

DS #: 4671

APN: 163-03-201-003; -004 + -005

PROJECT: NEC of Buffalo Drive + Oakley Boulevard

SUBMITTAL: 2nd

SCANNED BY/DATE: \_\_\_\_\_

CHECKED BY/DATE: \_\_\_\_\_



|                                                                            |                                                                       |                                                                                                   |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>CITY OF LAS VEGAS<br/>INTER-OFFICE MEMORANDUM</b>                       |                                                                       | <b>DATE:</b><br>June 9, 2014                                                                      |
| <b>TO:</b><br>Land Development Services<br>Department of Building & Safety |                                                                       | <b>FROM:</b><br>Albert Sung, P.E.<br>Flood Control Project Engineer<br>Department of Public Works |
| <b>SUBJECT:</b>                                                            | Drainage Study for:<br><b>Buffalo / Oakey Residential Development</b> | <b>COPIES TO:</b><br>Triton Engineering                                                           |
| <b>Cross Streets:</b>                                                      | NEC of Buffalo Drive & Oakey Boulevard                                | D.R. Horton                                                                                       |
| <b>File Number:</b>                                                        | F:\Depot\DSMemos\DS4671B.doc                                          | Bart Anderson, P.E., DevCo                                                                        |
| <b>Parcel Number:</b>                                                      | 163-03-201-003; -004 & -005                                           |                                                                                                   |
| <b>Zoning Action:</b>                                                      | TMP-52393; VAR-52392 & ZON-52391                                      |                                                                                                   |
| <b>FEMA Flood Zone</b>                                                     | YES NO X                                                              |                                                                                                   |
| <b>Proposed Storm Drain</b>                                                | YES NO X                                                              |                                                                                                   |

| HISTORY                    | DATE RECEIVED | DATE REVIEWED | COMMENTS           | REVIEW FEES     | FEES PAID<br>Payment Trn # |
|----------------------------|---------------|---------------|--------------------|-----------------|----------------------------|
| 1 <sup>st</sup> Submittal  | 4/29/2014     | 5/13/2014     | Not Approved       | \$400.00        | 355227: \$400              |
| 2 <sup>nd</sup> Submittal  | 5/22/2014     | 6/9/2014      | See Comments Below | \$400.00        | 357880: \$400              |
| <b>TOTAL FEES (LDDRS):</b> |               |               |                    | <b>\$800.00</b> | ----                       |

#### REMARKS:

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

|          |                                                                                                |
|----------|------------------------------------------------------------------------------------------------|
| <b>X</b> | 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. |
|          | is conditionally approved subject to Clark County Public Works Department concurrence.         |

1. Reduce the length of the riprap pad at the end of the proposed public drainage easement at the southeast corner of the development to 10' instead of 20'.

2. Label clearly on the grading plan that the proposed drainage easement is also a "COMMON LOT".

**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.

**NOTE:** Any future changes to the proposed design (or design assumptions) as outlined in the approved drainage study and attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Update and accepted by the *City of Las Vegas Flood Control Section*. Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the *City of Las Vegas* reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

**END OF REMARKS**

ays

T/R/S: T21S/R60E/03  
AREA Q-03

\*\*\*\*\*  
 \*\*\* FAX TX REPORT \*\*\*  
 \*\*\*\*\*

TRANSMISSION OK

JOB NO. 3699  
 DESTINATION ADDRESS 7022543062  
 PSWD/SUBADDRESS  
 DESTINATION ID  
 ST. TIME 06/10 11:16  
 USAGE T 00' 56  
 PGS. 1  
 RESULT OK

## CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM

DATE:

June 9, 2014

TO:

Land Development Services  
 Department of Building & Safety

FROM:

Albert Sung, P.E.  
 Flood Control Project Engineer  
 Department of Public Works

SUBJECT:

Drainage Study for:

Buffalo / Oakey Residential Development

COPIES TO:

Triton Engineering

Cross Streets:

NEC of Buffalo Drive &amp; Oakey Boulevard

D.R. Horton

File Number:

F:\Depot\DSMemos\DS4671B.doc

Bart Anderson, P.E., DevCo

Parcel Number:

163-03-201-003; -004 &amp; -005

Zoning Action:

TMP-52393; VAR-52392 &amp; ZON-52391

FEMA Flood Zone

YES

NO

X

Proposed Storm Drain

YES

NO

X

| HISTORY                   | DATE RECEIVED | DATE REVIEWED | COMMENTS           | REVIEW FEES | FEES PAID<br>Payment Trn # |
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| TOTAL FEES (LDDRS):       |               |               |                    | \$800.00    | ----                       |

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|   |                                                                                                |
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| X | is approved subject to conformance to all City standards and the following conditions:         |
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1. Reduce the length of the riprap pad at the end of the proposed public drainage easement at the southeast corner of the development to 10' instead of 20'.
2. Label clearly on the grading plan that the proposed drainage easement is also a "COMMON LOT".

**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

5/21/2014

City of Las Vegas -Building and Safety  
333 North Rancho Drive  
Las Vegas, Nevada 89106  
Attn: Linda Hartman

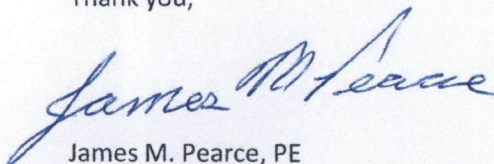
Re: Difference in elevation across eastern Boundary wall  
DR Horton - Buffalo and Oakey Project  
APN: 163-03-201-003, 004, & 005

Dear Linda,

Our project is a 2.9 acre infill development which is bounded by existing development on all four sides. The elevation of our project is set by the drainage outlet at the low end of our site at the southeast corner. As you can see from the drainage plans that accompanied our letter we have a slope of 0.5% from the drainage outlet to the top of the cul-de-sac bulb at the north end of the project. This is the minimum slope that we could get agreement on with Albert Sung in CLV Flood Control.

Since we are unable to obtain a drainage easement across the property south of our project we must match the elevation of the existing ground at the outlet point for our drainage. Under these conditions the pad grades shown on the plans are the lowest practical elevations possible. The pads on the existing development to the east of our site were built down about 7 feet below the existing ground at the time which makes the difference in pads across the boundary wall more than 10 feet. They used scarps and retaining to make up that difference from their pads to the existing ground at the time. When the development to the east built their perimeter wall there was virtually no slope to the south where drainage exits from our site in the existing condition. For our site to drain properly, the pad will need to be about five feet higher than existing ground in the northeast corner of our site. We have virtually no flexibility with the constraints we have on the project. It should be noted that we clearly showed the worst case condition on the sections that were part of the Tentative Map (TMP-52393) that was approved on 4-16-2014. We appreciate your consideration on this project.

Thank you,



James M. Pearce, PE  
Sr. Vice President  
Triton Engineering

CC: Albert Sung, CLV Flood Control

**PLANS APPROVED**  
**PLANNING**  
Building & Safety Dept.  
City of Las Vegas, Nevada  
*GRADE DIFFERENCE ONLY*  
**LHM MAY 29 2014**

Conforms to the minimum requirements of  
LVMC Title 19, applicable Master Plan  
development standards and/or Conditions of  
Approval. Make No Change Without Approval.  
Plan is Not a Permit to Violate Any Ordinance.

## TRANSMITTAL

**Date:** May 22, 2014

**Project No.:** 007.025

**To:** City of Las Vegas  
**Attn: Albert Sung**  
**Flood Control**  
333 N. Rancho Dr.  
Las Vegas, NV 89106  
Albert Sung

**Subject:** Buffalo & Oakey

The following items are forwarded by: HAND DELIVERY

### Description

2 Copies of the Addendum #1 to Drainage Study  
1- Check for \$400.00

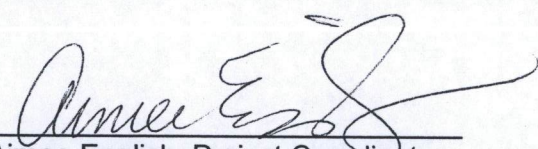
### These items are submitted :

☐ At your request  
☒ For your action

☒ For your review & approval  
☒ For your review & comments

☐ For your file  
☐ For information only

### Remarks

**By:**   
Aimee English, Project Coordinator

**Copies to:** Mark Jones, DR Horton  
File

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### Remarks

**By:**   
Aimee English, Project Coordinator

**Copies to:** Mark Jones, DR Horton  
File

**ADDENDUM#1**  
TO THE  
**TECHNICAL DRAINAGE STUDY**  
FOR  
**Buffalo/Oakey**  
**Residential Development**

CITY OF LAS VEGAS, NEVADA

Prepared for:

**D R Horton**

330 Carousel Parkway  
Henderson, Nevada 89014  
Office: (702)635-3663  
Fax: (702)208-9460

Prepared by:

**Triton Engineering**

6757 W. Charleston Blvd., Suite B  
Las Vegas, NV 89146  
Office: (702) 254-1480  
Fax: (702) 254-3062

APN 163-03-201-003; -004; -005

MAY 2014

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL  
**DRAINAGE STUDY INFORMATION FORM**

Name of Development: Technical Drainage Study for Buffalo/Oakey Residential Dev. ADDM 1 Date: MAY 2014

Location of Development: a) Descriptive (Cross Streets) North/South: Buffalo  
East/West: Oakey

b) Section: 3 Township: 21S Range: 60E

c) APN : 163-03-201-003; -004; -005

Name of Owner: Valencia A13004 Investors LLC - DR Horton, Developers

Telephone No.: (702)635-3663 Fax No.: (702) 2089-460 E-Mail Address: MEJones3@DRHorton.com

Address: 6468 Fosco Court, Las Vegas, NV 89131

Contact Person-Name: Kelly J. Wittwer, P.E. Telephone No.: (702) 254-1480

\* E-Mail Address: KWittwer@tritoneng.com Fax No.: (702) 254-3062

Firm: Triton Engineering, LLC

Address: 6757 West Charleston Boulevard, Suite B, Las Vegas, NV 89146

Type of Land Development/Land Disturbance Process:

|                          |                  |                                     |                          |                          |                              |
|--------------------------|------------------|-------------------------------------|--------------------------|--------------------------|------------------------------|
| <input type="checkbox"/> | Rezoning         | <input checked="" type="checkbox"/> | Subdivision Map          | <input type="checkbox"/> | Clearing and Grading Only    |
| <input type="checkbox"/> | Parcel Map       | <input type="checkbox"/>            | Planned Unit Development | <input type="checkbox"/> | Other (Please specify below) |
| <input type="checkbox"/> | Large Parcel Map | <input type="checkbox"/>            | Building Permit          |                          |                              |

1. Total Owned Land Area: At Site: 2.91 ac. Being Developed/Disturbed: 2.91 ac.

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

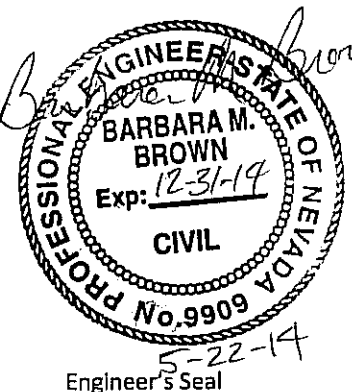
4. Proposed type of development (Residential, Commercial, Etc.): Residential

5. Approximate upstream land area which drains to the subject site: 0.5 acres

6. Has the site drainage been evaluated in the past? ☐ YES ☒ NO If yes, please identify documentation: \_\_\_\_\_

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: \_\_\_\_\_  
Discharge to natural flow path to the southeast.

8. Briefly describe your proposed schedule for the subject project: ASAP

|                                                                                                       |                                                                                                                                                                                                                       |      |
|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <br>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<br>**Review and concurrence of the Clark County Regional Flood Control District is required.                                                                                                      |      |
|                                                                                                       | Revision                                                                                                                                                                                                              | Date |
|                                                                                                       |                                                                                                                                                                                                                       |      |
|                                                                                                       |                                                                                                                                                                                                                       |      |
|                                                                                                       |                                                                                                                                                                                                                       |      |
|                                                                                                       | Local Entity File No. _____                                                                                                                                                                                           |      |
| REFERENCE:                                                                                            | STANDARD FORM 1                                                                                                                                                                                                       |      |

# **Triton**

## **Engineering**

May 22, 2014

Albert Sung, P. E.  
Flood Control Project Engineer  
City of Las Vegas Public Works Dept  
333 North Rancho Drive  
Las Vegas, NV 89106

Subject: Addendum #1 to the Technical Drainage Study for  
Buffalo and Oakley  
DS 4671A

Mr. Sung:

Triton Engineering has received the City of Las Vegas review comments for the above-referenced study, dated May 14, 2014 by the City. A coordination meeting was held on May 20, 2014 with yourself and Kelly Wittwer, James Pearce and Barbara Brown of our staff. Several issues were discussed at the meeting and were agreed upon as described in the comment responses as follows:

1. **Sites with a grade difference of 2 feet above or below existing are required to have approval from the City Planning and Development Department. It also appears that the lots on the east half of the development are about 10 feet higher than the houses to the east. The engineer must submit copies of the grading plans and detail sheet with a letter justifying the grade difference and the finished floor elevation difference to the City Planning Department (702.229.6301). The engineer must provide Planning approval with the next submittal.**

This was discussed at the coordination meeting. It is noted that the site is bound by existing development and grades on all four adjacent properties/roads. Even though the project's tentative map had shown the over 2-foot grade difference, a separate letter is required for coordination with the City's Planning and Development Department. Mr. Sung stated that he would accept this addendum submittal as long as the letter had been submitted to Planning. A copy of the letter has been included in the appendix of this submittal.

- 2. Per Condition #15 of TMP-52393: Contact the City Engineer's Office at 702.229.6272 to coordinate the development of this project with the "Buffalo Drive - Charleston to Sahara Restriping" project and any other public improvement projects adjacent to this site. Comply with the recommendations of the City Engineer.**

This was discussed at the coordination meeting. A phone call was made by James Pearce, P.E. to (702) 229-6272 to Dennis the project manager of the City's Buffalo Drive restriping project on May 21, 2014. Dennis indicated that the City was aware of our project and he has already asked Public Works to make sure to review the plans for compliance with the Buffalo Drive Project restriping project.

- 3. Lots 1 to 5 adjacent to Buffalo Drive are all lower than the corresponding street curb elevations. City of Las Vegas Flood Control views this as though the lots are in a flood zone. The perimeter wall along Buffalo needs to provide for flood protection during a major flood event.  
Revise Detail Sections A/4, B/4, and C/4 to clearly show that the wall above the adjacent landscape area must be 8-inches thick CMU or equivalent solid grouted for the first three blocks at a minimum. Review and revise accordingly.**

This was discussed at the meeting. It was agreed that solid grouting of the wall above the adjacent landscape area will be shown on the appropriate details of the subject project. The Grading Plans and details have been revised accordingly.

- 4. The 100-year flow in Buffalo Drive is 0.33'. The proposed hump in the entrance driveway does not provide enough freeboard (6"-min.) against 100-year flow depth in the street. Review and revise accordingly.**

This was discussed at the coordination meeting. As stated before, the site is bound by existing grades on all adjacent properties. The grading design of the site was intended to keep the site as low as possible when compared to surrounding homes and businesses. A hump in the entrance street to include the full 6" of freeboard would cause the site to be raised even higher over the surrounding properties. In addition, there is an existing high point in Buffalo Drive north of the entry street that minimizes the amount of runoff flow that is possible in the street. It was agreed to allow the entry street as designed, with minimal freeboard, where 6 inches would typically be required.

- 5. Address whether there is any easement of any kind in the adjacent property to the south for a legal drainage discharge by the subject development in the next submittal.**

This was discussed at the coordination meeting. Mr. Sung had printed a parcel map that showed dedication of a drainage easement on the parcel to the south of the site. Mr. Pearce stated that the easement had been vacated in a more recent document. A copy of the vacation document (VAC-91-78) is included in the appendix of this submittal and this south parcel is referenced as PARCEL II in this recorded vacation. Based on this vacation, it appears that no drainage easement exists currently on the property where runoff discharges from the site.

- 6. Slope less than 1% in a curvature is extremely difficult to construct and is highly likely to create minor ponding at various locations. The proposed 0.5% slope in the bulb of the cul-de-sac of Quartz Ledge Court is not acceptable. Provide 1% minimum slope in the bulb in the next submittal.**

This was discussed at the coordination meeting. Quick calculations were done at the meeting and it was concluded that raising the slope along the cul-de-sac would raise the amount of retaining wall by at least one course (8") of CMU block. In order to stay with the current design, and not raise the site, it was agreed to leave the slope as 0.5% and require that the construction of the curb and gutter be water-tested in order to assure that no ponding, etc. can occur. A note has been added to the Grading Plan to require this water testing condition.

- 7. Detail K/4: Revise the proposed cross slope in the riprap pad to provide a V-shaped section so that the nuisance flow from onsite will be contained and not impact the downstream property on a daily basis.**

This was discussed at the coordination meeting. It was agreed to allow a level bottom of the rip rap pad in order to induce as much infiltration and dropping of fine sediment as possible. The Grading Plan and details have been revised accordingly.

- 8. Upsize all proposed riprap to a minimum size of  $d(50)=8"$ . Review and revise accordingly.**

The grading plans and flow calculations have been revised to show minimum rip rap size of  $d(50)=8"$ .

- 9. The wrought iron fence proposed at the southeast corner of the development must utilize City of Las Vegas Standard Drawing 421B. Contact Raul Cruz at 702.229.3224 for the AutoCAD details (421 Series) to be included with the improvement plans.**

After coordination with Raul Cruz, the specified details have been added to the revised drawings in this submittal as requested.

**10. All drainage easements must be PUBLIC drainage easements to be privately maintained and common lots to be labeled on the grading plans and to be dedicated as such in the final map. Revise all detail sections accordingly.**

The revised drawings in this submittal have been changed to show the drainage easements as PUBLIC easements to be PRIVATELY maintained, and dedicated as such on the final map.

**11. Private streets must be public drainage easements. Provide a note on the grading plan "Note: All private streets are P.U.E., Public Sewer Easements and Public Drainage Easements to be Privately Maintained by the HOA".**

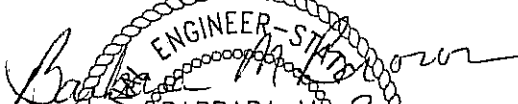
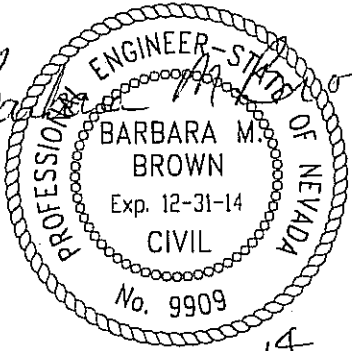
The revised drawings in this submittal have been changed to show the note as specified.

**12. The engineer must provide a table on the grading plans that shows a quantity estimate of all drainage improvements within Public Drainage Easements. All drainage improvements within Public Drainage Easements must be bonded and inspected.**

The revised drawings in this submittal have been changed to show the table as specified.

We hope that this response satisfies all your issues concerning the project. If you have any questions, please contact me at 702-376-8801, email [Momentum1@cox.net](mailto:Momentum1@cox.net).

Sincerely,

  
  
5-22-14

Momentum Engineers, Ltd.  
Barbara M. Brown, P. E.  
Subcontractor for  
Triton Engineering, LLC

## **APPENDIX**

**Copy of Comment Letter**

|                                                                            |                                                |                                                                                                   |
|----------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>CITY OF LAS VEGAS</b>                                                   |                                                | <b>DATE:</b>                                                                                      |
| <b>INTER-OFFICE MEMORANDUM</b>                                             |                                                | <b>May 14, 2014</b>                                                                               |
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| <b>SUBJECT:</b>                                                            | Drainage Study for:                            |                                                                                                   |
|                                                                            | <b>Buffalo / Oakey Residential Development</b> |                                                                                                   |
| <b>Cross Streets:</b>                                                      | NEC of Buffalo Drive & Oakey Boulevard         |                                                                                                   |
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| <b>FEMA Flood Zone</b>                                                     | YES                                            | NO <b>X</b>                                                                                       |
| <b>Proposed Storm Drain</b>                                                | YES                                            | NO <b>X</b>                                                                                       |
|                                                                            |                                                | <b>COPIES TO:</b><br>Triton Engineering<br>D.R. Horton<br>Bart Anderson, P.E., DevCo              |

| HISTORY                   | DATE RECEIVED | DATE REVIEWED | COMMENTS                   | REVIEW FEES     | FEES PAID<br>Payment Trn # |
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1. Sites with a grade difference of 2 feet above or below existing are required to have approval from the *City Planning and Development Department*. It also appears that the lots on the east half of the development are about 10' higher than the houses to the east. The engineer must submit copies of the grading plans and detail sheet with a letter justifying the grade difference and the finished floor elevation difference to the *City Planning Department* (229-6301). The engineer must provide Planning approval with the next submittal.
2. Per Condition #15 of TMP-52393: Contact the *City Engineer's Office* at 229-6272 to coordinate the development of this project with the "*Buffalo Drive – Charleston to Sahara Restriping*" project and any other public improvement projects adjacent to this site. Comply with the recommendations of the City Engineer.
3. Lots 1 to 5 adjacent to *Buffalo Drive* are all lower than the corresponding street curb elevations. *City of Las Vegas Flood Control* view this as though the lots are in a flood zone. The perimeter wall along *Buffalo* needs to provide for flood protection during a major flood event.

Revise **Detail Sections A/4, B/4 and C/4** to clearly show that the wall above the adjacent landscape area must be 8"-thick CMU or equivalent solid grouted for the first three blocks at a minimum. Review and revise accordingly.

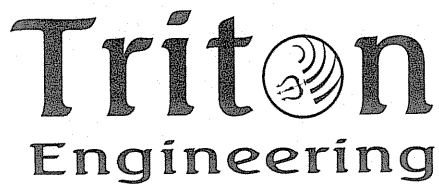
4. The 100-year flow in *Buffalo Drive* is 0.33'. The proposed hump in the entrance driveway does not provide enough freeboard (6"-min.) against the anticipated 100-year flow depth in the street. Review and revise accordingly.
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6. Slope less than 1% in a curvature is extremely difficult to construct and is highly likely to create minor ponding at various locations. The proposed 0.5% slope in the bulb of the cul-de-sac of *Quartz Ledge Court* is not acceptable. Provide 1% minimum slope in the bulb in the next submittal.
7. **Detail K/4:** Revise the proposed cross slope in the riprap pad to provide a V-shaped section so that the nuisance flow from onsite will be contained and not impact the downstream property on a daily basis.
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10. All drainage easements must be **PUBLIC** drainage easements to be privately maintained and common lots to be labeled on the grading plans and to be dedicated as such in the final map. Revise all detail sections accordingly.
11. Private streets must be public drainage easements. Provide a note on the grading plan "Note: All private streets are P.U.E., Public Sewer Easements and Public Drainage Easements to be Privately Maintained by the HOA".
12. The engineer must provide a table on the grading plans that shows a quantity estimate of all drainage improvements within Public Drainage Easements. All drainage improvements within Public Drainage Easements must be bonded and inspected.

**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**  
ays

T/R/S: T21S/R60E/03  
AREA Q-03

**Comment #1: Letter to Planning Dept.**



5/21/2014

City of Las Vegas -Building and Safety  
333 North Rancho Drive  
Las Vegas, Nevada 89106  
Attn: Linda Hartman

Re: Difference in elevation across eastern Boundary wall  
DR Horton - Buffalo and Oakey Project  
APN: 163-03-201-003, 004, & 005

Dear Linda,

Our project is a 2.9 acre infill development which is bounded by existing development on all four sides. The elevation of our project is set by the drainage outlet at the low end of our site at the southeast corner. As you can see from the drainage plans that accompanied our letter we have a slope of 0.5% from the drainage outlet to the top of the cul-de-sac bulb at the north end of the project. This is the minimum slope that we could get agreement on with Albert Sung in CLV Flood Control.

Since we are unable to obtain a drainage easement across the property south of our project we must match the elevation of the existing ground at the outlet point for our drainage. Under these conditions the pad grades shown on the plans are the lowest practical elevations possible. The pads on the existing development to the east of our site were built down about 7 feet below the existing ground at the time which makes the difference in pads across the boundary wall more than 10 feet. They used scarps and retaining to make up that difference from their pads to the existing ground at the time. When the development to the east built their perimeter wall there was virtually no slope to the south where drainage exits from our site in the existing condition. For our site to drain properly, the pad will need to be about five feet higher than existing ground in the northeast corner of our site. We have virtually no flexibility with the constraints we have on the project. It should be noted that we clearly showed the worst case condition on the sections that were part of the Tentative Map (TMP-52393) that was approved on 4-16-2014. We appreciate your consideration on this project.

Thank you,

A handwritten signature in cursive script that reads "James M. Pearce".

James M. Pearce, PE  
Sr. Vice President  
Triton Engineering

CC: Albert Sung, CLV Flood Control

**Comment #5: Drainage Easement  
Vacation Document**

BOOK 1207

AMENDED  
ORDER OF VACATION  
VAC-91-8

1166921

2-1

The Petition of C. C. PUBLIC WORKS for Vacation and  
Abandonment of certain property legally described as follows:

SEE ATTACHED

having been submitted to the Board of County Commissioners of Clark County, Nevada, and said petition by ORDER of said Commissioners having been referred on the 3th day of December, 19 78 having set a date for a Public Hearing thereon, which date was not less than 30 days nor more than 40 days subsequent to the date of posting relative to the Vacation and Abandonment as requested by the petitioner, and said Planning Commission having filed its report and made its recommendation relative to said Petition for Vacation and Abandonment prior to said Public Hearing, and

The Public Hearing on said matter having thereafter been duly held before the Board of County Commissioners on the 2nd day of January, 19 79, for the purpose of further considering any and all protests to the proposed Vacation and Abandonment as requested by the petitioner; and

There being        protestants and/or        persons in support of the Petition present at said Public Hearing, and the Board of Commissioners having heard evidence in support of the grant of said Petition, and/or its denial, and being fully advised in the premises; and

It appearing to the satisfaction of said Board that Vacation and Abandonment as requested would not adversely affect the public interest or result in any substantial detriment to person or persons,

NOW THEREFORE, pursuant to action of the Board of Commissioners of Clark County, Nevada, taken at its regular meeting on the 2nd day of January, 19 79,

IT IS HEREBY ORDERED THAT: the above described parcels be Vacated.

ATTEST:

LORETTA BOWMAN, COUNTY CLERK

STATE OF NEVADA )  
                          ) ss  
COUNTY OF CLARK)BOARD OF COMMISSIONERS  
Clark County, Nevada

By

Chairman

SAM BOWLER

Date

On this 26<sup>th</sup> day of MARCH, 19 80, personally appeared before me  
County Clerk of Clark County, Nevada,         
of the Board of Commissioners of Clark County, Nevada, known to me to be the person described  
in and who executed the foregoing instrument, and who acknowledged to me that he executed the  
same freely and voluntarily and for the uses and purposed therein mentioned.

LORETTA BOWMAN, COUNTY CLERK

RETURN

BOOK 1207

VAC-01-79

1166921  
Page 2 2-2

PARCEL I: The South 3 feet of the North 33 feet; the East 33 feet of the  $\frac{W}{2}$   $\frac{SW}{4}$   $\frac{SW}{4}$   $\frac{NW}{4}$  of Section 3, Township 21 South, Range 60 East.

Except therefrom the South 258.00 feet more or less, the North 30 feet for Doe Avenue and a 25 foot spandrel area in the Northwest corner thereof.

PARCEL II: The East 33 feet of the South 258.00 feet more or less of the  $\frac{W}{2}$   $\frac{SW}{4}$   $\frac{SW}{4}$   $\frac{NW}{4}$  of Section 3, Township 21 South, Range 60 East.

Except therefrom the South 40 feet for Oakley Boulevard.

PARCEL III: The South 3 feet of the North 33 feet ; the West 33 feet ; the West 3 feet of the East 33 feet of the North 396.78 feet of the  $\frac{E}{2}$   $\frac{SW}{4}$   $\frac{SW}{4}$   $\frac{NW}{4}$  of Section 3, Township 21 South, Range 60 East.

Save and except therefrom the North 30 feet for Doe Avenue, the East 30 feet for Tioga Street and a 15 foot spandrel area in the Northeast corner thereof.

GENERALLY LOCATED: ON THE NORTH SIDE OF OAKLEY BOULEVARD  
AND THE EAST SIDE OF BUFFALO ROAD.

CLARK COUNTY, MISSISSIPPI  
JOHN L. CLARK, CLERK  
RECORDED  
CLARK COUNTY ZONING

APR 1 11 04 AM '80

REC'D  
OFFICIAL RECORDS  
BOOK INSTRUMENT

1207 1166921

BOOK 1080

ORDER OF VACATION  
VAC-91-78

1039939

2-1

The Petition of C. C. PUBLIC WORKS for Vacation and  
Abandonment of certain property legally described as follows:

SEE ATTACHED

having been submitted to the Board of County Commissioners of Clark County, Nevada, and said petition by ORDER of said Commissioners having been referred on the 5th day of Dec., 19 78 having set a date for a Public Hearing thereon, which date was not less than 30 days nor more than 40 days subsequent to the date of posting relative to the Vacation and Abandonment as requested by the petitioner, and said Planning Commission having filed its report and made its recommendation relative to said Petition for Vacation and Abandonment prior to said Public Hearing, and

The Public Hearing on said matter having thereafter been duly held before the Board of County Commissioners on the 2nd day of January, 19 79, for the purpose of further considering any and all protests to the proposed Vacation and Abandonment as requested by the petitioner; and

There being        protestants and/or        persons in support of the Petition present at said Public Hearing, and the Board of Commissioners having heard evidence in support of the grant of said Petition, and/or its denial, and being fully advised in the premises; and

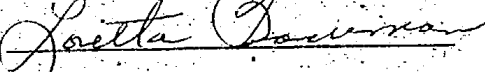
It appearing to the satisfaction of said Board that Vacation and Abandonment as requested would not adversely affect the public interest or result in any substantial detriment to person or persons,

NOW THEREFORE, pursuant to action of the Board of Commissioners of Clark County, Nevada, taken at its regular meeting on the 2nd day of January, 19 79,

IT IS HEREBY ORDERED THAT; the above described parcels be Vacated.

ATTEST:

LORETTA BOWMAN, COUNTY CLERK



STATE OF NEVADA )

) ss

COUNTY OF CLARK)

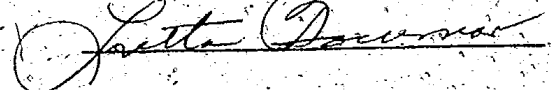
BOARD OF COMMISSIONERS  
Clark County, Nevada

By

  
Chairman  
SAM BOWLERJune 27, 1979  
Date

On this 27 day of June, 19 79, personally appeared before me  
County Clerk of Clark County, Nevada  
of the Board of Commissioners of Clark County, Nevada, known to me to be the person described  
in and who executed the foregoing instrument, and who acknowledged to me that he executed the  
same freely and voluntarily and for the uses and purposes therein mentioned.

LORETTA BOWMAN, COUNTY CLERK



BOOK 1080

1039939

PARCEL I: The South 3 feet of the North 33 feet; the East 33 feet of the W $\frac{1}{2}$  SW $\frac{1}{4}$  SW $\frac{1}{4}$  NW $\frac{1}{4}$  of Section 3, Township 21 South, Range 60 East.

Except therefrom the South 258.00 feet more or less, the North 30 feet for Doe Avenue and a 25 foot spandrel area in the Northwest corner thereof.

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Except therefrom the South 40 feet for Oakley Boulevard.

PARCEL III: The South 3 feet of the North 33 feet of the West 33 feet of the West 3 feet of the East 33 feet of the North 396.78 feet of the E $\frac{1}{2}$  SW $\frac{1}{4}$  SW $\frac{1}{4}$  NW $\frac{1}{4}$  of Section 3, Township 21 South, Range 60 East.

Save and except therefrom the North 30 feet for Doe Avenue, the East 30 feet for Tioga Street and a 15 foot spandrel area in the Northeast corner thereof.

GENERALLY LOCATED: ON THE NORTH SIDE OF OAKLEY BOULEVARD  
AND THE EAST SIDE OF BUFFALO ROAD.

VAC-91-78

PAGE 2

*Return to  
Zoning*

CLARK COUNTY NEVADA  
JOAN L. SWIFT, RECORDER  
RECORDED AT REQUEST OF  
CLARK COUNTY ZONING

JUL 5 10 22 AM '79

PER *AK* DEPUTY *AK*  
OFFICIAL RECORDS  
BOOK INSTRUMENT

1080 1039939

BOOK 213

(A-111)

Nevada 031176

173274

(2-1)

# The United States of America,

To all whom these presents shall come, Greeting:

WHEREAS, a Certificate of the Land Office at Reno, Nevada, has been issued showing that full payment has been made by the claimant Earl E. Cherrier

pursuant to the provisions of the Act of Congress approved June 1, 1938 (52 Stat. 609), entitled "An Act to provide for the purchase of public lands for home and other sites," and the acts supplemental thereto, for the following-described land:

Mount Diablo Meridian, Nevada.

T. 21 S., R. 60 E.,

Sec. 3, Lot 53.

The area described contains 5.42 acres, according to the Official Plat of the Survey of the said land, on file in the Bureau of Land Management:

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, and in conformity with the several Acts of Congress in such case made and provided, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT unto the said claimant and to the heirs of the said claimant the Tract above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said claimant and to the heirs and assigns of the said claimant forever; subject to any vested and accrued water rights for mining, agricultural, manufacturing, or other purposes, and rights to ditches and reservoirs used in connection with such water rights, as may be recognized and acknowledged by the local customs, laws, and decisions of courts; and there is reserved from the lands hereby granted, a right-of-way thereon for ditches or canals constructed by the authority of the United States. Excepting and reserving, also, to the United States all oil, gas and other mineral deposits, in the land so patented, together with the right to prospect for, mine, and remove the same according to the provisions of said Act of June 1, 1938. This patent is subject to a right-of-way not exceeding 33 feet in width, for roadway and public utilities purposes, to be located along the boundaries of said land.

IN TESTIMONY WHEREOF, the undersigned authorized officer of the Bureau of Land Management, in accordance with the provisions of the Act of June 17, 1948 (62 Stat. 476), has, in the name of the United States, caused these letters to be made Patent, and the Seal of the Bureau to be hereunto affixed.

GIVEN under my hand, in the District of Columbia, the NINTH day of APRIL, in the year of our Lord one thousand nine hundred and FIFTY-NINE and of the Independence of the United States the one hundred and EIGHTY-THIRD.

(SEAL)

SEAL  
AFFIXED

For the Director, Bureau of Land Management.

By Rose M. Beall Chief, Patents Section.

Patent Number 1191536

Return to: Earl E. Cherrier  
21710, Marjorie Ave.  
Torrance, California

270 111131

BOOK 213

173274  
(2-2)

173274  
NO  
RECORDED AT THE REQUEST OF  
*Eugene F. Cherner*  
SEP 11 2 10 PM '59  
OFFICIAL RECORDS BOOK NO. 213  
CLARK COUNTY, NEVADA  
PAUL C. O'MALLEY, RECORDER  
FEE \$ 3.00 DEPUTY

## **GRADING PLANS**

## ESTIMATE OF QUANTITIES

### DRAINAGE IMPROVEMENTS: (WITHIN PUBLIC DRAINAGE EASEMENTS)

|                              |          |
|------------------------------|----------|
| 2" ASPHALT PAVING            | 2,349 SY |
| TYPE 4 GRAVEL BASE           | 371 CY   |
| "A" TYPE CURB                | 162 LF   |
| CURB & GUTTER "L" TYPE       | 1,117 LF |
| VALLEY GUTTER                | 1,324 SF |
| DRAINAGE EASEMENT - CONCRETE | 2,168 SF |
| RIP RAP                      | 16 CY    |

NOTE TO CONTRACTOR:  
QUANTITIES SHOWN ARE APPROXIMATIONS ONLY AND ARE INTENDED TO ILLUSTRATE SCOPE OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT QUANTITIES INVOLVED.

NOTE: ALL PRIVATE STREETS ARE P.U.E., PUBLIC SEWER EASEMENTS AND PUBLIC DRAINAGE EASEMENTS TO BE PRIVATELY MAINTAINED BY THE HOA.

NOTE: ANY CURVED CURB LESS THAN 1% MUST BE WATER TESTED BY CONTRACTOR AS REQUIRED BY CITY INSPECTOR.

## FLOODZONE NOTE

THIS SITE IS LOCATED COMPLETELY WITHIN ZONE X PER FEMA MAP #32003C2145F, PANEL 2145F OF 4090 DATED NOV. 16, 2011. ZONE X IS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN.

## COMMON ELEMENTS

|                |          |
|----------------|----------|
| COMMON LOT - A | 6,418 SF |
| COMMON LOT - B | 3,509 SF |
| TOTAL          | 9,927 SF |

Avoid hitting overhead power lines. It's costly.

**Call before you do Overhead**

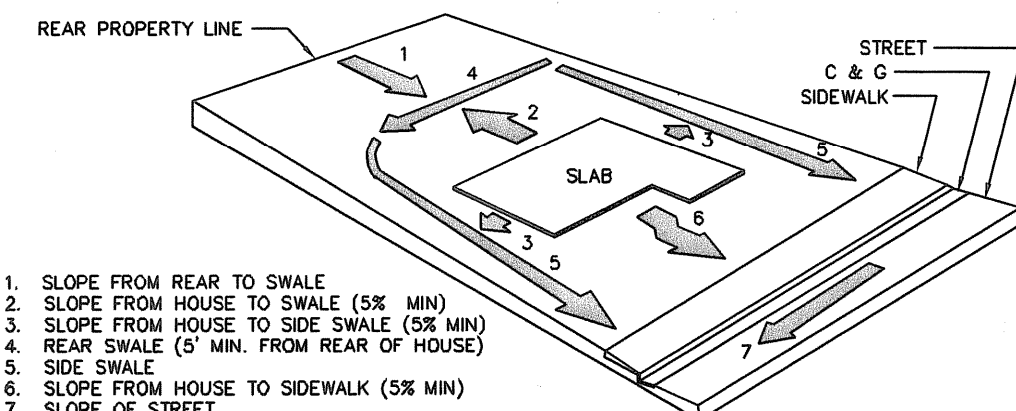
1-702-227-2929

**Call before you Dig**  
Avoid cutting underground utility lines. It's costly.



1-800-227-2600  
AND  
CLARK COUNTY TRAFFIC OPERATIONS  
1-702-455-7544

## TYPICAL LOT GRADING - TYPE "A" DRAINAGE



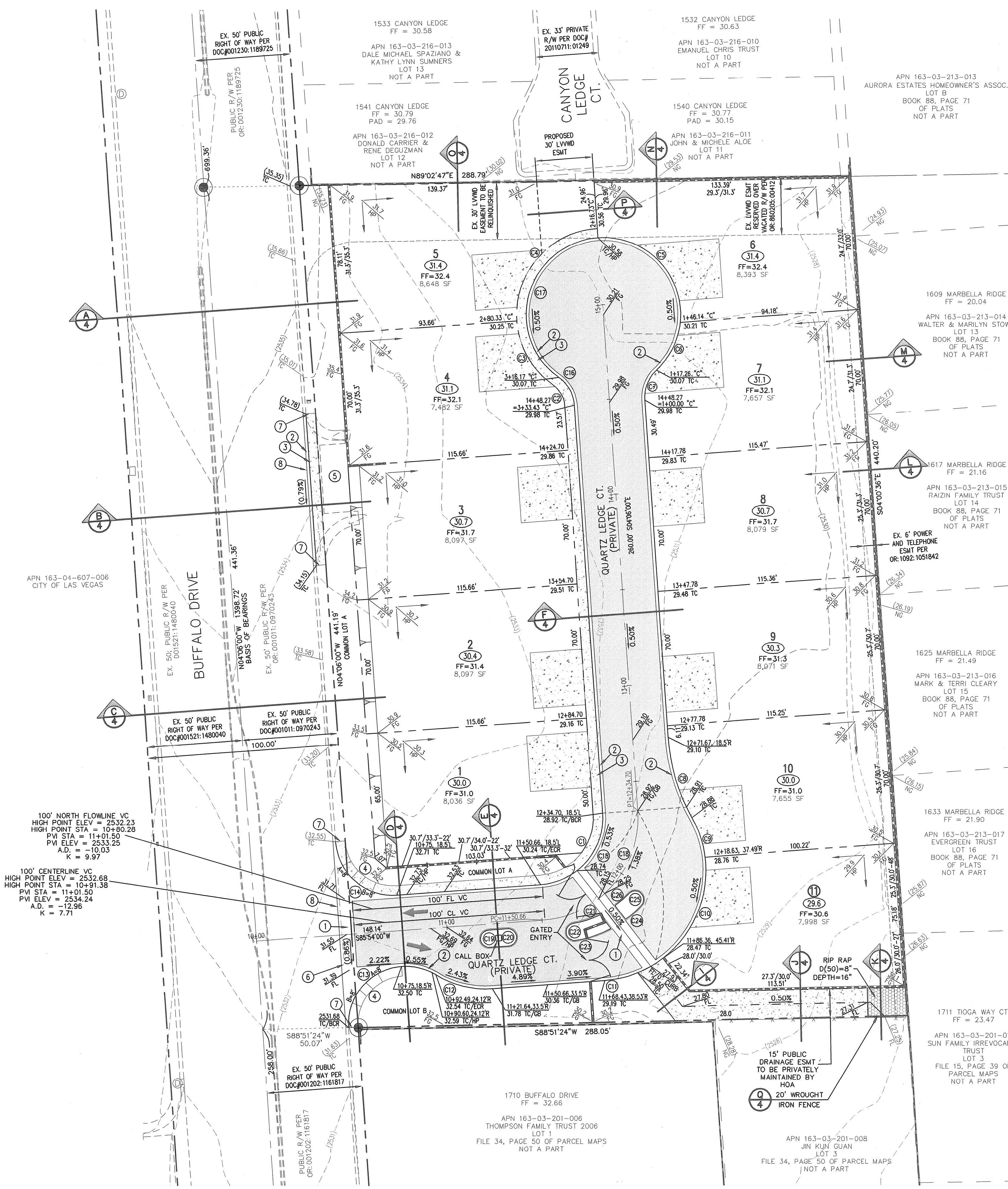
1. SLOPE FROM REAR TO SWALE
2. SLOPE FROM HOUSE TO SWALE (5% MIN)
3. SLOPE FROM HOUSE TO SIDE SWALE (5% MIN)
4. REAR SWALE (5% MIN FROM REAR OF HOUSE)
5. SIDE SWALE
6. SLOPE FROM HOUSE TO SIDEWALK (5% MIN)
7. SLOPE OF STREET

## GRADING NOTES

1. ALL PROPOSED PAD ELEVATIONS AND SWALE ELEVATIONS ARE ROUGH GRADES.
2. ALL OTHER PROPOSED ELEVATIONS ARE FINISHED GRADES.
3. ALL GRADING SHALL BE PERFORMED IN CONFORMANCE WITH THE LINES, GRADES AND DETAILS AS SHOWN ON THESE PLANS. ANY DEVIATION FROM THESE PLANS WILL ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE ENGINEER.
4. ALL PADS ARE TO BE GRADED WITHIN  $\pm 0.3'$  OF THE ELEVATIONS AS SHOWN ON THE PLANS. GRADING IS NOT COMPLETE UNTIL THE ENGINEER HAS CERTIFIED THAT THE PADS HAVE BEEN GRADED IN SUBSTANTIAL CONFORMANCE TO THE PLANS.
5. ALL PLACEMENT OF OVERSIZED MATERIALS AND/OR FILL MATERIALS SHALL BE PER THE SOILS REPORT REFERENCED ON THIS PLAN.
6. ALL PRIVATE STREETS ARE A P.U.E., CLV PUBLIC SEWER EASEMENTS, AND PUBLIC DRAINAGE EASEMENTS TO BE MAINTAINED BY THE HOME OWNERS ASSOCIATION.

## GRADING LEGEND

|                                                          |             |                                                                                             |
|----------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------|
| STREET CENTERLINE                                        | 98.63       | PROPOSED ELEVATION                                                                          |
| PROPOSED SWALE                                           | (98.63)     | EXISTING OFFSITE ELEVATION                                                                  |
| PROPOSED SETBACK LINE                                    | FG          | FINISHED GRADE                                                                              |
| PROPOSED HINGE LINE                                      | FL          | FLOW LINE                                                                                   |
| EXISTING OFFSITE IMPROVEMENTS                            | HP          | HIGH POINT                                                                                  |
| EDGE OF EXISTING OFFSITE ASPHALT                         | LP          | LOW POINT                                                                                   |
| CUT/FILL BOUNDARY                                        | TC          | TOP OF CURB                                                                                 |
| PROPOSED PROPERTY LINE                                   | TRC         | TOP OF ROLL CURB                                                                            |
| RETAINING WALL                                           | N.A.P.      | NOT A PART                                                                                  |
| GARDEN WALL                                              | 1+00.00 "C" | CUL-DE-SAC BACK OF CURB STATION                                                             |
| 2:1 SCARP                                                |             | HIGH POINT SWALE AND FLOW DIRECTION                                                         |
| GRADE BREAK                                              |             | EXISTING AC                                                                                 |
| PROPOSED RATE & FLOW DIRECTION                           |             | PROPOSED AC PAVING                                                                          |
| TOP OF FOOTING                                           |             | PROPOSED CONCRETE                                                                           |
| APPROX. WALL LENGTH *                                    |             | PROPOSED RIP RAP                                                                            |
| TOP OF RETAINING WALL                                    |             | L-TYPE TO 30" ROLL CURB                                                                     |
| * WALL EXTENDS LENGTH OF LOT IF WALL LENGTH IS NOT SHOWN |             | SIGHT VISIBILITY ZONE                                                                       |
| EXISTING INDEX CONTOUR                                   |             | NOTHING OVER 24" IN HEIGHT ALLOWED IN SIGHT VISIBILITY ZONE EXCEPT TRAFFIC CONTROL DEVICES. |
| EXISTING INTERMEDIATE CONTOUR                            |             |                                                                                             |
| LOT NUMBER                                               |             |                                                                                             |
| PROPOSED PAD ELEVATION                                   |             |                                                                                             |
| PROPOSED FINISH FLOOR                                    |             |                                                                                             |



## VICINITY MAP

SCALE: NONE



## BENCHMARK

CITY OF LAS VEGAS BENCHMARK OLIVIO 4E4  
A RIVET AND PLATE IN THE TOP OF CURB AT THE NORTHWEST CORNER OF BUFFALO DRIVE AND OAKLEY BOULEVARD.  
ELEVATION = 2531.47 U.S. SURVEY FEET  
(NAVD '88, 2008 ADJUSTMENT)

## BASIS OF BEARING

NORTH 04°06'00" WEST BEING THE BEARING OF THE WEST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 3, TOWNSHIP 21 SOUTH, RANGE 60 EAST, N.D.M., CLARK COUNTY, NEVADA, AS SHOWN ON THAT CERTAIN MAP ON FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN BOOK 125 OF PLATS, AT PAGE 16.

## SOILS INFORMATION

1. SOILS REPORT  
REPORT BY: AMERICAN SOILS ENGINEERING, LLC  
PROJECT NUMBER: 1671-GE0  
DATED: AUGUST 16, 2013
2. CUT TOTAL 7,014 C.Y.  
FILL TOTAL 1,342 C.Y.  
NET (CUT) 5,672 C.Y.

## CONSTRUCTION NOTES

1. CONSTRUCT 8" WIDE VALLEY GUTTER, PER CCAUSD No. 228
2. CONSTRUCT "L" TYPE CURB AND GUTTER, PER CCAUSD No. 216
3. CONSTRUCT 5" WIDE SIDEWALK, PER CCAUSD No. 234
4. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT, PER CCAUSD No. 235, CASE 1
5. REMOVE EXISTING DRIVEWAY ENTRANCE
6. REMOVE EXISTING L-CURB AND SIDEWALK
7. SAWCUT AND MATCH EXISTING CONCRETE
8. NEW CONCRETE TO BE POURED NEAT TO EXISTING A.C. PAVEMENT

## CURVE TABLE

| CURVE | LENGTH | RADIUS | DELTA      | TANGENT  |
|-------|--------|--------|------------|----------|
| C1    | 21.89  | 30.00  | 41°48'37"  | 11.46    |
| C2    | 12.83  | 14.50  | 50°42'13"  | 8.87     |
| C3    | 40.26  | 45.50  | 50°42'13"  | 21.56    |
| C4    | 71.47  | 45.50  | 90°00'00"  | 45.50    |
| C5    | 70.56  | 40.50  | 99°48'17"  | 48.11    |
| C6    | 28.90  | 40.50  | 40°52'56"  | 15.09    |
| C7    | 17.26  | 19.50  | 50°42'13"  | 9.24     |
| C8    | 44.07  | 100.00 | 25°14'58"  | 22.40    |
| C9    | 22.04  | 57.00  | 22°09'07"  | 11.16    |
| C10   | 59.59  | 57.00  | 58°54'07"  | 32.84    |
| C11   | 33.02  | 57.00  | 33°11'45"  | 16.99    |
| C12   | 31.12  | 50.00  | 35°39'33"  | 16.08    |
| C13   | 65.79  | 30.00  | 125°39'33" | 58.45    |
| C14   | 47.12  | 30.00  | 90°00'00"  | 30.00    |
| C15   | 54.98  | 35.00  | 90°00'00"  | 35.00    |
| C16   | 17.26  | 19.50  | 50°42'13"  | 9.24     |
| C17   | 99.46  | 40.50  | 140°42'13" | 113.43   |
| C18   | 84.04  | 53.50  | 90°00'00"  | 53.50    |
| C19   | 14.14  | 4.50   | 180°00'00" | INFINITE |
| C20   | 14.14  | 4.50   | 180°00'00" | INFINITE |
| C21   | 14.92  | 52.21  | 16°22'30"  | 7.51     |
| C22   | 14.14  | 4.50   | 180°00'00" | INFINITE |
| C23   | 18.42  | 61.21  | 18°10'33"  | 9.79     |
| C24   | 10.91  | 61.21  | 10°12'27"  | 5.47     |
| C25   | 14.14  | 4.50   | 180°00'00" | INFINITE |
| C26   | 9.59   | 52.21  | 10°31'20"  | 4.81     |

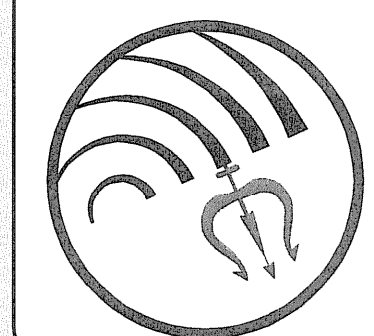


GRAPHIC SCALE

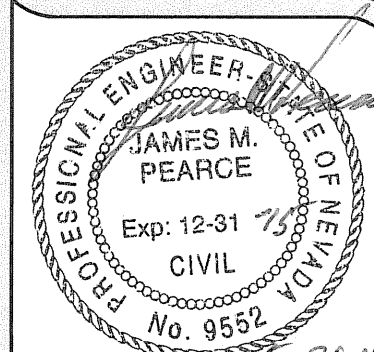
( IN FEET )  
1 inch = 30 ft.

|             |           |
|-------------|-----------|
| DATE        | 04/22/14  |
| PM          | J. PEARCE |
| DRAWN BY    | D.R.      |
| DESIGNED BY | D.R.      |
| CHECKED BY  | T.E.      |
| ADA CHECKED | T.E.      |
| JOB NO.     | 007-025   |
| SCALE       | 1" = 30'  |

**Triton Engineering**  
Office: 702-254-1460  
6750 W. Charleston Blvd.  
Suite 800  
Las Vegas, Nevada 89146  
www.tritoneng.com



DR HORTON  
BUFFALO / OAKLEY  
GRADING PLAN



SHEET **3** OF ##  
C.L.V. DWG.#

