" ss | 16 INCH | |
| 18" ss | 18 INCH | |
| 24" ss | 24 INCH | |
| 30" ss | 30 INCH | |
| 36" ss | 36 INCH | |
| | SERVICE LATERAL | |

## POWER

| EXISTING | | PROPOSED |
|---|---|---|
| ohp | OVERHEAD | |
| bel | UNDERGROUND | |
| N/A | 2 INCH | |
| N/A | 3 INCH | |
| N/A | 4 INCH | |
| N/A | 6 INCH | |
| N/A | 8 INCH | |
| N/A | 10 INCH | |
| | 1 PH A 1/0 | |
| | 1 PH A 4/0 | |
| | 1 PH B 1/0 | |
| | 1 PH B 4/0 | |
| | 1 PH C 1/0 | |
| | 1 PH C 4/0 | |
| | 3 PH ABC 4/0 | |
| | 3 PH ABC 750A | |
| | SECONDARY | |
| | STREET LIGHT | |

## HATCH PATTERNS

- BUILDING / PAD
- CONCRETE SIDEWALK / FLATWORK
- DECORATIVE BRICK / SIDEWALK / FLATWORK / LANDSCAPE AREAS
- POOL DECK
- XERISCAPE
- LANDSCAPE AREAS / GRASS
- HEAVY DUTY PAVEMENT SECTION
- LIGHT DUTY PAVEMENT SECTION
- ADA ACCESS RAMP TRUNCATED DOMES
- RIPRAP
- GRAVEL

## STANDARD SYMBOLS

| EXISTING | | PROPOSED |
|---|---|---|
| e | ELECTRICAL MANHOLE | E |
| fo | FIBER OPTIC MANHOLE | FO |
| t | TELEPHONE MANHOLE | T |
| tv | CABLE TV MANHOLE | TV |
| pp | ELECTRICAL POWER POLE | PP |
| | SIGNAL POLE | |
| e | ELECTRICAL BOX | E |
| fo | FIBER OPTIC BOX | FO |
| jb | JUNCTION BOX | JB |
| tb | TELEPHONE BOX | TB |
| t | TELEPHONE PEDESTAL | T |
| tv | CABLE TV BOX | TV |
| | LIGHT POLE | |
| | LIGHT POLE OPT 2 | |
| | LIGHT POLE OPT 3 | |
| g | GAS MANHOLE | G |
| g | GAS METER | G |
| co | CLEANOUT | CO |
| s | SEWER MANHOLE | S |
| ir | IRRIGATION MANHOLE | IR |
| ir | IRRIGATION BOX | IR |
| w | WATER MANHOLE | W |
| w | WATER METER | W |
| | WATER METER OPT 2 | WM |
| | BLOW-OFF | BO |
| | FIRE HYDRANT | |
| | FIRE HYDRANT OPT 2 | |
| | GATE VALVE | |
| | GATE VALVE OPT 2 | |
| | CROSS | |
| | TEE | |
| | 90° BEND | |
| | 45° BEND | |
| | 22.5° BEND | |
| | 11.25° BEND | |
| | WYE | |
| | REDUCER | |
| | CAP & PLUG | |
| sd | STORM DRAIN MANHOLE | SD |
| | AREA DRAIN ROUND | |
| | AREA DRAIN SQUARE | |
| | DROP INLET | |
| | CURB INLET | |
| | CURB INLET OPT 2 | |
| | CURB INLET OPT 3 | |
| | CURB DOUBLE INLET | |
| | CURB DOUBLE INLET OPT 2 | |
| SC | COMBO BOX | SC |
| | OIL/WATER SAND/GREASE | |
| | OIL/WATER SAND/GREASE OPT 2 | |
| | FLARED END LARGE | |
| | FLARED END SMALL | |
| | SIGN | |
| | BOLLARD | |
| BH | BORE HOLE | BH |
| TP | TEST PIT | TP |

## ABBREVIATIONS

| | |
|---|---|
| A | ALGEBRAIC GRADE CHANGE |
| ABC | AGGREGATE BASE COURSE |
| AC | ASPHALTIC CEMENT OR CONCRETE |
| BC | BUILDING CORNER |
| BCR | BACK OF CURB RETURN |
| BFE | BASE FLOOD ELEVATION |
| BFF | BASEMENT FINISH FLOOR ELEVATION |
| BLDG | BUILDING |
| BM | BENCHMARK |
| BP | BEGIN POINT |
| BV | BUTTERFLY VALVE |
| BVC | BEGIN VERTICAL CURVE |
| BVCE | BEGIN VERTICAL CURVE ELEVATION |
| BVCS | BEGIN VERTICAL CURVE STATION |
| BVP | BEGIN VERTICAL PROFILE |
| BVW | BOTTOM OF VISIBLE WALL |
| C&G | CURB & GUTTER |
| CL | CENTERLINE |
| CB | CATCH BASIN |
| CLR | CLEAR |
| CO | CLEANOUT |
| CONC | CONCRETE |
| Cu | COPPER |
| C.Y. | CYCUBIC YARD |
| DIA | DIAMETER |
| DIP | DUCTILE IRON PIPE |
| DWG | DRAWING |
| E | EAST OR EASTING |
| EA | EACH |
| EG | EXISTING GRADE |
| EOC | EDGE OF CONCRETE |
| EOP | EDGE OF PAVEMENT |
| EP | END POINT |
| ESMT | EASEMENT |
| EVC | END VERTICAL CURVE |
| EVCE | END VERTICAL CURVE ELEVATION |
| EVCS | END VERTICAL CURVE STATION |
| EVP | END VERTICAL PROFILE |
| EX | EXISTING |
| FF | FINISHED FLOOR ELEVATION |
| FE | FLANGE END |
| FG | FINISHED GRADE ELEVATION |
| FL | FLOW LINE |
| FJ | FLANGE JOINT |
| FM | FORCE MAIN |
| FPS | FEET PER SECOND |
| FT | FOOT OR FEET |
| FUT | FUTURE |
| G | GAS LINE |
| GB | GRADE BREAK |
| GFF | GARAGE FINISHED FLOOR ELEVATION |
| GV | GATE VALVE |
| HGL | HYDRAULIC GRADE LINE |
| HRZ | HORIZONTAL |
| HP | HIGH POINT |
| HWM | HIGH WATER MARK |
| ID | INSIDE DIAMETER |
| IN | INCH(ES) |
| IRR | IRRIGATION (PRESSURIZED)/ NON-POTABLE |
| K | VERTICAL CURVE COEFFICIENT |
| L | LENGTH |
| LF | LINEAR FEET |
| L/S | LANDSCAPE |
| LP | LOW POINT |
| LT | LEFT |
| MAX | MAXIMUM |
| MFR | MANUFACTURER |
| MGD | MILLION GALLONS PER DAY |
| MID | MIDDLE |
| MH | MANHOLE |
| MIN | MINIMUM |
| MJ | MECHANICAL JOINT |
| N | NORTH OR NORTHING, FRICTION FACTOR |
| N/A | NOT APPLICABLE |
| NTS | NOT TO SCALE |
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER |
| OVHP | OVERALL HIGH POINT |
| OVLP | OVERALL LOW POINT |
| PC | POINT OF CURVE |
| PCC | POINT OF COMPOUND CURVE |
| PDE | PUBLIC DRAINAGE EASEMENT |
| PH | PHASE |
| PI | POINT OF INTERSECTION |
| PL | PROPERTY LINE |
| PRC | POINT OF REVERSE CURVE |
| PT | POINT OF TANGENCY |
| PUE | PUBLIC UTILITY EASEMENT |
| PVC | POLYVINYL CHLORIDE |
| PVI | POINT OF VERTICAL INTERSECTION |
| Q | RATE OF FLOW |
| R | RADIUS |
| R/W | RIGHT OF WAY |
| REV | REVISION |
| RT | RIGHT |
| S | SLOPE |
| S/W | SIDEWALK |
| SD | STORM DRAIN |
| SDMH | STORM DRAIN MANHOLE |
| SEC | SECTION |
| SPEC | SPECIFICATIONS |
| SSMH | SANITARY SEWER MANHOLE |
| SS | SANITARY SEWER |
| S/L | STREETLIGHT |
| STA | STATION |
| STD | STANDARD |
| SVE | SIGHT VISIBILITY EASEMENT |
| TBM | TEMPORARY BENCH MARK |
| TOC | TOP OF CONCRETE |
| TBC | TOP BACK OF CURB |
| TEMP | TEMPORARY |
| TA | TOP OF ASPHALT |
| TF | TOP OF FOOTING |
| TG | TOP OF GRATE |
| TRW | TOP OF RETAINING WALL |
| TW | TOP OF WALL |
| TYP | TYPICAL |
| UTC | UNTREATED BASE COURSE |
| V | VELOCITY |
| VC | VERTICAL CURVE |
| VRT | VERTICAL |
| WTR | WATER |
| W/ | WITH |

## STORM

| EXISTING | | PROPOSED |
|---|---|---|
| sd | UNKNOWN | |
| 4" sd | 4 INCH | |
| 6" sd | 6 INCH | |
| 8" sd | 8 INCH | |
| 10" sd | 10 INCH | |
| 12" sd | 12 INCH | |
| 15" sd | 15 INCH | |
| 16" sd | 16 INCH | |
| 18" sd | 18 INCH | |
| 24" sd | 24 INCH | |
| 30" sd | 30 INCH | |
| 36" sd | 36 INCH | |
| 42" sd | 42 INCH | |
| 48" sd | 48 INCH | |
| 54" sd | 54 INCH | |
| 60" sd | 60 INCH | |
| 66" sd | 66 INCH | |
| 72" sd | 72" sd | |
| ld | LAND DRAIN | |

## GAS

| EXISTING | | PROPOSED |
|---|---|---|
| g | UNKNOWN | |
| N/A | 1 INCH | |
| 2" g | 2 INCH | |
| 3" g | 3" g | N/A |
| 4" g | 4 INCH | |
| 6" g | 6 INCH | |
| 8" g | 8 INCH | |
| 12" g | 12 INCH | |
| hpg | HIGH PRESSURE | |

## SURFACE FEATURES

EXISTING/PROPOSED

- CUT LINE
- FILL LINE
- LIMITS OF DISTURBANCE
- DITCH
- GRADE BREAK
- HIGH WATER MARK
- HIGH WATER MARK - 1 YEAR EVENT
- HIGH WATER MARK - 5 YEAR EVENT
- HIGH WATER MARK - 10 YEAR EVENT
- HIGH WATER MARK - 25 YEAR EVENT
- HIGH WATER MARK - 50 YEAR EVENT
- HIGH WATER MARK - 100 YEAR EVENT
- FENCE - BARBED
- FENCE - CHAIN LINK
- FENCE - DECORATIVE
- FENCE - WOOD
- WALL - BLOCK
- WALL - CONCRETE
- WALL - PANEL
- WALL - ROCK
- RIGHT OF WAY
- CENTERLINE (ROAD/ENTITY)
- CURB & GUTTER
- PARCEL LINE
- PROPERTY BOUNDARY
- 10' PUBLIC UTILITY & DRAINAGE EASEMENT (P.U.E.)
- PAINT STRIPE - SOLID
- PAINT STRIPE - DOUBLE SOLID
- PAINT STRIPE - BROKEN
- PAINT STRIPE - BIKE LANE INTERSECTION
- PAINT STRIPE - LANE DROP
- PAINT STRIPE - LANE LINE EXTENSION
- TRAFFIC SIGNAL - DETECTION CONDUIT
- TRAFFIC SIGNAL - FUTURE CONDUIT
- TRAFFIC SIGNAL - LIGHTING CONDUIT
- TRAFFIC SIGNAL - PEDESTRIAN CONDUIT
- TRAFFIC SIGNAL - POWER SOURCE CONDUIT
- TRAFFIC SIGNAL - SIGNAL CONDUIT

## CONSTRUCTION KEYNOTE TAGS

| | | |
|---|---|---|
| D00 | OR | D99 DEMO PLAN |
| G1 | OR | G9 GRADING PLAN |
| 01 | OR | 35 SITE PLAN |
| 36 | OR | 50 WATER |
| 51 | OR | 65 SEWER |
| 66 | OR | 80 STORM DRAIN |
| 81 | OR | 90 IRRIGATION |
| 91 | OR | 93 CABLE TV |
| 94 | OR | 96 TELEPHONE |
| 97 | OR | 99 GAS |
| 00 | OR | 00 POWER |
| A | OR | Z MISCELLANEOUS |

## CALLOUTS

- FFE: XXXX.XX — PROPOSED BUILDING FINISHED FLOOR ELEVATION
- 75.10 — PROPOSED TBC SPOT ELEVATION (@ PC'S, PT'S & PL)
- 75.19 — PROPOSED EOP SPOT ELEVATION (@ EDGE OF)
- # — PARKING STALL COUNT

## DETAIL REFERENCE

X / - **DETAIL NAME**
SCALE: NTS

MATCHLINE STA. XX+XX.XX
SEE SHEET PP-XX

## WATER

| EXISTING | | PROPOSED |
|---|---|---|
| w | UNKNOWN | |
| 3/4" w | 3/4 INCH | |
| 1" w | 1 INCH | |
| 1-1/2" w | 1-1/2 INCH | |
| 2" w | 2 INCH | |
| 3" w | 3 INCH | |
| 4" w | 4 INCH | |
| 6" w | 6 INCH | |
| 8" w | 8 INCH | |
| 10" w | 10 INCH | |
| 12" w | 12 INCH | |
| 14" w | 14 INCH | |
| 16" w | 16 INCH | |
| 18" w | 18 INCH | |
| 24" w | 24 INCH | |
| 30" w | 30 INCH | |
| 36" w | 36 INCH | |
| 48" w | 48 INCH | |
| 60" w | 60 INCH | |
| 72" w | 72 INCH | |
| | SERVICE LATERAL | |

## COMMUNICATIONS

| EXISTING | | PROPOSED |
|---|---|---|
| ctv | OVERHEAD CABLE TV | |
| bctv | UNDERGROUND CABLE TV | |
| fo | OVERHEAD FIBER OPTIC | |
| bfo | UNDERGROUNG FIBER OPTIC | |
| tel | OVERHEAD TELEPHONE | |
| btel | UNDERGROUND TELEPHONE | |

## IRRIGATION

| EXISTING | | PROPOSED |
|---|---|---|
| irr | UNKNOWN | |
| 1" irr | 1 INCH | |
| 2" irr | 2 INCH | |
| 4" irr | 4 INCH | |
| 6" irr | 6 INCH | |
| 8" irr | 8 INCH | |
| 10" irr | 10 INCH | |
| 12" irr | 12 INCH | |
| 18" irr | 18 INCH | N/A |
| 24" irr | 24 INCH | N/A |
| 30" irr | 30 INCH | N/A |
| 36" irr | 36 INCH | N/A |
| | SERVICE LATERAL | |

## MISCELLANEOUS

| EXISTING | | PROPOSED |
|---|---|---|
| | DEMO | |
| pipe | UNKNOWN PIPE | |
| jut | JOINT UTILITY TRENCH | |
| | TOE OF SLOPE | |
| | TOP OF SLOPE | |
| | DIRECTIONAL FLOWLINE | |
| | EDGE OF PAVEMENT | |
| | GUARDRAIL | |
| | RAILROAD TRACKS | |
| 4000 | CONTOUR - MAJOR | 4000 |
| 4002 | CONTOUR - MINOR | 4002 |


HORROCKS ENGINEERS
1401 North Green Valley Pkwy., Suite 160
Henderson, NV 89074
(702) 966-4063
www.horrocks.com


WARNING
IF THIS BAR DOES NOT MEASURE 2" THEN DRAWING IS NOT TO SCALE
0 1 2

REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 3/30/2020
DESIGNED SS
DRAWN SS
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
LEGEND & ABBREVIATIONS

**APPROVED FOR CONSTRUCTION**

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ FIRST APPROVAL DATE:_____
LVVWD APPROVED FIRE FLOW_____GPM AT 20 PSI RESIDENTIAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW_____N/A_____GPM

**C.0.2**

PAGE 03

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1401 North Green Valley Pkwy., Suite 160
Henderson, NV 89074
(702) 966-4063
www.horrocks.com

WARNING
0 1 2
IF THIS BAR DOES NOT MEASURE 2" THEN DRAWING IS NOT TO SCALE

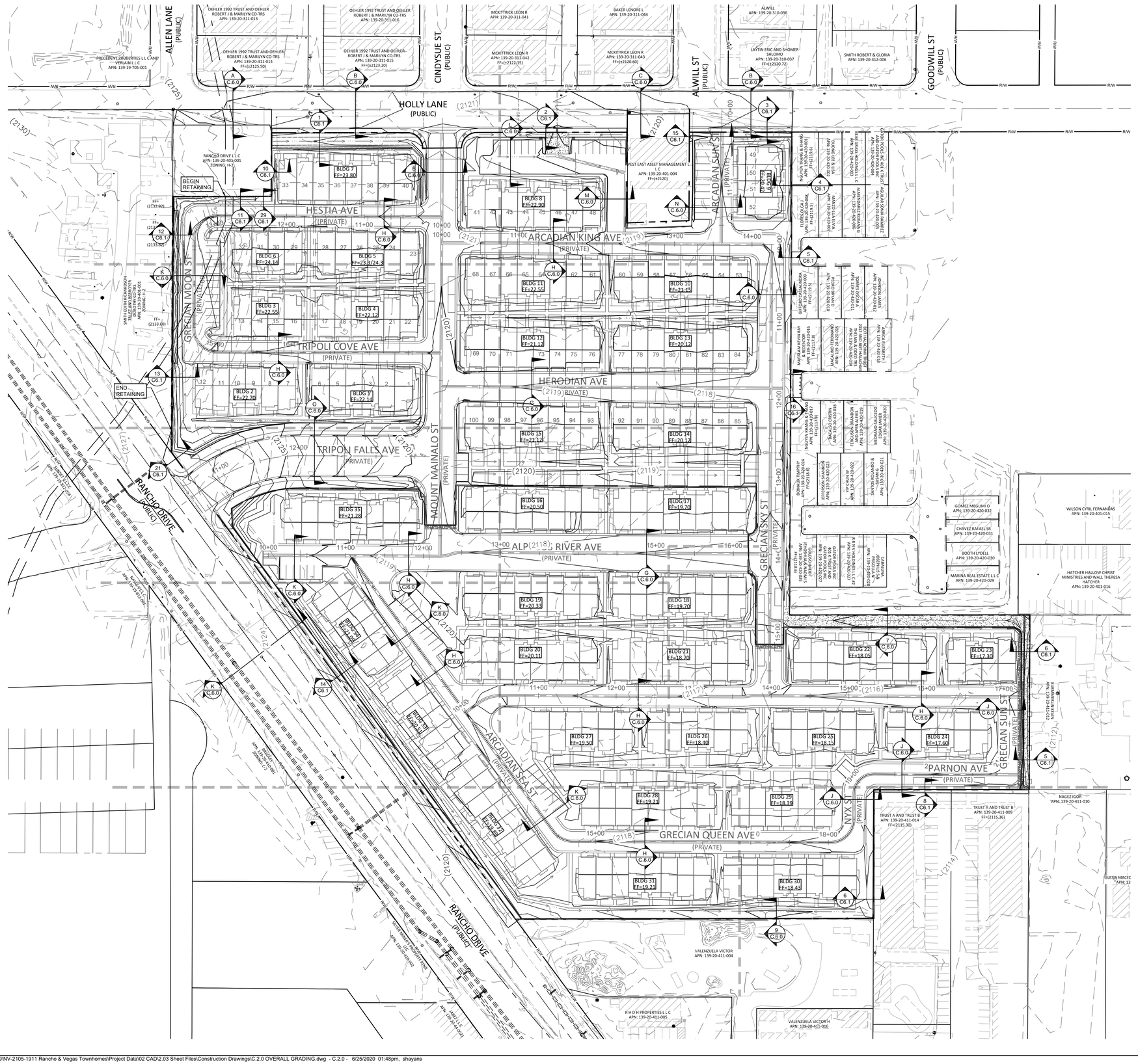
REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 3/30/2020
DESIGNED SS
DRAWN SS
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
SITE KEY MAP

**C.0.3**
PAGE 04







## ENGINEER'S NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR EROSION AND DUST CONTROL, AND STORMWATER MANAGEMENT DURING CONSTRUCTION.
2. SEE HORIZONTAL CONTROL PLAN FOR EXACT PROPERTY LINE DIMENSIONS
3. ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THESE PLANS AND FIELD CONDITIONS.
4. THESE PLANS SHALL NOT IN PART, OR IN WHOLE, BE USED FOR CONSTRUCTION UNTIL APPROVED AND SIGNED BY GOVERNING AGENCIES.
5. ALL GRADING SHALL CONFORM TO SOILS REPORT RECOMMENDATIONS.
6. DURING CONSTRUCTION, SURVEYORS AND CONTRACTORS MUST VERIFY THAT ALL STREETS AND LOTS HAVE POSITIVE DRAINAGE. SAME MUST UTILIZE AT LEAST THREE GRADES ON VERTICAL TANGENTS TO VERIFY SLOPES.
7. SOILS REPORT NOTE:
   GRADING SHALL BE IN ACCORDANCE WITH SOILS REPORT
   PREPARED BY: GEOTEK, INC.
   PROJECT NO.: 14379-LV
   DATE: OCTOBER 2, 2018
8. CUT/FILL ESTIMATES (PUBLIC AND PRIVATE):
   FROM EXISTING TO FINISH GRADE ELEVATIONS
   NET CUT: ____ CY
   NET FILL: ____ CY
   TOTAL: ____ CY (FILL)
9. FLOOR SECTION ASSUMES 5" SLAB OVER MIN. 8.5" TYPE II. CONTRACTOR TO VERIFY WITH STRUCTURAL PLANS AND GEOTECHNICAL ENGINEER.

### LEGAL DESCRIPTION:

BEING PORTIONS OF THE NORTH HALF (N 1/2) OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 20, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, TOGETHER WITH LOTS 1, 2, 3, 4 AND THE WEST 200 FEET OF LOTS 11 AND 12 OF "SEBEC ACRES" AS SHOWN BY MAP THEREOF IN BOOK 2, PAGE 28 OF PLATS, CLARK COUNTY, NEVADA, OFFICIAL RECORDS.

### BASIS OF BEARING:

NORTH 89°55'00" WEST, BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 20, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., AS SHOWN IN BOOK 130, PAGE 27 OF PLATS IN THE OFFICE OF THE CLARK COUNTY, NEVADA RECORDER.

### BENCHMARK:

BENCHMARK NO. 2LV0130NES
RIVET & PLATE IN TOP OF CURB AT SW CORNER OF VEGAS DRIVE AND SILVER LAKES
ELEVATION IN METERS: 646.832
ELEVATION IN FEET: 2122.15
NAVD 88

### FLOOD ZONE:

THIS SITE IS LOCATED IN A ZONE "X", AREAS OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN AND PARTIALLY IN A SHADED ZONE "X", AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE OF FLOOD PER THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL 32003C2160F, CLARK COUNTY, NEVADA DATED NOVEMBER 16, 2011.

### AREA OF DISTURBANCE

ONSITE: ____ AC.

OFFSITE: ____ AC.

**NOTE:**
ADD ____' TO GRADING ELEVATIONS SHOWN HEREON TO ADJUST THEM TO THE ASSOCIATED DATUM.
FINISHED GRADE CONTOURS ARE APPROXIMATE. REFER TO SPOT ELEVATION GRADE TAGS FOR CONSTRUCTION STAKING PURPOSES.

### DRAINAGE CERTIFICATION:

THIS SET OF IMPROVEMENT PLANS IS CERTIFIED TO CONFORM TO THE REQUIREMENTS OF THE APPROVED DRAINAGE STUDY.
DS# 5273 .

ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

HORROCKS ENGINEERS
1401 North Green Valley Pkwy., Suite 160
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WARNING
0 1 2
IF THIS BAR DOES NOT MEASURE 2" THEN DRAWING IS NOT TO SCALE

REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 3/25/2020
DESIGNED ACD
DRAWN ACD
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No.023113
6/25/2020

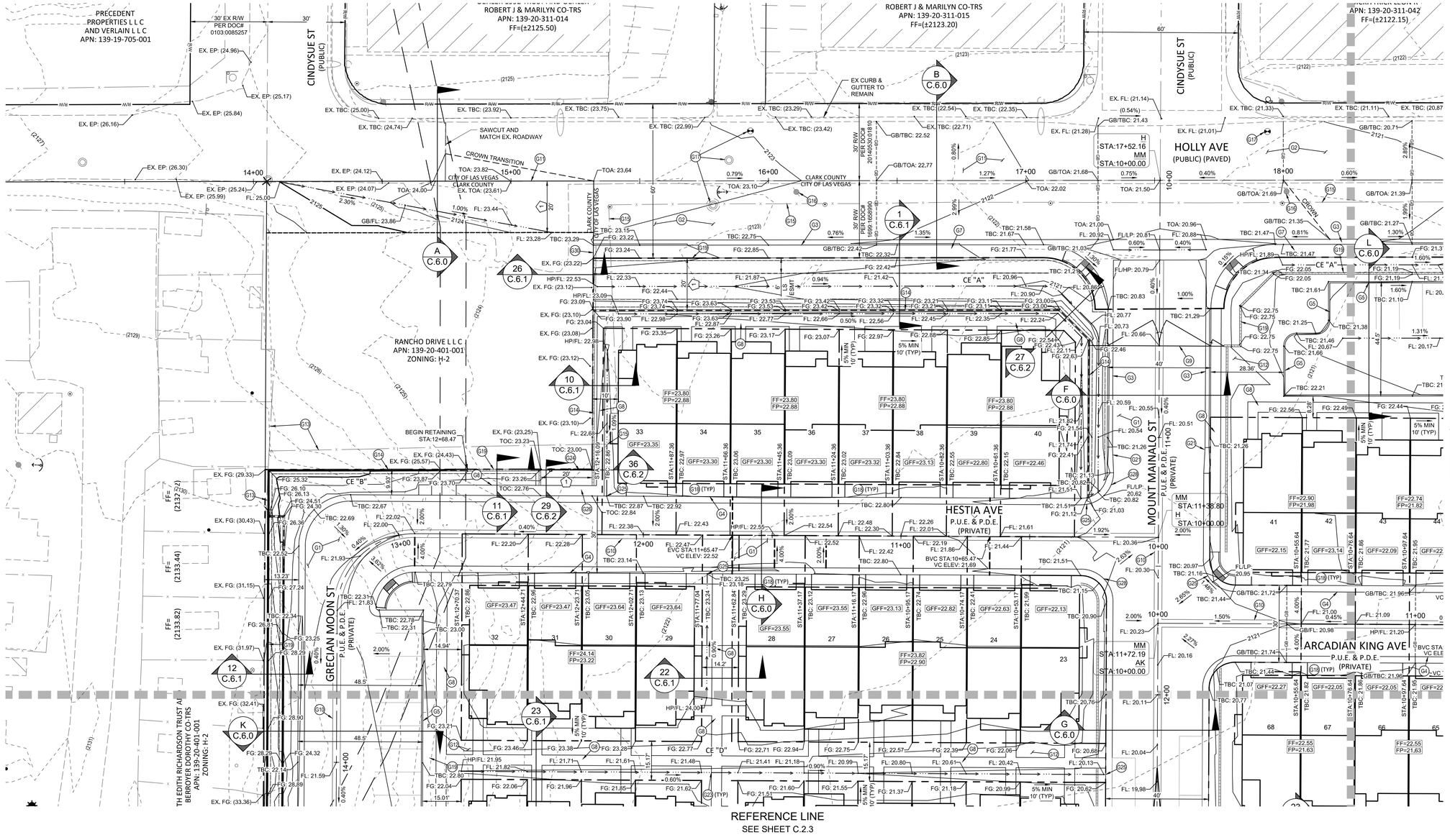
# RANCHO & VEGAS
CITY OF LAS VEGAS, NEVADA
OVERALL GRADING SHEET

Call before you DIG
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY!
Call 811 or 1-800-227-2600

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY!
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

C.2.0




**BASIS OF BEARING**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**FLOOD ZONE**
SEE SHEET C.2.0

SIGHT VISIBILITY ZONE PER CCAUS# 201.2 (TYP)

**SIGHT VISIBILITY ZONE NOTE:**

NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE, UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.

Call before you AVOID CUTTING UNDERGROUND UTILITY LINES, IT'S COSTLY. Call 811 OR 1-800-227-2600

AVOID HITTING OVERHEAD POWER LINES, IT'S COSTLY. CALL BEFORE YOU DIG OVERHEAD 1-702-227-2929

FAST Call before you UnderGround 1-702-432-5300 FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

## ENGINEER'S NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR EROSION AND DUST CONTROL, AND STORMWATER MANAGEMENT DURING CONSTRUCTION.
2. SEE HORIZONTAL CONTROL PLAN FOR EXACT PROPERTY LINE DIMENSIONS.
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7. SOILS REPORT NOTE:
   GRADING SHALL BE IN ACCORDANCE WITH SOILS REPORT
   PREPARED BY: GEOTEK, INC.
   PROJECT NO.: 14379-LV
   DATE: OCTOBER 2, 2018
8. CUT/FILL ESTIMATES (PUBLIC AND PRIVATE):
   FROM EXISTING TO FINISH GRADE ELEVATIONS
   NET CUT: _____ CY
   NET FILL: _____ CY
   TOTAL: _____ CY (FILL)
9. FLOOR SECTION ASSUMES 5" SLAB OVER MIN. 8.5" TYPE II. CONTRACTOR TO VERIFY WITH STRUCTURAL PLANS AND GEOTECHNICAL ENGINEER.
10. ADD 2'100' TO GRADING ELEVATIONS SHOWN HEREON TO ADJUST THEM TO THE ASSOCIATED DATUM. FINISHED GRADE CONTOURS ARE APPROXIMATE. REFER TO SPOT ELEVATION GRADE TAGS FOR CONSTRUCTION STAKING PURPOSES.

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- G4 CONSTRUCT 30" ROLL CURB PER CCAUSD #217.2.S1.
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- G6 CONSTRUCT SIDEWALK DRAIN PER CCAUSD #236.
- G7 CONSTRUCT 5' SIDEWALK 4" THICK PER CCAUSD #234.
- G8 CONSTRUCT 4' SIDEWALK 4" THICK PER CCAUSD #234.
- G9 INSTALL WROUGHT IRON GATE.
- G10 CONSTRUCT 3' CONCRETE VALLEY GUTTER PER CCAUSD #228.
- G11 SAWCUT & REMOVE EXISTING PAVEMENT.
- G12 INSTALL LANDSCAPING BY OTHERS.
- G13 EXISTING FENCE TO REMAIN.
- G14 INSTALL RETAINING WALL BY SEPARATE PERMIT. HEIGHT DEPICTED BY PLAN.
- G15 EXISTING FENCE TO BE REMOVED.
- G16 EXISTING OBJECTS TO BE RELOCATED.
- G17 ADJUST EXISTING UTILITIES TO NEW FINISHED GRADE.
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- G19 INSTALL SCREEN WALL.
- G20 INSTALL BLOCK WALL OPENING PER DETAIL #20 ON SHEET C.6.1.
- G21 CONSTRUCT 10' TRANSITION FROM "L" CURB TO ROLL CURB PER DETAIL #18 SHEET C.6.1.
- G22 INSTALL 4" SIDEWALK DRAIN PIPE PER CCAUSD #236.
- G23 CONSTRUCT SIDEWALK UNDERDRAIN PER CCAUSD #236.
- G24 INSTALL WROUGHT IRON GATE/FENCE PER CCAUSD #425.S1
- G25 CONSTRUCT DEPRESSED CURB PER DETAIL 31 ON SHEET C.6.2
- G26 INSTALL 6" CONCRETE PAVEMENT OVER 6" TYPE II AGG BASE
- G27 INSTALL RIP RAP PER PLAN
- G28 CONSTRUCT 30" ROLL CURB WITH REVERSE LIP PER DETAIL 32 ON SHEET C.6.2
- G29 INSTALL RIP-RAP D50=3",T=6" SUBGRADE @ 90% COMPACTION LENGTH & WIDTH SPECIFIED PER DETAIL 37
- G30 CONSTRUCT EASEMENT OPENING PER CCAUSD #425.S1. WITH 2 REMOVABLE BOLLARDS. REF. DETAIL 35 ON SHEET C.6.1
- G31 CONSTRUCT 8' CONCRETE VALLEY GUTTER PER CCAUSD #228.
- G32 INSTALL ORIFICE PLATE PER DETAL 36 ON SHEET C.6.1

## EASEMENT KEY NOTES:

1. 20' PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED BY THE HOA
2. 30' PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED BY THE HOA.

## DRAINAGE CERTIFICATION:

THIS SET OF IMPROVEMENT PLANS IS CERTIFIED TO CONFORM TO THE REQUIREMENTS OF THE APPROVED DRAINAGE STUDY.
DS# 5273 .

ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

HORROCKS ENGINEERS N

0 20' 40'
SCALE: 1" = 20'


HORROCKS ENGINEERS
1401 North Green Valley Pkwy., Suite 160
Henderson, NV 89074
(702) 966-4063
www.horrocks.com


WARNING
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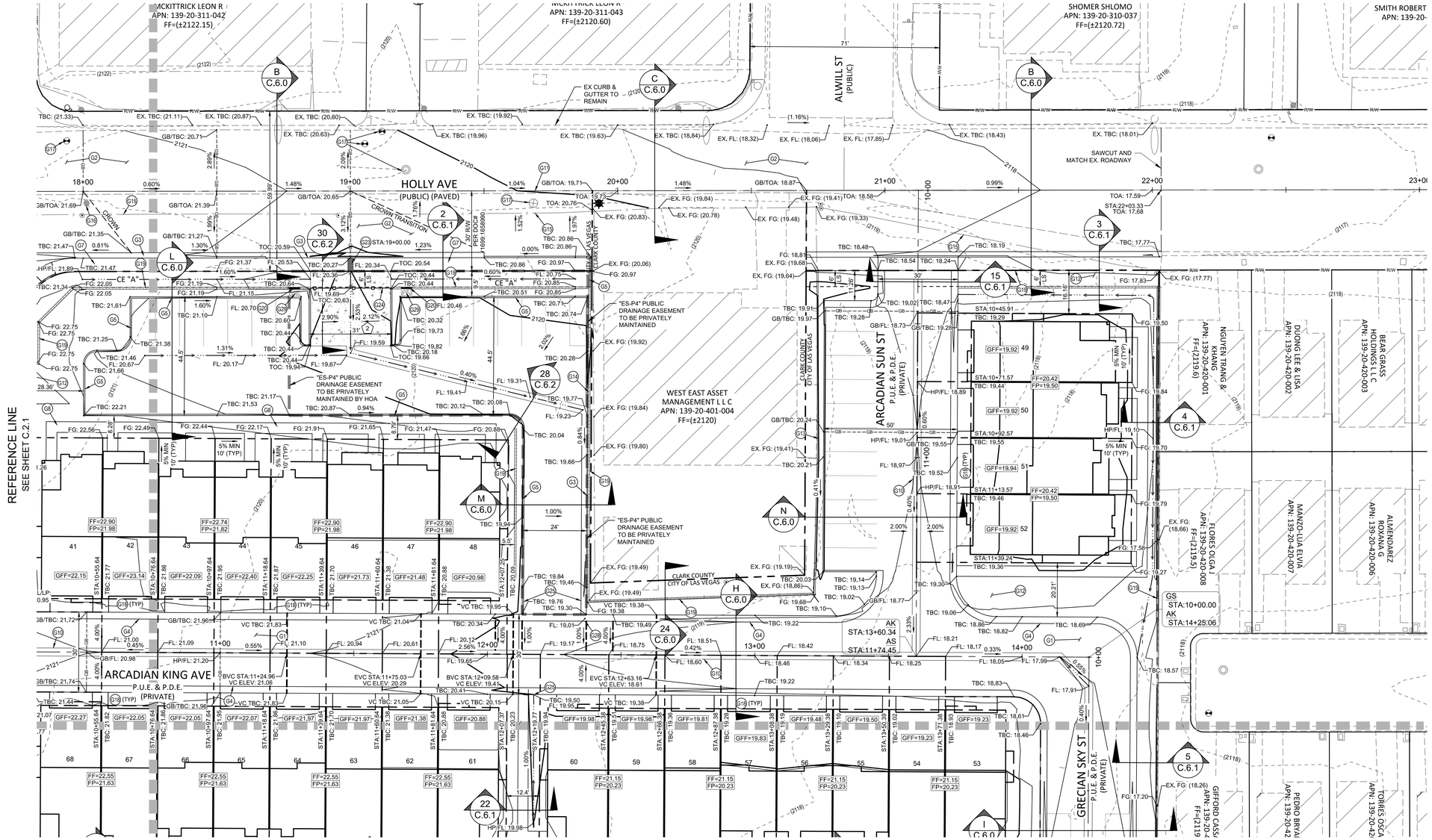
REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

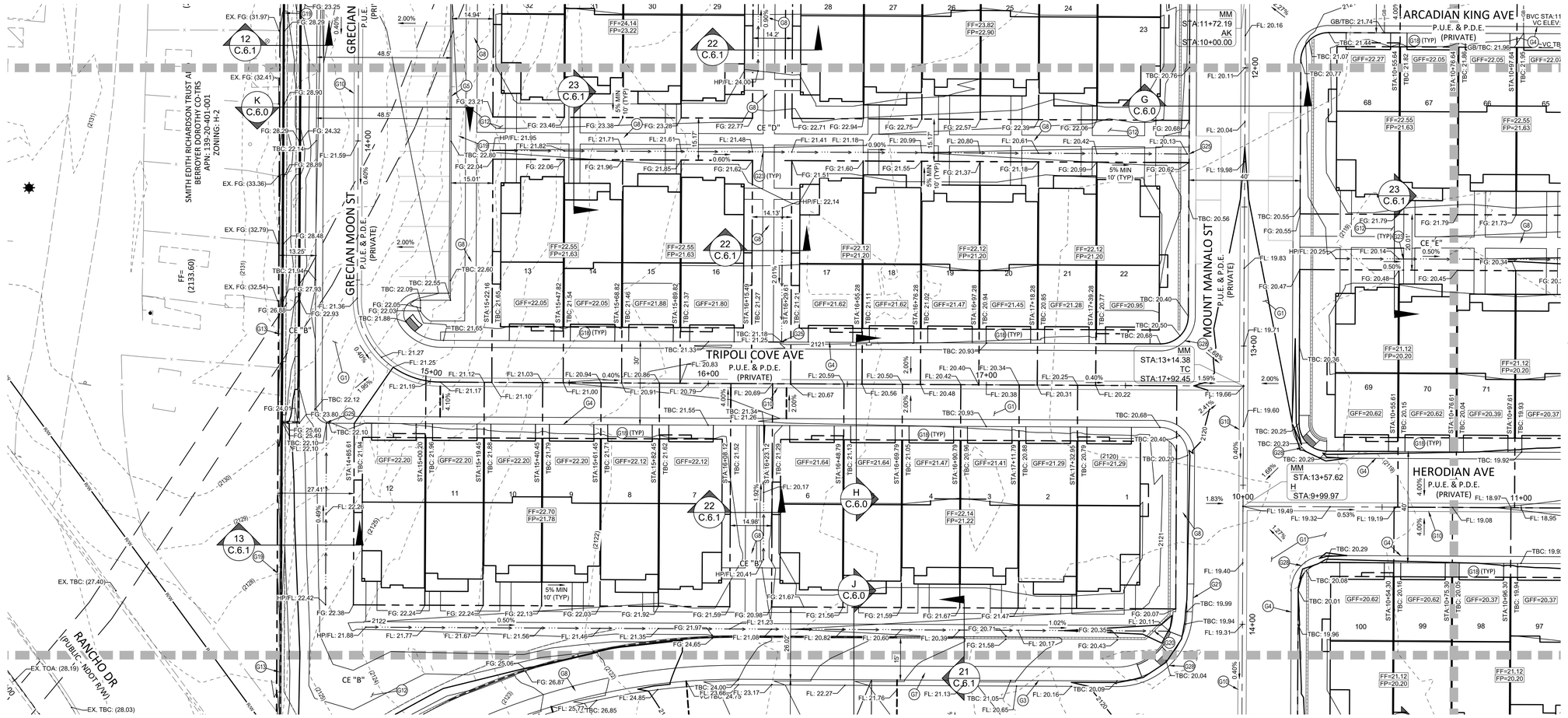
DRAWING INFO
DATE 3/30/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 1

**C.2.1**


MACKITTRICK LEON R
APN: 139-20-311-042
FF=(±2122.15)
MERRITTRICK LEON R
APN: 139-20-311-043
FF=(±2120.60)
SHOMER SHLOMO
APN: 139-20-310-037
FF=(±2120.72)
SMITH ROBERT
APN: 139-20-
ALWILL ST
(PUBLIC)
HOLLY AVE
(PUBLIC) (PAVED)
EX CURB & GUTTER TO REMAIN
SAWCUT AND MATCH EX. ROADWAY
CROWN TRANSITION
CROWN
"ES-P4" PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED
"ES-P4" PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED BY HOA
WEST EAST ASSET MANAGEMENT L L C
APN: 139-20-401-004
FF=(±2120)
ARCADIAN SUN ST
P.U.E. & P.D.E.
(PRIVATE)
ARCADIAN KING AVE
P.U.E. & P.D.E.
(PRIVATE)
GRECIAN SKY ST
P.U.E. & P.D.E.
(PRIVATE)
CLARK COUNTY
CITY OF LAS VEGAS
NGUYEN TRANG & KHANG
APN: 139-20-420-001
FF=(2119.9)
DUONG LEE & LISA
APN: 139-20-420-002
BEAR GRASS HOLDINGS L L C
APN: 139-20-420-003
FLORES OLGA J
APN: 139-20-420-008
FF=(2119.5)
MANZO-LUA ELVIA
APN: 139-20-420-007
ALMENDAREZ ROXANA G
APN: 139-20-420-006
GIFFORD CASS
APN: 139-20-4
FF=(2119
PEDRO BRYA
APN: 139-20-42
TORRES OSCA
APN: 139-20-42
REFERENCE LINE
SEE SHEET C.2.1
REFERENCE LINE
SEE SHEET C.2.4
18+00
19+00
20+00
21+00
22+00
23+00
10+00
11+00
12+00
13+00
14+00
15
C.6.1
2
C.6.1
3
C.6.1
4
C.6.1
5
C.6.1
22
C.6.1
24
C.6.0
28
C.6.2
30
C.6.2
L
C.6.0
M
C.6.0
N
C.6.0
H
C.6.0
I
C.6.0
B
C.6.0
C
C.6.0
GS
STA:10+00.00
AK
STA:14+25.06
AK
STA:13+60.34
AS
STA:11+74.45
5% MIN
10' (TYP)
5% MIN
10' (TYP)
5% MIN
10' (TYP)




**BASIS OF BEARING**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**FLOOD ZONE**
SEE SHEET C.2.0

SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

**SIGHT VISIBILITY ZONE NOTE:**

NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.

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1-702-227-2929

FAST
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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

## ENGINEER'S NOTES:

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2. SEE HORIZONTAL CONTROL PLAN FOR EXACT PROPERTY LINE DIMENSIONS
3. ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THESE PLANS AND FIELD CONDITIONS.
4. THESE PLANS SHALL NOT IN PART, OR IN WHOLE, BE USED FOR CONSTRUCTION UNTIL APPROVED AND SIGNED BY GOVERNING AGENCIES.
5. ALL GRADING SHALL CONFORM TO SOILS REPORT RECOMMENDATIONS.
6. DURING CONSTRUCTION, SURVEYORS AND CONTRACTORS MUST VERIFY THAT ALL STREETS AND LOTS HAVE POSITIVE DRAINAGE. SAME MUST UTILIZE AT LEAST THREE GRADES ON VERTICAL TANGENTS TO VERIFY SLOPES.
7. SOILS REPORT NOTE:
   GRADING SHALL BE IN ACCORDANCE WITH SOILS REPORT
   PREPARED BY: GEOTEK, INC.
   PROJECT NO.: 14379-LV
   DATE: OCTOBER 2, 2018
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## EASEMENT KEY NOTES:

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## DRAINAGE CERTIFICATION:

THIS SET OF IMPROVEMENT PLANS IS CERTIFIED TO CONFORM TO THE REQUIREMENTS OF THE APPROVED DRAINAGE STUDY.
DS# 5273 .

ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

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REVISIONS
REV # | DATE

*SEE GENERAL NOTES SHEET

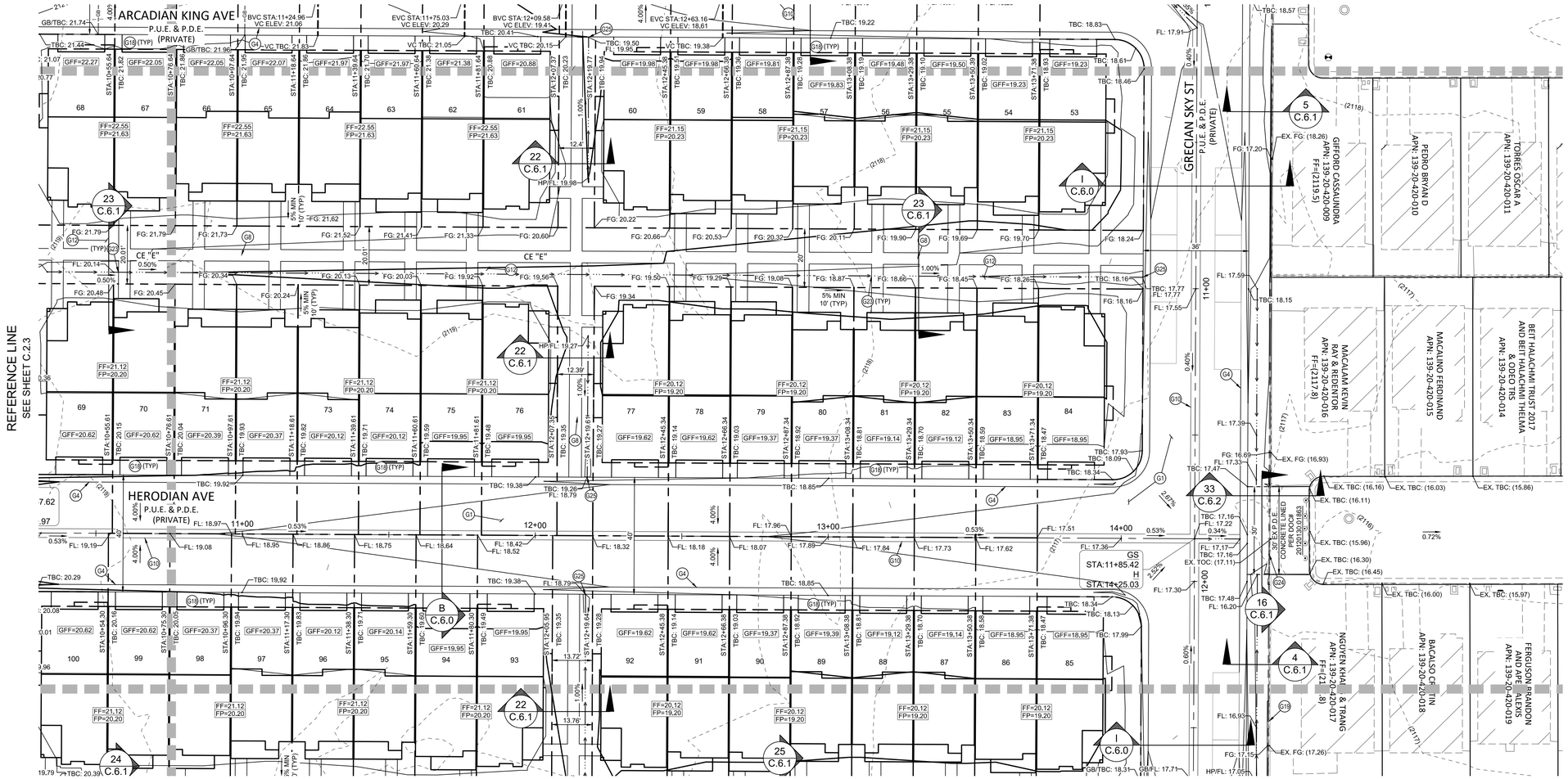
DRAWING INFO
DATE 3/30/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 3

**C.2.3**

PAGE 08




## BASIS OF BEARING
SEE SHEET C.2.0

## BENCHMARK
SEE SHEET C.2.0

## LEGAL DESCRIPTION
SEE SHEET C.2.0

## FLOOD ZONE
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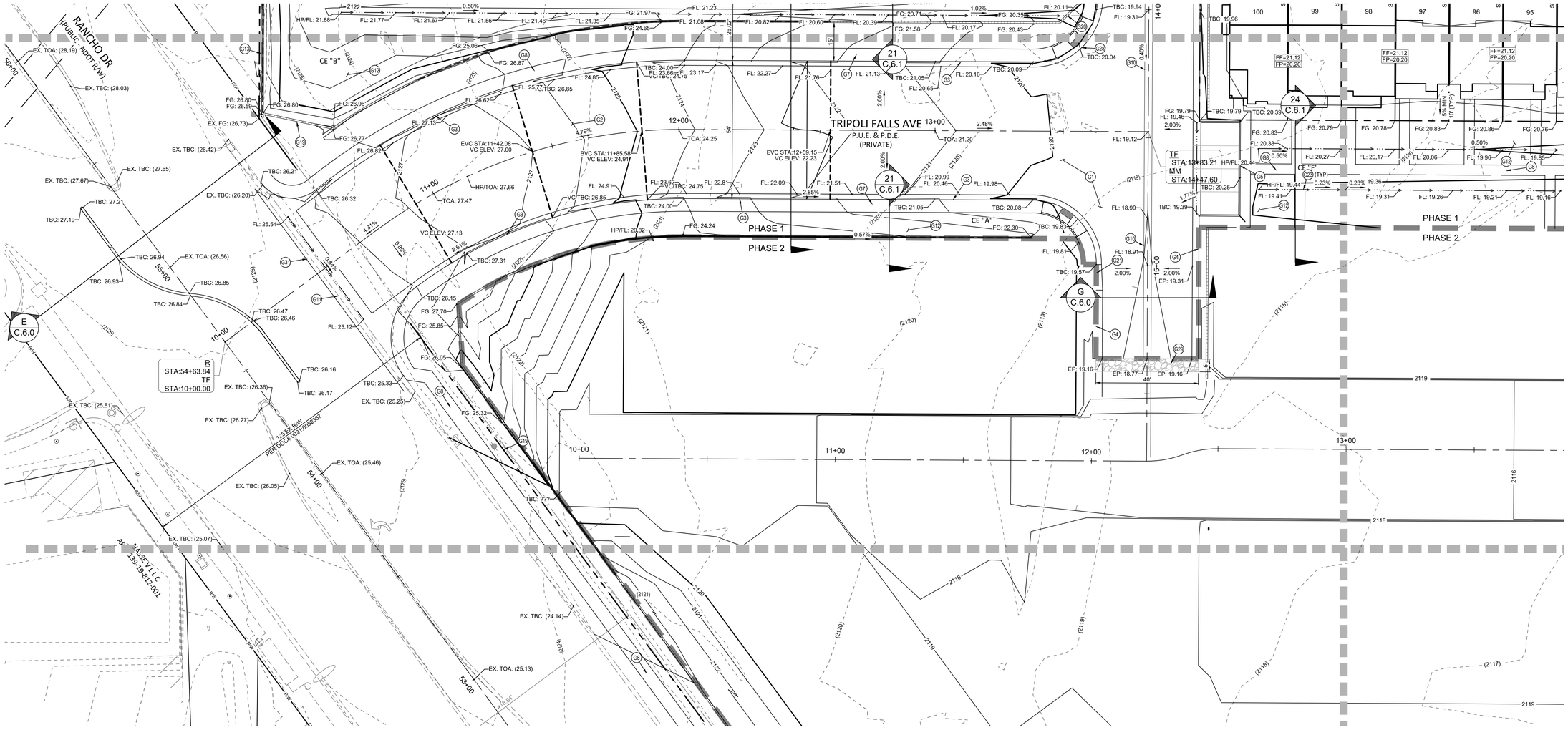
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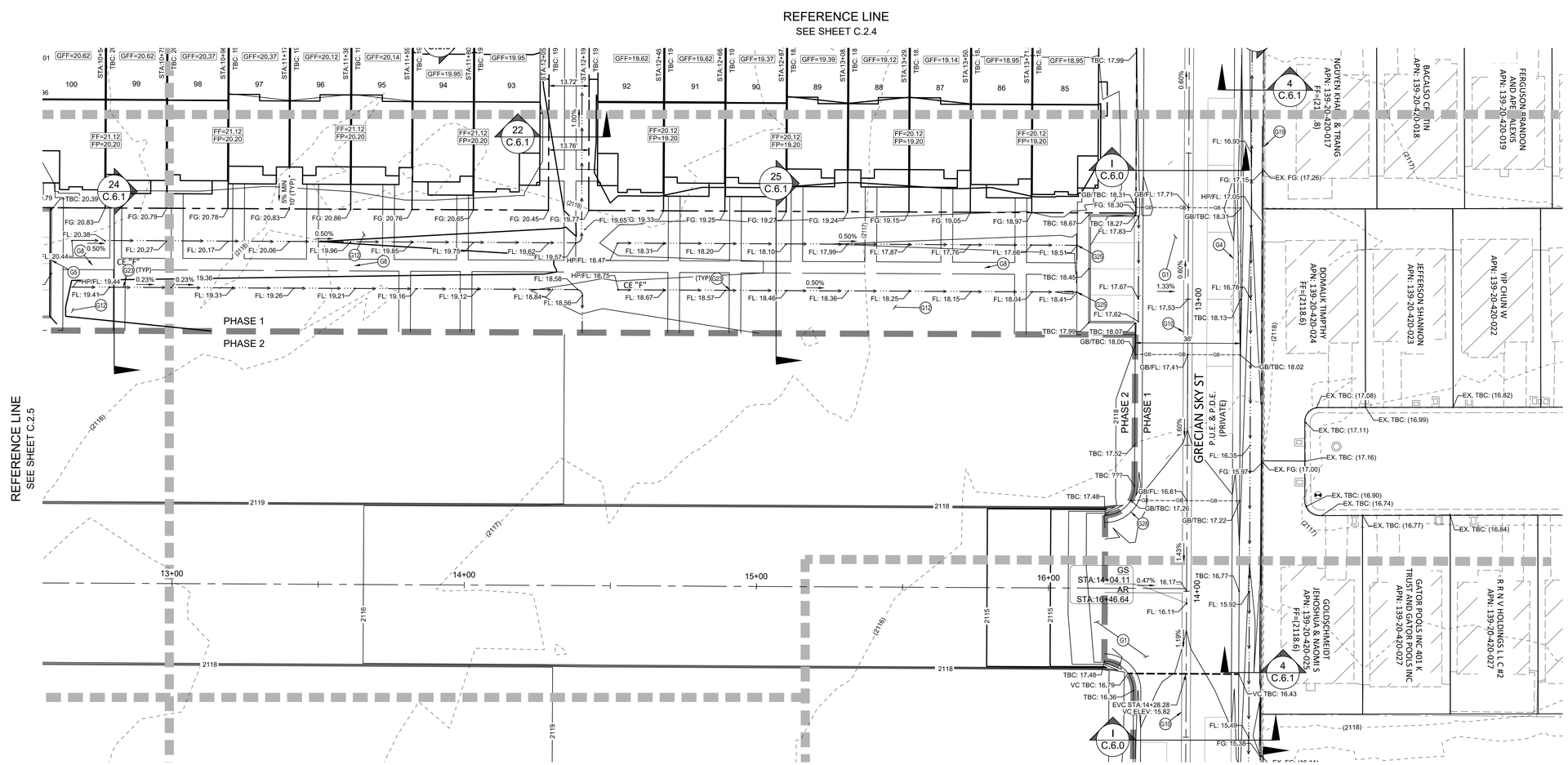
PROFESSIONAL ENGINEER - STATE OF NEVADA
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RANCHO & VEGAS
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 4

C.2.4

PAGE 09


REFERENCE LINE
SEE SHEET C.2.3
RANCHO DR
(PUBLIC - NDOT R/W)
TRIPOLI FALLS AVE
P.U.E. & P.D.E.
(PRIVATE)
PHASE 1
PHASE 2
CE "A"
CE "B"
CE "F"
REFERENCE LINE
SEE SHEET C.2.6
REFERENCE LINE
SEE SHEET C.2.7
APN: 139-10-812-001
MASSY LLC
125'X5' R/W
PER DOC# 0021:0052387
R
STA:54+63.84
TF
STA:10+00.00
TF
STA:13+83.21
MM
STA:14+47.60
EVC STA:11+42.08
VC ELEV: 27.00
BVC STA:11+85.58
VC ELEV: 24.97
EVC STA:12+59.15
VC ELEV: 22.23
HP/TOA: 27.66
TOA: 27.47
VC ELEV: 27.13
HP/FL: 20.82
TOA: 24.25
TOA: 21.20
HP/FL: 20.44
TOA: 20.25
HP/FL: 19.44
EP: 19.31
EP: 19.16
EP: 18.77
EP: 19.16
40'
5%
FF=21.12
FP=20.20
5% MIN
10' (TYP)
0.50%
0.23%
1.71%
2.00%
2.48%
2.85%
4.21%
0.89%
2.61%
0.57%
1.79%
1.02%
0.40%
2.00%
2.00%
10+00
11+00
12+00
13+00
53+00
54+00
55+00
56+00
14+00
15+00
21
C.6.1
24
C.6.1
G
C.6.0
E
C.6.0
2116
2117
2118
2119
2120
2121
2122
EX. TOA: (28,19)
EX. TBC: (28.03)
EX. FG: (26,73)
EX. TBC: (26.42)
EX. TBC: (27.65)
EX. TBC: (27.67)
EX. TBC: (26.20)
EX. TOA: (26.56)
EX. TBC: (25,81)
EX. TBC: (26.36)
EX. TBC: (26.27)
EX. TBC: (25.25)
EX. TOA: (25,46)
EX. TBC: (26.05)
EX. TBC: (25.07)
EX. TBC: (24.14)
EX. TOA: (25,13)
TBC: ???
TBC: 19.96
TBC: 19.79
TBC: 19.39
TBC: 19.83
TBC: 19.57
TBC: 20.09
TBC: 20.04
TBC: 19.94
TBC: 21.05
TBC: 20.08
TBC: 24.00
TBC: 23.66
TBC: 24.75
TBC: 22.81
TBC: 27.31
TBC: 26.15
TBC: 27.70
TBC: 25.85
TBC: 26.05
TBC: 25.33
TBC: 26.16
TBC: 26.17
TBC: 26.47
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TBC: 26.93
TBC: 26.94
TBC: 27.19
TBC: 27.21
TBC: 26.21
TBC: 26.32
FG: 26.80
FG: 26.59
FG: 26.96
FG: 26.77
FG: 26.82
FG: 27.13
FG: 25.06
FG: 26.87
FG: 25.77
FG: 26.85
FG: 24.85
FG: 26.62
FG: 24.24
FG: 22.30
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FG: 20.76
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FL: 19.16
FG: 24.24
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FG: 24.65
HP/FL: 21.88
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## BASIS OF BEARING

SEE SHEET C.2.0

## BENCHMARK

SEE SHEET C.2.0

## LEGAL DESCRIPTION

SEE SHEET C.2.0

## FLOOD ZONE

SEE SHEET C.2.0

SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

## SIGHT VISIBILITY ZONE NOTE:

NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.

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FAST
Call before you UnderGround
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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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3. ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THESE PLANS AND FIELD CONDITIONS.
4. THESE PLANS SHALL NOT IN PART, OR IN WHOLE, BE USED FOR CONSTRUCTION UNTIL APPROVED AND SIGNED BY GOVERNING AGENCIES.
5. ALL GRADING SHALL CONFORM TO SOILS REPORT RECOMMENDATIONS.
6. DURING CONSTRUCTION, SURVEYORS AND CONTRACTORS MUST VERIFY THAT ALL STREETS AND LOTS HAVE POSITIVE DRAINAGE. SAME MUST UTILIZE AT LEAST THREE GRADES ON VERTICAL TANGENTS TO VERIFY SLOPES.
7. SOILS REPORT NOTE:
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   PREPARED BY: GEOTEK, INC.
   PROJECT NO.: 14379-LV
   DATE: OCTOBER 2, 2018
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   FROM EXISTING TO FINISH GRADE ELEVATIONS
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   TOTAL: _____ CY (FILL)
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- G14 INSTALL RETAINING WALL BY SEPARATE PERMIT. HEIGHT DEPICTED BY PLAN.
- G15 EXISTING FENCE TO BE REMOVED.
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- G24 INSTALL WROUGHT IRON GATE/FENCE PER CCAUSD #425.S1
- G25 CONSTRUCT DEPRESSED CURB PER DETAIL 31 ON SHEET C.6.2
- G26 INSTALL 6" CONCRETE PAVEMENT OVER 6" TYPE II AGG BASE
- G27 INSTALL RIP RAP PER PLAN
- G28 CONSTRUCT 30" ROLL CURB WITH REVERSE LIP PER DETAIL 32 ON SHEET C.6.2
- G29 INSTALL RIP-RAP D50=3",T=6" SUBGRADE @ 90% COMPACTION LENGTH & WIDTH SPECIFIED PER DETAIL 37
- G30 CONSTRUCT EASEMENT OPENING PER CCAUSD #425.S1. WITH 2 REMOVABLE BOLLARDS. REF. DETAIL 35 ON SHEET C.6.1
- G31 CONSTRUCT 8' CONCRETE VALLEY GUTTER PER CCAUSD #228.
- G32 INSTALL ORIFICE PLATE PER DETAL 36 ON SHEET C.6.1

## EASEMENT KEY NOTES:

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2. 30' PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED BY THE HOA.

## DRAINAGE CERTIFICATION:

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DS# 5273 .

ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

0 20' 40'
SCALE: 1" = 20'


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REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/11/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

# RANCHO & VEGAS

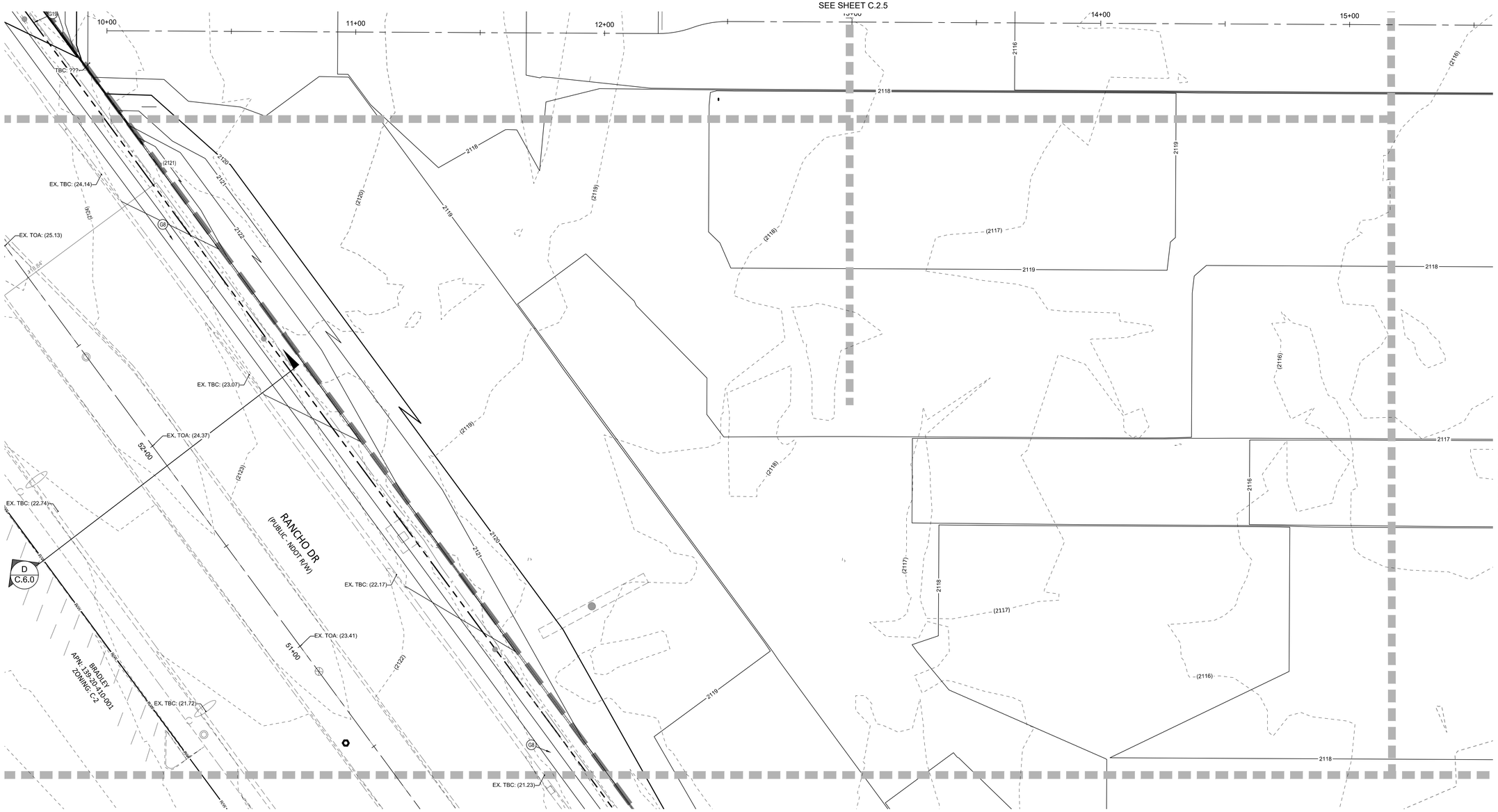
CITY OF LAS VEGAS, NEVADA

GRADING SHEET 6

# C.2.6



H:\!2019\NV-2105-1911 Rancho & Vegas Townhomes\Project Data\02 CAD\2.03 Sheet Files\Construction Drawings\C.2.1 GRADING_PH1.dwg - C.2.6 - 6/25/2020 01:17pm, heather.dominguez




**BASIS OF BEARING**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**FLOOD ZONE**
SEE SHEET C.2.0

SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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- (G23) CONSTRUCT SIDEWALK UNDERDRAIN PER CCAUSD #236.
- (G24) INSTALL WROUGHT IRON GATE/FENCE PER CCAUSD #425.S1
- (G25) CONSTRUCT DEPRESSED CURB PER DETAIL 31 ON SHEET C.6.2
- (G26) INSTALL 6" CONCRETE PAVEMENT OVER 6" TYPE II AGG BASE
- (G27) INSTALL RIP RAP PER PLAN
- (G28) CONSTRUCT 30" ROLL CURB WITH REVERSE LIP PER DETAIL 32 ON SHEET C.6.2
- (G29) INSTALL RIP-RAP D50=3",T=6" SUBGRADE @ 90% COMPACTION LENGTH & WIDTH SPECIFIED PER DETAIL 37
- (G30) CONSTRUCT EASEMENT OPENING PER CCAUSD #425.S1. WITH 2 REMOVABLE BOLLARDS. REF. DETAIL 35 ON SHEET C.6.1
- (G31) CONSTRUCT 8' CONCRETE VALLEY GUTTER PER CCAUSD #228.
- (G32) INSTALL ORIFICE PLATE PER DETAL 36 ON SHEET C.6.1

## EASEMENT KEY NOTES:

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## DRAINAGE CERTIFICATION:

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DS# 5273 .

ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

HORROCKS ENGINEERS
1401 North Green Valley Pkwy., Suite 160
Henderson, NV 89074
(702) 966-4063
www.horrocks.com

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0 1 2

REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

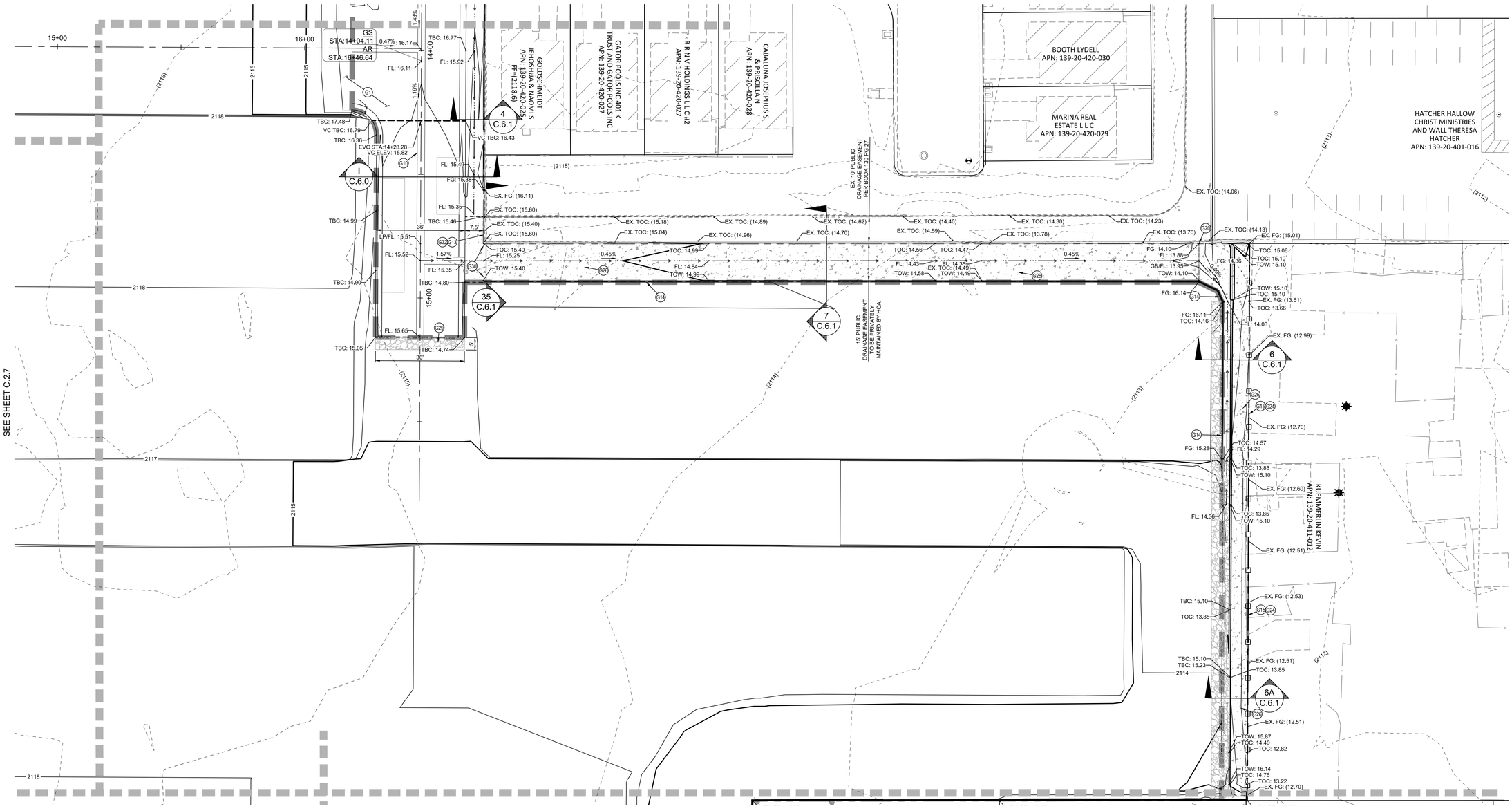
DRAWING INFO
DATE 6/11/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

HORROCKS ENGINEERS
0 20' 40'
SCALE: 1" = 20'

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 7

**C.2.7**




**BASIS OF BEARING**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**FLOOD ZONE**
SEE SHEET C.2.0

SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

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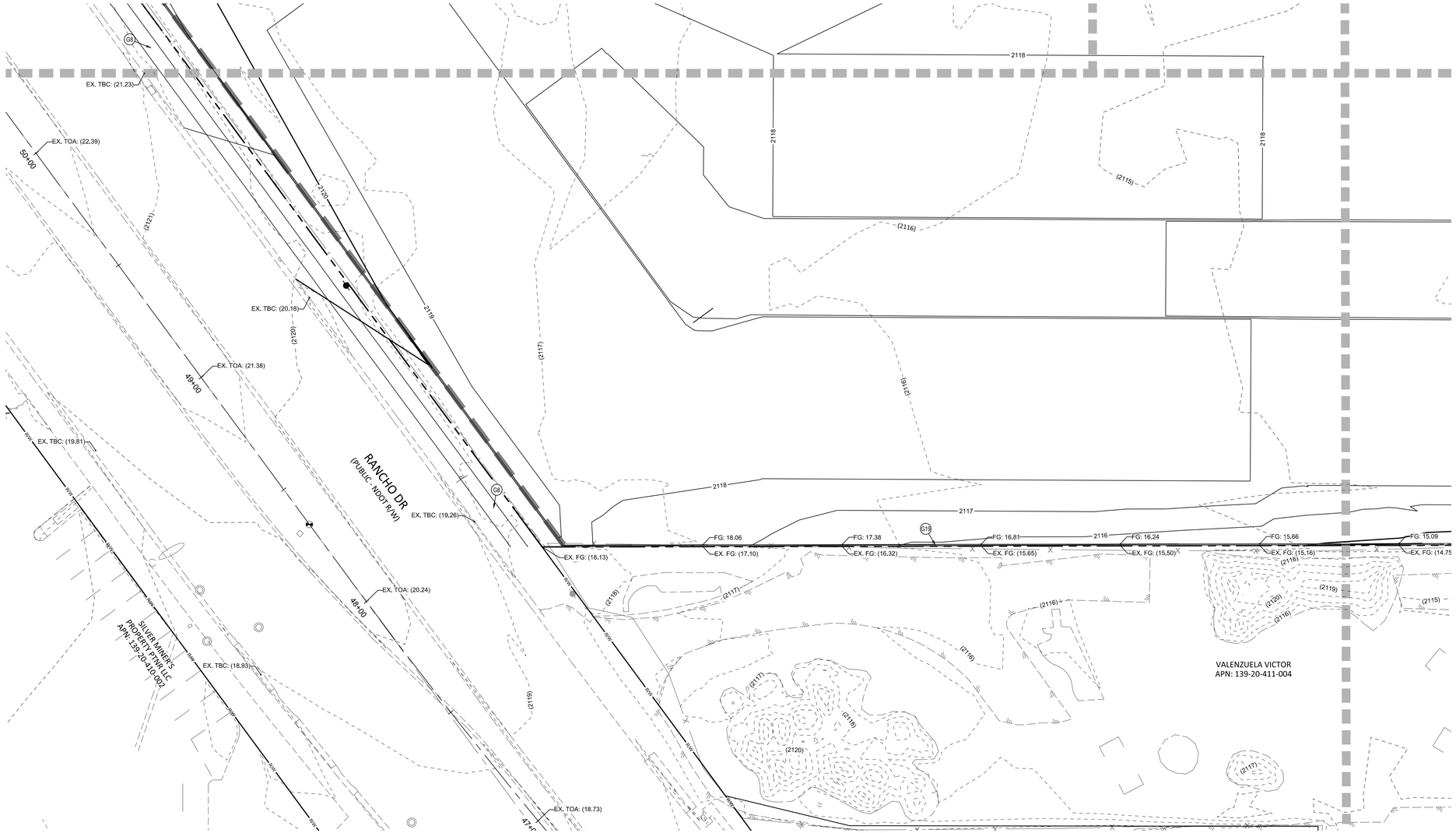
PROFESSIONAL ENGINEER-STATE OF NEVADA
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EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 8

**C.2.8**



H:\\2019\NV-2105-1911 Rancho & Vegas Townhomes\Project Data\02 CAD\2.03 Sheet Files\Construction Drawings\C.2.1 GRADING_PH1.dwg - C.2.8 - 6/25/2020 01:18pm, heather.dominguez




**BASIS OF BEARING**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

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SEE SHEET C.2.0

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FAST
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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

## ENGINEER'S NOTES:

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3. ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THESE PLANS AND FIELD CONDITIONS.
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7. SOILS REPORT NOTE:
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   PREPARED BY: GEOTEK, INC.
   PROJECT NO.: 14379-LV
   DATE: OCTOBER 2, 2018
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   NET CUT: _____ CY
   NET FILL: _____ CY
   TOTAL: _____ CY (FILL)
9. FLOOR SECTION ASSUMES 5" SLAB OVER MIN. 8.5" TYPE II. CONTRACTOR TO VERIFY WITH STRUCTURAL PLANS AND GEOTECHNICAL ENGINEER.
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- G25 CONSTRUCT DEPRESSED CURB PER DETAIL 31 ON SHEET C.6.2
- G26 INSTALL 6" CONCRETE PAVEMENT OVER 6" TYPE II AGG BASE
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## EASEMENT KEY NOTES:

1. 20' PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED BY THE HOA
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DS# 5273 .

ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

HORROCKS ENGINEERS
1401 North Green Valley Pkwy., Suite 160
Henderson, NV 89074
(702) 966-4063
www.horrocks.com

WARNING
0 1 2
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REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/11/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No.023113
6/25/2020

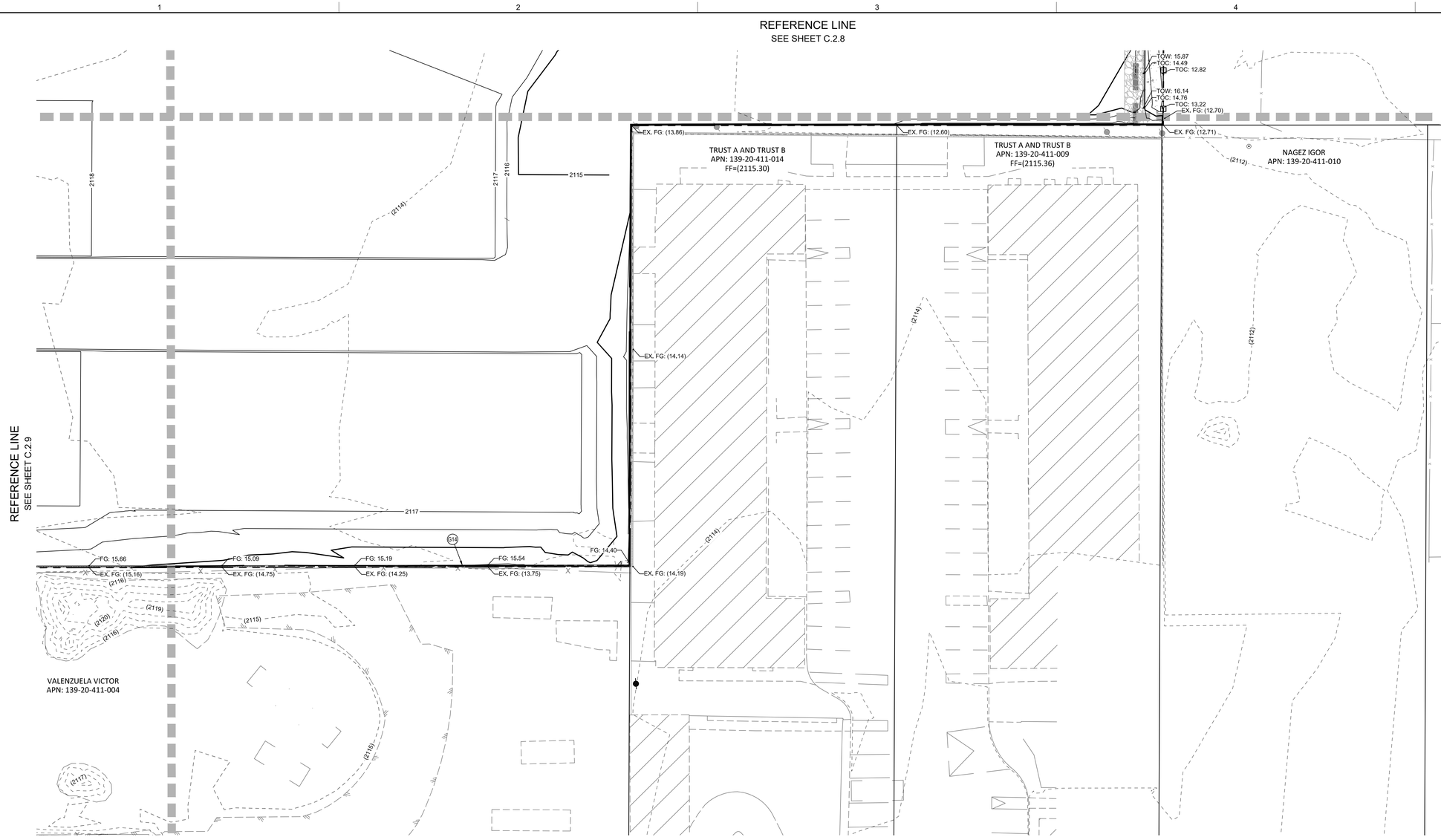
**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 9

HORROCKS ENGINEERS
0 20' 40'
SCALE: 1" = 20'

**C.2.9**



C:\Users\shayans\appdata\local\temp\AcPublish_13292\C.2.1 GRADING_PH1.dwg - C.2.9 - 6/25/2020 01:40pm, shayans




**BASIS OF BEARING**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**FLOOD ZONE**
SEE SHEET C.2.0

SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

**SIGHT VISIBILITY ZONE NOTE:**

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DS# 5273 .

ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

HORROCKS ENGINEERS
Henderson, NV

0 20' 40'
SCALE: 1" = 20'


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www.horrocks.com


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REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/11/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 10

**C.2.10**



C:\Users\shayans\appdata\local\temp\AcPublish_13292\C.2.1 GRADING_PH1.dwg - C.2.10 - 6/25/2020 01:40pm, shayans

REFERENCE LINE
SEE SHEET C.2.3

REFERENCE LINE
SEE SHEET C.2.6

REFERENCE LINE
SEE SHEET C.2.7

RANCHO DR (PUBLIC - NDOT R/W)

TRIPOLI FALLS AVE P.U.E. & P.D.E. (PRIVATE)

ALPHEUS RIVER AVE P.U.E. & P.D.E. (PRIVATE)

ARCADIANSEA ST P.U.E. & P.D.E. (PRIVATE)

MOUNT MAINALO ST P.U.E. & P.D.E. (PRIVATE)

CE "A" CE "B" CE "C" CE "E" CE "F" CE "G"

PHASE 1 PHASE 2

APN: 139-19-812-001 MASSE V LLC

125'X RW PER DOCK 20210052387

54'-00 (PUBLIC - NDOT R/W)

235 236 237 238 239 240 241 242 234 233 232 231 101 102 103 104 105 106 132 131 130 129 128 127

| | |
|---|---|
| R | STA:54+63.84 |
| TF | STA:10+00.00 |
| TF | STA:13+83.21 |
| MM | STA:14+47.60 |
| AR | STA:11+05.64 |
| AS | STA:10+00.00 |
| AR | STA:12+21.58 |
| MM | STA:15+76.30 |

**BASIS OF BEARING**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**FLOOD ZONE**
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SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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SCALE: 1" = 20'


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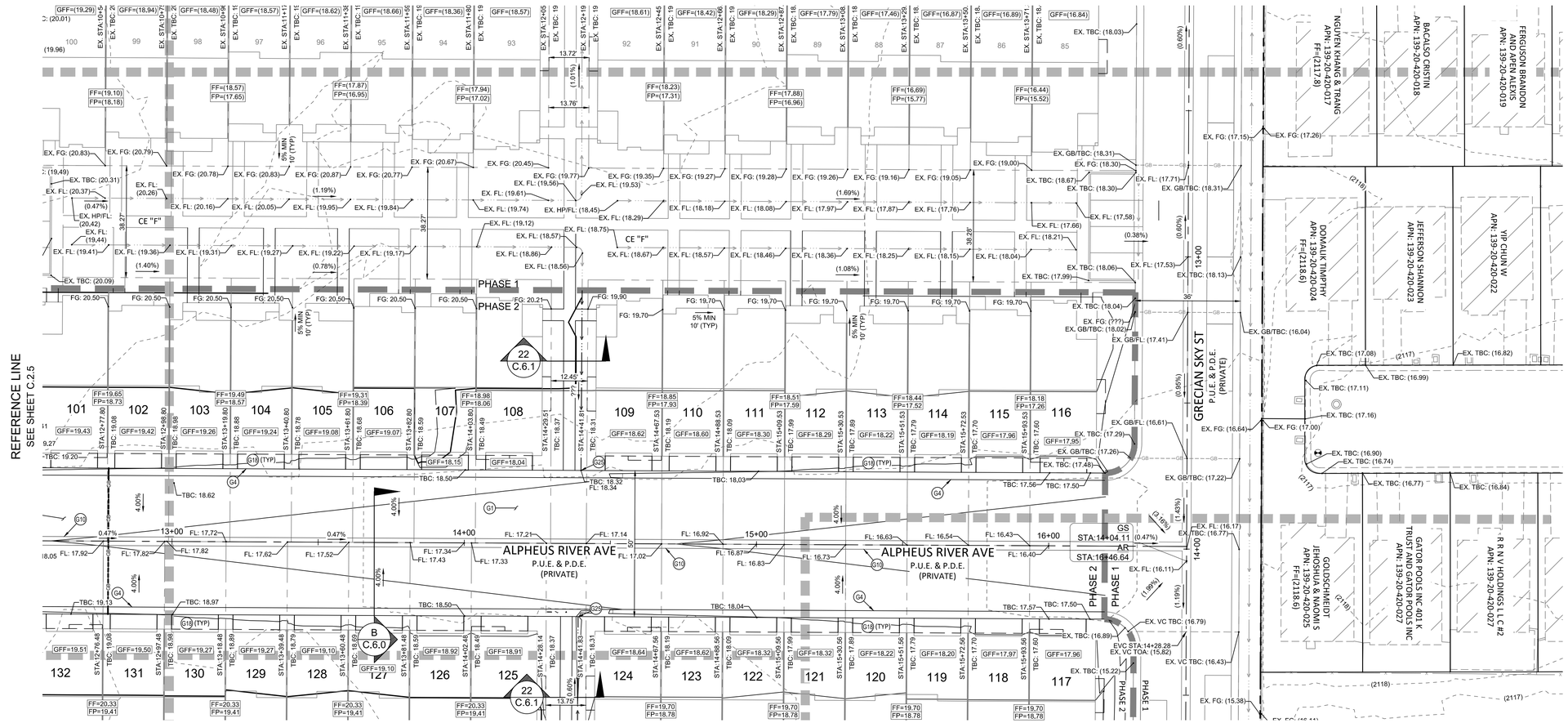
PROFESSIONAL ENGINEER - STATE OF NEVADA
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EXP. 12-31-20
CIVIL
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6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 1 PHASE 2

**C.2.5A**



H:\!2019\NV-2105-1911 Rancho & Vegas Townhomes\Project Data\02 CAD\2.03 Sheet Files\Construction Drawings\C.2.1 GRADING_PH2.dwg - C.2.5A - 6/25/2020 01:53pm, shayans




**BASIS OF BEARING**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**LEGAL DESCRIPTION**
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- G18 CONSTRUCT 5" THICK CONCRETE DRIVEWAY.
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- G32 INSTALL ORIFICE PLATE PER DETAL 36 ON SHEET C.6.1

## EASEMENT KEY NOTES:

1. 20' PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED BY THE HOA
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DS# 5273 .

ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

0 20' 40'
SCALE: 1" = 20'


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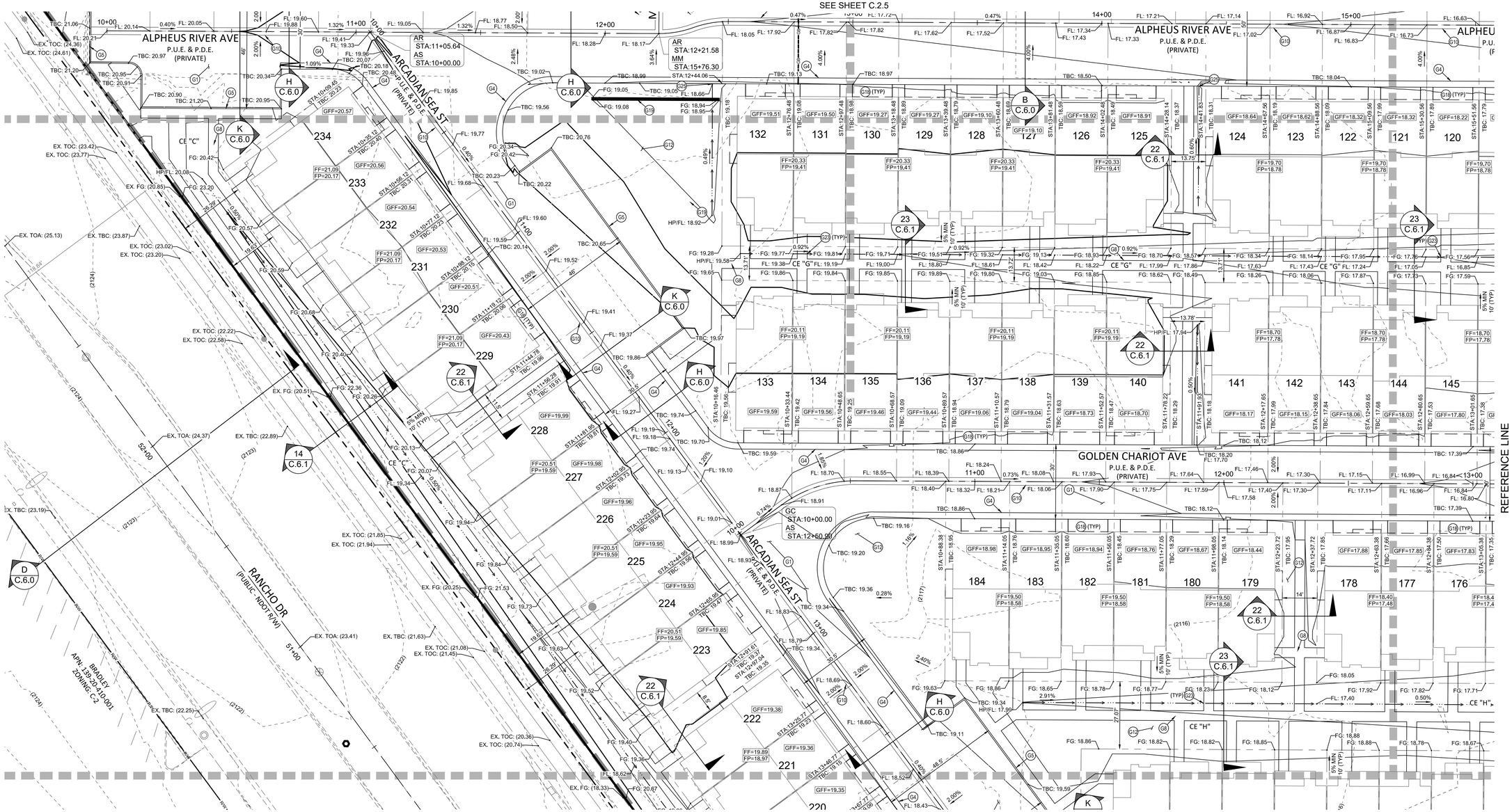
REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/1/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 2 PHASE 2

**C.2.6A**




**BASIS OF BEARING**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**FLOOD ZONE**
SEE SHEET C.2.0

SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

**SIGHT VISIBILITY ZONE NOTE:**

NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.

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3. ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THESE PLANS AND FIELD CONDITIONS.
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5. ALL GRADING SHALL CONFORM TO SOILS REPORT RECOMMENDATIONS.
6. DURING CONSTRUCTION, SURVEYORS AND CONTRACTORS MUST VERIFY THAT ALL STREETS AND LOTS HAVE POSITIVE DRAINAGE. SAME MUST UTILIZE AT LEAST THREE GRADES ON VERTICAL TANGENTS TO VERIFY SLOPES.
7. SOILS REPORT NOTE:
   GRADING SHALL BE IN ACCORDANCE WITH SOILS REPORT
   PREPARED BY: GEOTEK, INC.
   PROJECT NO.: 14379-LV
   DATE: OCTOBER 2, 2018
8. CUT/FILL ESTIMATES (PUBLIC AND PRIVATE):
   FROM EXISTING TO FINISH GRADE ELEVATIONS
   NET CUT: _____ CY
   NET FILL: _____ CY
   TOTAL: _____ CY (FILL)
9. FLOOR SECTION ASSUMES 5" SLAB OVER MIN. 8.5" TYPE II. CONTRACTOR TO VERIFY WITH STRUCTURAL PLANS AND GEOTECHNICAL ENGINEER.
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ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

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REVISIONS
REV # | DATE
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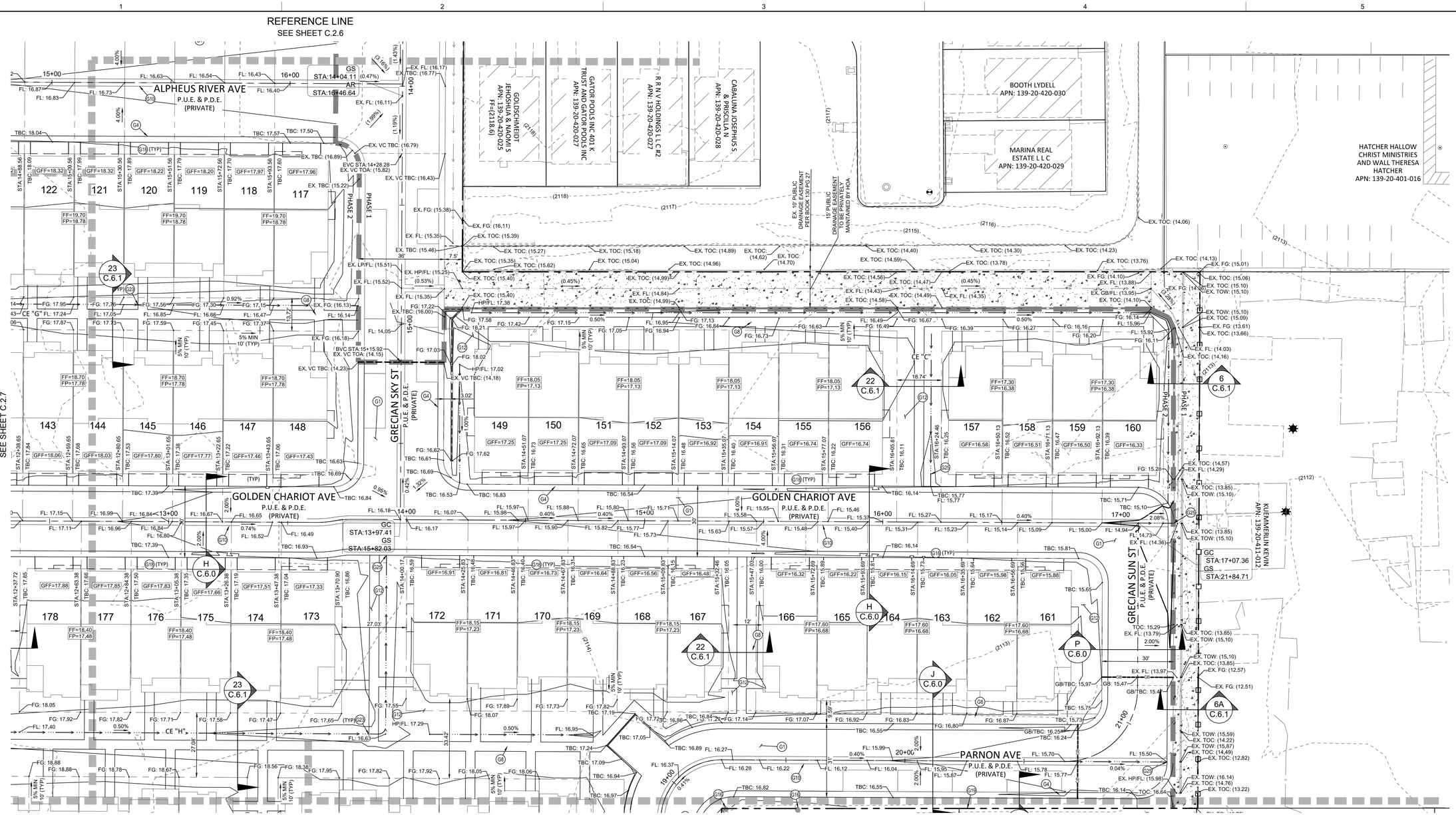
DRAWING INFO
DATE 6/11/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

0 20' 40'
SCALE: 1" = 20'

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 3 PHASE 2

**C.2.7A**




| | |
|---|---|
| **BASIS OF BEARING** | SEE SHEET C.2.0 |
| **BENCHMARK** | SEE SHEET C.2.0 |
| **LEGAL DESCRIPTION** | SEE SHEET C.2.0 |
| **FLOOD ZONE** | SEE SHEET C.2.0 |

SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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   PREPARED BY: GEOTEK, INC.
   PROJECT NO.: 14379-LV
   DATE: OCTOBER 2, 2018
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   FROM EXISTING TO FINISH GRADE ELEVATIONS
   NET CUT: _____ CY
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   TOTAL: _____ CY (FILL)
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## EASEMENT KEY NOTES:

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## DRAINAGE CERTIFICATION:

THIS SET OF IMPROVEMENT PLANS IS CERTIFIED TO CONFORM TO THE REQUIREMENTS OF THE APPROVED DRAINAGE STUDY.
DS# 5273 .

ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

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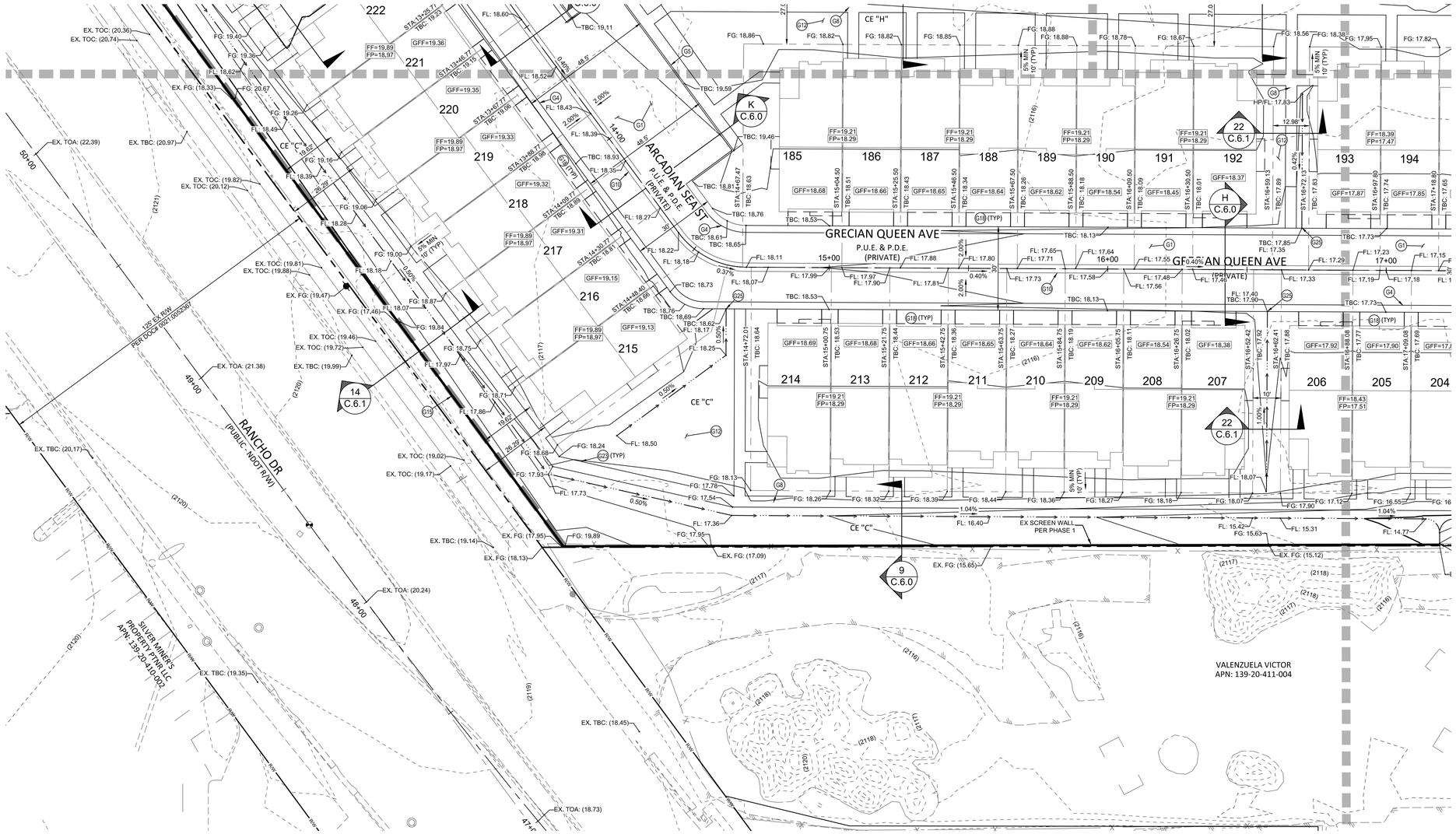
| DRAWING INFO | |
|---|---|
| DATE | 6/11/2020 |
| DESIGNED | ACD |
| DRAWN | PMP |
| CHECKED | ACD |
| PROJECT | NV-2105-1911 |

PROFESSIONAL ENGINEER - STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

HORROCKS ENGINEERS
0 20' 40'
SCALE: 1" = 20'

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 4 PHASE 2

**C.2.8A**




**BASIS OF BEARING**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**FLOOD ZONE**
SEE SHEET C.2.0

SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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|---|---|---|
| REV # | DATE | |
| 1 | | |

*SEE GENERAL NOTES SHEET

| DRAWING INFO | |
|---|---|
| DATE | 6/11/2020 |
| DESIGNED | ACD |
| DRAWN | PMP |
| CHECKED | ACD |
| PROJECT | NV-2105-1911 |

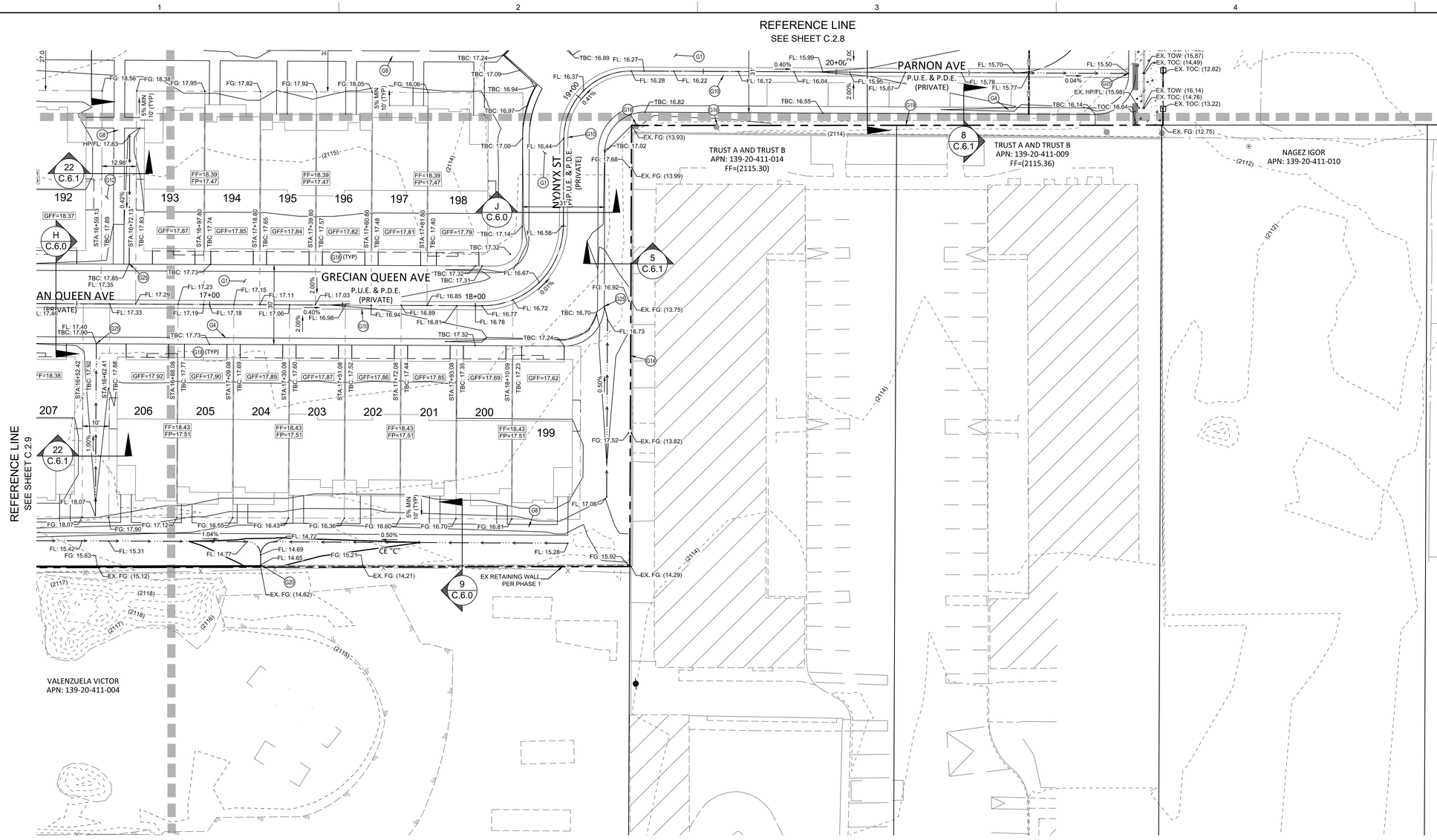
PROFESSIONAL ENGINEER - STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 5 PHASE 2

**C.2.9A**



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**BASIS OF BEARING**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

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SEE SHEET C.2.0

SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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FAST
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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

## ENGINEER'S NOTES:

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3. ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THESE PLANS AND FIELD CONDITIONS.
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5. ALL GRADING SHALL CONFORM TO SOILS REPORT RECOMMENDATIONS.
6. DURING CONSTRUCTION, SURVEYORS AND CONTRACTORS MUST VERIFY THAT ALL STREETS AND LOTS HAVE POSITIVE DRAINAGE. SAME MUST UTILIZE AT LEAST THREE GRADES ON VERTICAL TANGENTS TO VERIFY SLOPES.
7. SOILS REPORT NOTE:
   GRADING SHALL BE IN ACCORDANCE WITH SOILS REPORT
   PREPARED BY: GEOTEK, INC.
   PROJECT NO.: 14379-LV
   DATE: OCTOBER 2, 2018
8. CUT/FILL ESTIMATES (PUBLIC AND PRIVATE):
   FROM EXISTING TO FINISH GRADE ELEVATIONS
   NET CUT: _____ CY
   NET FILL: _____ CY
   TOTAL: _____ CY (FILL)
9. FLOOR SECTION ASSUMES 5" SLAB OVER MIN. 8.5" TYPE II. CONTRACTOR TO VERIFY WITH STRUCTURAL PLANS AND GEOTECHNICAL ENGINEER.
10. ADD 2100' TO GRADING ELEVATIONS SHOWN HEREON TO ADJUST THEM TO THE ASSOCIATED DATUM. FINISHED GRADE CONTOURS ARE APPROXIMATE. REFER TO SPOT ELEVATION GRADE TAGS FOR CONSTRUCTION STAKING PURPOSES.

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- (G29) INSTALL RIP-RAP D50=3",T=6" SUBGRADE @ 90% COMPACTION LENGTH & WIDTH SPECIFIED PER DETAIL 37
- (G30) CONSTRUCT EASEMENT OPENING PER CCAUSD #425.S1. WITH 2 REMOVABLE BOLLARDS. REF. DETAIL 35 ON SHEET C.6.1
- (G31) CONSTRUCT 8' CONCRETE VALLEY GUTTER PER CCAUSD #228.
- (G32) INSTALL ORIFICE PLATE PER DETAL 36 ON SHEET C.6.1

## EASEMENT KEY NOTES:

- (1) 20' PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED BY THE HOA
- (2) 30' PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED BY THE HOA.

## DRAINAGE CERTIFICATION:

THIS SET OF IMPROVEMENT PLANS IS CERTIFIED TO CONFORM TO THE REQUIREMENTS OF THE APPROVED DRAINAGE STUDY.
DS# 5273 .

ANTHONY C. DELEON JR., P.E. NO. 023113 DATE

HORROCKS ENGINEERS
1401 North Green Valley Pkwy., Suite 160
Henderson, NV 89074
(702) 966-4063
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REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/11/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
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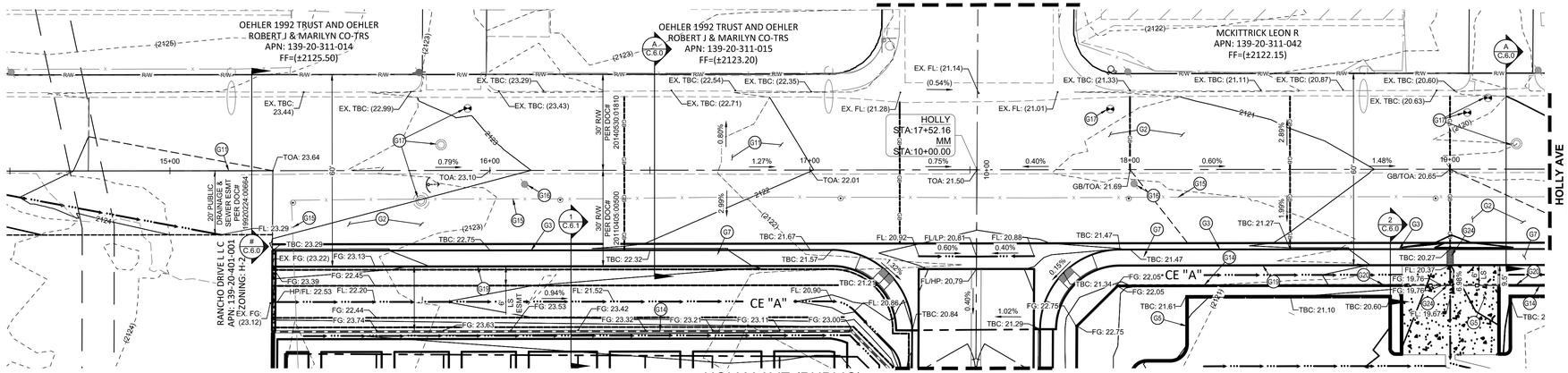
HORROCKS ENGINEERS
0 20' 40'
SCALE: 1" = 20'

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRADING SHEET 6 PHASE 2

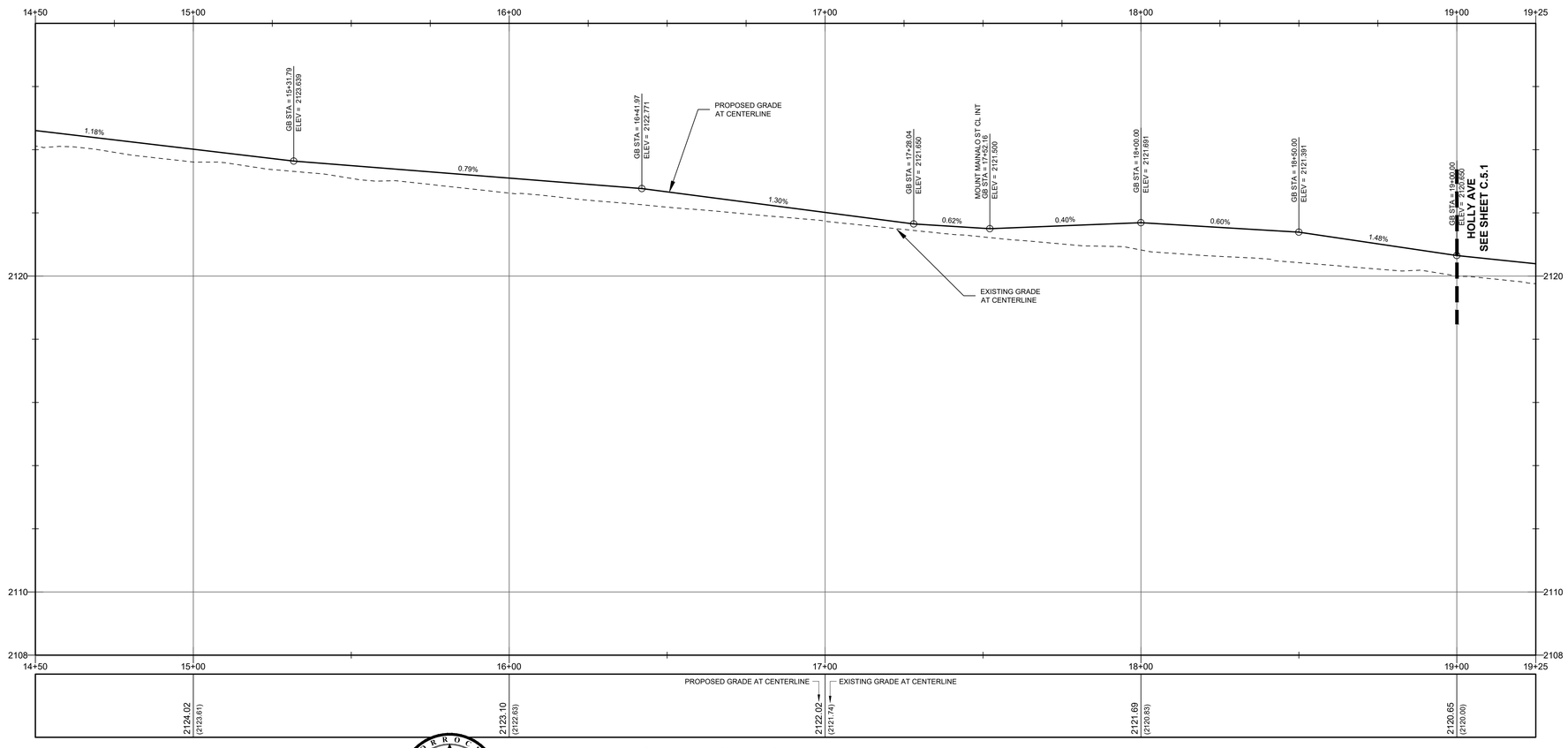
**C.2.10A**

PAGE 21

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HOLLY AVE (PUBLIC)
PLAN VIEW
(STA. 14+50 TO 19+25)




HOLLY AVE (PUBLIC)
PROFILE VIEW
(STA. 14+50 TO 19+25)

SCALE: 1" = 20' H
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**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**BASIS OF BEARING**
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**FLOOD ZONE**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

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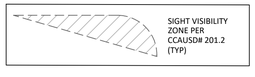
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SOUTHWEST GAS CORPORATION DATE

**APPROVED FOR CONSTRUCTION**

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ FIRST APPROVAL DATE:_____
LVVWD APPROVED FIRE FLOW_____GPM AT 20 PSI RESIDENTIAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW_____N/A_____GPM

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EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

# RANCHO & VEGAS

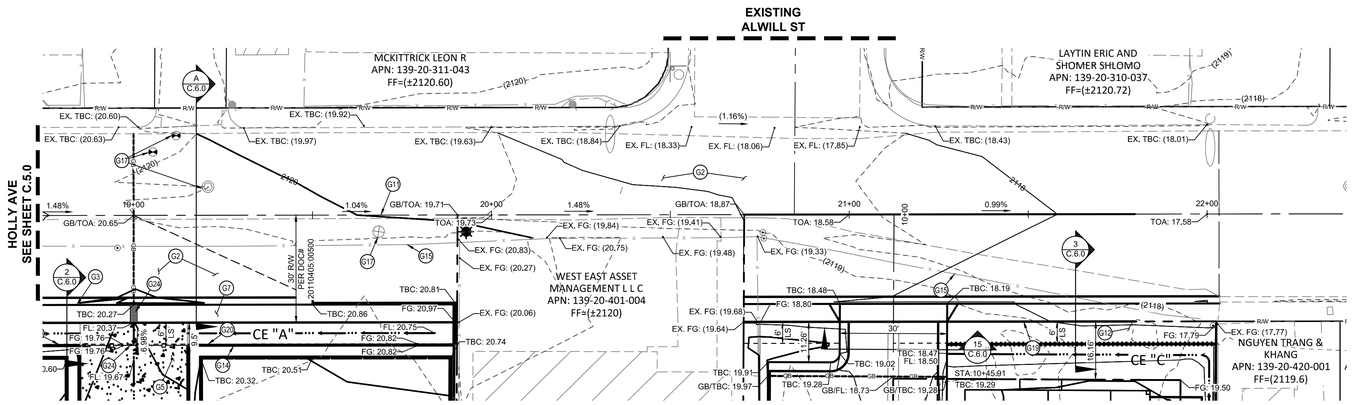
CITY OF LAS VEGAS, NEVADA

HOLLY AVE PLAN & PROFILE (STA 14+50 TO STA 19+25)

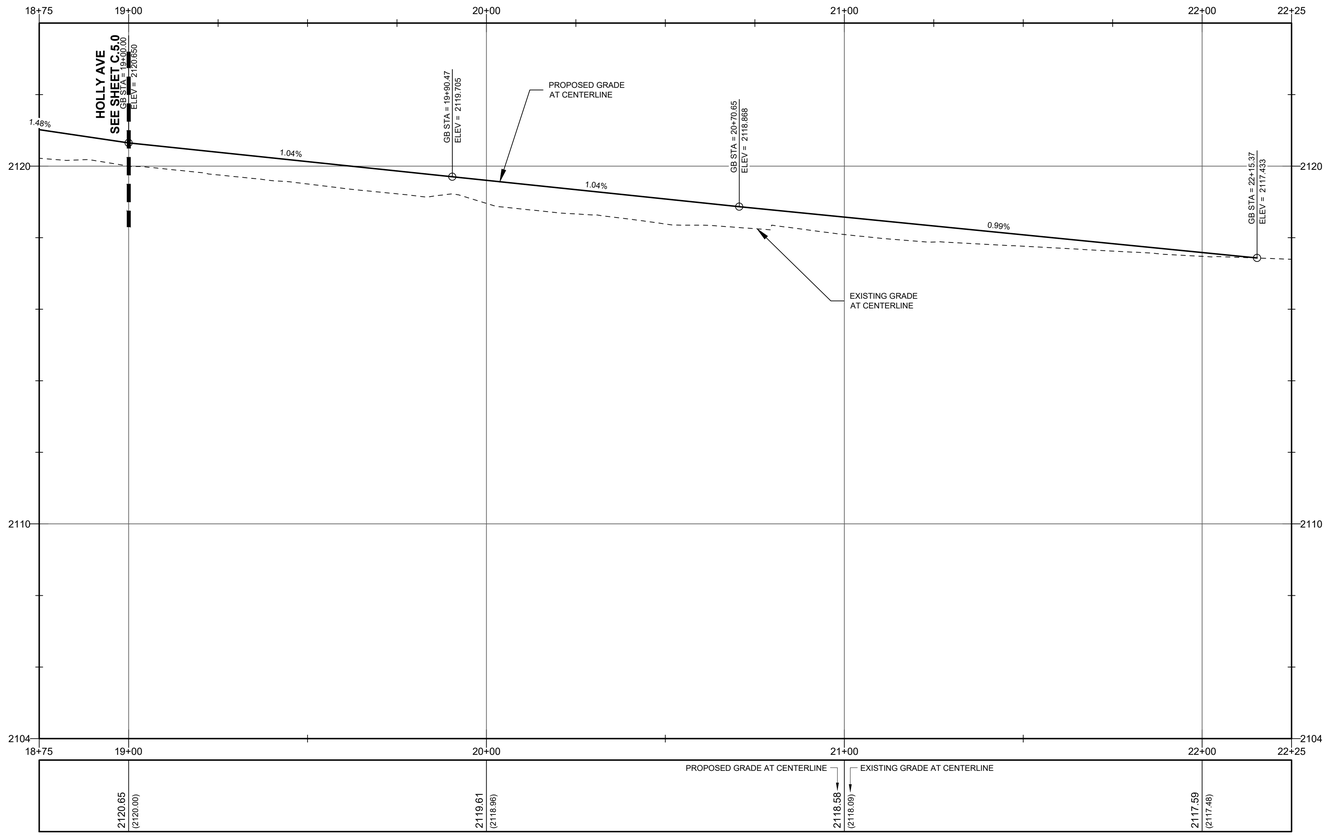
# C.5.0



H:\!2019\NV-2105-1911 Rancho & Vegas Townhomes\Project Data\02 CAD\2.03 Sheet Files\Construction Drawings\C.5.0 PLAN & PROFILE (EW).dwg - C.5.0 - 6/25/2020 01:21pm, heather.dominguez




HOLLY AVE (PUBLIC)
PLAN VIEW
(STA. 18+75 TO 22+25)




HOLLY AVE (PUBLIC)
PROFILE VIEW
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**C.5.1**
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SEE SHEET C.2.0

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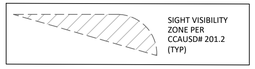
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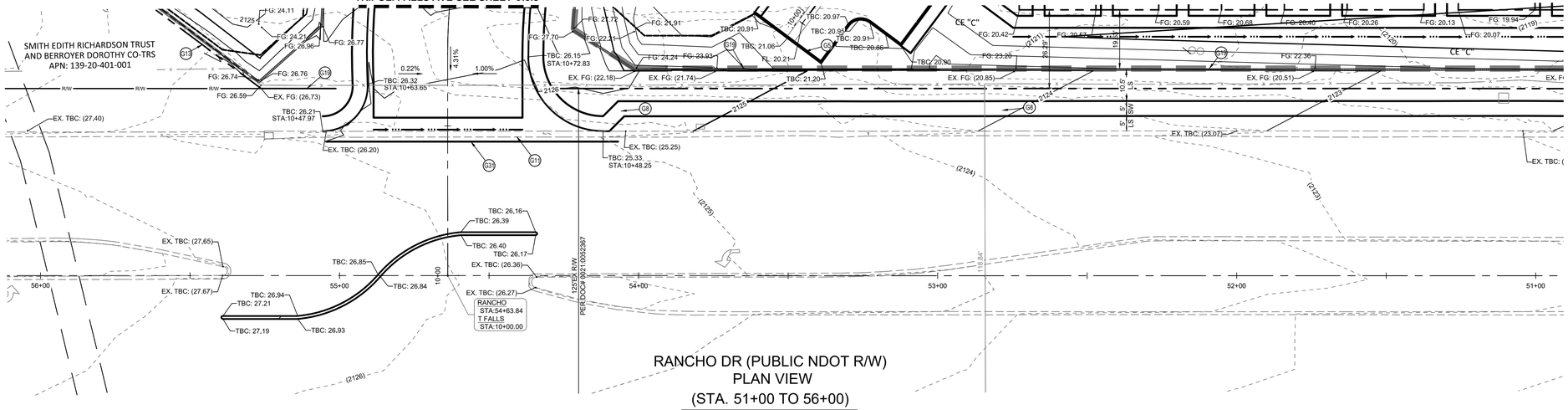


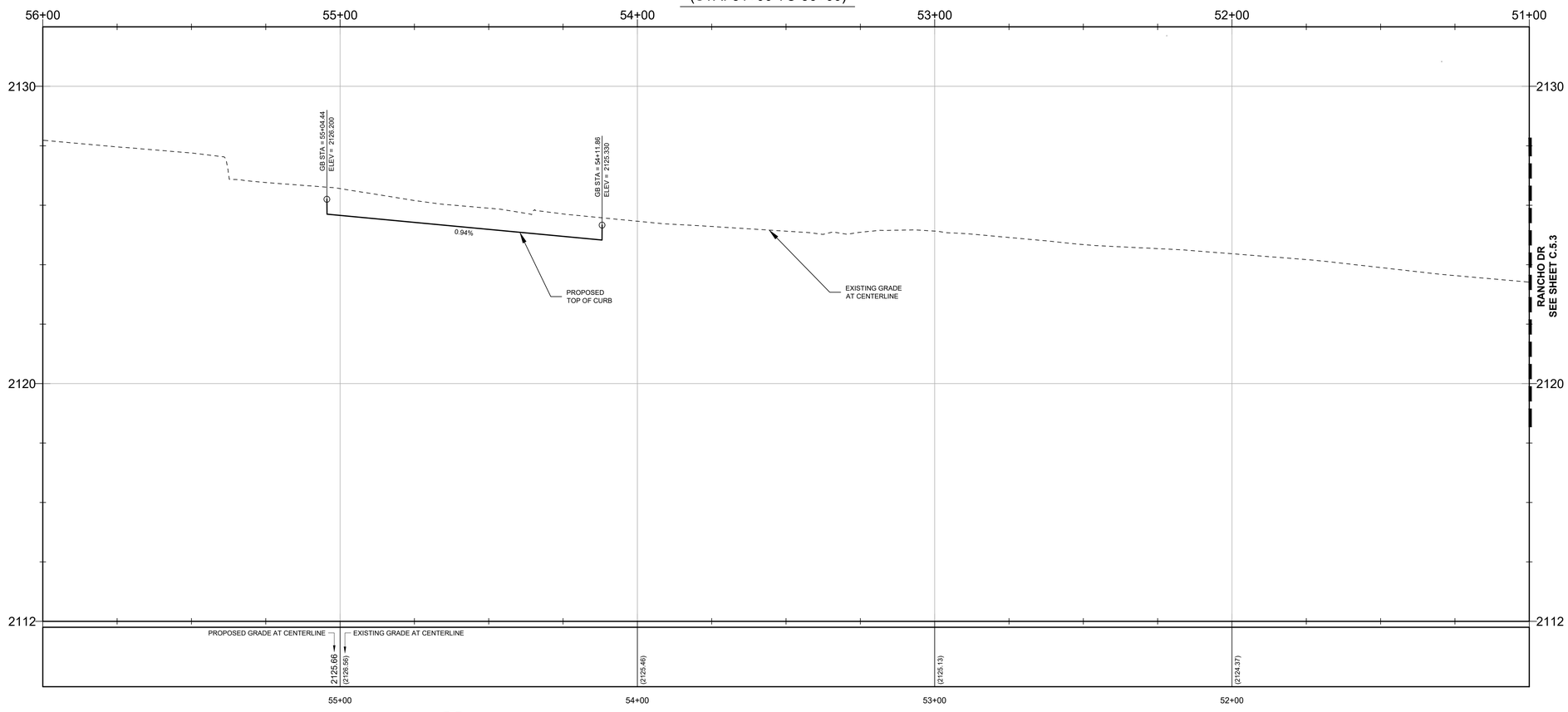

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SOUTHWEST GAS CORPORATION DATE

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- S25 CONSTRUCT DEPRESSED CURB PER DETAIL 31 ON SHEET C.6.2
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HORROCKS ENGINEERS
1401 North Green Valley Pkwy., Suite 160
Henderson, NV 89074
(702) 966-4063
www.horrocks.com

WARNING
IF THIS BAR DOES NOT MEASURE 2" THEN DRAWING IS NOT TO SCALE
0 1 2

REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/25/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

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Call before you UnderGround
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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**BASIS OF BEARING**
SEE SHEET C.2.0

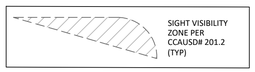
**FLOOD ZONE**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

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**DEPTH OF COVER DURING CONSTRUCTION:**
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## ENGINEER'S NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR EROSION AND DUST CONTROL, AND STORMWATER MANAGEMENT DURING CONSTRUCTION.
2. SEE HORIZONTAL CONTROL PLAN FOR EXACT PROPERTY LINE DIMENSIONS
3. ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THESE PLANS AND FIELD CONDITIONS.
4. THESE PLANS SHALL NOT IN PART, OR IN WHOLE, BE USED FOR CONSTRUCTION UNTIL APPROVED AND SIGNED BY GOVERNING AGENCIES.
5. ALL GRADING SHALL CONFORM TO SOILS REPORT RECOMMENDATIONS.
6. DURING CONSTRUCTION, SURVEYORS AND CONTRACTORS MUST VERIFY THAT ALL STREETS AND LOTS HAVE POSITIVE DRAINAGE. SAME MUST UTILIZE AT LEAST THREE GRADES ON VERTICAL TANGENTS TO VERIFY SLOPES.
7. FLOOR SECTION ASSUMES 5" SLAB OVER MIN. 8.5" TYPE II. CONTRACTOR TO VERIFY WITH STRUCTURAL PLANS AND GEOTECHNICAL ENGINEER.
8. ADD 2100' TO GRADING ELEVATIONS SHOWN HEREON TO ADJUST THEM TO THE ASSOCIATED DATUM. FINISHED GRADE CONTOURS ARE APPROXIMATE. REFER TO SPOT ELEVATION GRADE TAGS FOR CONSTRUCTION STAKING PURPOSES.

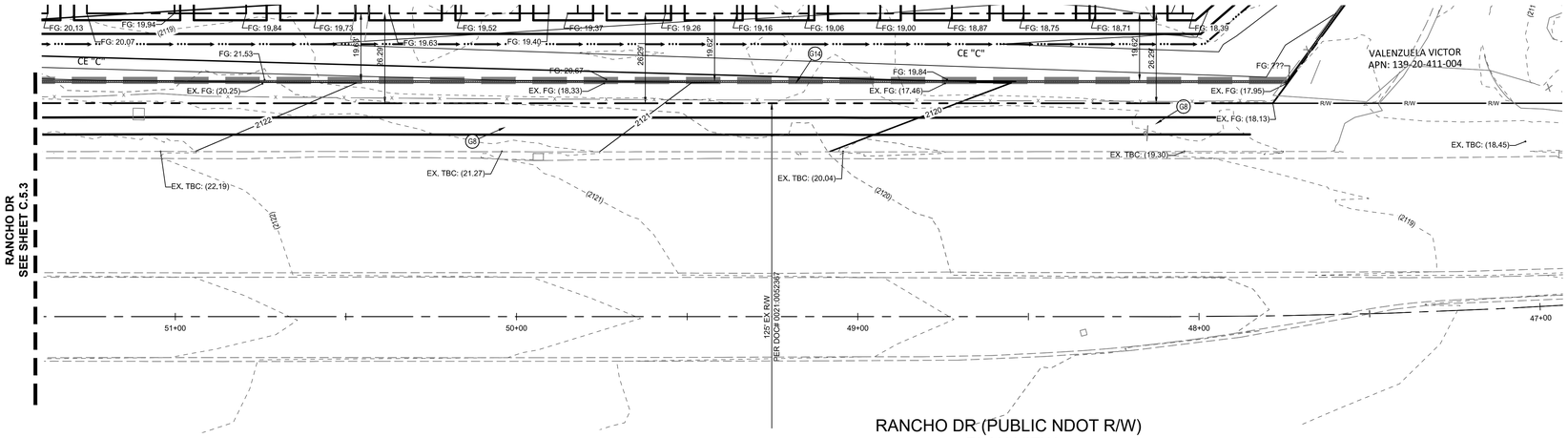
**APPROVED FOR CONSTRUCTION**
SOUTHWEST GAS CORPORATION DATE

**APPROVED FOR CONSTRUCTION**
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. _____ FIRST APPROVAL DATE: _____
LVVWD APPROVED FIRE FLOW_____GPM AT 20 PSI RESIDENTIAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW_____N/A_____GPM

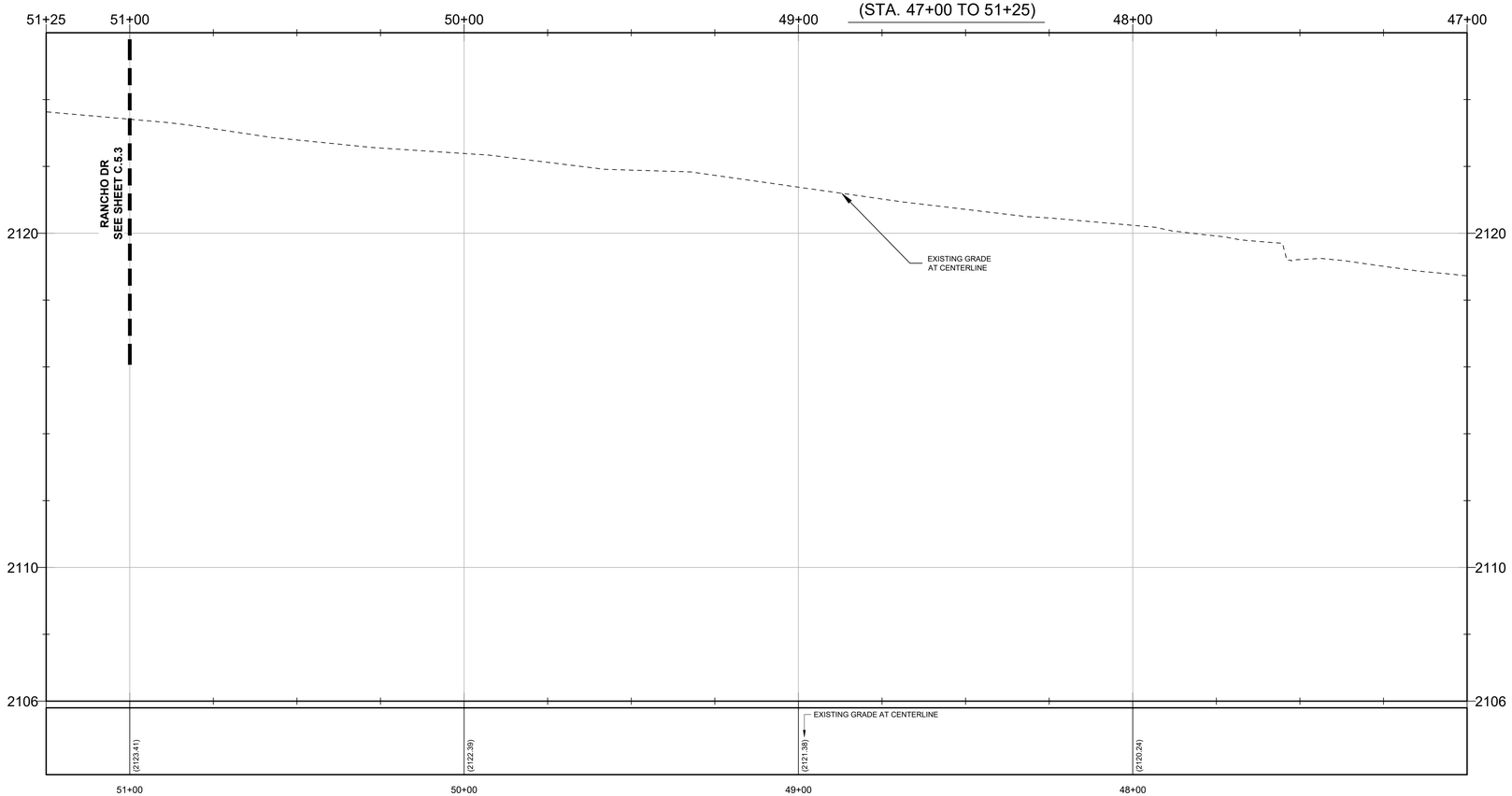
# RANCHO & VEGAS
CITY OF LAS VEGAS, NEVADA
RANCHO DR PLAN & PROFILE (STA 51+00 TO STA 56+00)

C.5.2

PAGE 24




RANCHO DR (PUBLIC NDOT R/W)
PLAN VIEW
(STA. 47+00 TO 51+25)




RANCHO DR (PUBLIC NDOT R/W)
PLAN VIEW
(STA. 47+00 TO 51+25)
SCALE: 1" = 20' H
SCALE: 1" = 2' V

SCALE: 1" = 20'

| LEGAL DESCRIPTION | BASIS OF BEARING |
|---|---|
| SEE SHEET C.2.0 | SEE SHEET C.2.0 |
| **FLOOD ZONE** | **BENCHMARK** |
| SEE SHEET C.2.0 | SEE SHEET C.2.0 |

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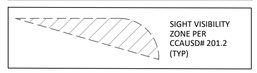
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G9 INSTALL WROUGHT IRON GATE.
G10 CONSTRUCT 3' CONCRETE VALLEY GUTTER PER CCAUSD #228.
G11 SAWCUT & REMOVE EXISTING PAVEMENT.
G12 INSTALL LANDSCAPING BY OTHERS.
G13 EXISTING FENCE TO REMAIN.
G14 INSTALL RETAINING WALL BY SEPARATE PERMIT. HEIGHT DEPICTED BY PLAN.
G15 EXISTING FENCE TO BE REMOVED.
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G17 ADJUST EXISTING UTILITIES TO NEW FINISHED GRADE.
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**APPROVED FOR CONSTRUCTION**

SOUTHWEST GAS CORPORATION DATE

**APPROVED FOR CONSTRUCTION**

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ FIRST APPROVAL DATE: _____
LVVWD APPROVED FIRE FLOW_____GPM AT 20 PSI RESIDENTIAL
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REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/25/2020
DESIGNED ACD
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PROJECT NV-2105-1911

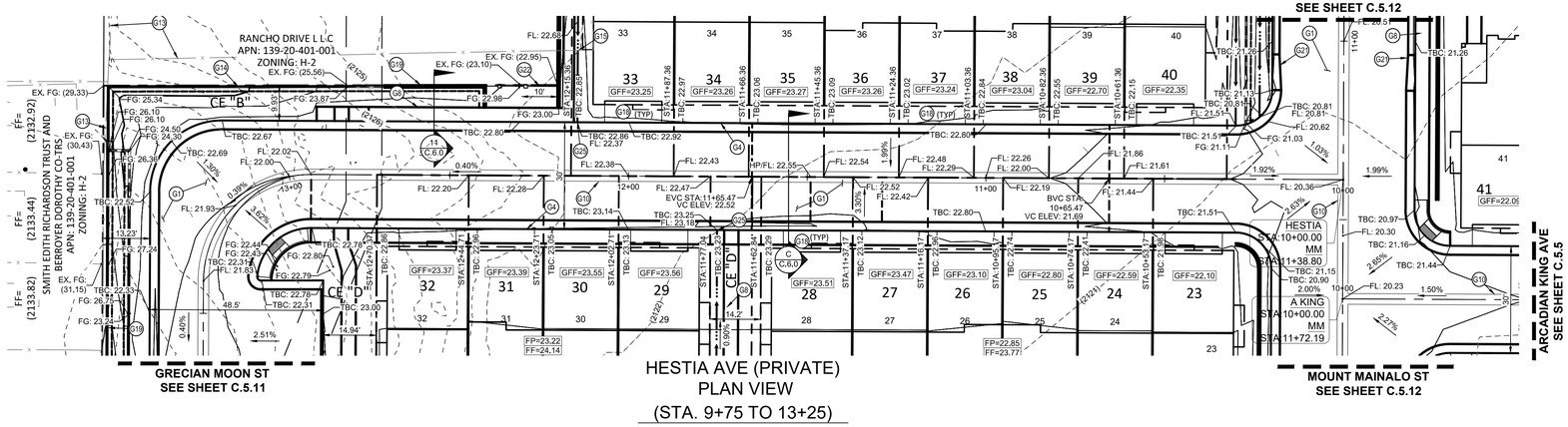
PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
RANCHO DR PLAN & PROFILE (STA 47+00 TO STA 51+25)

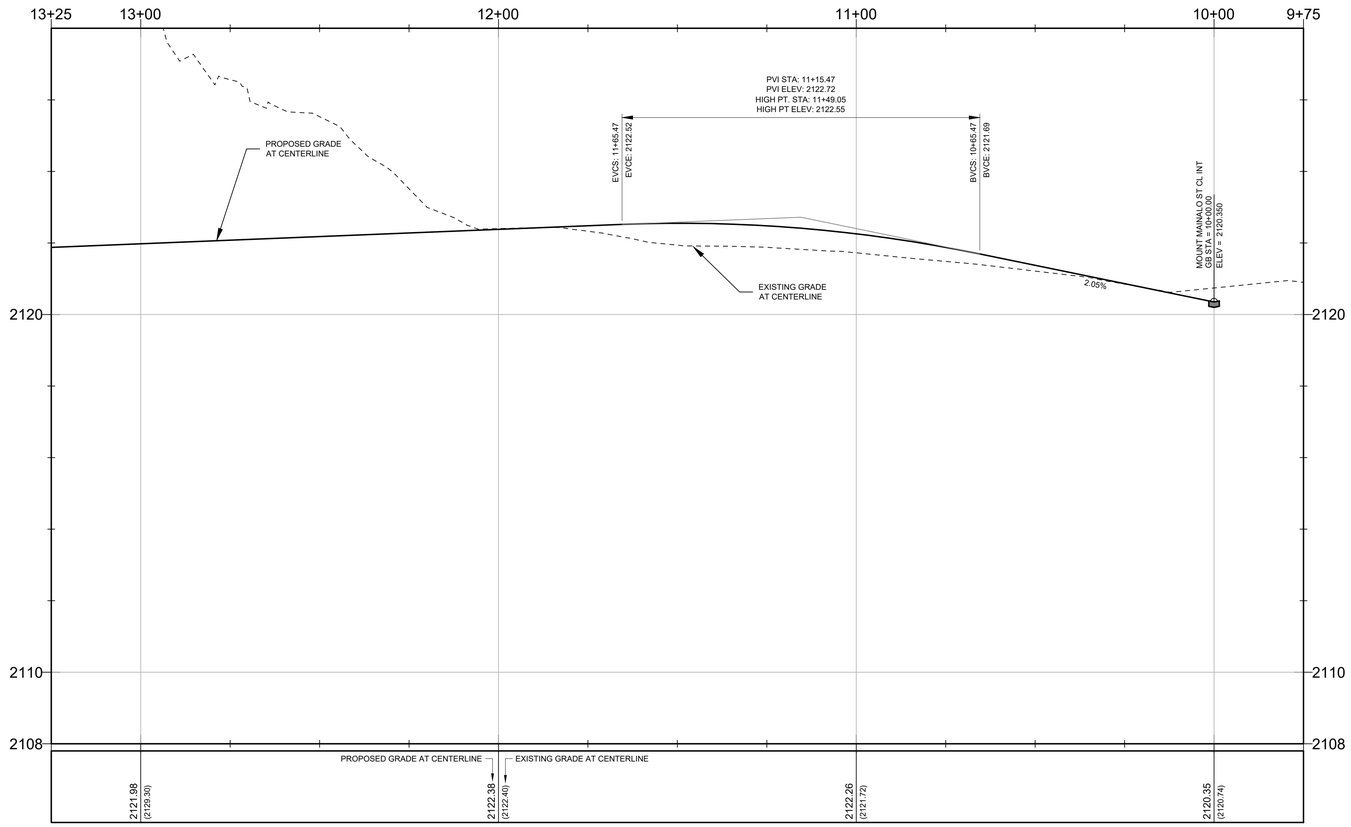
**C.5.3**



H:\\2019\NV-2105-1911 Rancho & Vegas Townhomes\Project Data\02 CAD\2.03 Sheet Files\Construction Drawings\C.5.0 PLAN & PROFILE (NS).dwg - C.5.3 - 6/25/2020 01:23pm, heather.dominguez




HESTIA AVE (PRIVATE)
PLAN VIEW
(STA. 9+75 TO 13+25)




HESTIA AVE (PRIVATE)
PROFILE VIEW
(STA. 13+25 TO 9+50)

SCALE: 1" = 20' H
SCALE: 1" = 2' V

SCALE: 1" = 20'

| LEGAL DESCRIPTION | BASIS OF BEARING |
|---|---|
| SEE SHEET C.2.0 | SEE SHEET C.2.0 |
| **FLOOD ZONE** | **BENCHMARK** |
| SEE SHEET C.2.0 | SEE SHEET C.2.0 |

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SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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- 510 CONSTRUCT 3' CONCRETE VALLEY GUTTER PER CCAUSD #228.
- 511 SAWCUT & REMOVE EXISTING PAVEMENT.
- 512 INSTALL LANDSCAPING BY OTHERS.
- 513 EXISTING FENCE TO REMAIN.
- 514 INSTALL RETAINING WALL BY SEPARATE PERMIT. HEIGHT DEPICTED BY PLAN.
- 515 EXISTING FENCE TO BE REMOVED.
- 516 EXISTING OBJECTS TO BE RELOCATED.
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- 525 CONSTRUCT DEPRESSED CURB PER DETAIL 31 ON SHEET C.6.2
- 526 INSTALL 6" CONCRETE PAVEMENT OVER 6" TYPE II AGG BASE
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**APPROVED FOR CONSTRUCTION**

SOUTHWEST GAS CORPORATION DATE

**APPROVED FOR CONSTRUCTION**

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ FIRST APPROVAL DATE:_____
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MAXIMUM AVAILABLE FIRE SPRINKLER FLOW_____N/A_____GPM

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REVISIONS
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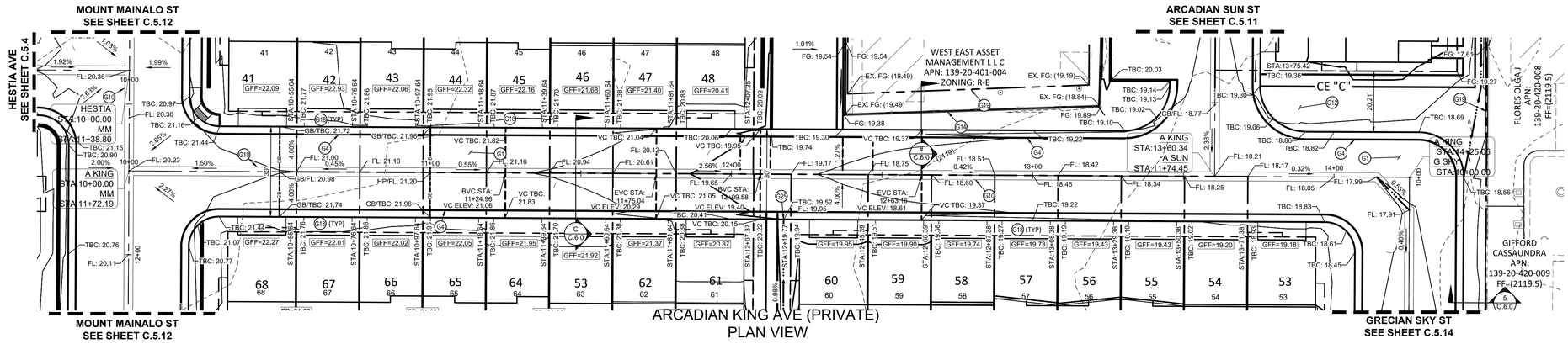
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HESTIA AVE PLAN & PROFILE (STA 9+75 TO STA 13+25)

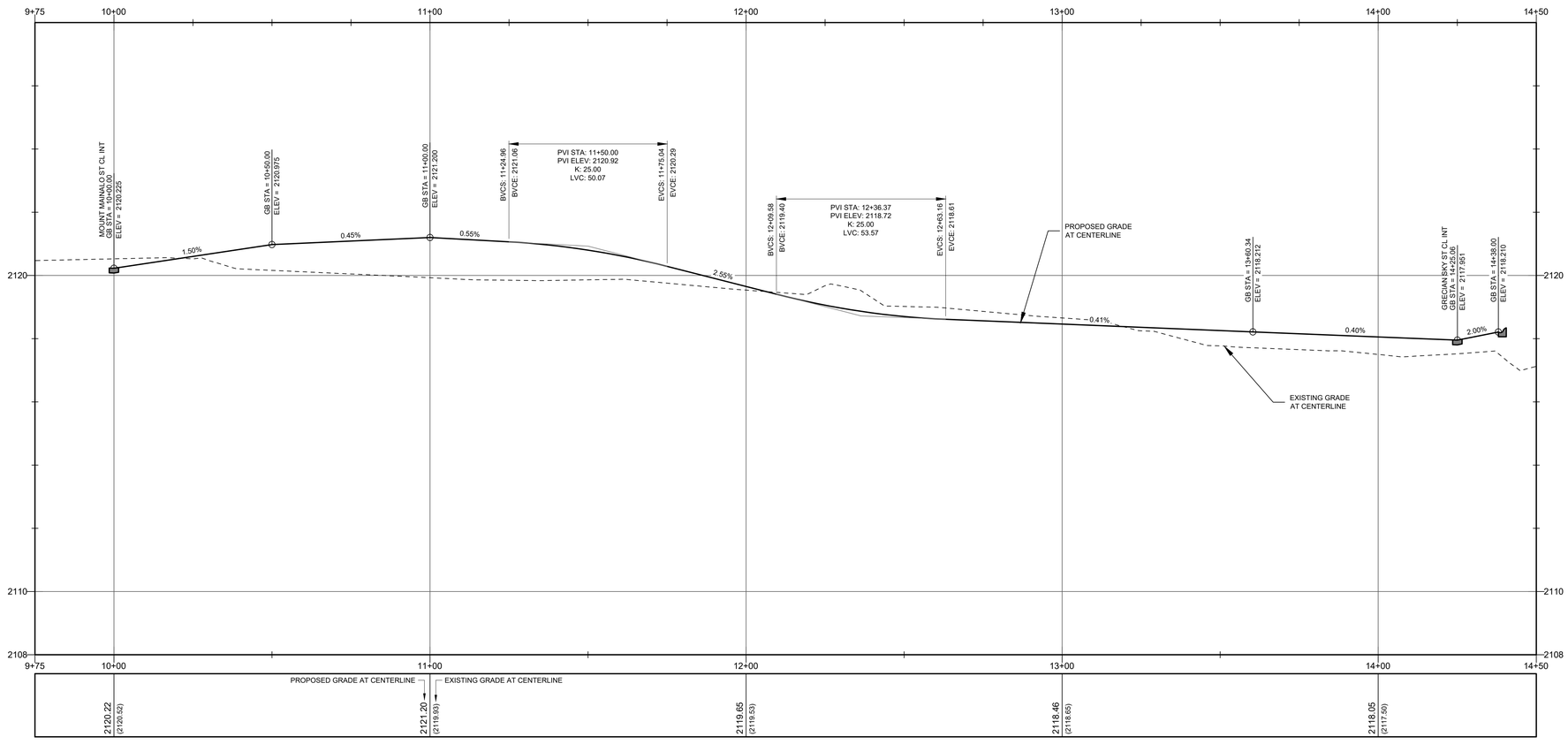
**C.5.4**



H:\!2019\NV-2105-1911 Rancho & Vegas Townhomes\Project Data\02 CAD\2.03 Sheet Files\Construction Drawings\C.5.0 PLAN & PROFILE (EW).dwg - C.5.4 - 6/25/2020 01:24pm, heather.dominguez




ARCADIAN KING AVE (PRIVATE)
PLAN VIEW
(STA. 9+75 TO 14+50)




ARCADIAN KING AVE (PRIVATE)
PROFILE VIEW
(STA. 9+75 TO 14+50)

SCALE: 1" = 20' H
SCALE: 1" = 2' V

## GRADING KEY NOTES:

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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

HORROCKS ENGINEERS

0 20' 40'
SCALE: 1" = 20'

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**BASIS OF BEARING**
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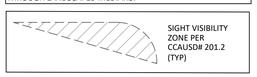
**FLOOD ZONE**
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**APPROVED FOR CONSTRUCTION**

SOUTHWEST GAS CORPORATION DATE

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LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

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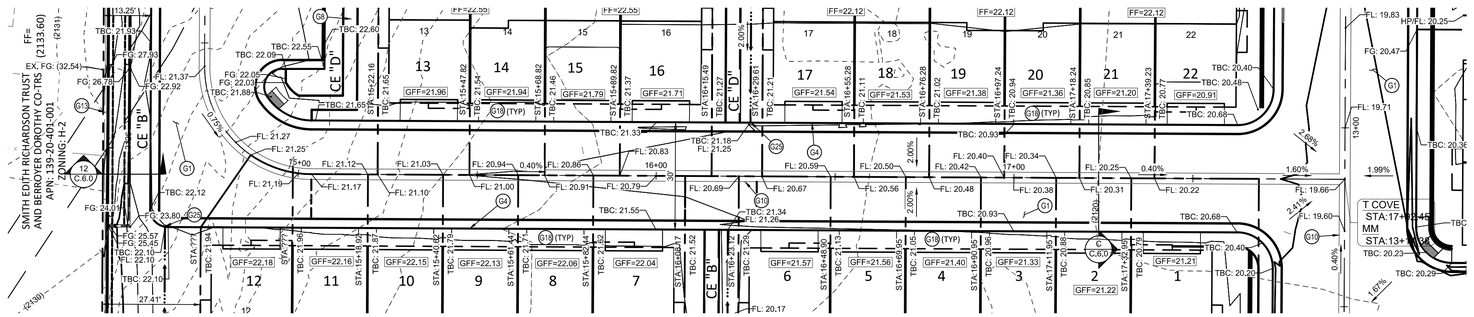
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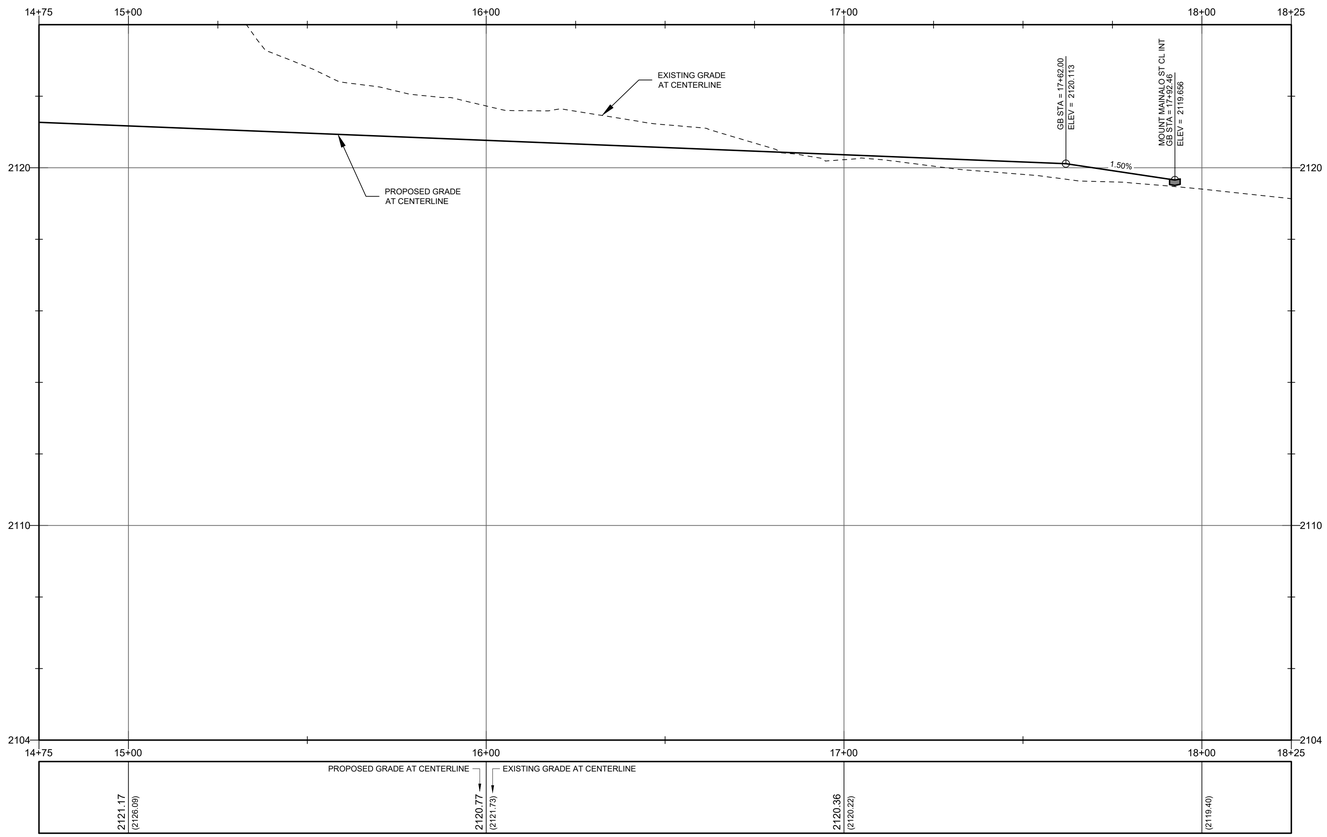
**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA

ARCADIAN KING AVE PLAN & PROFILE (STA 9+75 TO STA 14+50)

**C.5.5**




TRIPOLI COVE AVE (PRIVATE)
PLAN VIEW
(STA. 14+75 TO 18+25)




TRIPOLI COVE AVE (PRIVATE)
PROFILE VIEW
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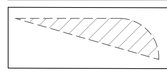
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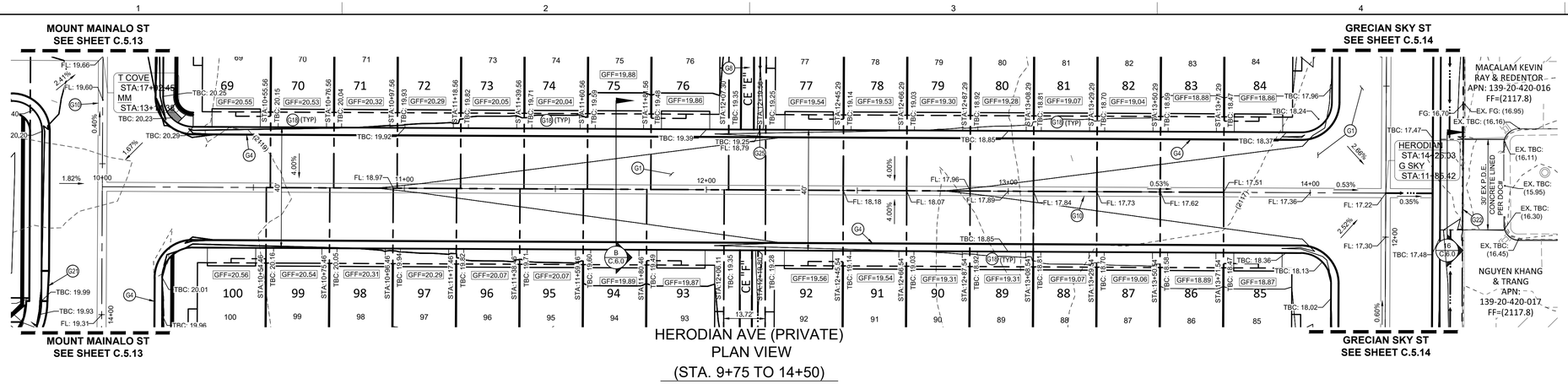
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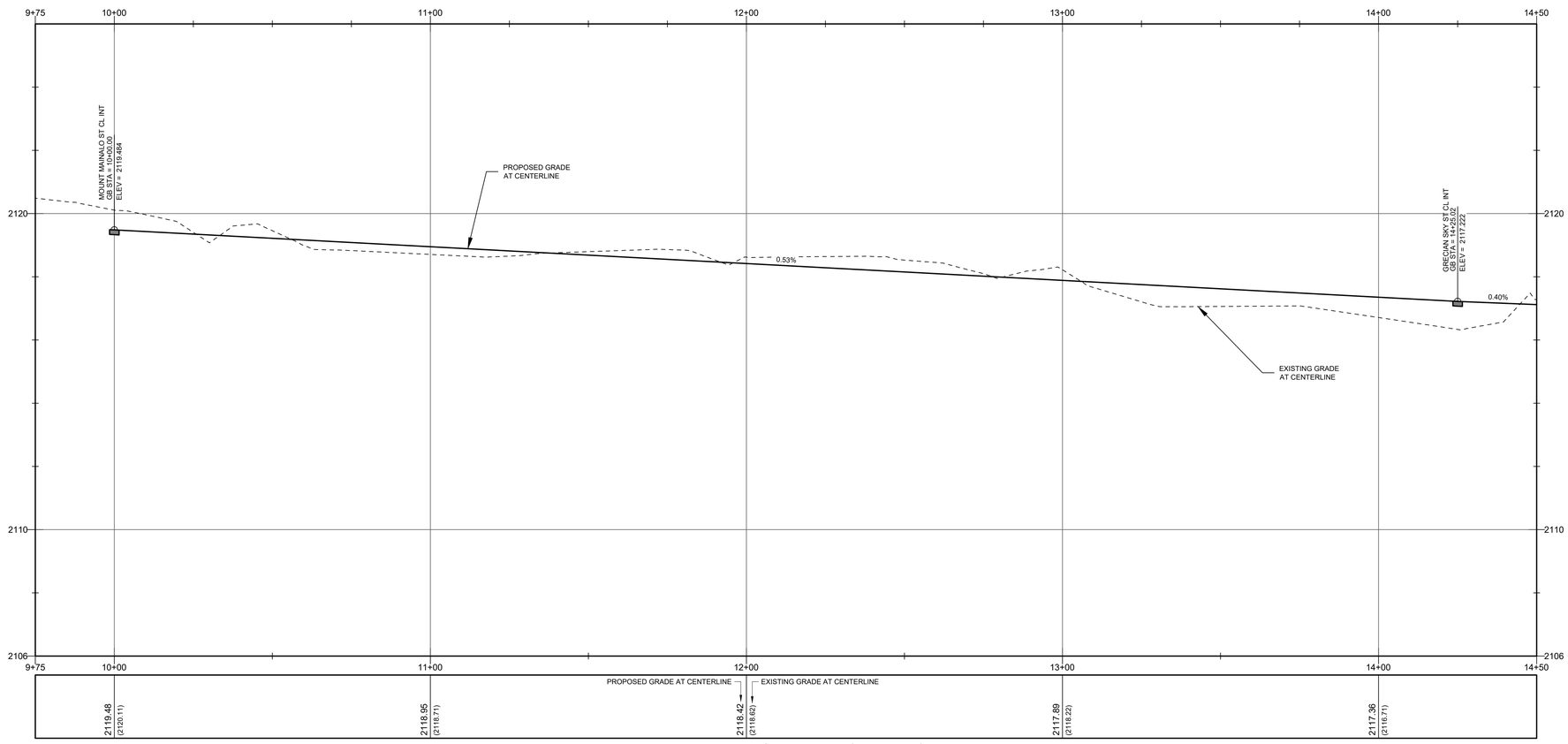
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**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
TRIPOLI COVE AVE PLAN & PROFILE (STA 14+75 TO STA 18+25)

**C.5.6**




HERODIAN AVE (PRIVATE)
PLAN VIEW
(STA. 9+75 TO 14+50)




HERODIAN AVE (PRIVATE)
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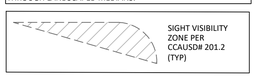
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LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

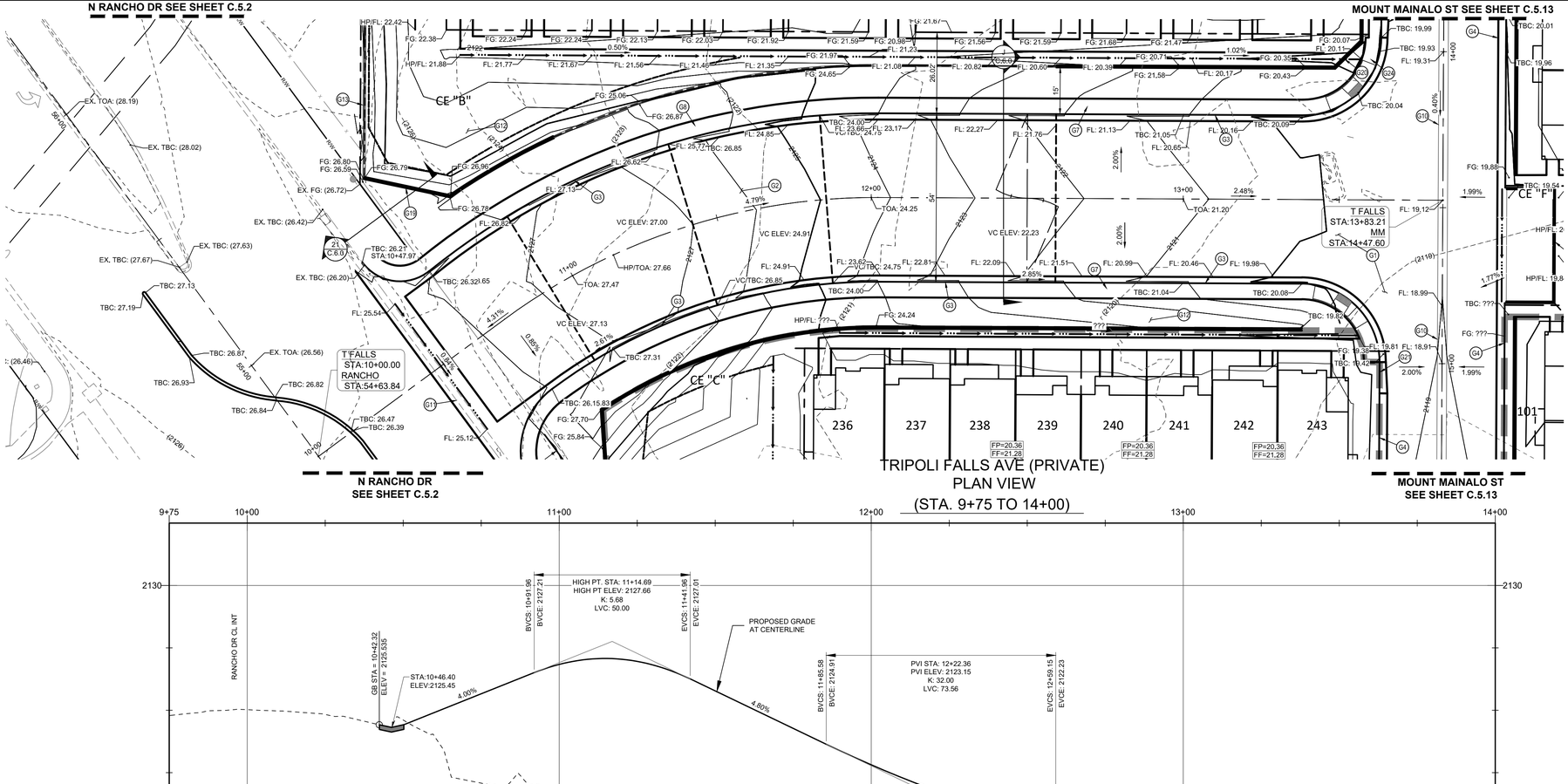
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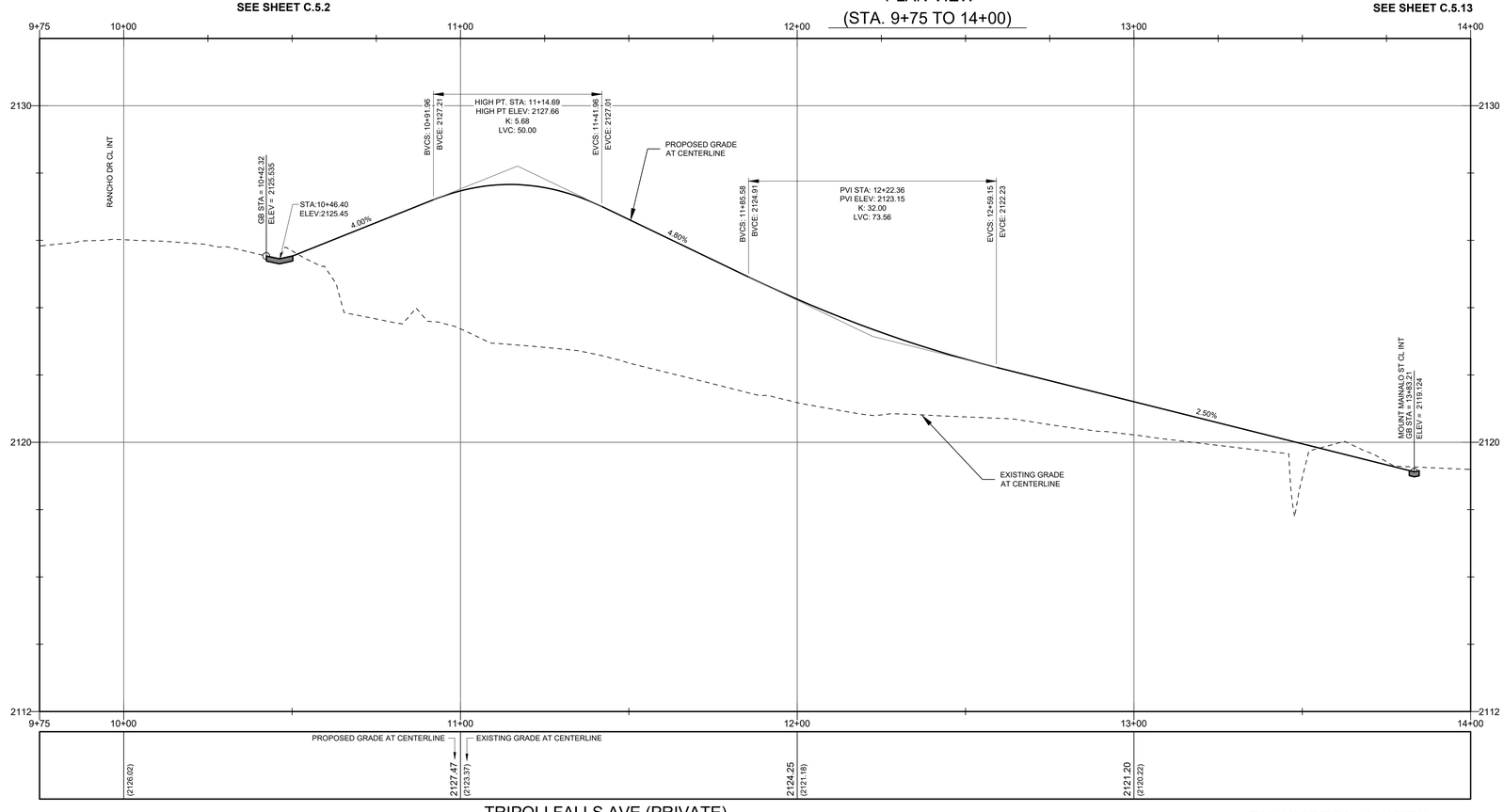
**C.5.7**



H:\\2019\NV-2105-1911 Rancho & Vegas Townhomes\Project Data\02 CAD\2.03 Sheet Files\Construction Drawings\C.5.0 PLAN & PROFILE (EW).dwg - C.5.7 - 6/25/2020 01:25pm, heather.dominguez




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HORROCKS ENGINEERS
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Henderson, NV 89074
(702) 966-4063
www.horrocks.com

WARNING
0 1 2
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REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/25/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No.023113
6/25/2020

# RANCHO & VEGAS

CITY OF LAS VEGAS, NEVADA

TRIPOLI FALLS AVE PLAN & PROFILE (STA 10+00 TO STA 14+00)

C.5.8

PAGE 30

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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**BASIS OF BEARING**
SEE SHEET C.2.0

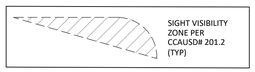
**FLOOD ZONE**
SEE SHEET C.2.0

**BENCHMARK**
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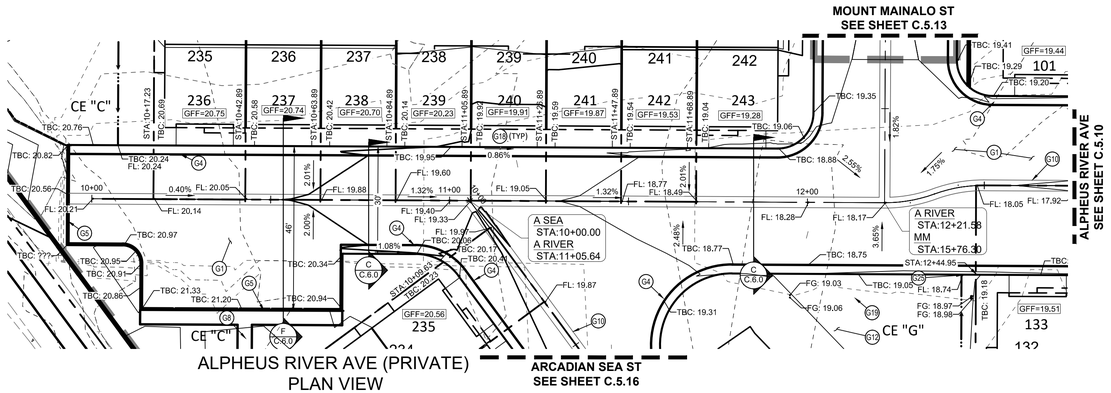



## ENGINEER'S NOTES:

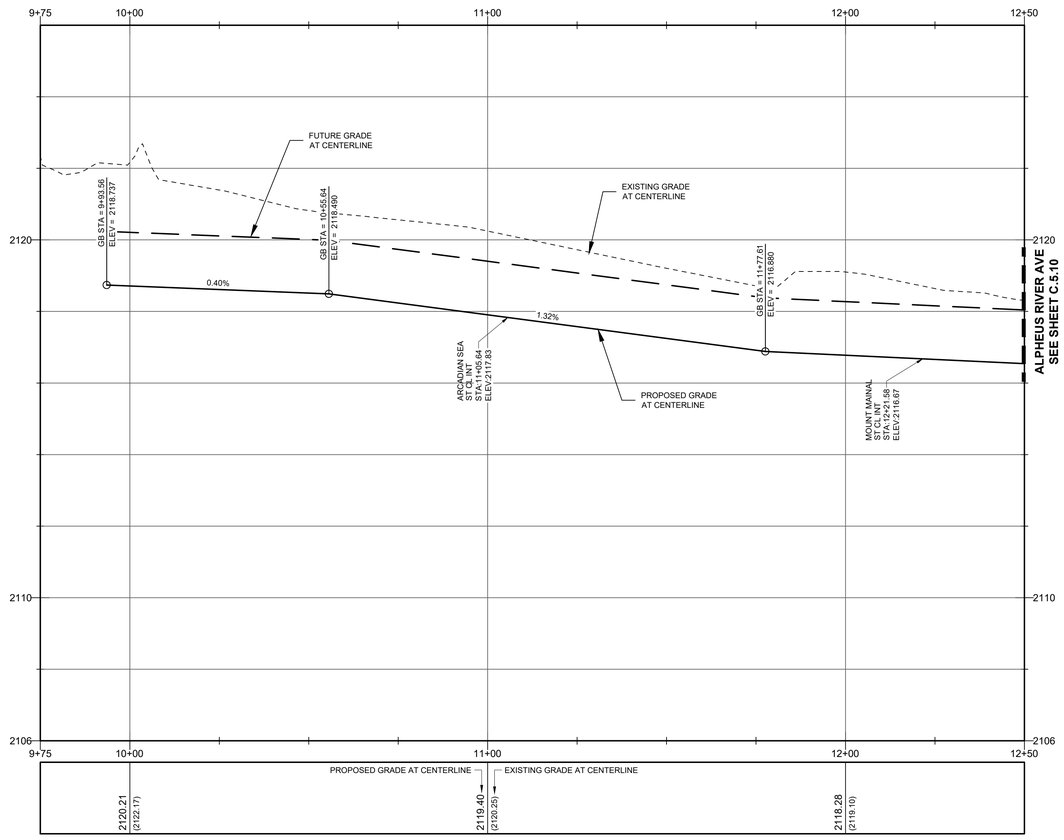
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**APPROVED FOR CONSTRUCTION**
SOUTHWEST GAS CORPORATION DATE

**APPROVED FOR CONSTRUCTION**
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO._____ FIRST APPROVAL DATE:_____
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ALPHEUS RIVER AVE (PRIVATE)
PLAN VIEW
(STA. 9+75 TO 12+50)




ALPHEUS RIVER AVE (PRIVATE)
PROFILE VIEW
(STA. 9+75 TO 12+50)

SCALE: 1" = 20' H
SCALE: 1" = 2' V

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- S12 INSTALL LANDSCAPING BY OTHERS.
- S13 EXISTING FENCE TO REMAIN.
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CITY OF LAS VEGAS, NEVADA
ALPHEUS RIVER AVE PLAN & PROFILE (STA 9+75 TO STA 12+50)

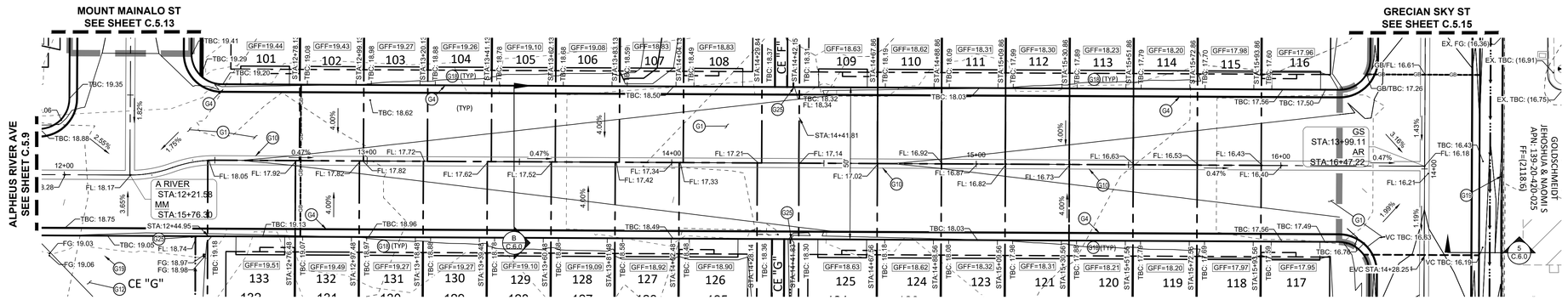
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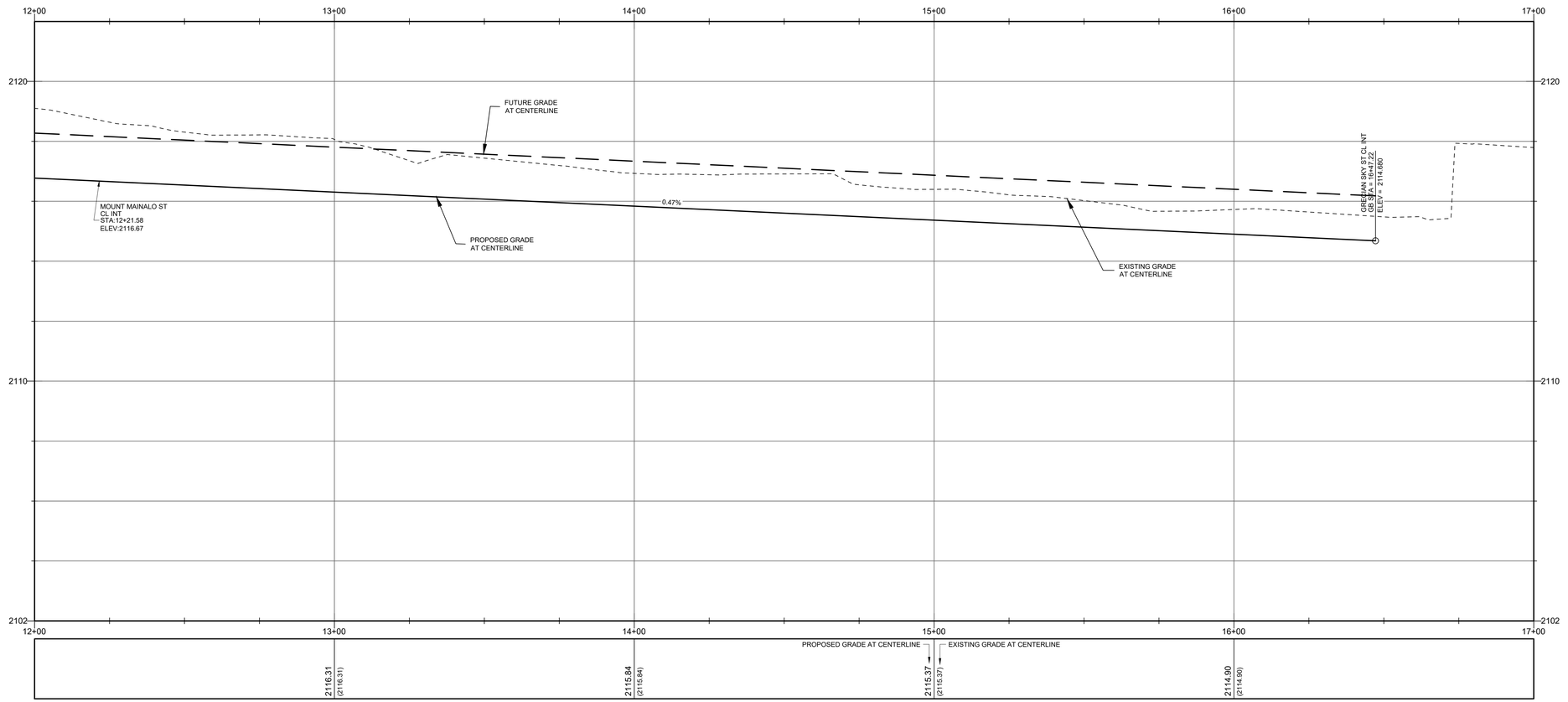
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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION




ALPHEUS RIVER AVE (PRIVATE)
PLAN VIEW
(STA. 12+00 TO 17+00)




ALPHEUS RIVER AVE (PRIVATE)
PROFILE VIEW
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SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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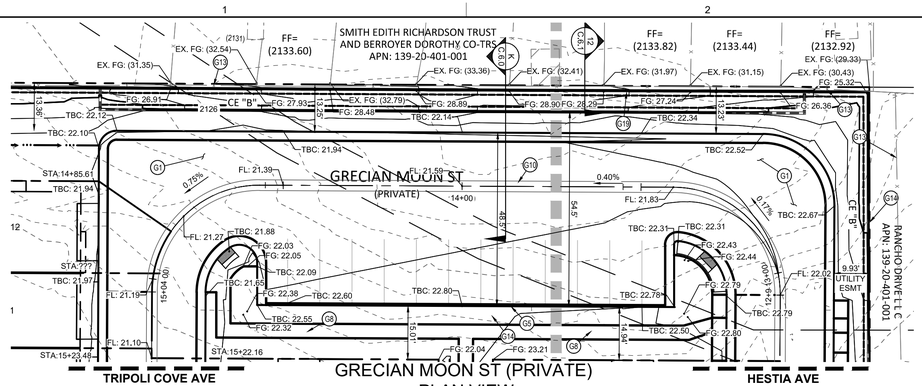
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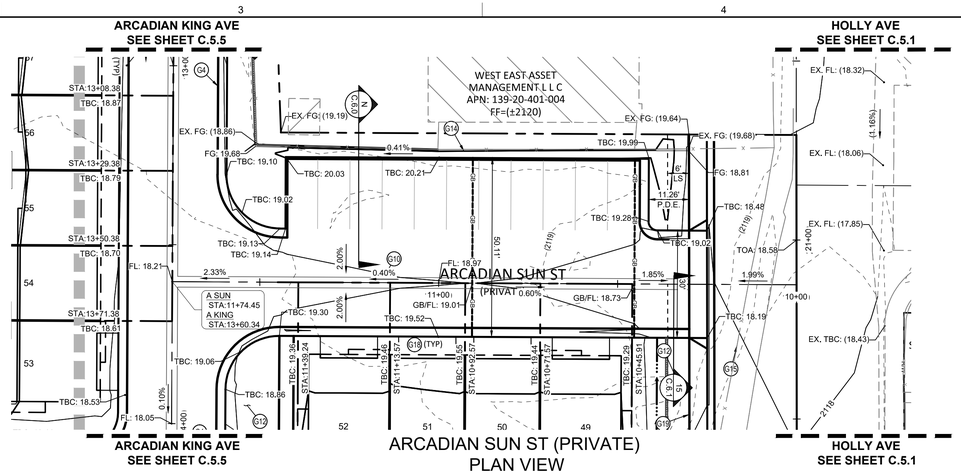
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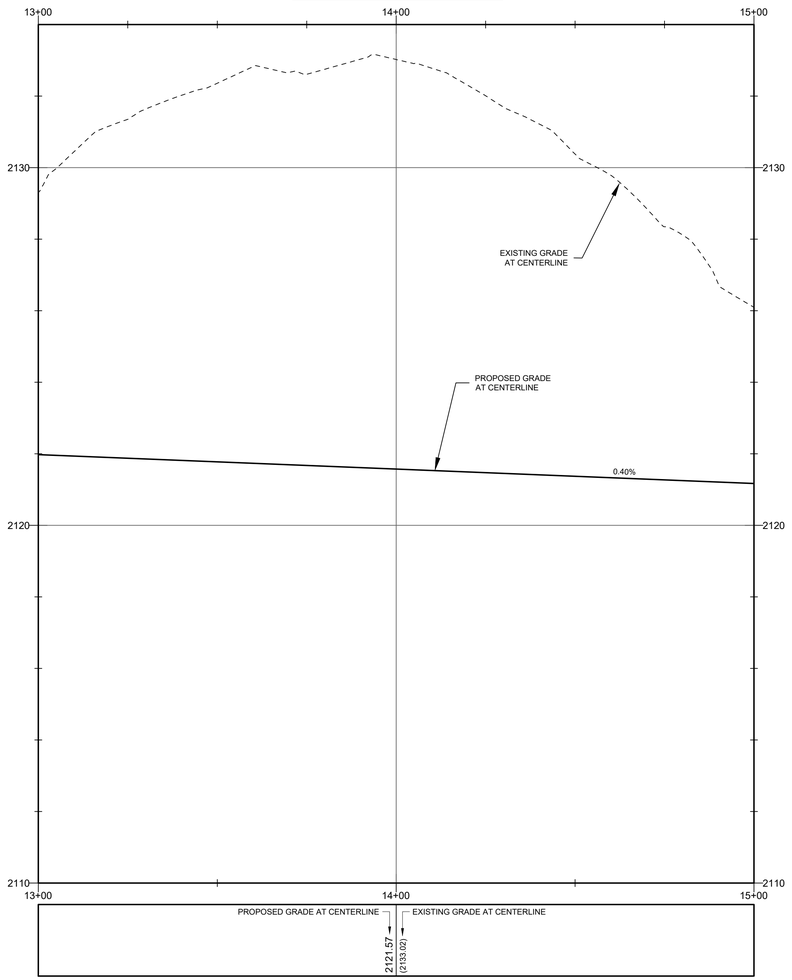
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GRECIAN MOON ST (PRIVATE)
PLAN VIEW
(STA. 13+00 TO 15+00)

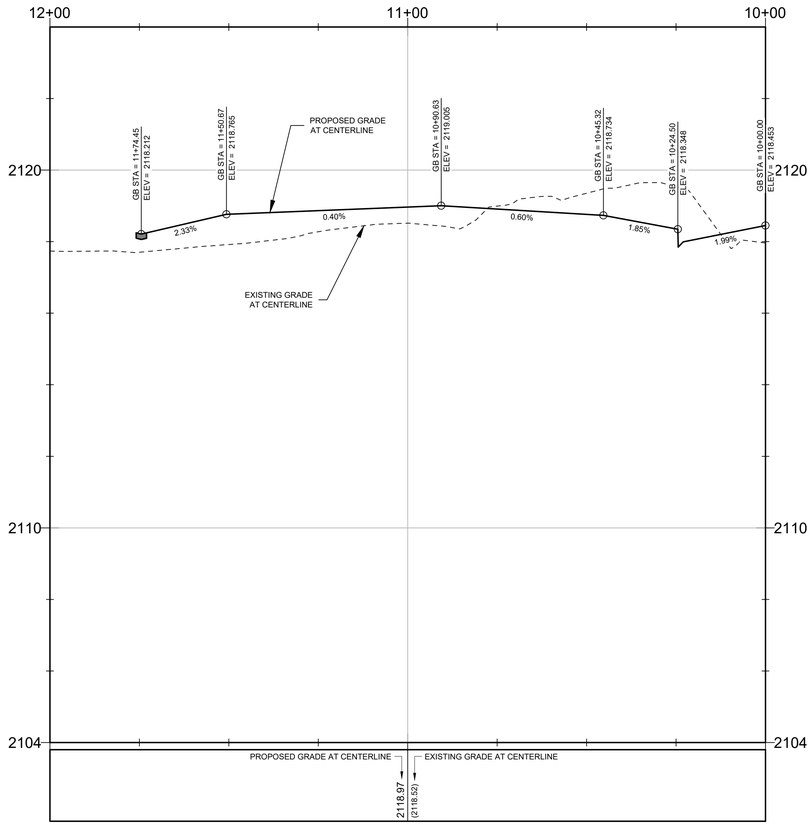



ARCADIAN SUN ST (PRIVATE)
PLAN VIEW
(STA. 10+00 TO 12+00)




GRECIAN MOON ST (PRIVATE)
PROFILE VIEW
(STA. 13+00 TO 15+00)

SCALE: 1" = 20' H
SCALE: 1" = 2' V




ARCADIAN SUN ST (PUBLIC)
PROFILE VIEW
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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**BASIS OF BEARING**
SEE SHEET C.2.0

**FLOOD ZONE**
SEE SHEET C.2.0

**BENCHMARK**
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SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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**APPROVED FOR CONSTRUCTION**

SOUTHWEST GAS CORPORATION DATE

**APPROVED FOR CONSTRUCTION**

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ FIRST APPROVAL DATE:_____
LVVWD APPROVED FIRE FLOW_____GPM AT 20 PSI RESIDENTIAL
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WARNING
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REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/25/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

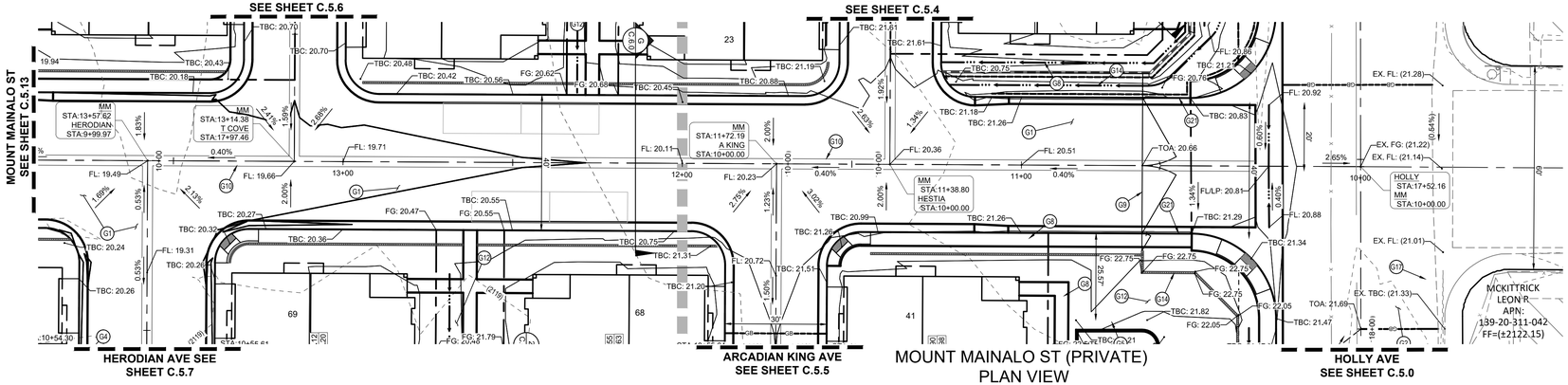
**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA

GRECIAN MOON ST PLAN & PROFILE (STA 13+00 TO STA 15+00)
ARCADIAN SUN ST PLAN & PROFILE (STA 10+00 TO STA 12+00)

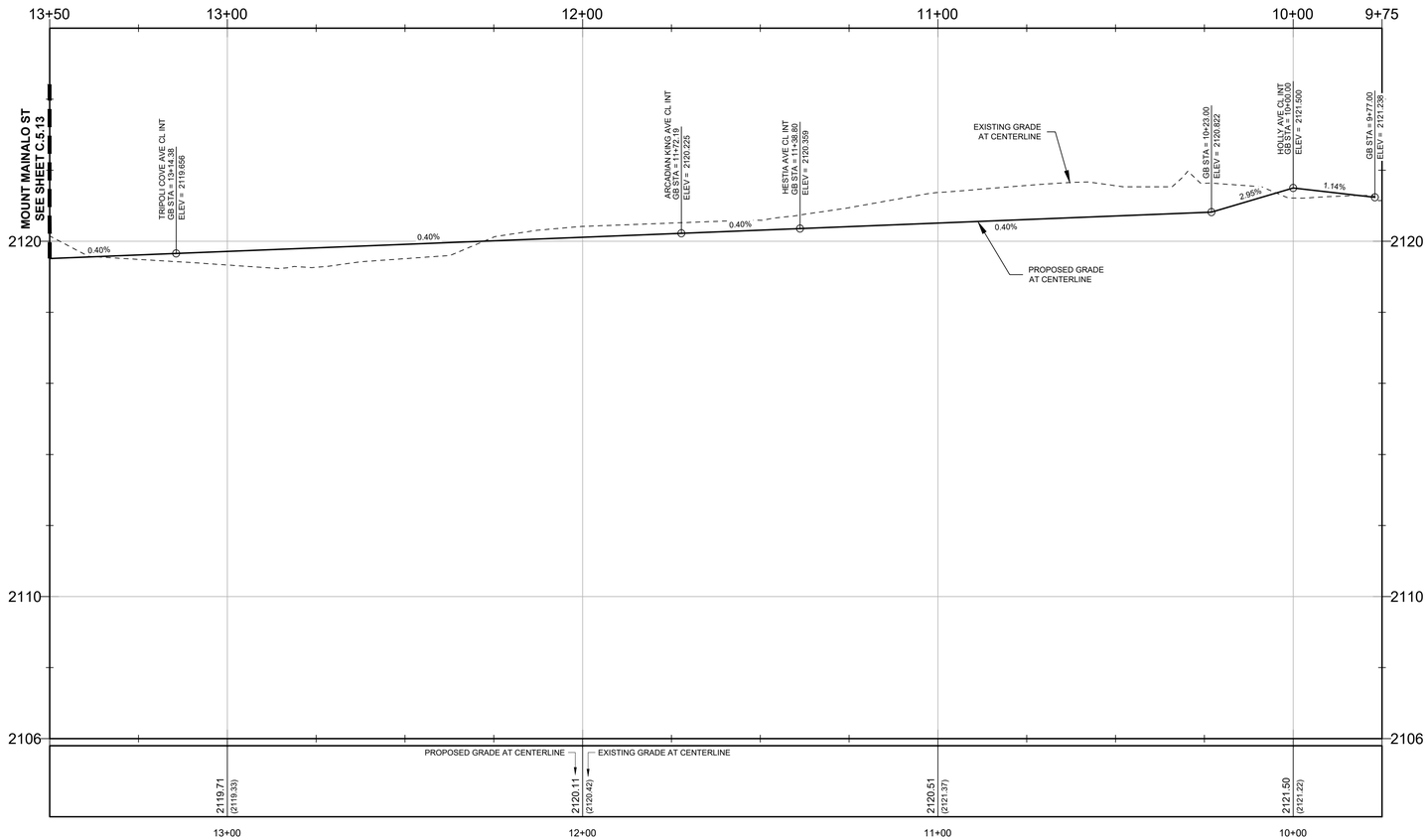
**C.5.11**



H:\!2019\NV-2105-1911 Rancho & Vegas Townhomes\Project Data\02 CAD\2.03 Sheet Files\Construction Drawings\C.5.0 PLAN & PROFILE (NS).dwg - C.5.11 - 6/25/2020 01:27pm, heather.dominguez




MOUNT MAINALO ST (PRIVATE)
PLAN VIEW
(STA. 9+75 TO 13+50)




MOUNT MAINALO ST (PRIVATE)
PROFILE VIEW
(STA. 9+75 TO 13+50)

SCALE: 1" = 20' H
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**C.5.12**
PAGE 34

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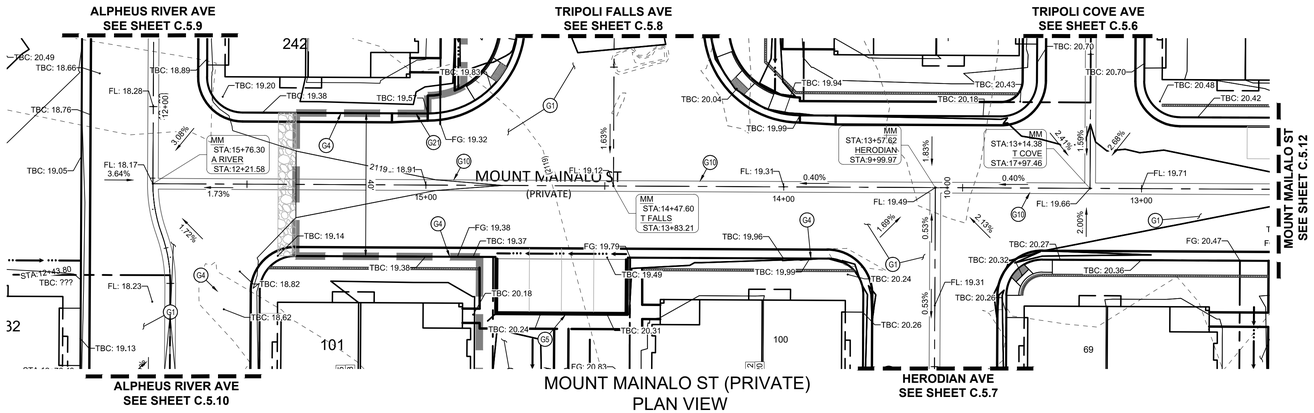
SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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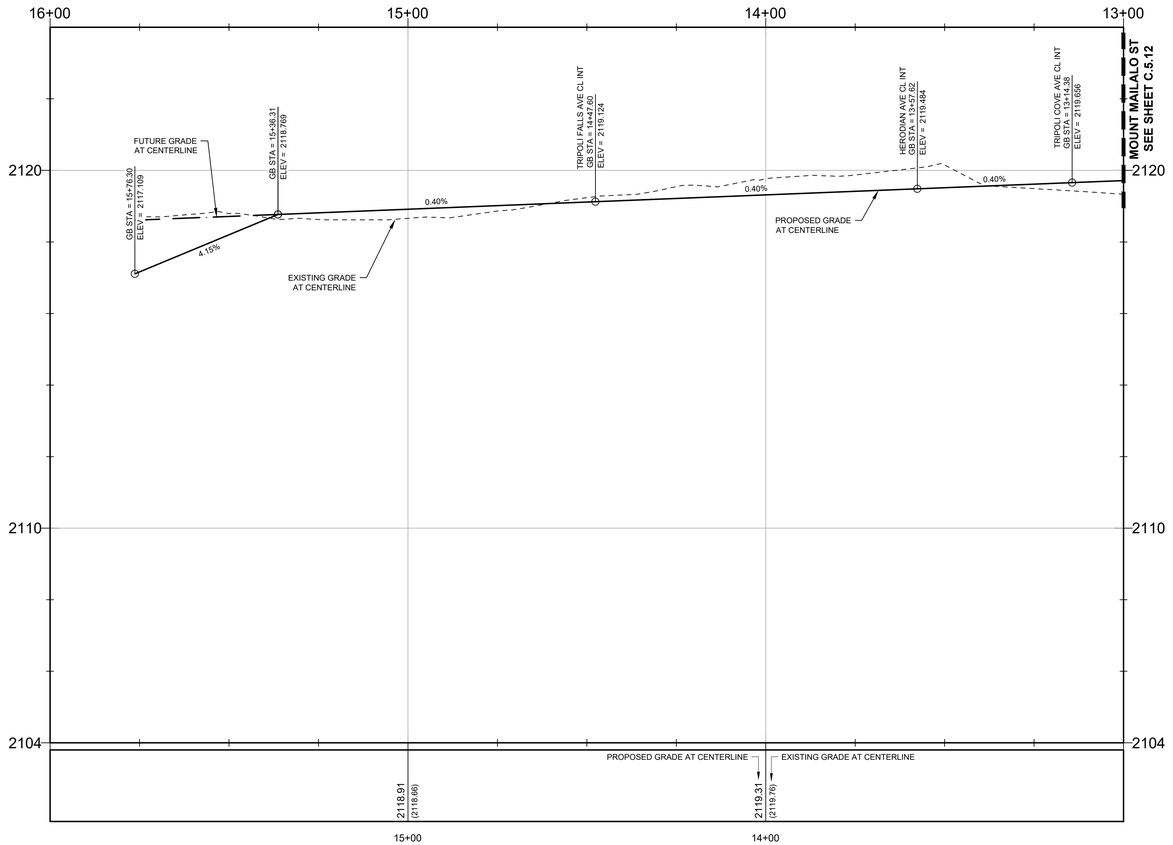
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SOUTHWEST GAS CORPORATION DATE

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LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO._____ FIRST APPROVAL DATE:_____
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MOUNT MAINALO ST (PRIVATE)
PLAN VIEW
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PROJECT NV-2105-1911

PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
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C.5.13

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|---|---|
| SEE SHEET C.2.0 | SEE SHEET C.2.0 |
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SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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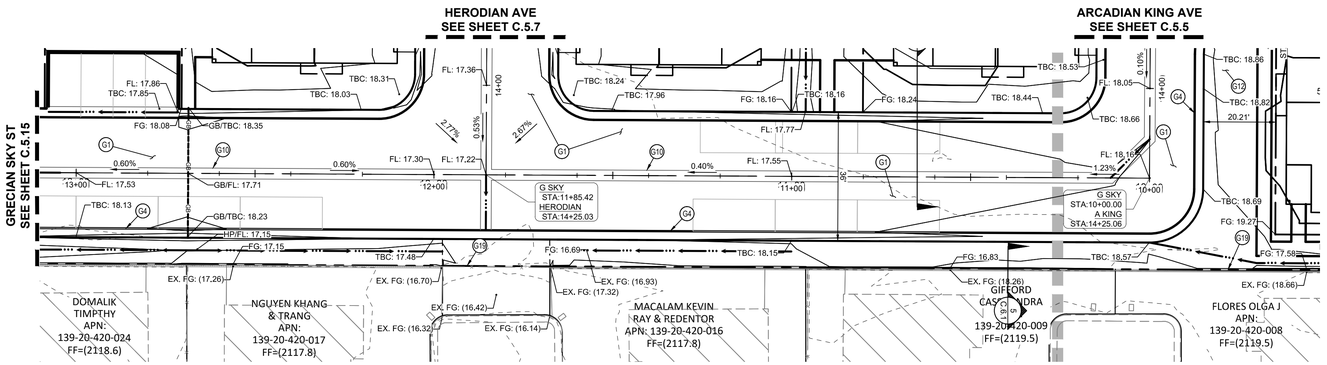
**APPROVED FOR CONSTRUCTION**

SOUTHWEST GAS CORPORATION DATE

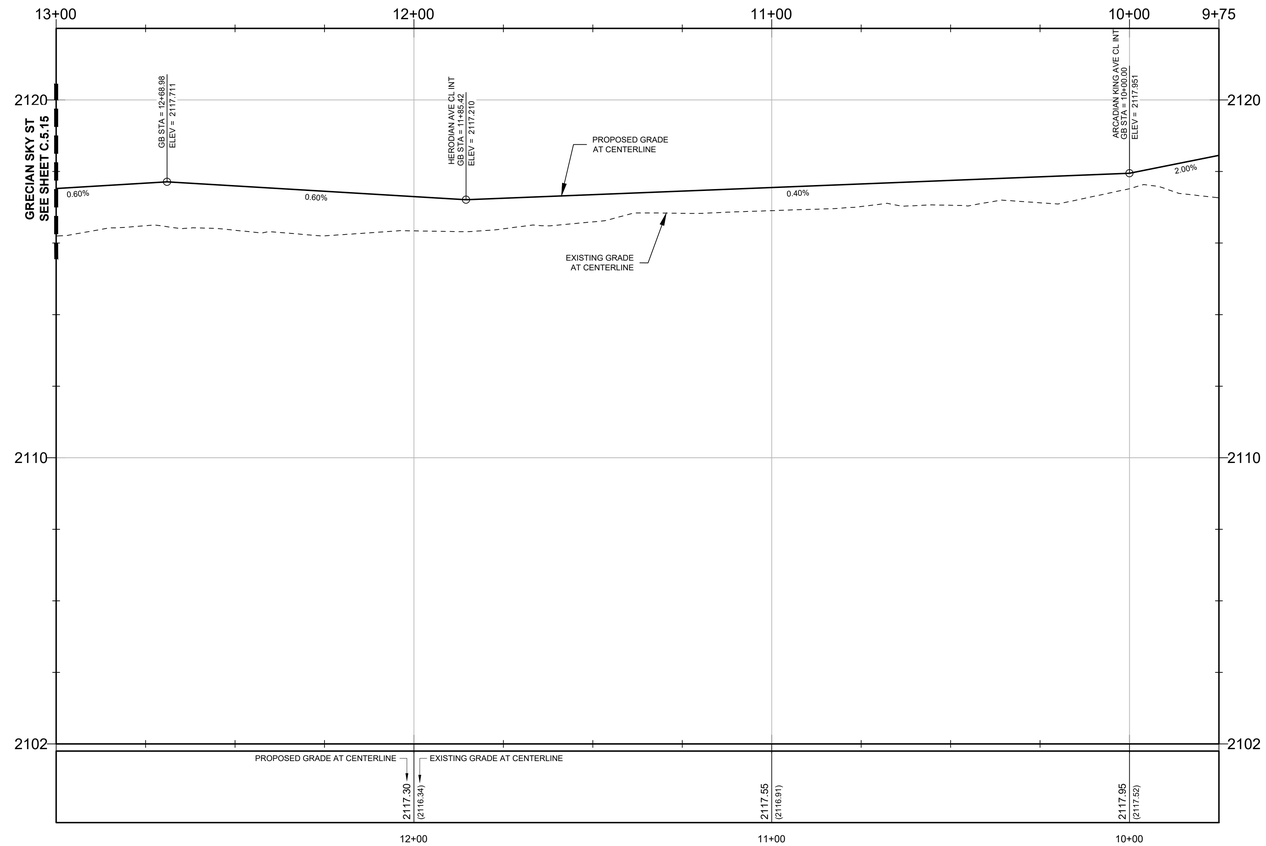
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LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ FIRST APPROVAL DATE:_____
LVVWD APPROVED FIRE FLOW_____GPM AT 20 PSI RESIDENTIAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW_____N/A_____GPM




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PLAN VIEW
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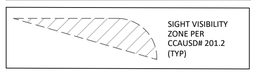
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WARNING
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REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/25/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

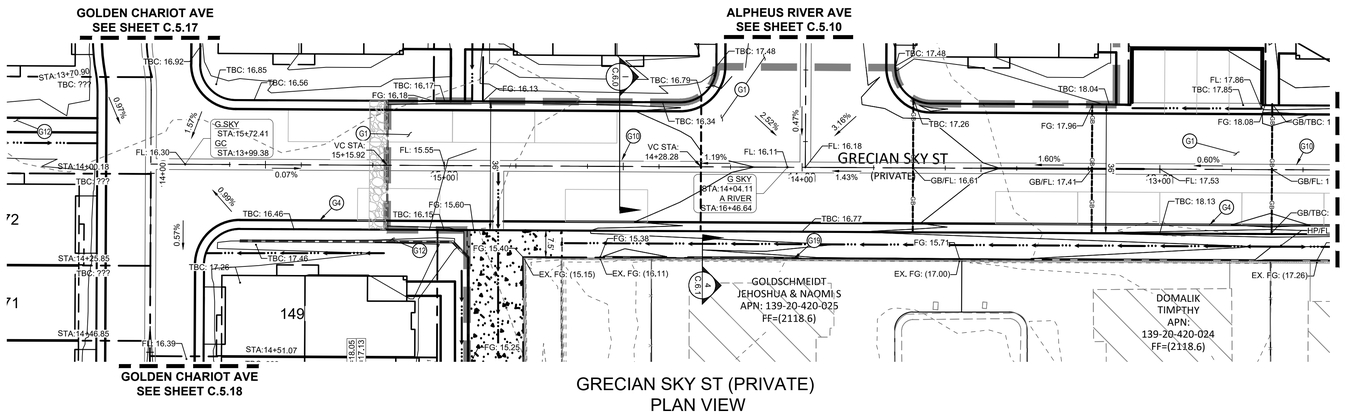
PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
GRECIAN SKY ST PLAN & PROFILE (STA 9+75 TO STA 13+00)

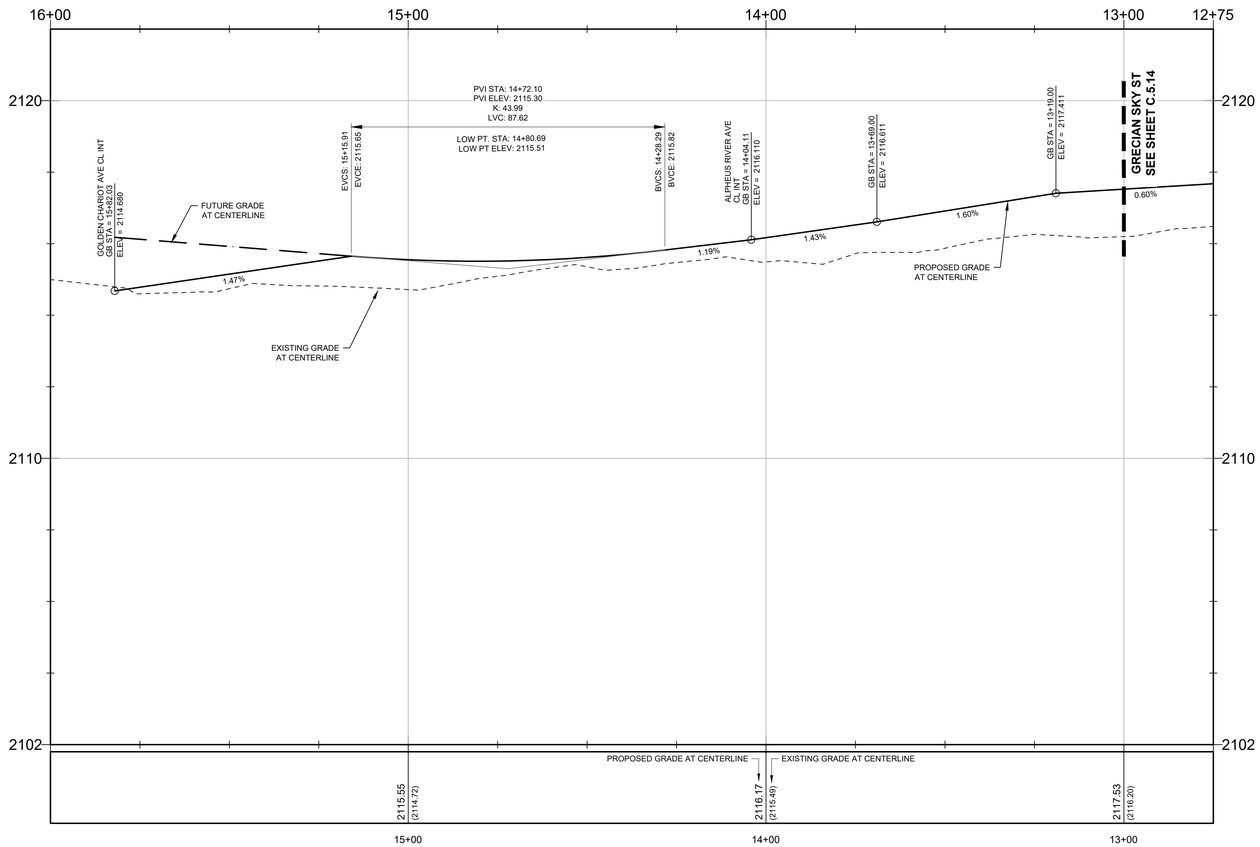
**C.5.14**



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GRECIAN SKY ST (PRIVATE)
PLAN VIEW
(STA. 12+75 TO 16+00)




GRECIAN SKY ST (PRIVATE)
PROFILE VIEW
(STA. 12+75 TO 16+00)
SCALE: 1" = 20' H
SCALE: 1" = 2' V

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**C.5.15**
PAGE

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| LEGAL DESCRIPTION | BASIS OF BEARING |
|---|---|
| SEE SHEET C.2.0 | SEE SHEET C.2.0 |
| **FLOOD ZONE** | **BENCHMARK** |
| SEE SHEET C.2.0 | SEE SHEET C.2.0 |

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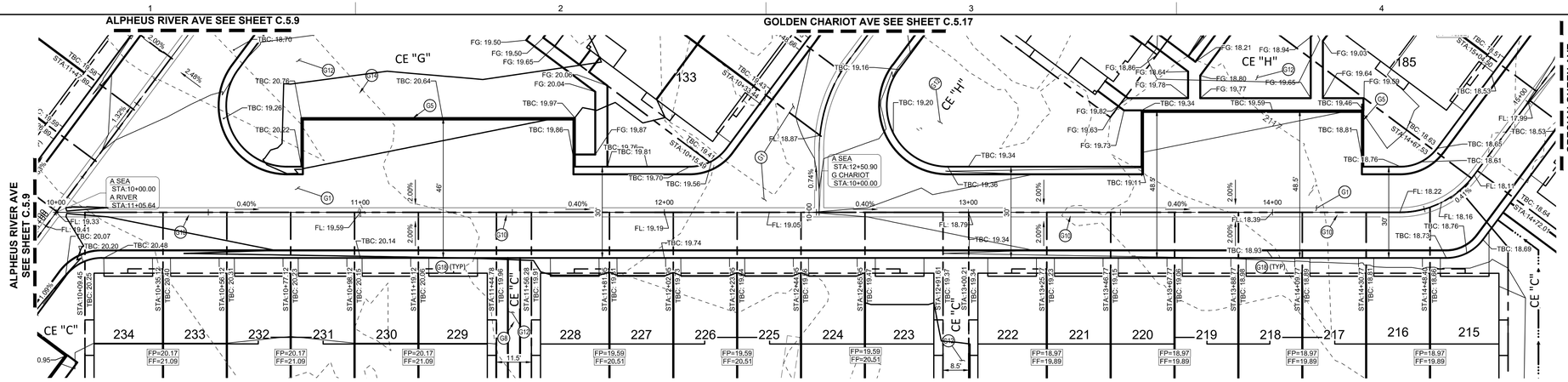
SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

## ENGINEER'S NOTES:

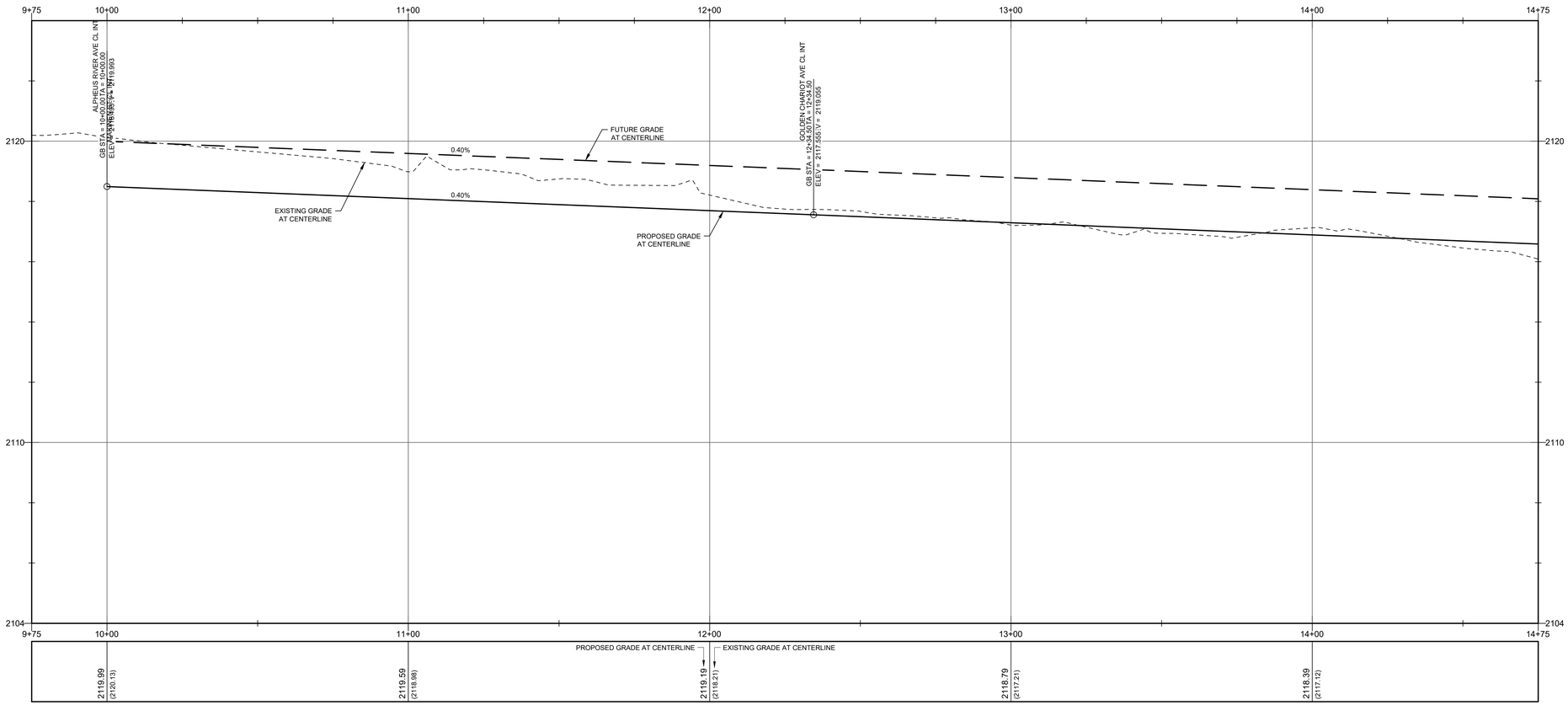
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**APPROVED FOR CONSTRUCTION**
SOUTHWEST GAS CORPORATION DATE

**APPROVED FOR CONSTRUCTION**
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO._____ FIRST APPROVAL DATE:_____
LVVWD APPROVED FIRE FLOW_____GPM AT 20 PSI RESIDENTIAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW_____N/A_____GPM




ARCADIAN SEA ST (PRIVATE)
PLAN VIEW
(STA. 9+75 TO 14+75)




ARCADIAN SEA ST (PRIVATE)
PROFILE VIEW
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SCALE: 1" = 20' H
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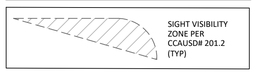
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**APPROVED FOR CONSTRUCTION**

SOUTHWEST GAS CORPORATION DATE

**APPROVED FOR CONSTRUCTION**

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

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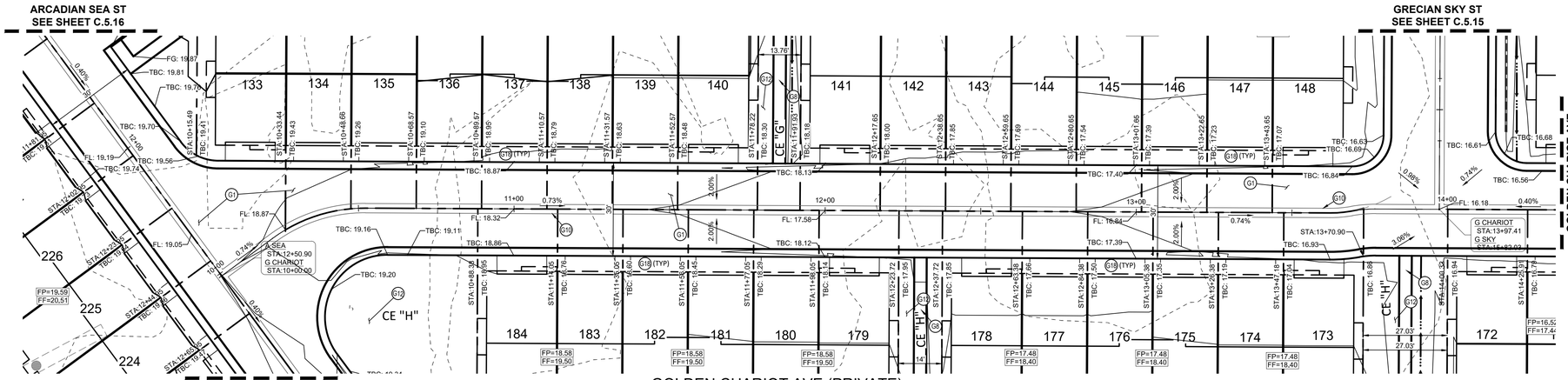
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ARCADIAN SEA ST PLAN & PROFILE (STA 9+75 TO STA 14+75)

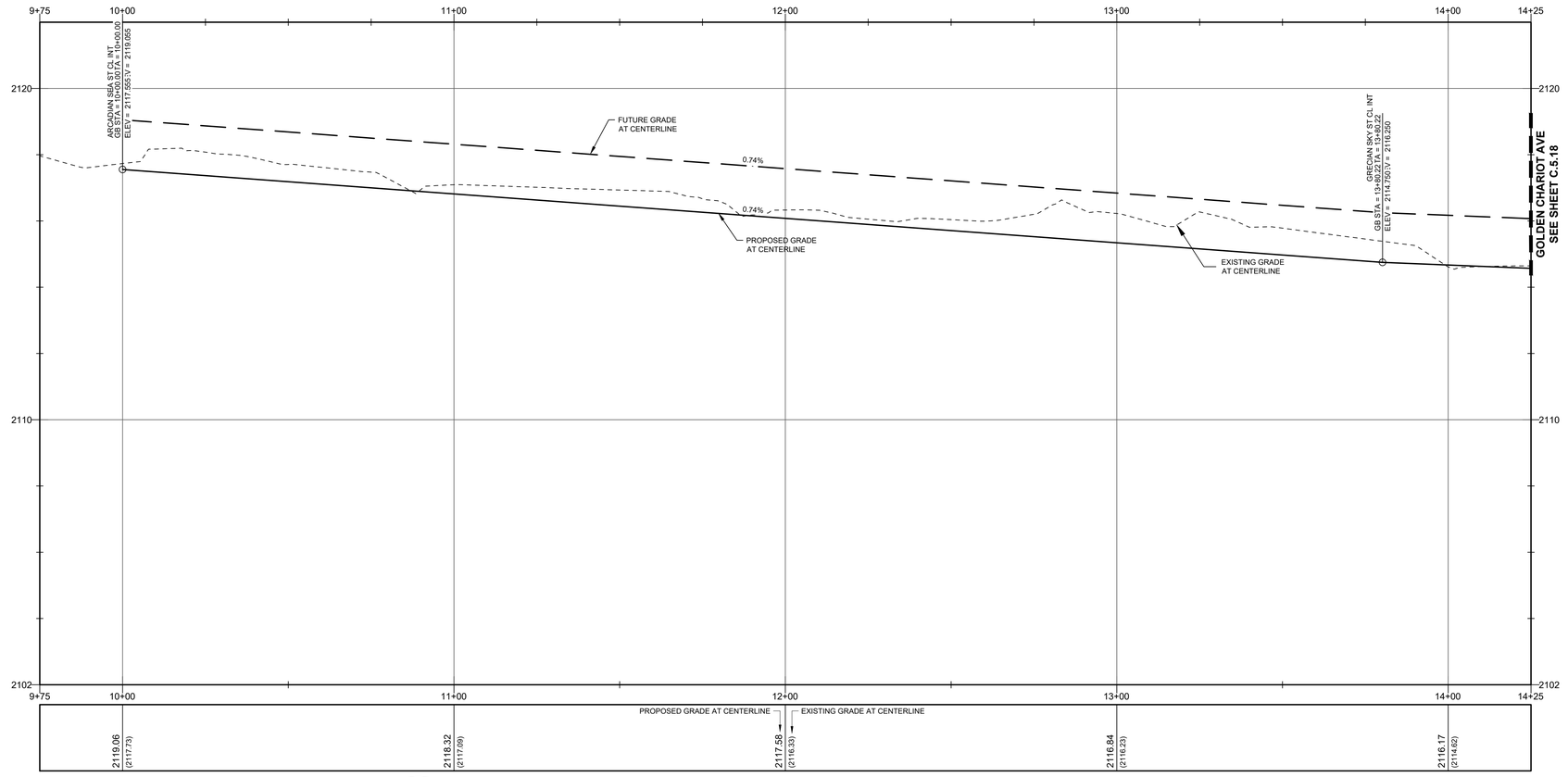
**C.5.16**



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GOLDEN CHARIOT AVE (PRIVATE)
PLAN VIEW
(STA. 9+75 TO 14+25)




GOLDEN CHARIOT AVE (PRIVATE)
PROFILE VIEW
(STA. 9+75 TO 14+25)
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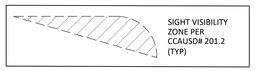
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**APPROVED FOR CONSTRUCTION**

SOUTHWEST GAS CORPORATION DATE

**APPROVED FOR CONSTRUCTION**

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ FIRST APPROVAL DATE:_____
LVVWD APPROVED FIRE FLOW_____GPM AT 20 PSI RESIDENTIAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW_____N/A_____GPM

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REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/25/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

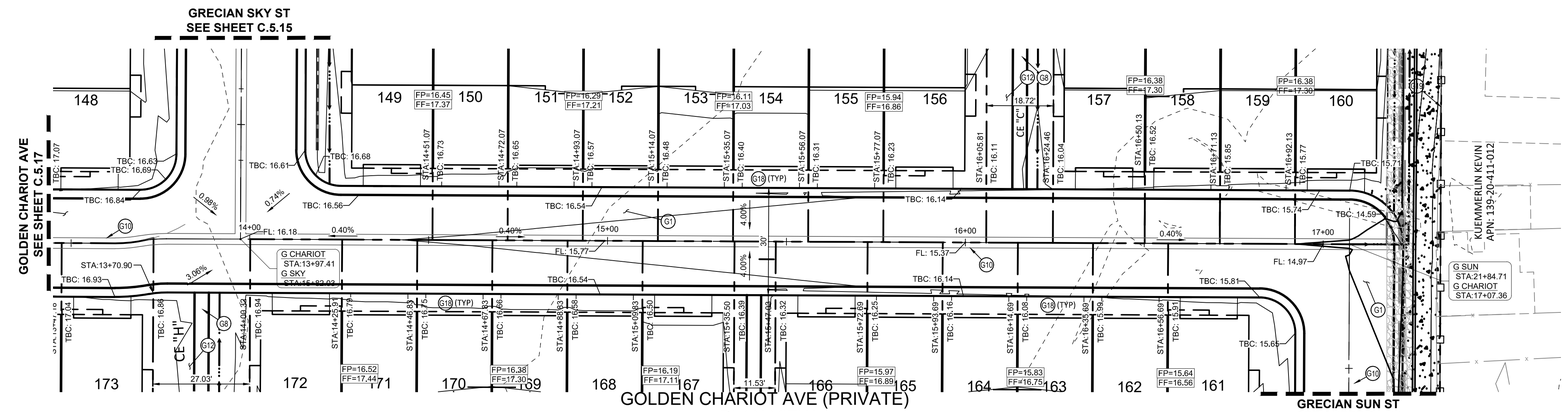
PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
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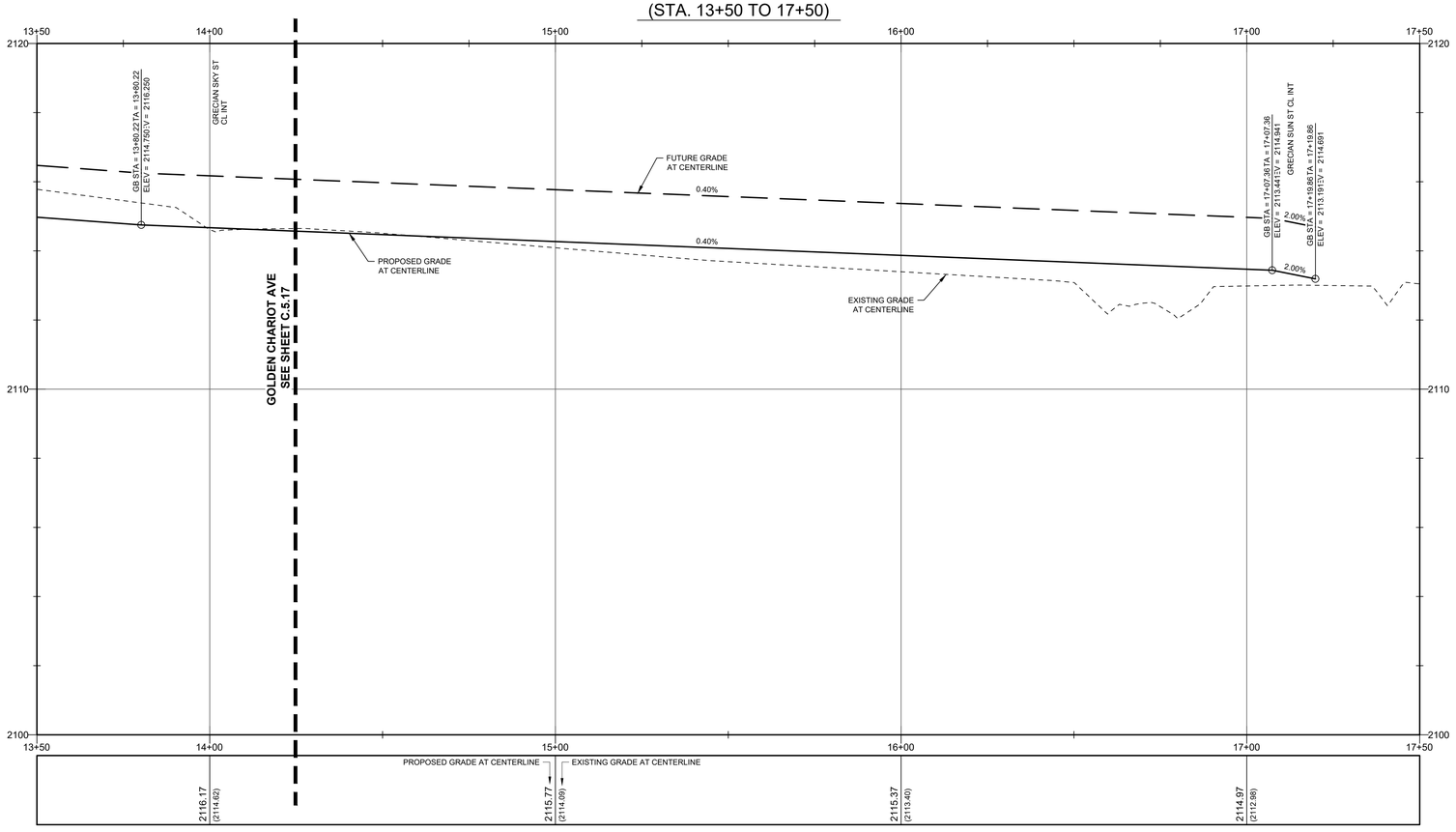
**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA

GOLDEN CHARIOT AVE PLAN & PROFILE (STA 9+75 TO STA 14+25)

**C.5.17**

PAGE 39




GOLDEN CHARIOT AVE (PRIVATE)
PROFILE VIEW
(STA. 13+50 TO 17+50)

SCALE: 1" = 20' H
SCALE: 1" = 2' V

SCALE: 1" = 20'

## GRADING KEY NOTES:

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**C.5.18**

PAGE 40

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**BASIS OF BEARING**
SEE SHEET C.2.0

**FLOOD ZONE**
SEE SHEET C.2.0

**BENCHMARK**
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SIGHT VISIBILITY ZONE PER CCAUSD# 201.2 (TYP)

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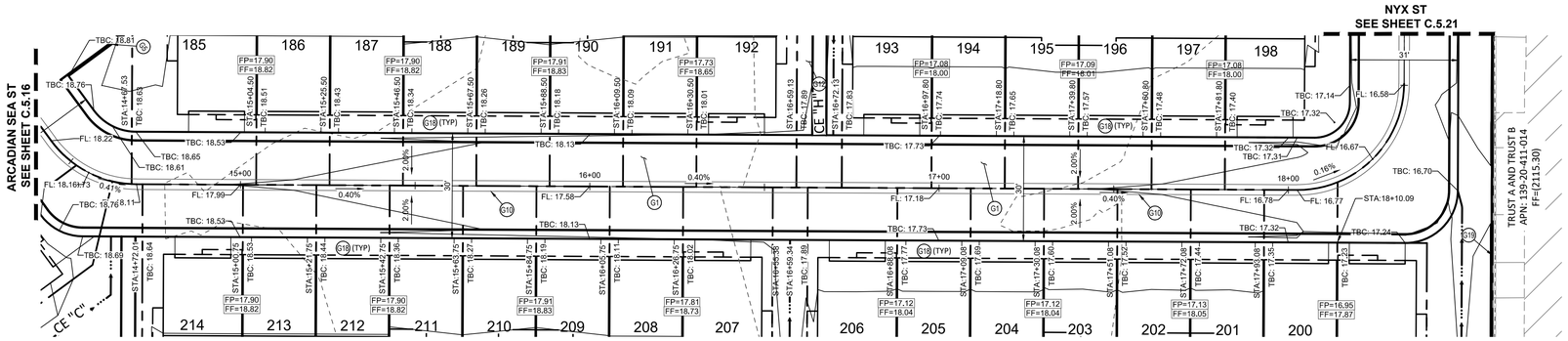
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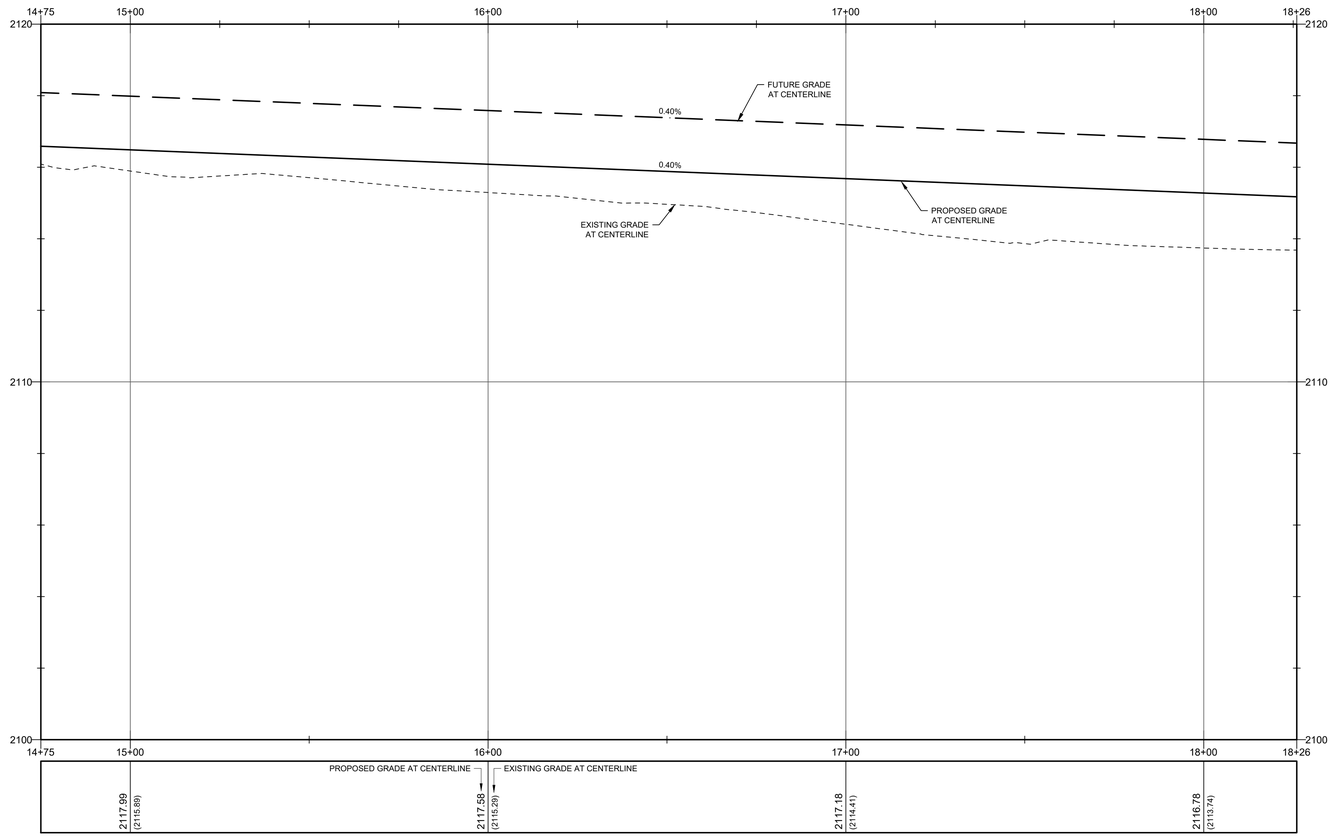
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GRECIAN QUEEN AVE (PRIVATE)
PLAN VIEW
(STA. 14+56 TO 18+26)




GRECIAN QUEEN AVE (PRIVATE)
PROFILE VIEW
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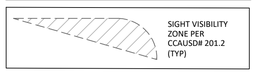
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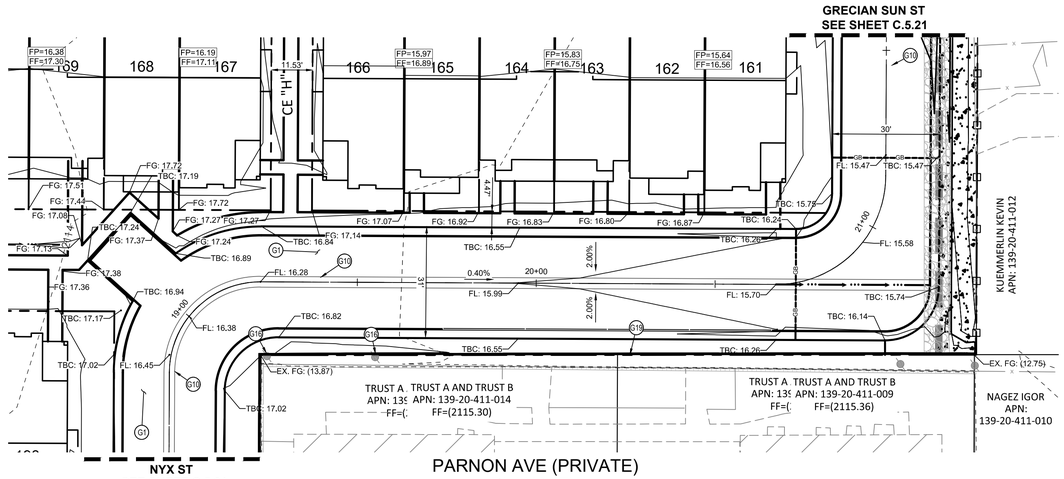
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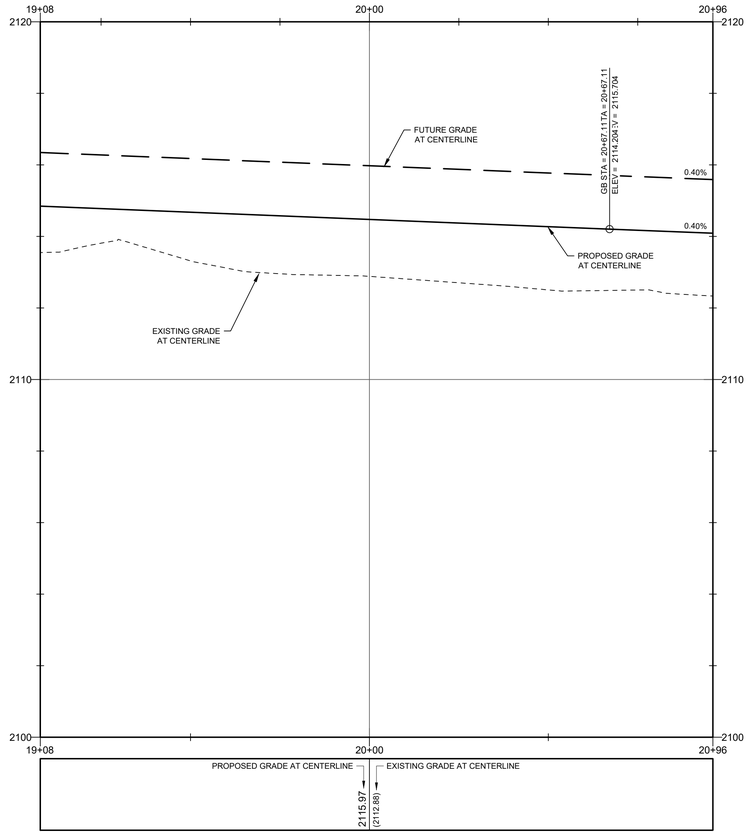
**C.5.19**



H:\!2019\NV-2105-1911 Rancho & Vegas Townhomes\Project Data\02 CAD\2.03 Sheet Files\Construction Drawings\C.5.0 PLAN & PROFILE (EW2).dwg - C.5.19 - 6/25/2020 01:30pm, heather.dominguez




PARNON AVE (PRIVATE)
PLAN VIEW
(STA. 19+08 TO 20+96)




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|---|---|
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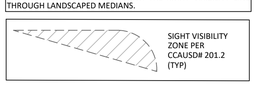
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7. FLOOR SECTION ASSUMES 5" SLAB OVER MIN. 8.5" TYPE II. CONTRACTOR TO VERIFY WITH STRUCTURAL PLANS AND GEOTECHNICAL ENGINEER.
8. ADD 2100' TO GRADING ELEVATIONS SHOWN HEREON TO ADJUST THEM TO THE ASSOCIATED DATUM. FINISHED GRADE CONTOURS ARE APPROXIMATE. REFER TO SPOT ELEVATION GRADE TAGS FOR CONSTRUCTION STAKING PURPOSES.

**APPROVED FOR CONSTRUCTION**

SOUTHWEST GAS CORPORATION DATE

**APPROVED FOR CONSTRUCTION**

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ FIRST APPROVAL DATE:_____
LVVWD APPROVED FIRE FLOW_____GPM AT 20 PSI RESIDENTIAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW_____N/A_____GPM

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1401 North Green Valley Pkwy., Suite 160
Henderson, NV 89074
(702) 966-4063
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WARNING
0 1 2
IF THIS BAR DOES NOT MEASURE 2" THEN DRAWING IS NOT TO SCALE

REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 6/25/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

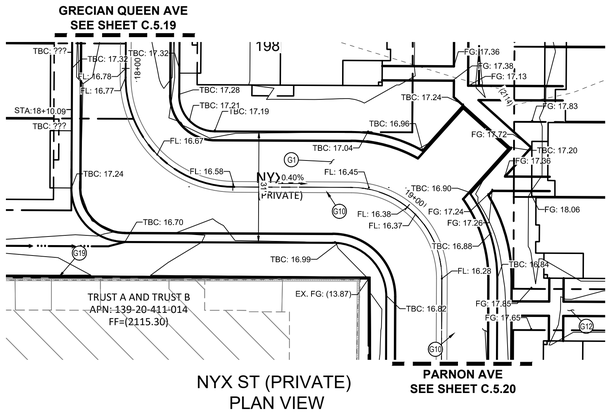
PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
PARNON AVE PLAN & PROFILE (STA 19+08 TO STA 20+96)

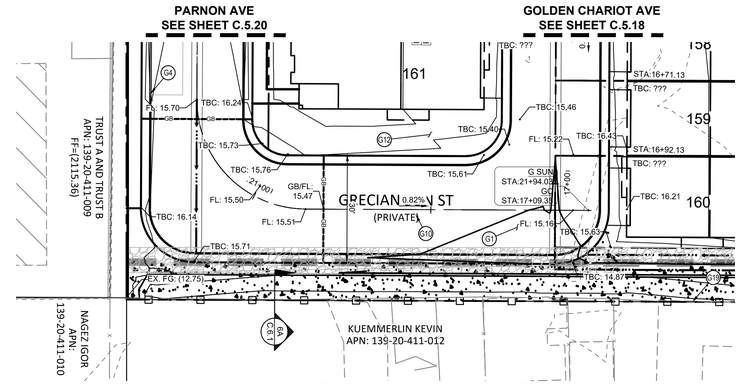
**C.5.20**



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NYX ST (PRIVATE)
PLAN VIEW
(STA. 18+26 TO 19+08)




GRECIAN SUN ST (PRIVATE)
PLAN VIEW
(STA. 20+96 TO 22+25)




NYX ST (PRIVATE)
PROFILE VIEW
(STA. 18+26 TO 19+08)
SCALE: 1" = 20' H
SCALE: 1" = 2' V




GRECIAN SUN ST (PRIVATE)
PROFILE VIEW
(STA. 20+96 TO 22+50)
SCALE: 1" = 20' H
SCALE: 1" = 2' V

## GRADING KEY NOTES:

- G1 CONSTRUCT 3" AC PAVEMENT OVER 4" TYPE II AGG BASE.
- G2 CONSTRUCT 4.5" AC PAVEMENT OVER 4" TYPE II AGG BASE.
- G3 CONSTRUCT 24" "L" TYPE CURB PER CCAUSD #216.
- G4 CONSTRUCT 30" ROLL CURB PER CCAUSD #217.2.S1.
- G5 CONSTRUCT 6" "A" TYPE CURB PER CCAUSD #219.
- G6 CONSTRUCT SIDEWALK DRAIN PER CCAUSD #236.
- G7 CONSTRUCT 5' SIDEWALK 4" THICK PER CCAUSD #234.
- G8 CONSTRUCT 4' SIDEWALK 4" THICK PER CCAUSD #234.
- G9 INSTALL WROUGHT IRON GATE.
- S10 CONSTRUCT 3' CONCRETE VALLEY GUTTER PER CCAUSD #228.
- S11 SAWCUT & REMOVE EXISTING PAVEMENT.
- S12 INSTALL LANDSCAPING BY OTHERS.
- S13 EXISTING FENCE TO REMAIN.
- S14 INSTALL RETAINING WALL BY SEPARATE PERMIT. HEIGHT DEPICTED BY PLAN.
- S15 EXISTING FENCE TO BE REMOVED.
- S16 EXISTING OBJECTS TO BE RELOCATED.
- S17 ADJUST EXISTING UTILITIES TO NEW FINISHED GRADE.
- S18 CONSTRUCT 5" THICK CONCRETE DRIVEWAY.
- S19 INSTALL SCREEN WALL.
- S20 INSTALL BLOCK WALL OPENING PER DETAIL #20 ON SHEET C.6.1.
- S21 CONSTRUCT 10' TRANSITION FROM "L" CURB TO ROLL CURB PER DETAIL #18 SHEET C.6.1.
- S22 INSTALL 4" SIDEWALK DRAIN PIPE PER CCAUSD #236.
- S23 CONSTRUCT SIDEWALK UNDERDRAIN PER CCAUSD #236.
- S24 INSTALL WROUGHT IRON GATE/FENCE PER CCAUSD #425.S1
- S25 CONSTRUCT DEPRESSED CURB PER DETAIL 31 ON SHEET C.6.2
- S26 INSTALL 6" CONCRETE PAVEMENT OVER 6" TYPE II AGG BASE
- S27 INSTALL RIP RAP PER PLAN
- S28 CONSTRUCT 30" ROLL CURB WITH REVERSE LIP PER DETAIL 32 ON SHEET C.6.2
- S29 INSTALL RIP-RAP D50=3",T=6" SUBGRADE @ 90% COMPACTION LENGTH & WIDTH SPECIFIED PER DETAIL 37
- S30 CONSTRUCT EASEMENT OPENING PER CCAUSD #425.S1. WITH 2 REMOVABLE BOLLARDS. REF. DETAIL 35 ON SHEET C.6.1
- S31 CONSTRUCT 8' CONCRETE VALLEY GUTTER PER CCAUSD #228.
- S32 INSTALL ORIFICE PLATE PER DETAL 36 ON SHEET C.6.1

Call before you dig
AVOID CUTTING UNDERGROUND UTILITY LINES IT'S COSTLY
Call 811 or 1-800-227-2600

AVOID HITTING OVERHEAD POWER LINES, IT'S COSTLY
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION
1-702-432-5300

SCALE: 1" = 20'

**LEGAL DESCRIPTION**
SEE SHEET C.2.0

**BASIS OF BEARING**
SEE SHEET C.2.0

**FLOOD ZONE**
SEE SHEET C.2.0

**BENCHMARK**
SEE SHEET C.2.0

**UTILITY DISCLAIMER NOTE:**
EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE AT THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTIING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPPER LOCATIONS.

**DEPTH OF COVER DURING CONSTRUCTION:**
MAINTAIN MINIMUM TWENTY-FOUR (24) INCH COVER PER UDACS SECTION 2.08.04. GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION.

**SIGHT VISIBILITY ZONE NOTE:**
NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.




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NYX ST PLAN & PROFILE (STA 18+26 TO STA 19+08)
GRECIAN SUN ST PLAN & PROFILE (STA 20+96 TO STA 22+94)

**C.5.21**



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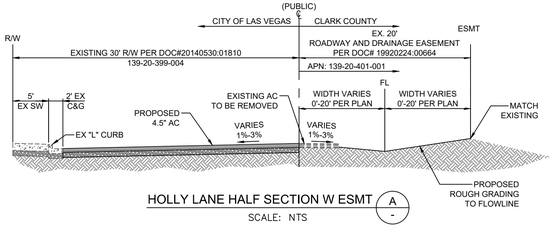
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REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 4/10/2020
DESIGNED ACD
DRAWN PMP
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PROJECT NV-2105-1911

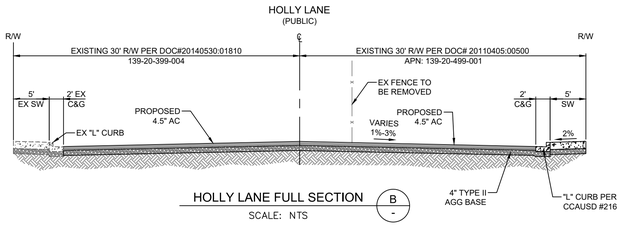
PROFESSIONAL ENGINEER - STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No. 023113
6/25/2020

## HOLLY LANE HALF SECTION W ESMT (A)



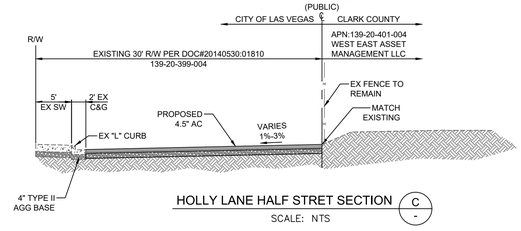

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## HOLLY LANE FULL SECTION (B)



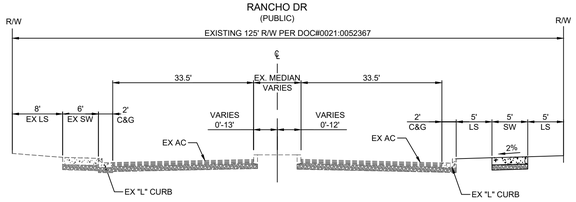

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## HOLLY LANE HALF STRET SECTION (C)



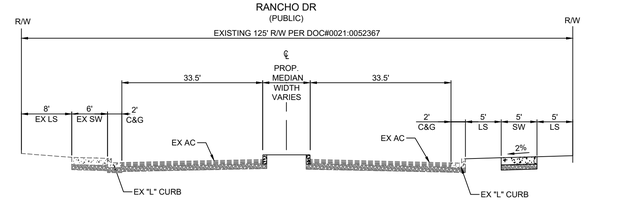

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## EX. RANCHO DR SECTION (D)



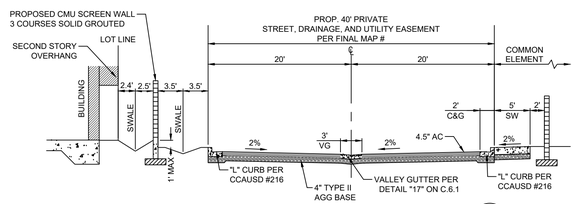

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## PR. RANCHO DR MEDIAN SECTION (E)



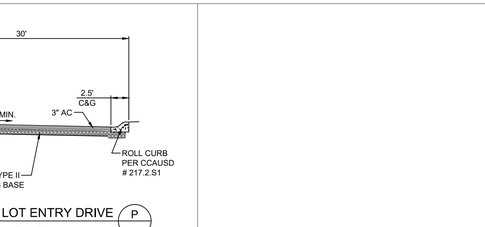

SCALE: NTS

## 40' PRIVATE STREET SECTION W/ L-CURB (F)




SCALE: NTS

## 40' PRIVATE STREET SECTION (G)




SCALE: NTS

## 30' PRIVATE STREET SECTION (H)




SCALE: NTS

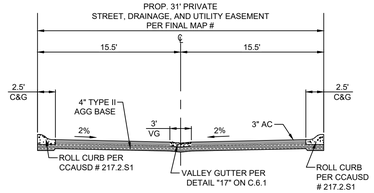
## 36' PRIVATE STREET SECTION (I)




SCALE: NTS

***NOTE:**
PARKING ONLY ALLOWED WHERE INDICATED ON PLANS.
NO PARKING IN FRONT OF DRIVEWAYS.

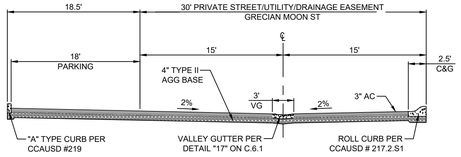
## 31' PRIVATE STREET SECTION (J)




SCALE: NTS

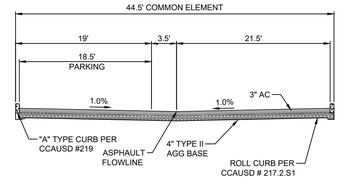
***NOTE:**
PARKING ONLY ALLOWED WHERE INDICATED ON PLANS.
NO PARKING IN FRONT OF DRIVEWAYS.

## 30' PRIVATE STREET SECTION WITH ADDITIONAL PARKING (K)



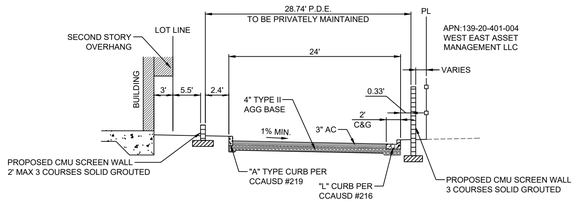

SCALE: NTS

## 30' PRIVATE STREET SECTION WITH ADDITIONAL PARKING (L)



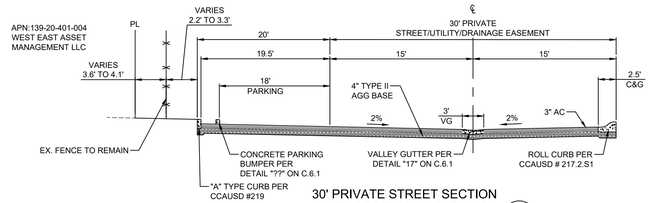

SCALE: NTS

## NORTH PARKING LOT ENTRY DRIVE (M)



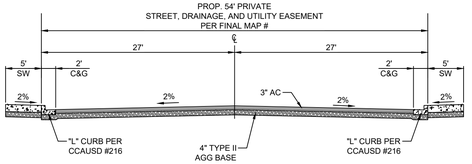

SCALE: NTS

## 30' PRIVATE STREET SECTION WITH ADDITIONAL PARKING (N)



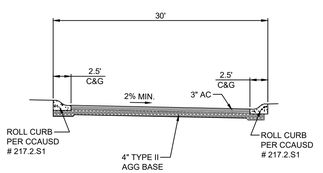

SCALE: NTS

## 54' ENTRY DRIVE SECTION (O)




SCALE: NTS

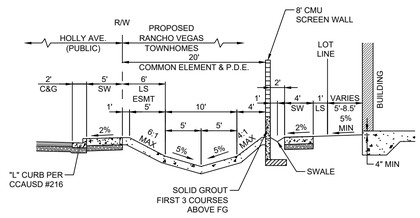
## NORTH PARKING LOT ENTRY DRIVE (P)



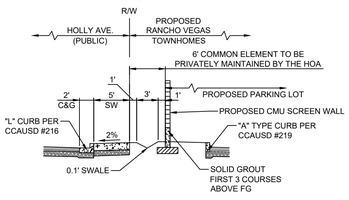

SCALE: NTS

**RANCHO & VEGAS**
CITY OF LAS VEGAS, NEVADA
STREET SECTIONS

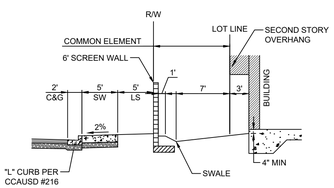
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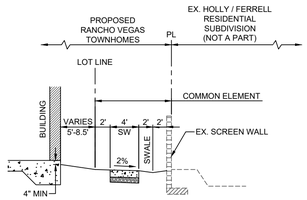

HOLLY LN DRAINAGE EASEMENT 1
SCALE: NTS



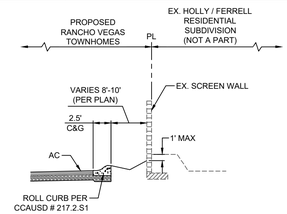

NORTH BOUNDARY SECTION 2
SCALE: NTS




NORTH BOUNDARY SECTION 3
SCALE: NTS

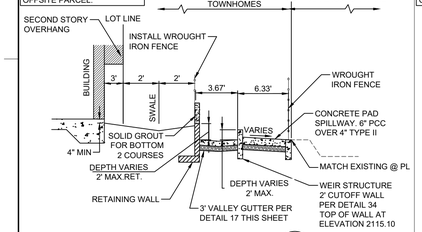



EAST BOUNDARY SECTION 4
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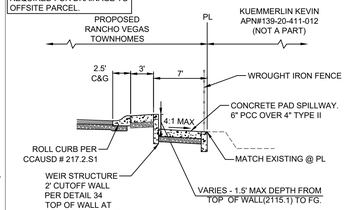

EAST BOUNDARY SECTION 5
SCALE: NTS

NOTE:
PERMISSION TO DISCHARGE REQUIRED FOR DRAINAGE TO OFFSITE PARCEL.

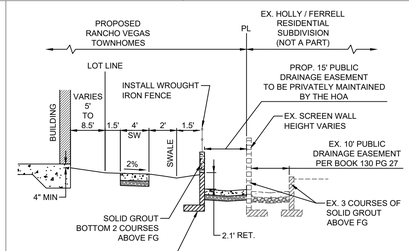



EAST BOUNDARY SECTION 6
SCALE: NTS

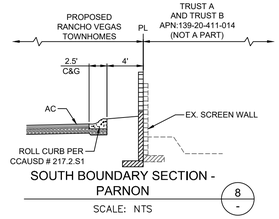
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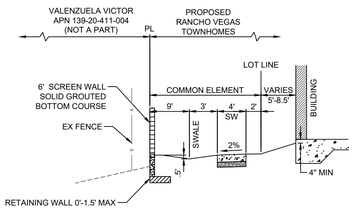

EAST BOUNDARY SECTION 6A
SCALE: NTS



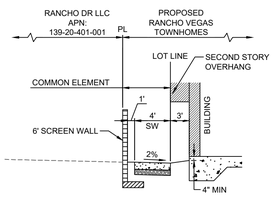

NORTH BOUNDARY SECTION - SOUTHEAST CORNER 7
SCALE: NTS




SOUTH BOUNDARY SECTION - PARNON 8
SCALE: NTS




SOUTH BOUNDARY SECTION 9
SCALE: NTS




NORTH BOUNDARY SECTION 10
SCALE: NTS




NORTH BOUNDARY - HESTIA AVENUE 11
SCALE: NTS




WEST BOUNDARY SECTION
GRECIAN MOON ST. 12
SCALE: NTS



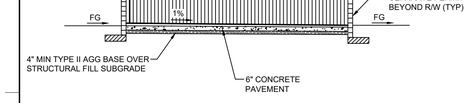

WEST BOUNDARY SECTION 13
SCALE: NTS



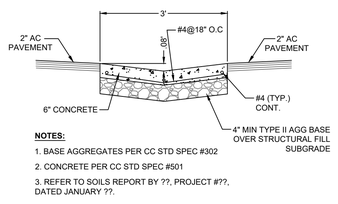

WEST BOUNDARY SECTION 14
SCALE: NTS



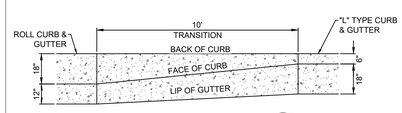

PRIVATE DRAINAGE EASEMENT 15
SCALE: NTS



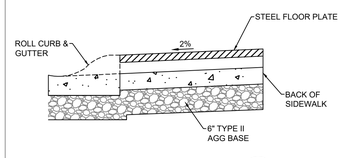

PRIVATE DRAINAGE EASEMENT 16
SCALE: NTS



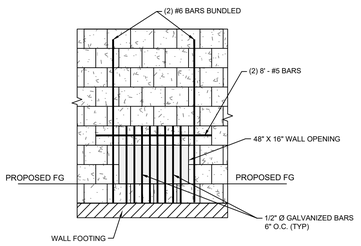

VALLEY GUTTER 17
SCALE: NTS



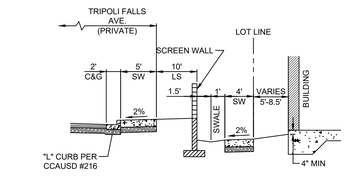

10' CURB TRANSITION 18
SCALE: NTS




ROLL CURB SIDEWALK DRAIN 19
SCALE: NTS




48" X 16" SCREEN WALL OPENING 20
SCALE: NTS




BUILDING SECTION 21
SCALE: NTS




BUILDING SECTION 22
SCALE: NTS




BUILDING SECTION 23
SCALE: NTS




NORTH BOUNDARY SECTION 24
SCALE: NTS




BUILDING SECTION 25
SCALE: NTS




HOLLY WEST BOUNDARY SECTION 26
SCALE: NTS

NOTE:
ALL COMMON ELEMENTS ARE PUBLIC DRAINAGE EASEMENTS TO BE PRIVATELY MAINTAINED BY THE HOA.

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WARNING
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REVISIONS
REV # | DATE
*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 4/13/2020
DESIGNED ACD
DRAWN PMP
CHECKED ACD
PROJECT NV-2105-1911

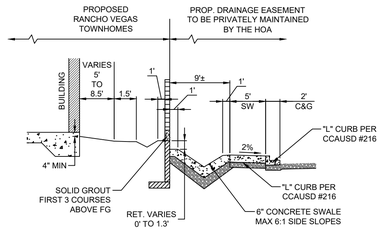
PROFESSIONAL ENGINEER-STATE OF NEVADA
ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No.023115
6/25/2020

RANCHO & VEGAS
CITY OF LAS VEGAS, NEVADA
DETAILS 1

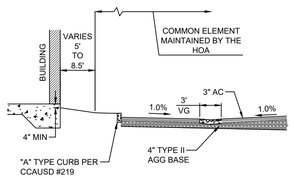
C.6.1



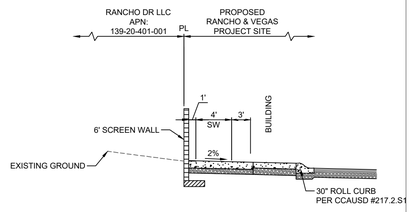
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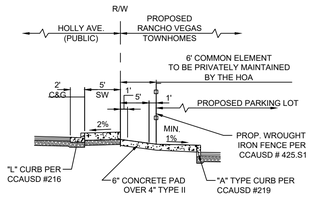

HOLLY DRAINAGE EASEMENT 27
SCALE: NTS



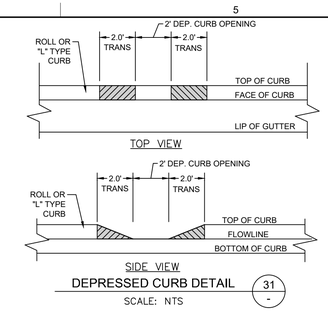

PARKING LOT SWALE 28
SCALE: NTS




NORTH BOUNDARY SECTION 29
SCALE: NTS



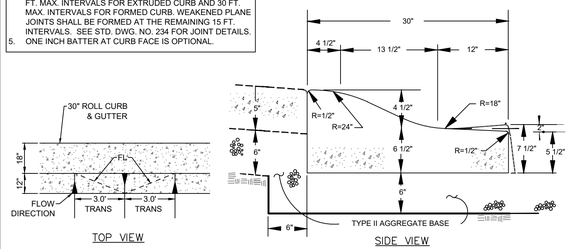

NORTH DRAINAGE EASEMENT
- HOLLY PARKING LOT. 30
SCALE: NTS



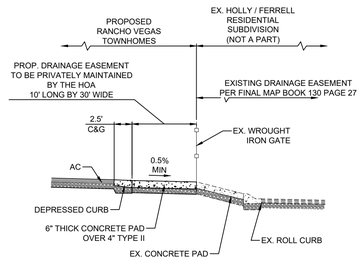

DEPRESSED CURB DETAIL 31
SCALE: NTS

NOTES:

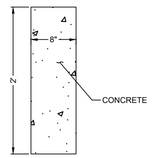
1. ASPHALT TO BE FLUSH AT LIP OF REVERSE ROLL CURB FLOWLINE.
2. SIDEWALK CONSTRUCTED CONTIGUOUS TO ROLL CURB SHALL BE 5 INCHES THICK (MIN).
3. WHERE LONGITUDINAL SLOPE IS LESS THAN 0.4% THE FLOW LINE SHALL BE WATER TESTED.
4. CONSTRUCT 1/2" EXPANSION JOINT AT ALL COLD JOINTS, AT BEGINNING AND END OF CURB RETURNS, AND AT 300 FT. MAX. INTERVALS FOR EXTRUDED CURB AND 30 FT. MAX. INTERVALS FOR FORMED CURB. WEAKENED PLANE JOINTS SHALL BE FORMED AT THE REMAINING 15 FT. INTERVALS. SEE STD. DWG. NO. 234 FOR JOINT DETAILS.
5. ONE INCH BATTER AT CURB FACE IS OPTIONAL.



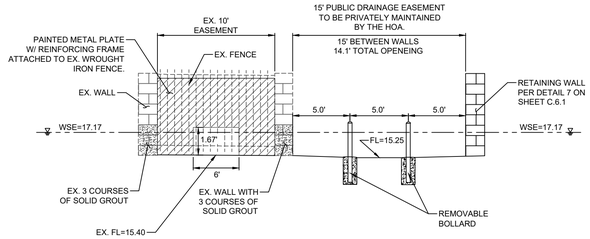

REVERSE ROLL CURB -
SPILL DETAIL 32
SCALE: NTS



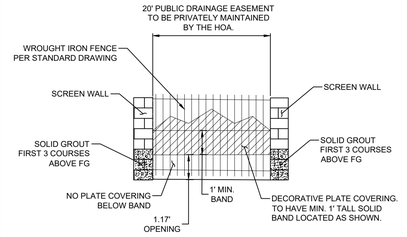

HERODIAN DRAINAGE SECTION 33
SCALE: NTS



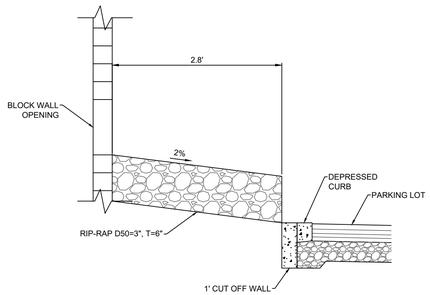

2'x8" CUTOFF WALL 34
SCALE: NTS




ORIFICE DETAILS 35
SCALE: NTS




ORIFICE DETAILS 36
SCALE: NTS




HOLLY AVE. RIP-RAP DETAIL 37
SCALE: NTS

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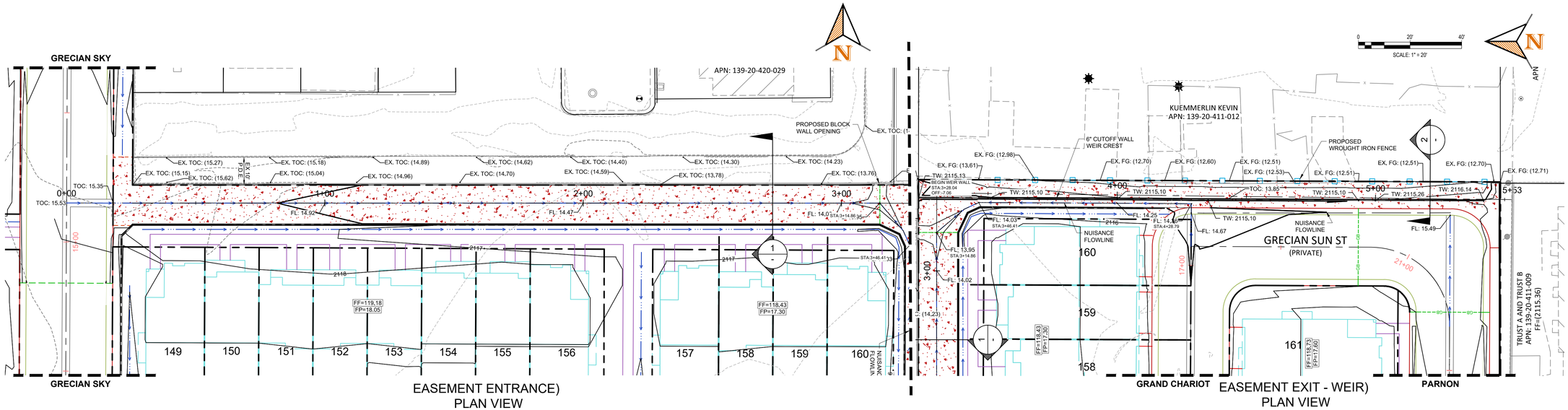
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ANTHONY C. DELEON JR
EXP. 12-31-20
CIVIL
No.023113
6/25/2020

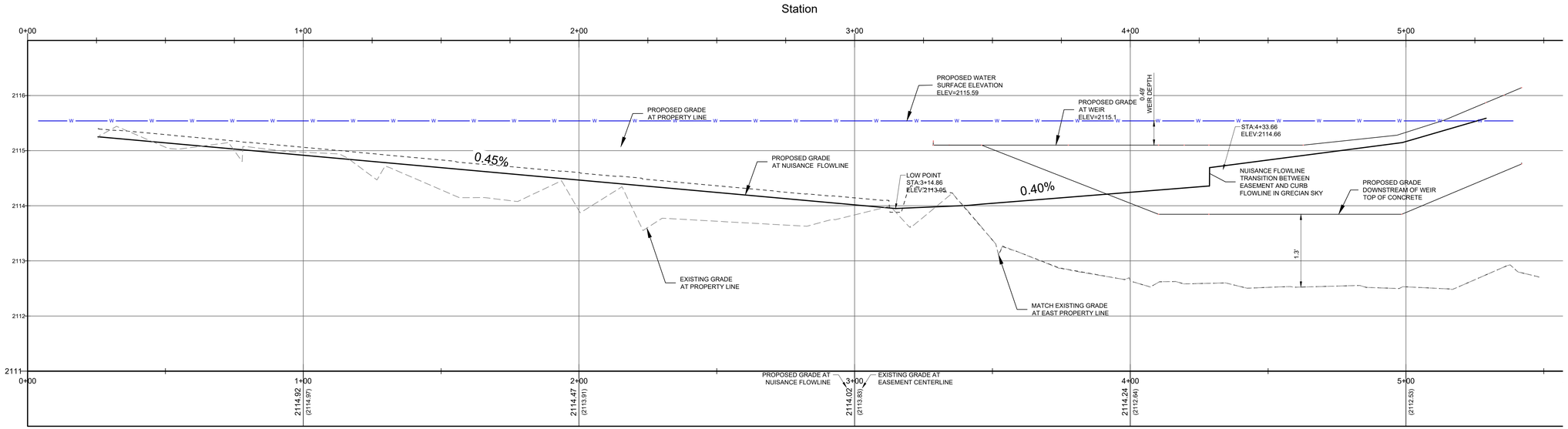
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CITY OF LAS VEGAS, NEVADA
DETAILS 2

**C.6.2**



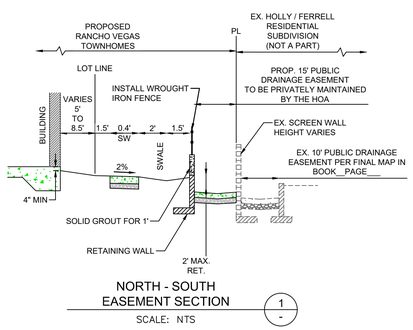
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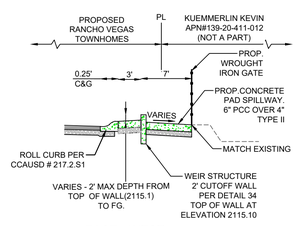




## PUBLIC DRAINAGE EASEMENT - ESP3
## PROFILE VIEW
## (STA. 0+00 TO 5+50)

SCALE: 1" = 20' H
SCALE: 1" = 2' V




NORTH - SOUTH
EASEMENT SECTION (1 -)
SCALE: NTS




EAST - WEST
EASEMENT SECTION (2 -)
SCALE: NTS

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DRAWING INFO
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PROJECT NV-2105-1911

ANTHONY DELEON JR
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CIVIL
No. 23111
STATE OF NEVADA
6/25/2020

**RANCHO & VEGAS**
LAS VEGAS, NEVADA

DRAINAGE EASEMENT PROFILE
EASEMENT ESP3

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PAGE