

DS #: 5145

APN: 125-21-299.001

PROJECT: Monkeito Offsite Dso Blanca Road. Update #1

SUBMITTAL: 4th

SCANNED BY/DATE:

CHECKED BY/DATE:



|                                                                            |                                                      |                                                                                                                                                                                          |
|----------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CITY OF LAS VEGAS</b>                                                   |                                                      | <b>DATE:</b>                                                                                                                                                                             |
| <b>INTER-OFFICE MEMORANDUM</b>                                             |                                                      | <b>September 24, 2019</b>                                                                                                                                                                |
| <b>TO:</b><br>Land Development Services<br>Department of Building & Safety |                                                      | <b>FROM:</b><br>Jennifer Shinn, P.E. <br>Flood Control, Engr. Associate<br>Department of Public Works |
| <b>SUBJECT:</b>                                                            | Drainage Study for:                                  | <b>COPIES TO:</b>                                                                                                                                                                        |
|                                                                            | <b>Montecito Offsite Oso Blanca Road – Update #1</b> | SHG                                                                                                                                                                                      |
| <b>Cross Streets:</b>                                                      | NEC of Oso Blanca Road and Deer Springs Way          | KB Home                                                                                                                                                                                  |
| <b>File Number:</b>                                                        | F:\Depot\DSMemos\DS5145D.doc                         | Bart Anderson, P.E., DevCo                                                                                                                                                               |
| <b>Parcel Number:</b>                                                      | 125-21-299-001                                       | CCRFCD                                                                                                                                                                                   |
| <b>Zoning Action:</b>                                                      | TMP-74639                                            | NDOT                                                                                                                                                                                     |
| <b>FEMA Flood Zone</b>                                                     | YES NO <b>X</b>                                      |                                                                                                                                                                                          |
| <b>Proposed Storm Drain</b>                                                | YES <b>X</b> NO                                      |                                                                                                                                                                                          |

| HISTORY                   | DATE RECEIVED | DATE REVIEWED | COMMENTS                     | REVIEW FEES     | FEES PAID<br>Payment Trn # |
|---------------------------|---------------|---------------|------------------------------|-----------------|----------------------------|
| 1 <sup>st</sup> Submittal | 5/28/2019     | 6/25/2019     | See Comments Below           | \$400.00        | 3147347: \$400             |
| 2 <sup>nd</sup> Submittal | 7/10/2019     | 7/30/2019     |                              | \$0.00          | N/C                        |
| 3 <sup>rd</sup> Submittal | 8/21/2019     | 8/21/2019     | NDOT & CCRFCD<br>Concurrence | \$0.00          | N/C                        |
| 4 <sup>th</sup> Submittal | 9/16/2019     | 9/24/2019     |                              | \$100.00        | 3567221: \$100             |
|                           |               |               | <b>TOTAL FEES (LDDRS):</b>   | <b>\$500.00</b> | ----                       |

#### REMARKS:

#### Update #1 relocated drop inlet

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. Continue coordination with NDOT Project Engineer for existing utility locations and proposed relocations within NDOT right-of-way.

**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.

**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**  
JKS

T/R/S: T19S/R60E/21  
AREA G-20

**TECHNICAL DRAINAGE STUDY  
UPDATE**

**Montecito Offsite Oso Blanca Road**

City of Las Vegas, Nevada

Job No.: KBH1805.006

Date: September 2019

**Prepared For:**

KB Home

5795 Badura Avenue, Ste 180

Las Vegas, NV 89118

Phone: 702-266-8400 • Fax: 702-266-8623

**Prepared By:**

Slater Hanifan Group, A Westwood Team

5740 S. Arville Street, Suite 216

Las Vegas, Nevada 89118

Phone: 702-284-5300 • Fax: 702-284-5399



A handwritten signature in blue ink, appearing to read "Stanley Okey Amadi", written over a horizontal line.

09/12/19

Stanley Okey Amadi, P.E., CFM  
NV Professional Engineer No. 21724



KBH1805-006

September 12, 2019

Jennifer Shinn, P.E. – Senior Engineering Associate  
City of Las Vegas Department of Public Works  
333 N. Rancho Drive  
Las Vegas, Nevada 89106

**Subject: Technical Drainage Study Update for Montecito - Offsite Oso Blanca Road (DS5145)**

Ms. Shinn:

This letter certifies that all items provided on the *Technical Drainage Study Update for Montecito Offsite – Oso Blanca Road* submittal CD match the paper version bound into the study.

Respectfully Submitted,  
SLATER HANIFAN GROUP

Stanley Okey Amadi, P.E., CFM  
Project Manager – Flood Control Division

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

Name of Development: Montecito - Offsite Oso Blanca Road - TDS Update Date: September 2019  
 Location of Development: a) Descriptive (Cross Streets): North/South: Oso Blanca Road  
East/West: Deer Springs Way  
 b) Section: 21 Township: 19 South Range: 60 East  
 c) APN: 125-21-299-001

Name of Owner: Public Right-of-Way/KB Home  
 Telephone No.: (702) 266-8400 Fax No.: (702) 266-8623 E-mail Address: pchao@kbhome.com  
 Address: 5795 Badura Ave Ste 180 Las Vegas NV 89118

Contact Person - Name: Stanley Okey Amadi, P.E., CFM Telephone No.: (702) 284-5300  
 \*E-mail Address: Samadi@shg-inc.com Fax No.: (702) 284-5399  
 Firm: Slater Hanifan Group, A Westwood Team  
 Address: 5740 S. Arville #216 Las Vegas NV 89118

Type of Land Development/Land Disturbance Process:

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

1. Total Owned Land Area: At Site: 52.4 +/- acres Being Developed/Disturbed: 3.28 +/- acres

2. Is a portion or all of the subject property located in a 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.): Roadway Improvements

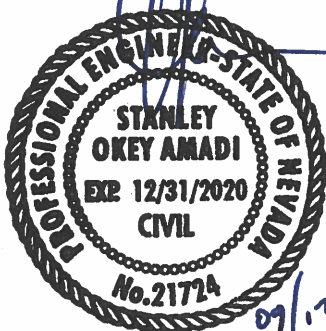
5. Approximate upstream land area which drains to the subject site: 86 +/- acres

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

TDS for Montecito Storm Drain Infrastructure (DS-5108)

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: To CCRFCD (CN95 000) facility along US95

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.

**\*Newly 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



KBH1805.006

September 12, 2019

Ms. Jennifer Shinn, P.E.  
Flood Control Senior Engineering Associate  
City of Las Vegas Department of Public Works  
333 N. Rancho Drive  
Las Vegas, Nevada 89106

**Subject: Technical Drainage Study Update for Montecito – Offsite Oso Blanca Road (DS5145)**

Dear Ms. Shinn:

This letter is provided as an Update to the Technical Drainage Study for Montecito - Offsite Oso Blanca Road; hereinafter referred to as the Update Study. The original Technical Drainage Study for Montecito - Offsite Oso Blanca Road was recently approved by the City of Las Vegas (CLV) on July 31, 2019 with Clark County Regional Flood Control District (CCRFCD) concurrence issued on August 21, 2019. However, upon improvement plan review, the CLV traffic department has requested that the proposed right turn pocket providing storage and access to the existing Deer Springs Ranch subdivision be extended a minimum of 150 lineal feet. As a result of the change in the design of the right turn pocket, the proposed drop inlet (SDDI #8) and 18" RCP lateral will need to be relocated to align with the curb and gutter. Hence, the CLV Flood Control department has requested an update to the approved original study.

The purpose of this Update Study is to assess any impacts to the street hydraulics and capture capacity of the relocated drop inlet and storm drain lateral. This update will support the revisions to the street design to incorporate the additional right turn pocket and relocation of the drop inlet and storm drain lateral.

### **Revisions**

Drop Inlet: As a result of the additional right turn pocket being proposed, the drop inlet (SDDI #8) will be slightly relocated southwesterly from Sta:46+37.78 to Sta:46+23.62. However, the street longitudinal and cross slopes remain relatively the same as previously designed. Thus, the inlet intersection capacity will remain same as previously approved. Consequently, a revision to the drop inlet capacity calculation has not been provided. Note that the drop inlet as designed, captures a 100-year flow of 3.5 cfs.

Storm Drain Lateral: The length of the 18" RCP lateral for SDDI #8 increased by approximately 17.93-ft (from 17.99 lineal feet to 35.92 lineal feet) due to the additional right turn pocket. Consequently, the Standard Form 6 (SF6) calculation has been revised to estimate the additional friction loss and determine the updated HGLs for the storm drain lateral. The revised SF6 shows that the 18" RCP lateral still has adequate capacity to convey the flows captured by the drop inlet.

Drainage Exhibit(s): The drainage patterns and peak flow rates conveyed by the proposed inlets and storm drain laterals remains the same in direction and magnitude as previously approved. Therefore, the drainage exhibits have not been revised.

## Conclusions

The proposed revisions to include additional right turn pocket, relocate drop inlet and extend the storm drain lateral for the inlet will not cause any negative impacts to the roadway design. The revisions will not cause any negative impact to the adjacent properties and the design still satisfies the Nevada Department of Transportation (NDOT) spread criteria. The results of the updated SF6 calculation indicate that the lateral storm drain has adequate capacity to convey the design discharge and satisfy the design criteria stipulated in the CCRFCD HCDDM.

Please refer to the updated hydraulic calculation and revised improvement plans provided with this submittal for additional details. If you have any questions or require additional information, please do not hesitate to contact our office at (702) 284-5300.

Respectfully Submitted,

SLATER HANIFAN GROUP



Stanley Okey Amadi, P. E., CFM  
Project Manager - Flood Control Division

pc: Mark Failla, P.E., CFM - SHG  
Tim Mulrooney, P.E. – SHG  
Matt Key, E.I., - SHG

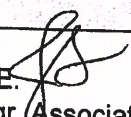
### **LIST OF APPENDICIES**

- Appendix A      Approval Letter(s)**
- Appendix B      Standard Form 6 Computation**
- Appendix C      Reference Material**  
Technical Drainage Study for Montecito Offsite Oso Blanca Road (DS5145)
- Report Excerpts
  - Standard Form 6 Computation
  - Referenced Drainage Exhibits
  - Referenced Improvement Plans
- Appendix D      CD of Electronic Files & Revised Improvement Plans**

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## APPENDIX A

Approval Letter(s)

|                                                                                 |                                             |                                                                                                                                                                                          |
|---------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CITY OF LAS VEGAS<br/>INTER-OFFICE MEMORANDUM</b>                            |                                             | <b>DATE:</b><br>July 31, 2019                                                                                                                                                            |
| <b>TO:</b><br>Land Development Services<br>Department of Building & Safety      |                                             | <b>FROM:</b><br>Jennifer Shinn, P.E. <br>Flood Control, Engr. Associate<br>Department of Public Works |
| <b>SUBJECT:</b> Drainage Study for:<br><b>Montecito Offsite Oso Blanca Road</b> |                                             | <b>COPIES TO:</b><br>SHG                                                                                                                                                                 |
| <b>Cross Streets:</b>                                                           | NEC of Oso Blanca Road and Deer Springs Way | KB Home                                                                                                                                                                                  |
| <b>File Number:</b>                                                             | F:\Depot\DSMemos\DS5145A.doc                | Bart Anderson, P.E., DevCo                                                                                                                                                               |
| <b>Parcel Number:</b>                                                           | 125-21-299-001                              | CCRFCD                                                                                                                                                                                   |
| <b>Zoning Action:</b>                                                           | TMP-74639                                   | NDOT                                                                                                                                                                                     |
| <b>FEMA Flood Zone</b>                                                          | YES NO <b>X</b>                             |                                                                                                                                                                                          |
| <b>Proposed Storm Drain</b>                                                     | YES <b>X</b> NO                             |                                                                                                                                                                                          |

| HISTORY                    | DATE RECEIVED | DATE REVIEWED | COMMENTS           | REVIEW FEES     | FEES PAID<br>Payment Trn # |
|----------------------------|---------------|---------------|--------------------|-----------------|----------------------------|
| 1 <sup>st</sup> Submittal  | 5/28/2019     | 6/25/2019     | See Comments Below | \$400.00        | 3147347: \$400             |
| 2 <sup>nd</sup> Submittal  | 7/10/2019     | 7/30/2019     |                    | \$0.00          | N/C                        |
| <b>TOTAL FEES (LDDRS):</b> |               |               |                    | <b>\$400.00</b> | <b>----</b>                |

#### 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:                                   |
| <b>X</b> | is conditionally approved subject to Clark County Regional Flood Control District concurrence. |
|          | is conditionally approved subject to Clark County Public Works Department concurrence.         |

- This drainage study is acceptable in concept;** however, City of Las Vegas will not formally accept the study until the Clark County Regional Flood Control District (CCRFCD) has issued a letter of concurrence. The engineer should contact the CCRFCD to confirm that they have begun their review.
- The project proposes to construct facilities and/or increase flows within Nevada Department of Transportation (NDOT) right-of-way. The engineer must contact NDOT for encroachment permit for the proposed project.
- Continue coordination with NDOT Project Engineer for existing utility locations and proposed relocations within NDOT right-of-way.

**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.

**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**

JKS

T/R/S: T19S/R60E/21

AREA G-20

# REGIONAL FLOOD CONTROL DISTRICT



Steven C. Parrish, P.E.  
General Manager/Chief  
Engineer

## **BOARD OF DIRECTORS**

Lawrence L. Brown, III  
Chair  
Clark County

Mayor Debra March  
Vice-Chair  
City of Henderson

George Gault  
City of Mesquite

James B. Gibson  
Clark County

Mayor Carolyn Goodman  
City of Las Vegas

Stavros Anthony  
City of Las Vegas

Isaac Barron  
City of North Las Vegas

Mayor Kiernan McManus  
City of Boulder City

August 21, 2019

Mr. Oh Sang Kwon, P.E.  
City of Las Vegas Department of Public Works  
333 North Rancho Drive  
Las Vegas, NV 89106

## **DISTRICT CONCURRENCE: MONTECITO OFFSITE OSO BLANCA ROAD (DS5145A) (RFCD No. 19-11334)**

Dear Mr. Kwon:

Clark County Regional Flood Control District (District) reviewed Technical Drainage Study dated May 28, 2019, and Addendum No. 1 dated July 10, 2019 for above-mentioned project as submitted by SLATER HANIFAN GROUP, A WESTWOOD TEAM. In addition, District is in receipt of the Conditional Letter of Acceptance from City of Las Vegas Department of Public Works dated July 31, 2019.

District concurs with acceptance of this Technical Drainage Study by City of Las Vegas Department of Public Works with the following condition(s):

Per District Policies and Procedures Manual, Section VIII.D.13 Uniform Regulations for the Control of Drainage, the Lead Entity shall provide As-Built plans or record drawings to the District after completion and final inspection of such privately installed flood control facilities that have a regional flood control significance.

District's review of this project was limited to issues of Regional Flood Control Significance as defined in *Uniform Regulations for the Control of Drainage*.

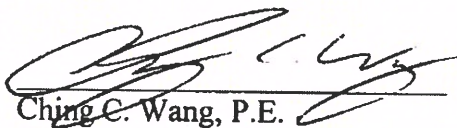
Please be aware that as additional information becomes available and/or restudies of Flood Insurance Studies are performed, information submitted by SLATER HANIFAN GROUP, A WESTWOOD TEAM may be superseded. Compliance with regulatory elements and design standards specified in *Uniform Regulations for the Control of Drainage* does not imply a guarantee that properties will be free from flooding or flood damage. The District, its officials, or employees assume no liability for information, data, or conclusions presented by consulting engineers. We, therefore, make no warranties, either expressed or implied, in conducting this review.



Mr. Oh Sang Kwon, P.E.  
August 21, 2019  
Page 2

STEVEN C. PARRISH, P.E.  
General Manager/Chief Engineer

BY:

  
Ching C. Wang, P.E.  
Senior Civil Engineer

CCW:dd

c: Stanley Okey Amadi, P.E., Slater Hanifan Group, A Westwood Team

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## APPENDIX B

### Standard Form 6 Computation



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## APPENDIX C

### Reference Material

**TECHNICAL DRAINAGE STUDY  
ADDENDUM**

**Montecito Offsite Oso Blanca Road**  
City of Las Vegas, Nevada

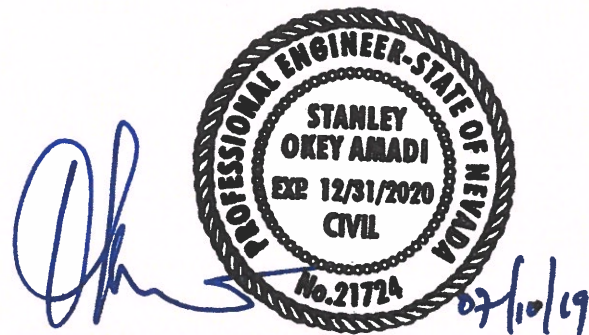
Job No.: KBH1805.006  
Date: July 2019

**Prepared For:**  
KB Home

5795 Badura Avenue, Ste 180  
Las Vegas, NV 89118  
Phone: 702-266-8400 • Fax: 702-266-8623

**Prepared By:**

Slater Hanifan Group, Inc.  
5740 S. Arville Street, Suite 216  
Las Vegas, Nevada 89118  
Phone: 702-284-5300 • Fax: 702-284-5399



Stanley Okey Amadi, P.E., CFM  
NV Professional Engineer No. 21724

Assisted by Jonathan S. Rocha, E.I.



KBH1805.006

7/10/2019

Ms. Jennifer Shinn, P.E. – Flood Control Engineering Associate  
City of Las Vegas Department of Public Works  
333 N. Rancho Drive  
Las Vegas, Nevada 89106

**Subject: Addendum to the Technical Drainage Study for Montecito - Offsite Oso Blanca Road (DS5145)**

Dear Ms. Shinn:

This letter is submitted in response to the comments contained in the June 27, 2019 review memorandum, regarding the above referenced project. A copy of the City of Las Vegas (CLV) comment letter has been provided in Appendix A.

The comments in the review memorandum have been individually addressed as follows:

1. **Comment:** *The site is adjacent to or crosses an existing or proposed Clark County Regional Flood Control District (CCRFCD) master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study.*

*When it is applicable, structural calculations of facilities must be approved by the City prior to submittal to Clark County Regional Flood Control District for their review and concurrence.*

*Please note that effective March 15, 2019, the CCRFCD adopted new requirements for drainage study concurrence submittals. Follow the link below for specific guidance.*

<http://gustfront.ccrfcd.org/LandDeve/LandDev.aspx>;

**Response:** Acknowledged. A copy of the study and pertinent addendum will be submitted to CCRFCD for review and concurrence upon receipt of a condition approval from the City of Las Vegas.

2. **Comment:** *The project proposed to construct facilities and/or increase flows within Nevada Department of Transportation (NDOT) right-of-way. The engineer must contact NDOT for encroachment permit for the propose project;*

**Response:** Noted. The study and improvement plans will be submitted to NDOT for review and concurrence as well as encroachment permitting for the project.

3. **Comment:** *Project assumes Montecito Storm Drain Infrastructure is constructed. The drainage study cannot be conditionally approved prior to the conditional approval of the Montecito Storm Drain Infrastructure study (DS5108);*

**Response:** Acknowledged. Note that the Montecito Storm Drain Infrastructure Study was conditionally approved by CLV on June 20, 2019.

4. **Comment:** *Remove references to CIPCP, including Construction Note 12. The City currently does not allow CIPCP;*

**Response:** Noted. Please refer to the revised plans provided in Appendix F.

5. **Comment:** *Storm drain manhole required where two or more storm drains converge. Per NDOT standards, care should be taken to ensure manholes are not located within the normal vehicle wheel path;*

**Response:** Acknowledged. Note that the portion of the mainline storm drain infrastructure per DS5108 traversing across Oso Blanca Road near approximate Station 60+75 has been revised to a 7'x3' RCB. Thus, the proposed drop inlet laterals will now be connected to the transition structures which are provided with access manholes. The lateral loss computations for the drop inlet laterals have been updated to reflect the starting HGL from the referenced WSPGW for the 7'x3' RCB. The revised lateral loss computation is included in Appendix C and the referenced WSPGW model is included in Appendix D.

6. **Comment:** *Continue coordination with NDOT Project Engineer for existing utility locations and proposed relocations within NDOW right-of-way;*

**Response:** Acknowledged.

7. **Comment:** *The FlowMaster sections for OA-S and OA-N do not appear to match Section Detail D/D-1 (roadside swale). Review and revise accordingly;*

**Response:** Sections OA-S and OA-N were provided for the improved street section just upstream of the proposed drop inlets (SDDI#1 & SDDI#2). New Swale Section OA-S that reflects Detail D/D-1 with the roadside swale have been provided in Appendix C.

8. **Comment:** *Provide FlowMaster sections to demonstrate NDOT design criteria for Roadway Surfaces, specifically, provide sections downstream of drop inlets where flows bypass the system and remain in the right-of-way;*

**Response:** Oso Blanca Road adjacent to the site is classified as a frontage road per the 2019 State Maintained Highways of Nevada Descriptions Map. The NDOT Drainage Manual specifies the minimum design return frequency for frontage roads as the 10-year storm event. The Drainage Manual also specifies the maximum allowable spread into the adjacent travel lane to be one-half of the lane width based on the 10-year storm event peak flows. Review of the prior submittal shows that all the proposed 10-year storm event drop inlet computations indicate zero bypass flows with the exception of Facilities FD5-S and FD6-S that shows bypass of 2.5 cfs and 0.5 cfs respectively. Therefore, by inspection, additional hydraulic cross section downstream of the drop inlets with zero bypass flows are not required to demonstrate that the NDOT design criteria are satisfied. However, it should be noted that the street slope utilized at Sections OA (N & S) was 1.80% whereas correct slope adjacent to the site and the proposed drop inlet(s) Facilities FD5-N & FD5-S is 2.19%. Consequently,

the street sections and pertinent inlet capacity calculations have been updated to match the design street slope on the plans. Note that Facility FD5-S has been upsized from a 7.5-ft Type CM2 inlet to a 12.5-ft Type CM2 inlet. Therefore, all the southern street and inlet capacity calculations have been updated to reflect the revised bypass flows from the inlets. The revised calculation for Facility FD5-S shows the maximum bypass flow of 1.3 cfs. An additional street Section OA-S downstream of Facility FD5-S with the bypass flow of 1.3 cfs indicates a flow depth of 0.26-ft and a top width 5.98-ft from the face of curb. Subtracting the gutter width of 1.50-ft yields a spread of 4.48-ft. The design travel lane width is 11.50-ft per the approved tentative map. Therefore, the 1.30 cfs bypass flow satisfies the spread criteria of no more than a travel lane width. Note that the bypass flow from the remainder downstream inlets (Facilities FD6-S, FD7-S & FD8-S) are all less than 1.30 cfs and will likewise satisfy the spread criteria. Hence, no additional calculations have been provided to illustrate that the spread criterium is satisfied downstream of the inlets. Please refer to Appendix C for the revised hydraulic calculations. Reference excerpts from the NDOT 2019 State Maintained Highways of Nevada Descriptions Map and the Drainage Manual have been included in Appendix E.

We believe the above responses and revisions provided on the plans have adequately satisfied your concerns in the subject review memorandum. The revised plan, profile, and detail sheets adopting the revisions addressed in in this letter have been included in Appendix F. If you have any questions or require additional information, please do not hesitate to contact our office at (702) 284-5300.

Respectfully Submitted,

SLATER HANIFAN GROUP A WESTWOOD TEAM

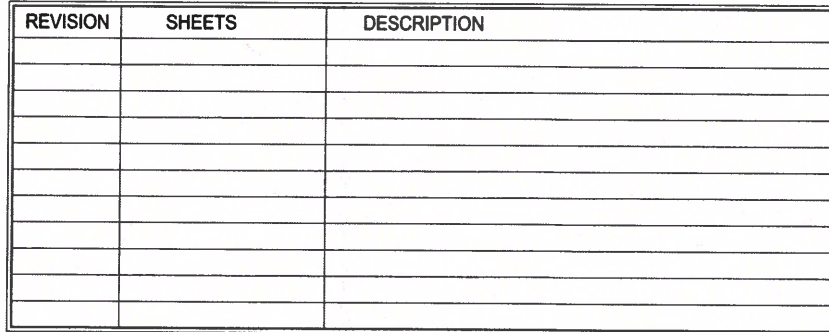


Stanley Okey Amadi, P.E., CFM  
Project Manager – Flood Control Division

cc: Mark Failla, P.E., CFM – SHG  
Tim Mulrooney, P.E. – SHG  
Matt Key, E.I. – SHG







**SITE MAP**  
NOT TO SCALE

| SHEET INDEX |       |                                                   |
|-------------|-------|---------------------------------------------------|
| NO          | SHEET | TITLE                                             |
| 1           | C-1   | COVER SHEET                                       |
| 2           | C-2   | GENERAL NOTES                                     |
| 3           | C-3   | LEGEND, ABBREVIATIONS, AND QUANTITIES             |
| 4           | PP-1  | PLAN & PROFILE - OSO BLANCO RD STA 67+50 TO 62+50 |
| 5           | PP-2  | PLAN & PROFILE - OSO BLANCO RD STA 62+50 TO 57+50 |
| 6           | PP-3  | PLAN & PROFILE - OSO BLANCO RD STA 57+50 TO 52+50 |
| 7           | PP-4  | PLAN & PROFILE - OSO BLANCO RD STA 52+50 TO 48+00 |
| 8           | PP-5  | PLAN & PROFILE - OSO BLANCO RD STA 48+00 TO 43+50 |
| 9           | SD-1  | PLAN & PROFILE - STORM DRAIN I                    |
| 10          | SD-2  | PLAN & PROFILE - STORM DRAIN II                   |
| 11          | SD-3  | PLAN & PROFILE - STORM DRAIN III                  |
| 12          | D-1   | STREET SECTIONS & GRADING DETAILS I               |

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXCEPT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING 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 IN THEIR PROPER LOCATION.

MON

NOTE: ALL LAND SURFACE AREA DISTURBANCES OVER 1 ACRE REQUIRE A STORMWATER DISCHARGE PERMIT ISSUED BY THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP). A PHASED CONSTRUCTION UNIT IN A CONTIGUOUS SUBDIVISION OR A CONSTRUCTION UNIT WITH STRIPPED SURFACE AREAS HAVE BEEN COVERED BY PAVING, BUILDING CONSTRUCTION, OR PLANTING. STORMWATER DISCHARGE PERMIT APPLICATION AND ASSOCIATED INFORMATION MAY BE DOWNLOADED FROM THE WEB SITE: <http://www.state.nv.us/bwpc/storm01.htm> PROJECTS THAT DISTURB MORE THAN ONE ACRE OF LAND MUST SUBMIT TO NDEP A "NOTICE OF INTENT" FOR INCLUSION UNDER STORMWATER PERMIT NO. NVR100000 ALONG WITH APPROPRIATE FILING FEE.



Call before you Dig  
AVOID CUTTING UNDERGROUND  
UTILITY LINES. IT'S COSTLY.

Call  
**811**  
OR  
1-800-237-2600

CITY ENGINEER-ALLEN PAVELKA PE. #9029 DATE

APPROVAL OF THESE PLANS BY THE CITY ENGINEER IS LIMITED TO THOSE IMPROVEMENTS CONSTRUCTED IN THE DEDICATED OR 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 SPECIALLY LISTED UNDER DEVIATIONS FROM STANDARDS. THE ENGINEER SHALL RESOLVE ANY DEVIATION OTHER THAN THOSE LISTED IN DEVIATIONS FROM STANDARDS IN FAVOR OF THE UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS, CLARK COUNTY AREA, NEVADA.

LAS VEGAS FIRE AND RESCUE DATE

CITY OF LAS VEGAS - PLANNING DEPARTMENT

DATE

THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE PLANNING DEPARTMENT.

CENTRAL TELEPHONE CO DBA CENTURYLINK \_\_\_\_\_ DATE \_\_\_\_\_

THE AFFIXED CENTURYLINK APPROVAL DOES NOT ASSUME OR GUARANTEE LIABILITY FOR KNOWN OR UNKNOWN CONFLICTS WITH EXISTING OR PROPOSED IMPROVEMENT. RESOLUTION OF ANY CONFLICT WILL BE ACCOMPLISHED PURSUANT TO LOCAL ORDINANCES, NEVADA REVISED STATUTES AND / OR PUBLIC UTILITY COMMISSION RULES AND REGULATIONS.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES  
PROJECT NO. N/A FIRST APPROVED DATE: \_\_\_\_\_  
LVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL  
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW N/A GPM

SHEETS: N/A

LVWD APPROVAL IS VALID FOR ONE (1) YEAR FROM SIGNATURE DATE. IF  
CONSTRUCTION IS NOT STARTED, PLANS MUST BE RESUBMITTED FOR REVIEW AND  
APPROVAL.

NV ENERGY DATE

NV ENERGY ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. NV ENERGY 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.

SOUTHWEST GAS CORPORATION DATE

COX COMMUNICATIONS LAS VEGAS, INC.

KB HOME  
5795 BADURA AVE. SUITE 180  
LAS VEGAS, NV 89118  
PH: 702-266-8400  
FX: 702-266-8623  
CONTACT: PAUL CHAO

SLATER HANIFAN GROUP, INC.  
5740 S. ARVILLE STREET, SUITE 216  
LAS VEGAS, NV 89118  
PH: (702) 284-5300  
FX: (702) 284-5399  
CONTACT: THOMAS MULLROONEY

A PORTION OF THE NORTHWEST QUARTER (NW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 21, TOGETHER WITH A PORTION OF THE NORTHWEST QUARTER (NW 1/4) AND SOUTH HALF (S 1/2) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 21, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

BENCHMARK NUMBER: 6LV90 17NW6  
RIVET AND PLATE IN TOP OF CURB AT SW CORNER  
GILCREASE AVENUE AND OSO BLANCA ROAD  
(W FRONTAGE ROAD)  
ELEVATION = 2631.88 FEET, 802.1998 METERS, N.A.V.D. 88 DATUM

NORTH 89°56'20" EAST, BEING THE BEARING OF THE SOUTH LINE OF THE  
SOUTHEAST QUARTER (SE ¼) OF THE NORTHEAST QUARTER (NE ¼) OF SECTION  
20, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK  
COUNTY, NEVADA, AS SHOWN BY MAP THEREOF ON FILE IN THE CLARK COUNTY,  
NEVADA RECORDER'S OFFICE IN FILE 118, PAGE 89 OF SURVEYS

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE X (UNSHADED) AS DEPICTED ON FLOOD INSURANCE RATE MAP (FIRM) PANEL 32003C1745E, DATED SEPTEMBER 27, 2002. A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

**S-I-G**  
**SLATER**  
**HANIFAN**  
**GROUP**  
a Westwood team  
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118  
PHONE (702) 294-4300  
FAX (702) 294-4399

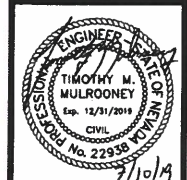
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|                       |    |
|-----------------------|----|
| CITY OF LAS VEGAS, NV | AD |
|-----------------------|----|

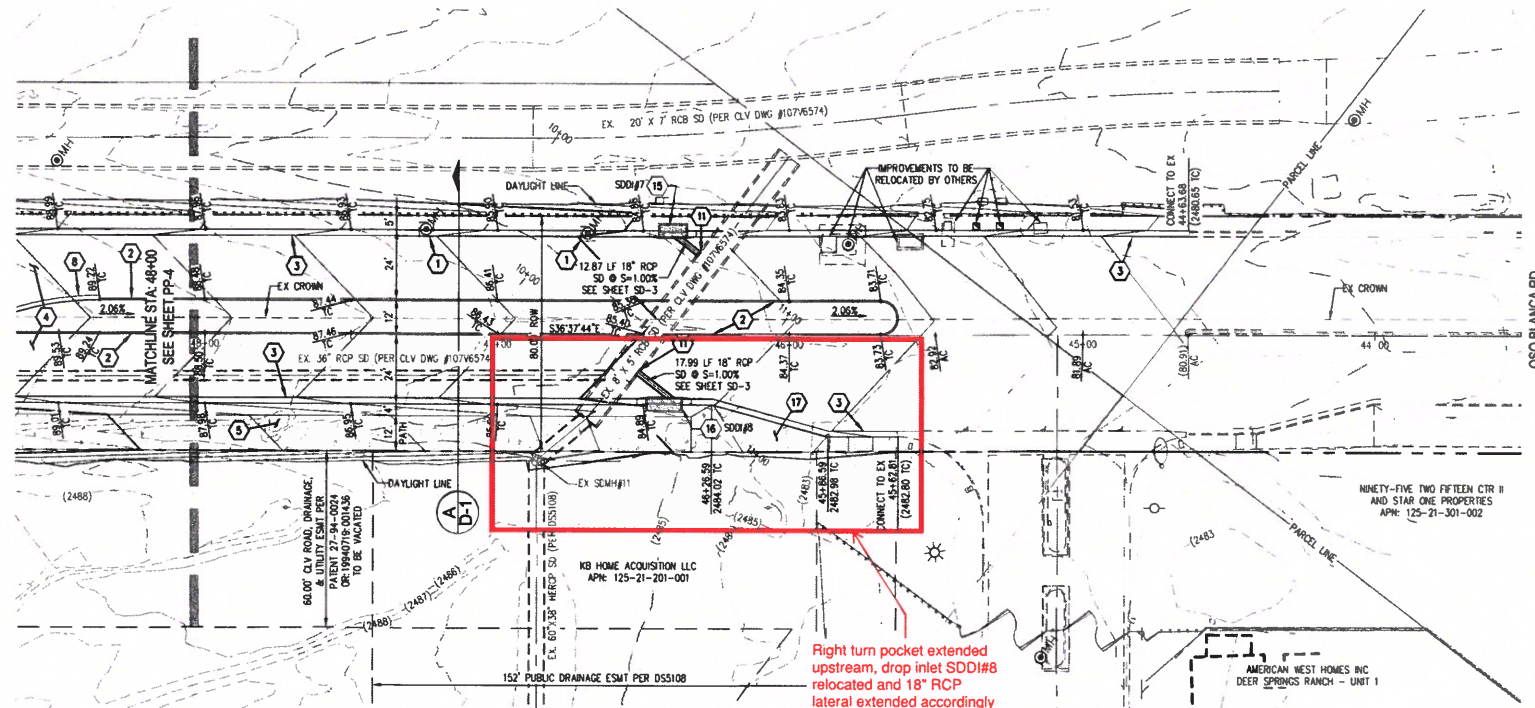
**KB HOME**  
CITY OF  
**MONTECITO - OFFSITE OSO BLANCA ROAD  
COVER SHEET**

|                   |  |
|-------------------|--|
| 521<br>195<br>60E |  |
| DATE: 7/10/19     |  |

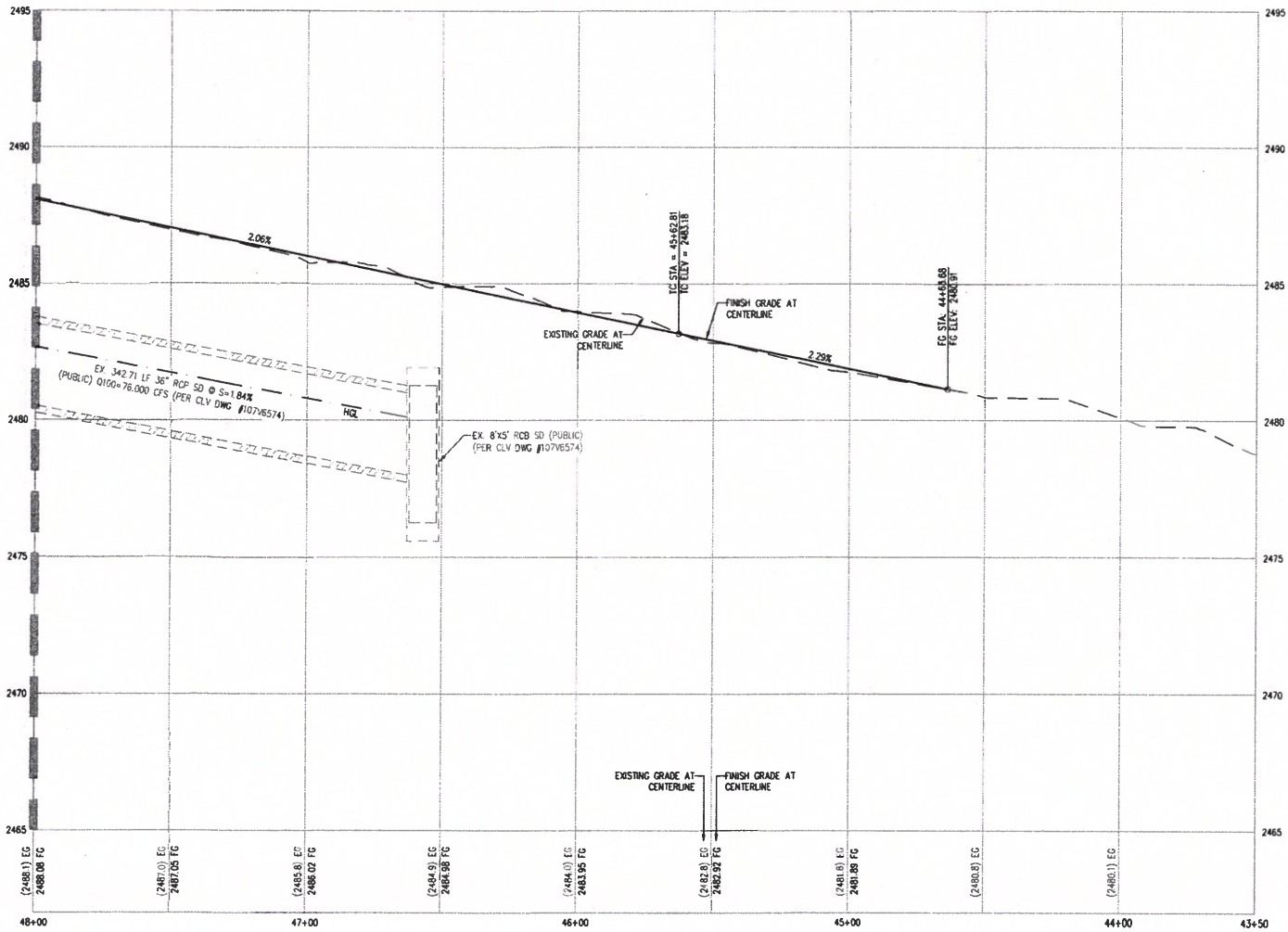
|                                   |
|-----------------------------------|
| DRAFTER: BCS                      |
| DESIGNER: BCS                     |
| CHECKED: MAK                      |
| PROJECT NO.<br><b>KBH1805-006</b> |



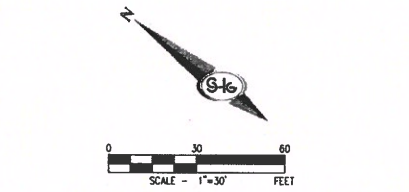
**C-1**  
SHEET 1 OF 12



OSO BLANCA RD - PLAN VIEW  
(PUBLIC)



OSO BLANCA RD - PROFILE VIEW  
HORIZ: 1" = 30'  
VERT: 1" = 3'



**BENCHMARK**  
BENCHMARK NUMBER: 61590 17NWS  
RIVET AND PLATE IN TOP OF CURB AT SW CORNER  
GLOREASE AVENUE AND OSO BLANCA ROAD  
(W FRONTAGE ROAD)  
ELEVATION = 2631.88 FEET, 802.1998 METERS, N.A.D. 88 DATUM

**BASIS OF BEARINGS**  
NORTH 89°56'20" EAST, BEING THE BEARING OF THE SOUTH LINE OF THE  
SOUTHEAST QUARTER (SE 1/4) OF THE NORTHEAST QUARTER (NE 1/4) OF  
SECTION 20, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS  
VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF ON FILE IN  
THE CLARK COUNTY, NEVADA RECORDER'S OFFICE IN FILE 118, PAGE 89 OF  
SURVEYS.

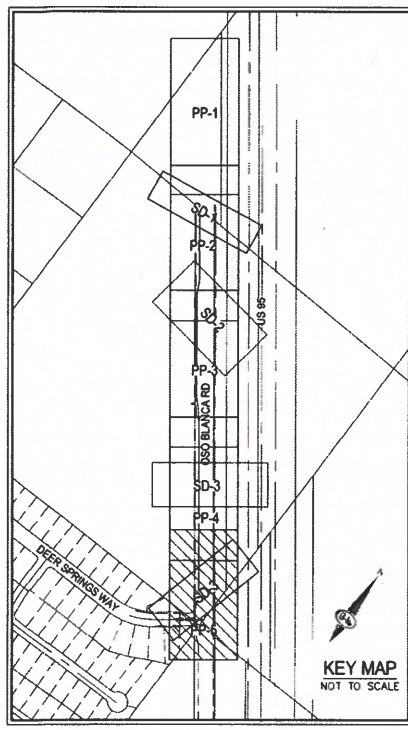
**SURVEY NOTE**  
OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO  
REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR  
OBSOLETE DURING CONSTRUCTION.

**NDOT PERMIT**  
NO WORK WITHIN NDOT RIGHT OF WAY WITHOUT AN NDOT PERMIT.

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN  
EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

| QUANTITIES                        | PRIVATE | PUBLIC |
|-----------------------------------|---------|--------|
| <b>DRAINAGE</b>                   |         |        |
| 1. 48" TYPE B STORM DRAIN MANHOLE | EA      | 1      |
| 2. 8" WIDE CONCRETE VALLEY GUTTER | SF      | 681    |
| 3. 18" RCP CLASS II STORM DRAIN   | LF      | 273    |
| 4. 5.0" DROP INLET TYPE "CM2"     | EA      | 3      |
| 5. 7.5" DROP INLET TYPE "CM2"     | EA      | 2      |
| 6. 10.0" DROP INLET TYPE "CM2"    | EA      | 1      |
| 7. 12.5" DROP INLET TYPE "CM2"    | EA      | 2      |
| 8.                                |         |        |
| 9.                                |         |        |
| 10.                               |         |        |

- CONSTRUCTION NOTES**
- EXISTING IMPROVEMENTS TO BE RELOCATED
  - INSTALL "A" TYPE ISLAND CURB PER CCAUSD NO. 219
  - INSTALL "L" TYPE CURB & GUTTER PER CCAUSD NO. 216
  - INSTALL 1" OPEN GRADE OVER 6" DENSE GRADE OVER 13" TYPE I AGGREGATE BASE
  - INSTALL 12" WIDE CONCRETE SHARED USE PATH W/ 4" TYPE II AGGREGATE BASE
  - INSTALL SIDEWALK RAMP PER CCAUSD NO. 235, CASE I AND CCAUSD NO. 235.I
  - REMOVE EXISTING RIPRAP
  - INSTALL "L" TYPE ISLAND CURB & GUTTER PER CCAUSD NO. 219
  - INSTALL 8" VALLEY GUTTER PER CCAUSD NO. 228
  - INSTALL 48" TYPE B STORM DRAIN MANHOLE PER CCAUSD NO. 405
  - CONSTRUCT PENETRATION INTO EX RCP SD PER DETAIL ON SHEET D-1
  - REMOVE EX NDOT INLET AND CONCRETE APRON PER DSS108
  - INSTALL 5.0" DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
  - INSTALL 7.5" DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
  - INSTALL 10.0" DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
  - INSTALL 12.5" DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
  - INSTALL MODIFIED RESIDENTIAL DRIVEWAY PER NDOT STD DWG R-5.3.2



**DISCLAIMER NOTE**  
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BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND  
HORIZONTAL LOCATION OF ALL EXISTING 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 IN THEIR PROPER LOCATION.

- GENERAL NOTES:**
- SEE DRAWING C-2 & C-3 FOR GENERAL NOTES.
  - REFER TO CCAUSD DWG NO. 501 FOR TYPICAL UNDERGROUND UTILITY LOCATIONS.  
THE WATER SERVICE LATERALS ARE GENERALLY LOCATED PERPENDICULAR TO  
THE WATER MAIN AND IN-LINE WITH THE WATER MAIN. CONTRACTOR TO  
REPLACE WATER SERVICE LATERAL FROM THE MAIN TO THE ANGLE METER STOP  
PER UOACS IF DAMAGED DURING CONSTRUCTION.
  - REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS OR PAVEMENT MARKINGS) THAT  
ARE DISTURBED, DESTROYED, MOVED OR MODIFIED BY TRENCHING ACTIVITY TO  
CLARK COUNTY SATISFACTION. ALL MATERIAL USED SHALL MEET CLARK COUNTY'S  
SPECIFICATIONS, OR WILL BE APPROVED EQUIVALENT.
  - PIPE LENGTH IS MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.

- NDOT NOTES**
- THE AGGREGATE BASE SHALL BE 10-INCHES OF TYPE 1 CLASS B CONFORMING TO  
THE REQUIREMENTS AS SET FORTH IN SUBSECTION 704.03.03 OF THE NDOT 2014  
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
  - THE DENSE-GRADED PLANT MIX BITUMINOUS SURFACE, EXCLUDING THE OPEN  
GRADE LAYER, SHALL BE 6-INCHES OF TYPE 2C CONFORMING TO THE  
REQUIREMENTS AS SET FORTH IN SUBSECTION 705.03.01 OF THE NDOT 2014  
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. BITUMINOUS  
SURFACE, EXCLUDING THE OPEN GRADE LAYER, SHALL BE 6-INCHES OF TYPE 2C  
CONFORMING TO THE REQUIREMENTS.
  - THE GRADE OF ASPHALT FOR BOTH OPEN AND DENSE GRADE MIXTURES SHALL BE  
POT-76-22WV OR POT-76-22WV, CONFORMING TO SUBSECTION 703.03.02 OF THE  
NDOT 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
  - APPLY FULL-WIDTH OPEN GRADE.
  - SUBGRADE PREPARATION SHALL CONFORM TO SUBSECTION 302.03.01 OF THE NDOT  
2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
  - TACK COAT SHALL BE EMULSIFIED ASPHALT, TYPE SS-1H (DILUTED) AT THE  
FOLLOWING APPLICATION RATES:  

|                                    |                          |
|------------------------------------|--------------------------|
| i. TACK BETWEEN DENSE GRADE LIFTS  | 0.06 GAL/10 <sup>2</sup> |
| ii. TACK OPEN GRADE TO DENSE GRADE | 0.07 GAL/10 <sup>2</sup> |
| iii. TACK COLD MILLED SURFACE      | 0.10 GAL/10 <sup>2</sup> |

  
7) PRIME COAT SHALL BE CUTBACK ASPHALT, TYPE MC-70WV, WITH AN APPLICATION  
RATE OF 0.28 GAL/10<sup>2</sup>, OR THE PRIME COAT MAY BE AN APPROVED EQUAL FROM  
THE NDOT OPL.

**FLOOD ZONE**  
THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE X (UNSHADED) AS  
DEPICTED ON FLOOD INSURANCE RATE MAP (FIRM) PANEL 32003C1745E, DATED  
SEPTEMBER 27, 2002. A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA  
DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

**FLOOD CERTIFICATION**  
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED  
TECHNICAL DRAINAGE STUDY DSS145 ON FILE AT CITY OF LAS VEGAS FOR THE  
SUBJECT PROJECT.  
TIMOTHY M. MULROONEY, P.E. 22938 DATE



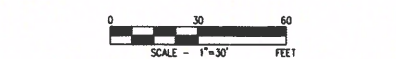
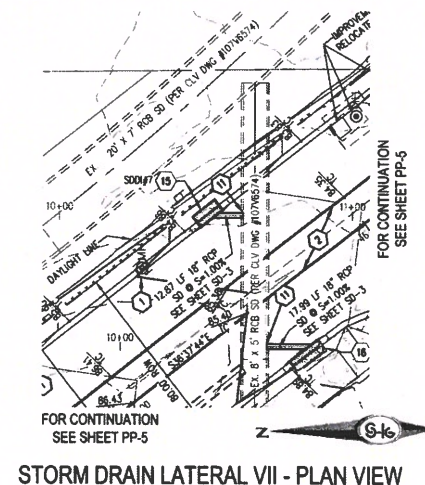
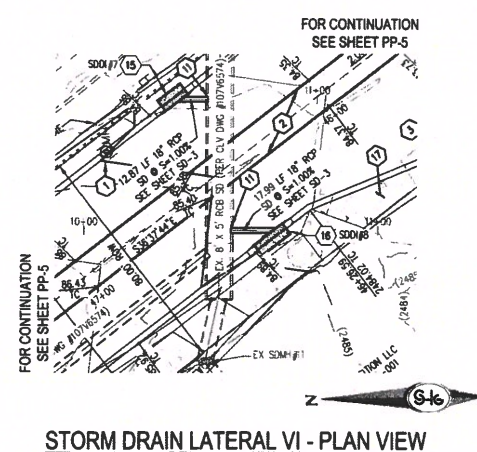
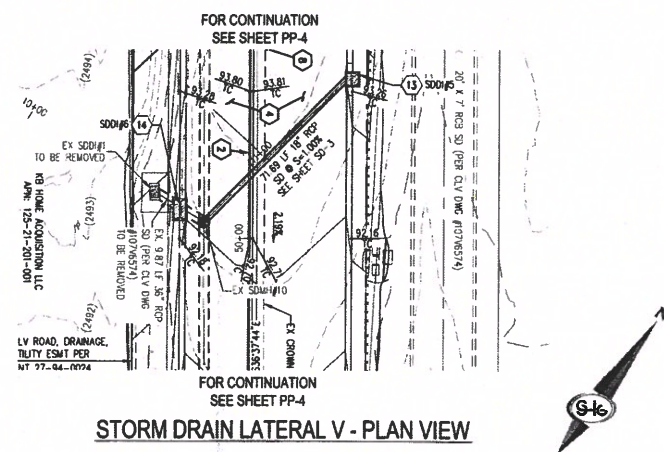
**SLATER HANIFAN GROUP**  
a Westwood team  
5740 S. ARVILLE STREET #210, LAS VEGAS, NV 89118  
PHONE (702) 284-5300 FAX (702) 284-5399

**KB HOME**

MONTECITO - OFFSITE OSO BLANCA ROAD  
PLAN & PROFILE - OSO BLANCO RD STA 48+00 TO 43+50

DATE: 7/10/19  
DRAFTER: BCS  
DESIGNER: BCS  
CHECKED: MAK  
PROJECT NO.  
KBH1805-006

**PP-5**  
SHEET 8 OF 12



**BENCHMARK**  
BENCHMARK NUMBER: 6LV90 17NW6  
RIVET AND PLATE IN TOP OF CURB AT SW CORNER  
GILCREASE AVENUE AND OSO BLANCA ROAD  
(W FRONTAGE ROAD)  
ELEVATION = 2631.88 FEET, 802.1998 METERS, N.A.V.D. 88 DATUM

**BASIS OF BEARINGS**

NORTH 89°56'20" EAST, BEING THE BEARING OF THE SOUTH LINE OF THE SOUTHEAST QUARTER (SE  $\frac{1}{4}$ ) OF THE NORTHEAST QUARTER (NE  $\frac{1}{4}$ ) OF SECTION 20, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., COUNTY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF ON FILE IN THE CLARK COUNTY, NEVADA RECORDER'S OFFICE IN FILE 118, PAGE 89 OF SURVEYS.

**SURVEY NOTE**

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NDOT PERMIT  
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CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN  
EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

| QUANTITIES      |                                | PRIVATE | PUBLIC |
|-----------------|--------------------------------|---------|--------|
| <b>DRAINAGE</b> |                                |         |        |
| 1               | 4" TYPE II STORM DRAIN MANHOLE | EA      | 1      |
| 2               | 8" WIDE CONCRETE VALLEY GUTTER | SF      | 681    |
| 3               | 18" RCP CLASS III STORM DRAIN  | LF      | 273    |
| 4               | 5.0' DROP INLET TYPE "CM2"     | EA      | 3      |
| 5               | 7.5' DROP INLET TYPE "CM2"     | EA      | 2      |
| 6               | 10.0' DROP INLET TYPE "CM2"    | EA      | 1      |
| 7               | 12.5' DROP INLET TYPE "CM2"    | EA      | 2      |
| 8.              |                                |         |        |
| 9.              |                                |         |        |
| 10.             |                                |         |        |

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### GENERAL NOTES:

1. SEE DRAWING C-2 & C-3 FOR GENERAL NOTES.
2. REFER TO CAUSING DOWD NO. 501 FOR TYPICAL UNDERGROUND UTILITY LOCATIONS.
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5. PIPE LENGTH IS MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.

# NDOT NOTES

- 1) THE AGGREGATE BASE SHALL BE 10-INCHES OF TYPE 1 CLASS B CONFORMING TO THE REQUIREMENTS AS SET FORTH IN SUBSECTION 704.03.03 OF THE 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 2) THE DENSE-GRADED PLANTAIN BITUMINOUS SURFACE, EXCLUDING THE OPEN GRADE LAYER, SHALL BE 6-INCHES OF TYPE 2C CONFORMING TO THE REQUIREMENTS AS SET FORTH IN SUBSECTION 704.03.03 OF THE 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. BITUMINOUS SURFACE, EXCLUDING THE OPEN GRADE LAYER, SHALL BE 6-INCHES OF TYPE 2C CONFORMING TO THE REQUIREMENTS.
- 3) THE GRADE OF ASPHALT FOR BOTH OPEN AND DENSE GRADE MIXTURES SHALL BE PG-27RH OR PG-28H-22VHR, CONFORMING TO SUBSECTION 703.03.02 OF THE 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 4) APPLY FULL-WIDTH OPEN GRADE
- 5) SUBGRADE PREPARATION SHALL CONFORM TO SUBSECTION 302.03.01 OF THE 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 6) TACK COAT SHALL BE EMULSIFIED ASPHALT, TYPE SS-H (DILUTED) AT THE FOLLOWING APPLICATION RATES:

|     |                                |                           |
|-----|--------------------------------|---------------------------|
| I   | TACK BETWEEN DENSE GRADE LIFTS | 0.06 GAL/100 <sup>2</sup> |
| II  | TACK OPEN GRADE TO DENSE GRADE | 0.10 GAL/100 <sup>2</sup> |
| III | TACK COLD MILL SURFACE         | 0.10 GAL/100 <sup>2</sup> |
- 7) PRIME COAT SHALL BE CUTBACK ASPHALT, TYPE MC-70H, WITH AN APPLICATION RATE OF 0.28 GAL/100<sup>2</sup>, OR THE PRIME COAT MAY BE AN APPROVED EQUAL FROM THE NDOT OPL.

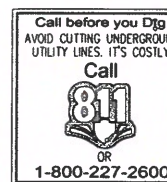
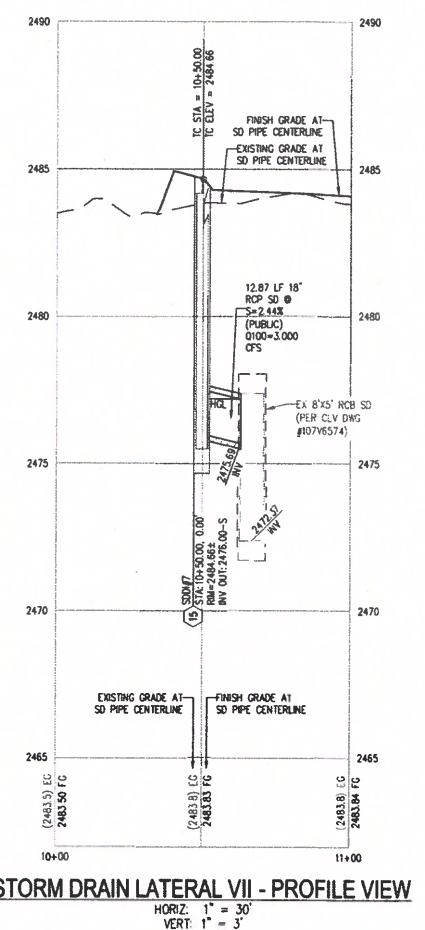
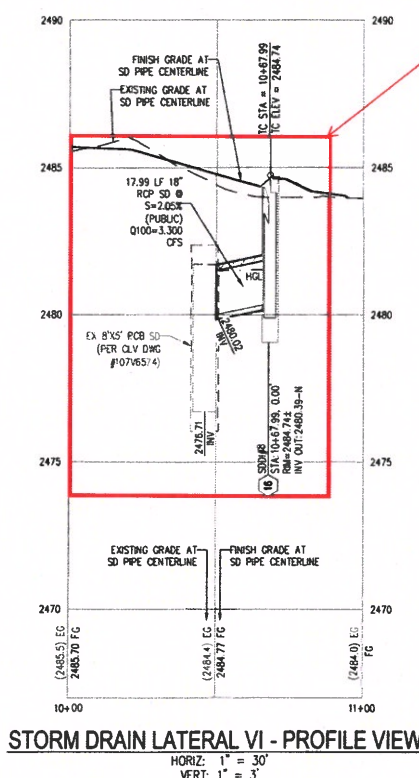
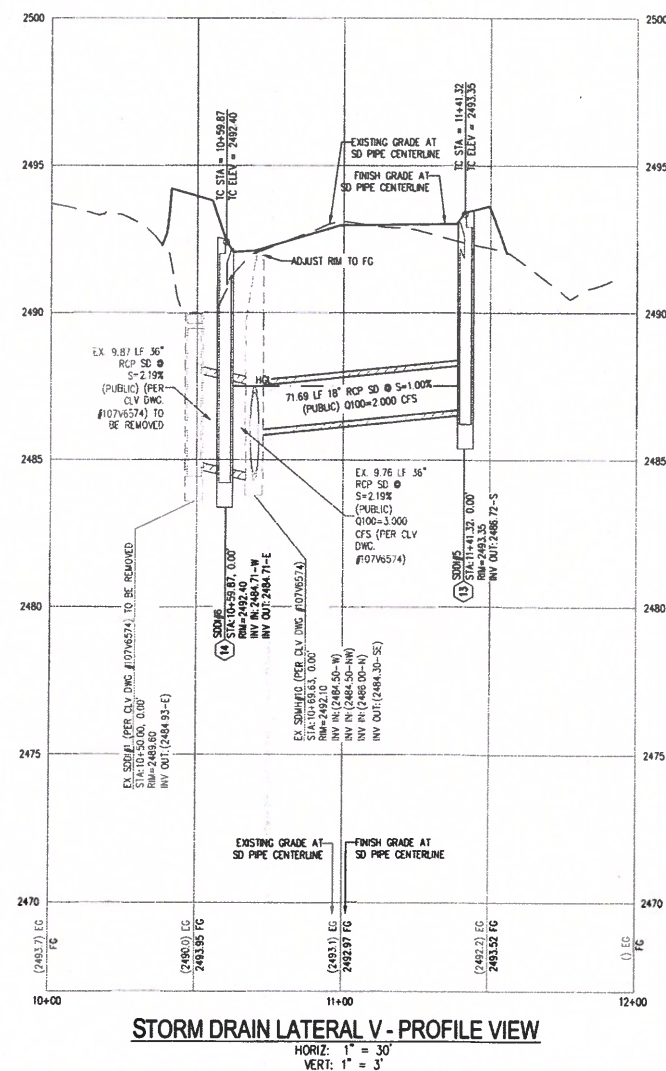
**FLOOD ZONE**

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**FLOOD CERTIFICATION**

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED  
TECHNICAL DRAINAGE STUDY DSS145 ON FILE AT CITY OF LAS VEGAS FOR THE  
SUBJECT PROJECT

TIMOTHY M. MURDOCKEY, P.E. 22838 DATE \_\_\_\_\_



## APPENDIX D

CD of Electronic Files & Revised Improvement Plans



APN: 125-21-101-002, 125-21-299-001, & 125-21-299-004

**SITE MAP**  
NOT TO SCALE

DISCLAIMER NOTE

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXCEPT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING 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 IN THEIR PROPER LOCATION.

NOTE: ALL LAND SURFACE AREA DISTURBANCES OVER 1 ACRE REQUIRE A STORMWATER DISCHARGE PERMIT ISSUED BY THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP). PHASED CONSTRUCTION UNIT IN A CONTIGUOUS SUBDIVISION COVERED UNDER CONSTRUCTION UNTIL ALL STRIPPED SURFACE AREAS HAVE BEEN COVERED BY PAVING, BUILDING CONSTRUCTION OR PLANTING. A STORMWATER DISCHARGE PERMIT APPLICATION AND ASSOCIATED INFORMATION MAY BE DOWNLOADED FROM THE WEB SITE: [HTTP://WWW.STATE.NV.US/BWPC/STORM01.HTM](http://www.state.nv.us/BWPC/STORM01.HTM) PROJECTS THAT DISTURB MORE THAN ONE ACRE OF LAND MUST SUBMIT TO NDEP A "NOTICE OF INTENT" FOR INCLUSION UNDER STORMWATER PERMIT NO. NVR100000 ALONG WITH AN APPROPRIATE FILING FEE.



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <h1>APPROVALS</h1>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |
| CITY ENGINEER—ALLEN PAVELKA PE, #9029                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | DATE |
| <p>APPROVAL OF THESE PLANS BY THE CITY ENGINEER IS LIMITED TO THOSE IMPROVEMENTS CONSTRUCTED IN THE DEDICATED OF 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 SPECIALLY LISTED UNDER DEVIATIONS FORM STANDARDS. THE ENGINEER SHALL RESOLVE ANY DEVIATION OTHER THAN THOSE LISTED IN DEVIATIONS FROM STANDARDS IN FAVOR OF THE UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS, CLARK COUNTY AREA, NEVADA.</p> |      |
| LAS VEGAS FIRE AND RESCUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DATE |
| <p>CITY OF LAS VEGAS —<br/>PLANNING DEPARTMENT</p> <p>THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE PLANNING DEPARTMENT.</p>                                                                                                                                                                                                                                                                                                                                                                                                                   |      |
| CENTRAL TELEPHONE CO. DBA CENTURYLINK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | DATE |
| <p>THE AFFIXED CENTURYLINK 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.</p>                                                                                                                                                                                                                            |      |
| <p>APPROVED FOR CONSTRUCTION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |
| <p>LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES<br/>PROJECT NO. <u>136903</u> FIRST APPROVED DATE:<br/>LWWD APPROVED FIRE FLOW <u>N/A</u> GPM AT 20 PSI RESIDUAL<br/>MAXIMUM AVAILABLE FIRE SPRINKLER FLOW <u>N/A</u> GPM</p> <p>SHEETS: C-1, C-2, C-3, OS-1</p>                                                                                                                                                                                                                                                                         |      |
| NV ENERGY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DATE |
| <p>NV ENERGY ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. NV ENERGY 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.</p>                                                                                                                                    |      |
| SOUTHWEST GAS CORPORATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DATE |
| COX COMMUNICATIONS LAS VEGAS, INC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | DATE |

KB HOME  
5795 BADURA AVE. SUITE 180  
LAS VEGAS, NV 89118  
PH: 702-266-8400  
FX: 702-266-8623  
CONTACT: PAUL CHAO

SLATER HANIFAN GROUP, INC.  
5740 S. ARVILLE STREET, SUITE 216  
LAS VEGAS, NV 89118  
PH: (702) 284-5300  
FX: (702) 284-5399  
CONTACT: TIMOTHY MULROONEY

A PORTION OF THE NORTHWEST QUARTER (NW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 21, TOGETHER WITH A PORTION OF THE NORTHWEST QUARTER (NW 1/4) AND SOUTH-HALF (S 1/2) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 21, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

BENCHMARK NUMBER: 6LV90 17NW6  
RIVET AND PLATE IN TOP OF CURB AT SW CORNER  
GILCREASE AVENUE AND OSO BLANCA ROAD  
(W FRONTAGE ROAD)  
ELEVATION = 2631.88 FEET, 802.1998 METERS, N.A.V.D. 88 DATUM

NORTH 89°56'20" EAST, BEING THE BEARING OF THE SOUTH LINE OF THE  
SOUTHEAST QUARTER (SE ¼) OF THE NORTHEAST QUARTER (NE ¼) OF SECTION  
20, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK  
COUNTY, NEVADA, AS SHOWN BY MAP THEREOF ON FILE IN THE CLARK COUNTY,  
NEVADA RECORDER'S OFFICE IN FILE 158, PAGE 78 OF SURVEYS.

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE X (UNSHADED) AS DEPICTED ON FLOOD INSURANCE RATE MAP (FIRM) PANEL 32003C1745E, DATED SEPTEMBER 27, 2002. A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

[illegible]

**КР HOME**

**MONTECITO - OFFSITE OSO BLANCA ROAD**

# COVER SHEET

S21  
T19S  
R60E

DATE: 8/7/19

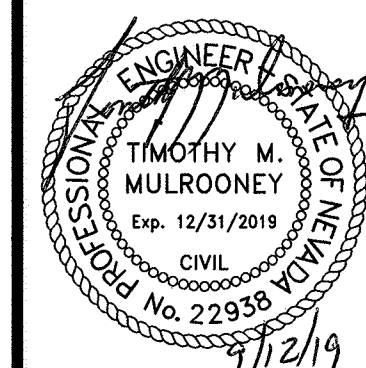
DRAFTER: BCS

DESIGNER: BCS

CHECKED: MAK

PROJECT NO.

KBH1805-006



**C-1**

SHEET 1 OF 16

L19-01731



| ABBREVIATIONS |                                                           |             |                                       |            |                                           |
|---------------|-----------------------------------------------------------|-------------|---------------------------------------|------------|-------------------------------------------|
| AC            | ASPHALTIC CONCRETE OR ACRE                                | FL          | FLOWLINE                              | PVI        | POINT OF VERTICAL INTERSECTION            |
| AGG           | AGGREGATE BASE                                            | FT          | FEET OR FOOT                          | Q          | QUANTITY                                  |
| APN           | ASSESSORS PARCEL NUMBER                                   | FUT         | FUTURE                                | R          | RADIUS                                    |
| APPROX OR ~   | APPROXIMATE                                               | GRD         | GRADE OR GROUND                       | RCA        | REINFORCED CONCRETE ARCH                  |
| AVE           | AVENUE                                                    | GB          | GRADE BREAK OR GRADE CHANGE           | RCB        | REINFORCED CONCRETE BOX                   |
| @             | AT                                                        | GV          | GATE VALVE                            | RCP        | REINFORCED CONCRETE PIPE                  |
| B             | BEGIN CURVE OR BACK OF CURB                               | HDPE        | HIGH DENSITY POLYETHYLENE             | RD         | ROAD                                      |
| BEG           | BEGINNING OF CURB RETURN                                  | HOA         | HOME OWNERS ASSOCIATION               | RDWAY ESMT | ROADWAY EASEMENT                          |
| BHW           | BOTTOM OF HEADWALL                                        | HORZ        | HORIZONTAL                            | REQD       | REQUIRED                                  |
| BLDG          | BUILDING                                                  | HP          | HIGH POINT                            | REV        | REVISION                                  |
| BLVD          | BOULEVARD                                                 | HWS         | HIGH WATER LEVEL                      | RG         | ROUGH GRADE                               |
| BND           | BEND/BEND                                                 | HWL OR HW   | HEADWALL OR HYDRANT                   | RT OR R    | RIGHT                                     |
| BVC           | BEGIN VERTICAL CURVE                                      | HYD         | HYDRAULIC OR HYDRANT                  | R/W, ROW   | RIGHT OF WAY                              |
| BWV           | BACK WATER VALVE                                          | ID          | INSIDE DIAMETER                       | S          | SCHEDULE                                  |
| CC            | CLARK COUNTY                                              | IN          | INCH                                  | SCH        | SCHEDULE                                  |
| CCALSD        | CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS               | INT         | INTERSECTION                          | SDM        | STORM DRAIN                               |
| CCPW          | CLARK COUNTY PUBLIC WORKS                                 | INV         | INVERT ELEVATION                      | SDOI       | STORM DRAIN DROP INLET                    |
| CCRFCD        | CLARK COUNTY REGIONAL FLOOD DISTRICT                      | IP          | IRON PIPE                             | SDMH       | STORM DRAIN MANHOLE                       |
| CCWRD         | CLARK COUNTY WATER RECLAMATION DISTRICT                   | IRR         | IRRIGATION                            | SEC        | SECTION                                   |
| CE            | CENAL ELEMENT                                             | LC          | LINEAR FEET                           | SF         | SQUARE FEET                               |
| CLC/LC        | CENTERLINE                                                | LMC         | LANDSCAPE MAINTENANCE CORPORATION     | SHT        | SHEET                                     |
| CLR           | CLEAR OR CLEARANCE                                        | LP          | LOW POINT                             | SLTC       | STREET LIGHT & TRAFFIC CONTROL ESMT       |
| CLSM          | CONTROLLED LOW STRENGTH MATERIAL                          | LT OR L     | LEFT                                  | SNWA       | SOUTHERN NEVADA WATER AUTHORITY           |
| CLV           | CLAY LAS VEGAS                                            | LWWD        | LAS VEGAS VALLEY WATER DISTRICT       | SPEC       | SPECIFICATIONS                            |
| CML&C         | CEMENT MORTAR LINED AND COATED                            | LWL         | LOW WATER LEVEL                       | ST         | STREET                                    |
| CMU           | CONCRETE MASONRY UNIT                                     | MAX         | MAXIMUM                               | SSMH       | SANITARY SEWER MANHOLE                    |
| CNVL          | CITY OF NORTH LAS VEGAS                                   | MECH        | MECHANICAL                            | STA        | STATION                                   |
| COH           | CITY OF HENDERSON                                         | MH          | MANHOLE                               | STD        | STANDARD                                  |
| CONC          | CONCRETE                                                  | MIN         | MINIMUM                               | STL        | STEEL                                     |
| CT            | COURT                                                     | MISC        | MISCELLANEOUS                         | STL        | STEEL LIGHT                               |
| CU OR CU YD   | CUBIC YARD                                                | MUC         | MUNICIPAL UTILITY EASEMENT            | SW         | SIDEWALK                                  |
| DWCS          | DESIGN AND CONSTRUCTION FOR WASTEWATER COLLECTION SYSTEMS | NEVA        | NEVADA                                | SWTHST GAS | SOUTHWEST GAS                             |
| DET           | DETAIL                                                    | NTS         | NOT TO SCALE                          | SWR OR SS  | SANITARY SEWER                            |
| DIA           | DIAMETER                                                  | NUE         | NONEXCLUSIVE UTILITY EASEMENT         | SY         | SQUARE YARD                               |
| DIP           | DUCTILE IRON OR DRAIN INLET                               | NV          | NV ENERGY                             | TAN        | TANGENT                                   |
| DIA           | DIAMETER                                                  | OC          | ON CENTER                             | TF         | TOP OF CURB                               |
| DI            | DRAIN                                                     | OD          | OUTSIDE DIAMETER OR OVERALL DIMENSION | TF         | TOP OF FLOOR OR TOP OF FOOTING            |
| DR            | DRIVE                                                     | OFF         | OFFSET                                | TO         | TOP OF GRADE                              |
| DWG(S)        | DRAWING                                                   | ORG         | ORIGINAL                              | THRU       | THROUGH                                   |
| DRV           | DRIVEWAY                                                  | PUB         | PUBLIC OR PEDESTRIAN ACCESS EASEMENT  | TP         | TOP OF HEADWALL                           |
| EA            | EACH                                                      | PB          | PULL BOX                              | TP         | TOP OF PIPE                               |
| ECR           | END CURB RETURN                                           | PC          | POINT OF CURVE                        | TW         | TOP OF WALL                               |
| EG            | EXISTING GROUND                                           | PCC         | POINT OF COMPOUND CURVE               | TRW        | TOP OF RETAINING WALL                     |
| ELEV          | ELEVATION                                                 | PDE         | PUBLIC DRAINAGE EASEMENT              | TSW        | TOP OF SCREEN WALL                        |
| ESMT          | EASEMENT                                                  | P, R, OR PL | PROPERTY LINE                         | TY         | TYPICAL                                   |
| ER            | EDGE OF PAVEMENT                                          | PGB         | POINT OF BEGINNING                    | UDACS      | UNIFORM DESIGN AND CONSTRUCTION STANDARDS |
| ERU           | EQUIVALENT RESIDENTIAL UNIT                               | PGB         | POINT OF CURVATURE                    | VERT       | VERTICAL CURVE                            |
| EVC           | END VERTICAL CURVE                                        | PCE         | POINT OF BEGINNING                    | VERT       | VERTICAL                                  |
| EX            | EXISTING                                                  | PRC         | POINT OF REVERSE CURVATURE            | VGL        | VALLEY GUTTER                             |
| EX OR EXIST   | EXISTING                                                  | PRELIM      | PRELIMINARY                           | W          | WROUGHT IRON                              |
| FC            | FACE OF CURB                                              | PROP        | PROPOSED                              | WL         | WATER LINE                                |
| FF            | FINISHED FLOOR                                            | PRV         | PRESSURE REDUCING VALVE               | WPZ        | WATER PRESSURE ZONE                       |
| FGH           | FINISHED GRADE, HIGH SIDE                                 | PUP         | PUBLIC UTILITY EASEMENT               | WT         | WEIGHT                                    |
| FGL           | FINISHED GRADE, LOW SIDE                                  | PVT         | PUBLIC TANGENT OR POINT               | WTR        | WATER LINE                                |
| FH            | FIRE HYDRANT                                              | PVC         | POLYVINYL CHLORIDE                    |            |                                           |

## SPECIAL NOTE

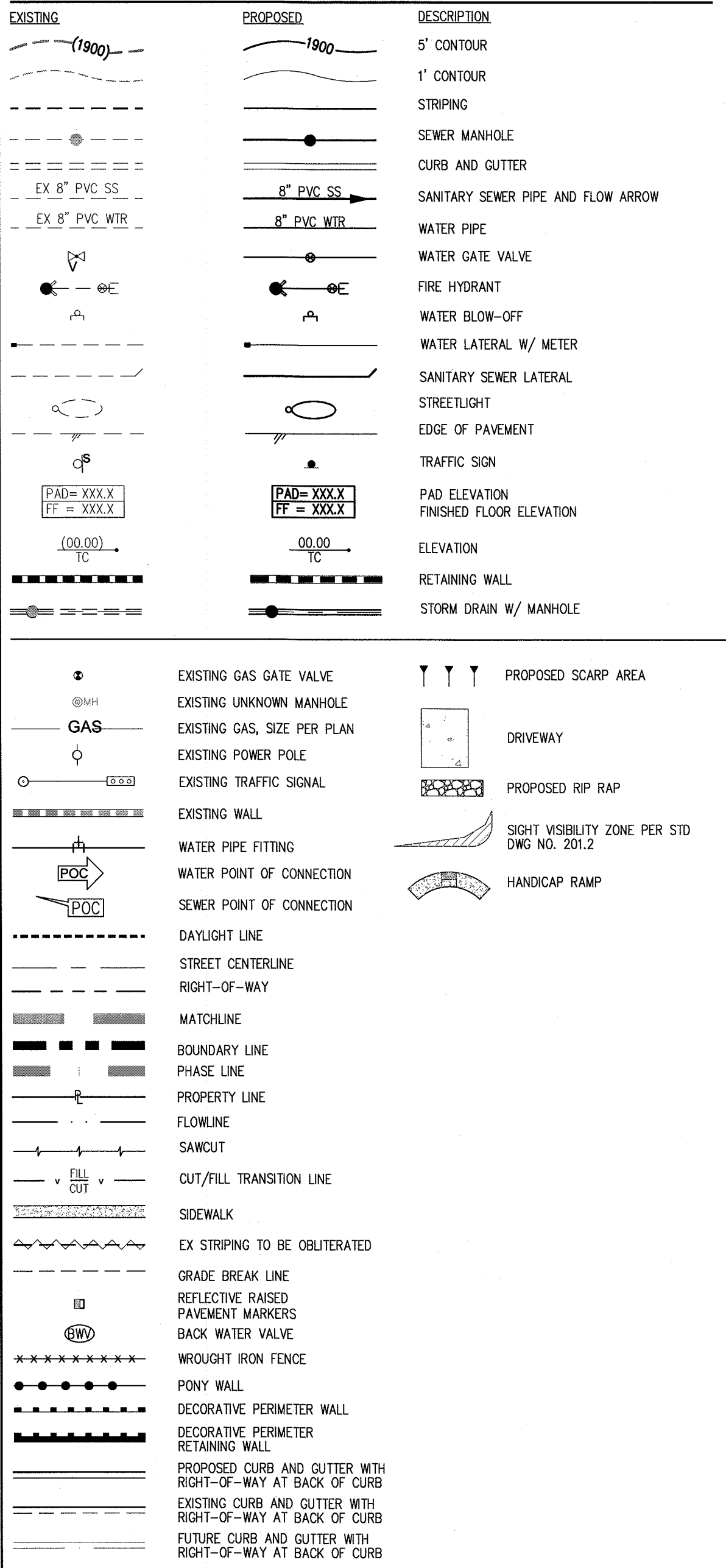
IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED WHICH IS NOT SHOWN ON THESE DRAWINGS, THE OWNER AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF THE CITY OF LAS VEGAS DEPT. OF PUBLIC WORKS. TEMPORARY CONSTRUCTION ITEMS INCLUDE: PAVEMENT TRANSITIONS, PROTECTIVE DITCHES AND BERMS, ROAD SIGNS AND BARRICADES, ETC.

## NOTICE TO CONTRACTOR

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

-EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING 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 PROPER LOCATIONS. CALL BEFORE YOU DIG.  
(800) 227-2600

### LEGEND



## QUANTITIES

| DRAINAGE |                                                                          |    |    |        |
|----------|--------------------------------------------------------------------------|----|----|--------|
| 1.       | 48" TYPE II STORM DRAIN MANHOLE                                          | EA | -- | 1      |
| 2.       | 5.0" TYPE "CM2" DROP INLET                                               | EA | -- | 3      |
| 3.       | 7.5" TYPE "CM2" DROP INLET                                               | EA | -- | 2      |
| 4.       | 10.0" TYPE "CM2" DROP INLET                                              | EA | -- | 1      |
| 5.       | 12.5" TYPE "CM2" DROP INLET                                              | EA | -- | 2      |
| 6.       | 18" RCP CLASS III STORM DRAIN                                            | LF | -- | 291    |
| 7.       | 24" RCP CLASS IV STORM DRAIN                                             | LF | -- | --     |
| 8.       | 30" RCP CLASS IV STORM DRAIN                                             | LF | -- | --     |
| 9.       | 36" RCP CLASS IV STORM DRAIN                                             | LF | -- | --     |
| 10.      | RIPRAP D50=8", THK=16"                                                   | SF | -- | --     |
| 11.      | 8" WIDE CONCRETE VALLEY GUTTER W/10" TYPE I AGGREGATE BASE               | SF | -- | 681    |
| 12.      | SIDEWALK UNDER DRAIN                                                     | SF | -- | --     |
| 13.      |                                                                          |    |    |        |
|          |                                                                          |    |    |        |
| 1.       | 8" DIP WATER PIPE (CLASS 53)                                             | LF | -- | 9      |
| 2.       | 10" PVC WATER PIPE (CLASS 150)                                           | LF | -- | 252    |
| 3.       | 10" DIP WATER PIPE (CLASS 53)                                            | LF | -- | 58     |
| 4.       | STEEL SLEEVE PER UDACS PLATE NO. 22 & 23                                 | EA | -- | 56     |
| 5.       | 10" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39                | EA | -- | 1      |
| 6.       | 10" 45 DEGREE BEND PER UDACS PLATE NO. 31                                | EA | -- | 12     |
| 7.       | 10" 90 DEGREE BEND PER UDACS PLATE NO. 31                                | EA | -- | 1      |
| 8.       | CAP AND 2" BLOW-OFF ASSEMBLY W/CAP PER UDACS PLATE NO. 36                | EA | -- | 1      |
| 9.       | 10"X8" REDUCER PER UDACS PLATE NO. 30                                    | EA | -- | 2      |
|          |                                                                          |    |    |        |
| 1.       | 1" OPEN GRADE OVER 6" DENSE GRADE OVER 16" TYPE I CLASS B AGG. BASE      | SY | -- | 13,285 |
| 2.       | STANDARD 18" TYPE "L" ISLAND CURB & GUTTER W/6" TYPE I AGGREGATE BASE    | LF | -- | 45.58  |
| 3.       | STANDARD 8" TYPE "A" ISLAND CURB W/6" TYPE I AGGREGATE BASE              | LF | -- | 2,542  |
| 4.       | STANDARD 24" TYPE "L" CURB & GUTTER W/6" TYPE I AGGREGATE BASE           | LF | -- | 3,255  |
| 5.       | 12" WIDE CONCRETE SIDEWALK W/4" TYPE II AGGREGATE BASE                   | SF | -- | 18,528 |
| 6.       | SIDEWALK RAMP PER CCAUSD. NO 235 CASE 1 CCAUSD NO. 235.1                 | EA | -- | 2      |
| 7.       |                                                                          |    |    |        |
|          |                                                                          |    |    |        |
| 1.       | STREET SIGNS                                                             | EA | -- | 8      |
| 2.       | TYPE III BARRICAD                                                        | EA | -- | 1      |
| 3.       | BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKER                           | EA | -- | --     |
| 4.       | CROSSWALK MARKINGS                                                       | LF | -- | --     |
| 5.       |                                                                          |    |    |        |
| 6.       |                                                                          |    |    |        |
| 7.       |                                                                          |    |    |        |
| 8.       |                                                                          |    |    |        |
|          |                                                                          |    |    |        |
| 1.       | 150W LED SINGLE OVERHEAD LIGHTING ASSEMBLY PER CLV TOWN CENTER DEV. STD. | EA | -- | 23     |
| 2.       | 1-1/4" PVC STREET LIGHT CONDUIT WITH (2) #6 AND (1) #8 CONDUCTORS        | LF | -- | 3,025  |
| 3.       | NO. 3-1/2" PULL BOX W/METAL COVER                                        | EA | -- | --     |
| 4.       | 150 AMP SERVICE PEDESTAL (IRR)                                           | EA | -- | --     |
| 5.       | 200 AMP SERVICE PEDESTAL (STLT)                                          | EA | -- | 1      |

**S-I-E**  
**SLATER**  
**HANIFAN**  
**GROUP**  
a Westwood team

5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118  
PHONE (702) 284-5300  
FAX (702) 284-5399

[illegible]

CITY OF LAS VEGAS, NV

**kpb HOME**

**MONTECITO - OFFSITE OSO BLANCA ROAD  
LEGEND, ABBREVIATIONS, AND QUANTITIES**

S21  
T19S  
R60E

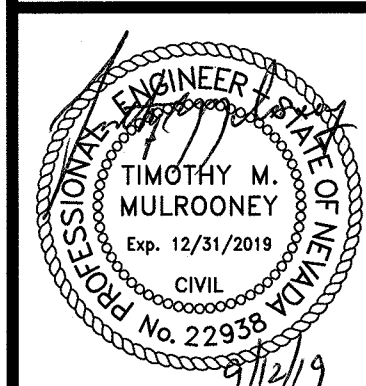
DATE: 8/7/19

DRAFTER: BCS

DESIGNER: BCS

CHECKED: MAK

PROJECT NO.

**KBH1805-006**

**C-3**

SHEET 3 OF 16

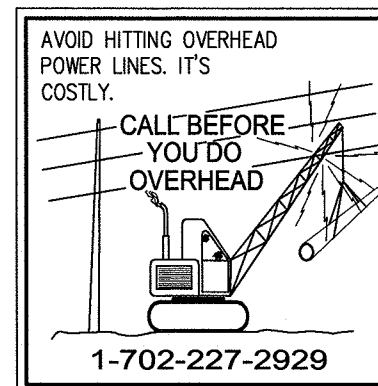
L19-01731

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 136903 FIRST APPROVED DATE: \_\_\_\_\_

PROJECT NO. 136903 FIRST APPROVED DATE: \_\_\_\_\_

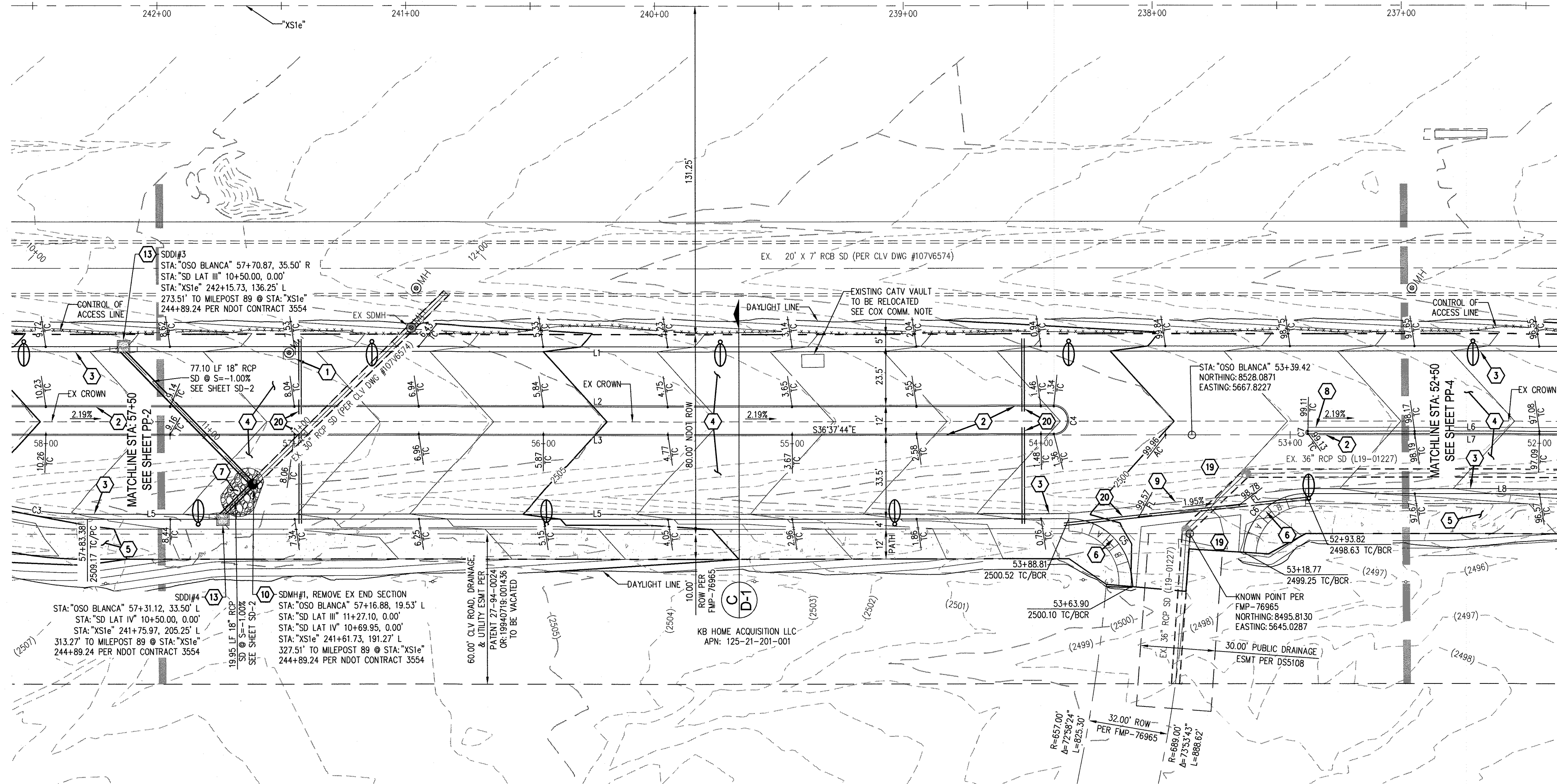


Call before you Dig  
AVOID CUTTING UNDERGROUND  
UTILITY LINES. IT'S COSTLY.  
Call  
  
OR  
1-800-227-2600

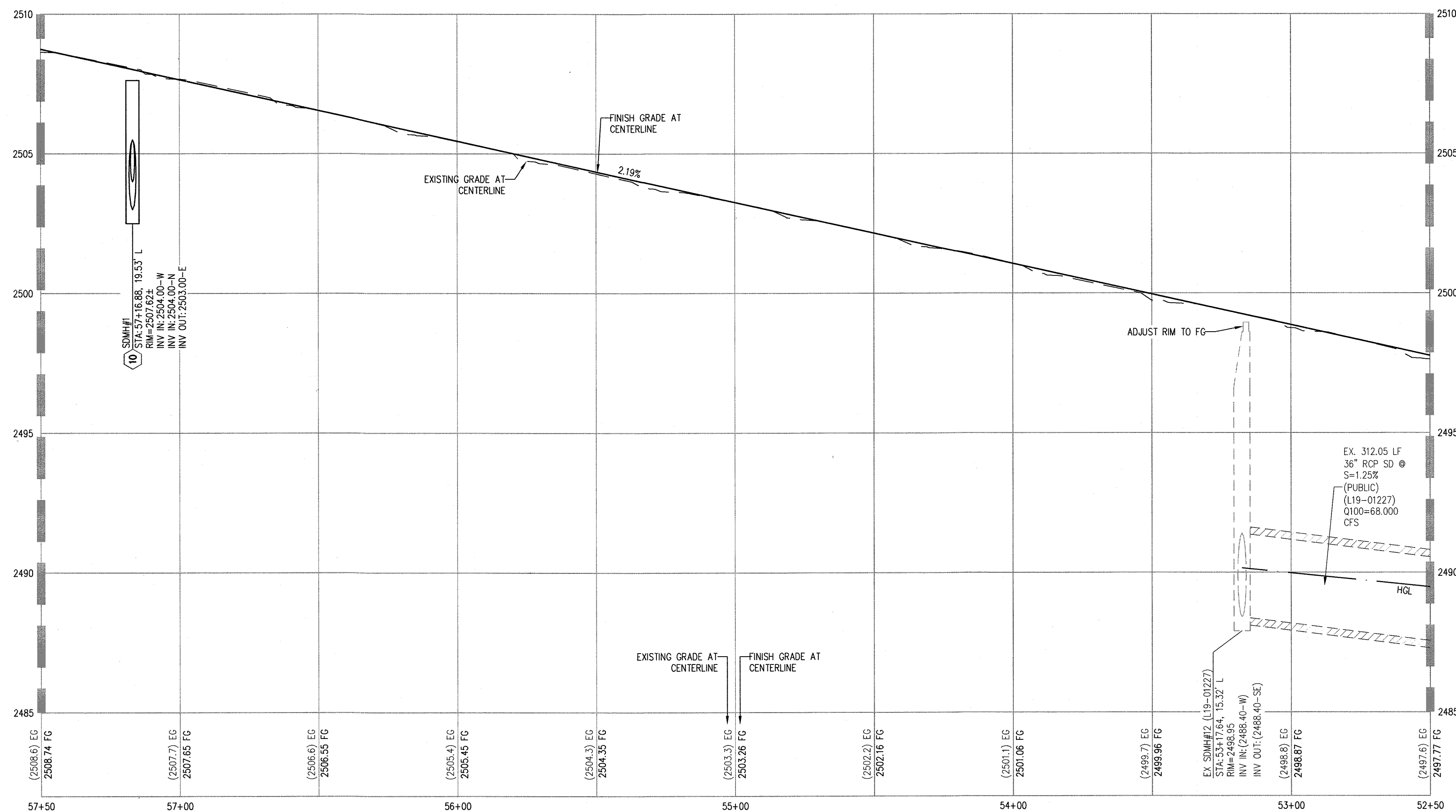




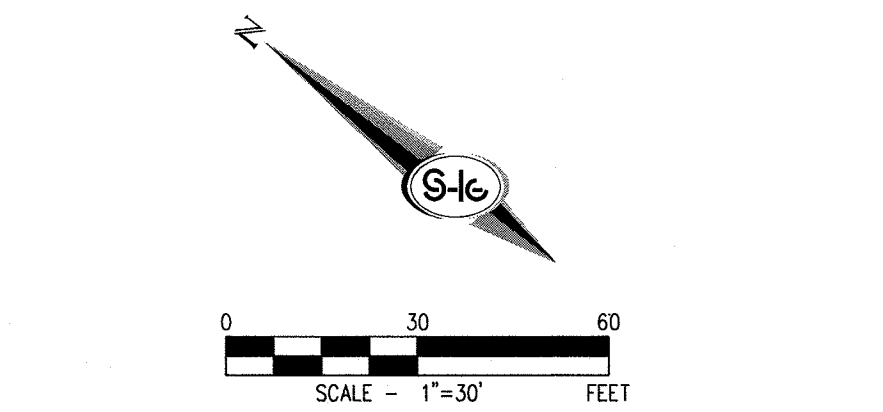
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OSO BLANCA RD - PLAN VIEW (PUBLIC)



OSO BLANCA RD - PROFILE VIEW  
HORIZ: 1" = 30'  
VERT: 1" = 3'



**BENCHMARK**  
BENCHMARK NUMBER: 6LV90 17NW6  
RIVET AND PLATE IN TOP OF CURB AT SW CORNER  
GILCREASE AVENUE AND OSO BLANCA ROAD  
(W FRONTAGE ROAD)  
ELEVATION = 2631.68 FEET, 802.1998 METERS, N.A.V.D. 88 DATUM

**BASIS OF BEARINGS**  
NORTH 89°56'20" EAST, BEING THE BEARING OF THE SOUTH LINE OF THE SOUTHEAST QUARTER (SE 1/4) OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 20, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M. CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF ON FILE IN THE CLARK COUNTY, NEVADA RECORDER'S OFFICE IN FILE 158, PAGE 78 OF SURVEYS.

**SURVEY NOTE**  
OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBTAINED DURING CONSTRUCTION.

**NDOT PERMIT**  
NO WORK WITHIN NDOT RIGHT OF WAY WITHOUT AN NDOT PERMIT.

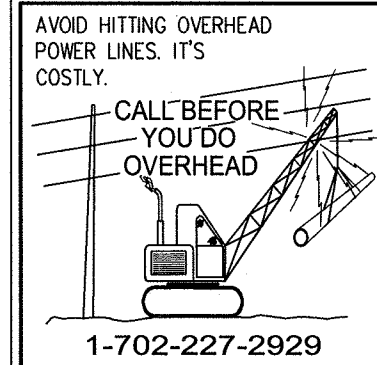
CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

**COX COMMUNICATION NOTES**  
CONTACT GENE SEGEL AT COX COMMUNICATION WITH REGARDS TO THE CATV VAULT ADJUSTMENTS (702-210-7024)

- CONSTRUCTION NOTES**
- EXISTING IMPROVEMENTS TO BE RELOCATED BY FACILITY OWNERS
  - INSTALL "A" TYPE ISLAND CURB PER CCAUSD NO. 219
  - INSTALL "L" TYPE CURB & GUTTER PER CCAUSD NO. 216
  - INSTALL 1" OPEN GRADE OVER 6" DENSE GRADE OVER 16" TYPE I CLASS B AGGREGATE BASE PER DETAIL 2 ON SHEET D-1
  - INSTALL 1/2" WIDE, CONCRETE SHARED USE PATH W/ 4" TYPE II AGGREGATE BASE
  - INSTALL SIDEWALK RAMP PER CCAUSD NO. 235, CASE 1 AND CCAUSD NO. 235.1
  - REMOVE EXISTING RIPRAP
  - INSTALL "L" TYPE ISLAND CURB & GUTTER PER CCAUSD NO. 219
  - INSTALL 8" VALLEY GUTTER PER CCAUSD NO. 228
  - INSTALL 48" TYPE II STORM DRAIN MANHOLE PER CCAUSD NO. 405
  - CONSTRUCT PENETRATION INTO EX RCB SD PER DETAIL ON SHEET D-1
  - REMOVE EX NDOT INLET AND CONCRETE APRON PER D55108
  - INSTALL 5.0' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
  - INSTALL 7.5' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
  - INSTALL 10.0' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
  - INSTALL 12.5' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
  - INSTALL MODIFIED RESIDENTIAL DRIVEWAY PER NDOT STD DWG R-5.3.2
  - INSTALL 5' WIDE, CONCRETE SHARED USE PATH W/ 4" TYPE II AGGREGATE BASE
  - ADJUST MANHOLE RIM TO FINISH GRADE
  - INSTALL 2-4" IRRIGATION SLEEVES

| BACK OF CURB CURVE TABLE |        |         |            |          |
|--------------------------|--------|---------|------------|----------|
| CURVE                    | LENGTH | RADIUS  | DELTA      | TANGENT  |
| C3                       | 38.84' | 150.00' | 14°50'06"  | 19.53'   |
| C4                       | 17.28' | 5.50'   | 180°00'00" | INFINITY |
| C5                       | 41.43' | 25.00'  | 94°57'07"  | 27.26'   |
| C6                       | 37.73' | 25.00'  | 86°27'43"  | 23.50'   |

| BACK OF CURB LINE TABLE |             |         |
|-------------------------|-------------|---------|
| LINE                    | BEARING     | LENGTH  |
| L1                      | S36°37'44"E | 1683.77 |
| L2                      | S36°37'44"E | 746.64  |
| L3                      | N36°37'44"W | 746.64  |
| L5                      | S36°37'44"E | 394.57  |
| L6                      | N36°37'44"W | 394.28  |
| L7                      | N36°37'44"W | 579.47  |
| L8                      | S36°37'44"E | 580.99  |



**FLOOD ZONE**  
THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE X (UNSHADED) AS DEPICTED ON FLOOD INSURANCE RATE MAP (FIRM) PANEL 32003C1745E, DATED SEPTEMBER 27, 2002. A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

**FLOOD CERTIFICATION**  
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY D55108 ON FILE AT CITY OF LAS VEGAS FOR THE SUBJECT PROJECT.  
TIMOTHY M. MULROONEY, CIVIL ENGINEER  
9/12/19 DATE

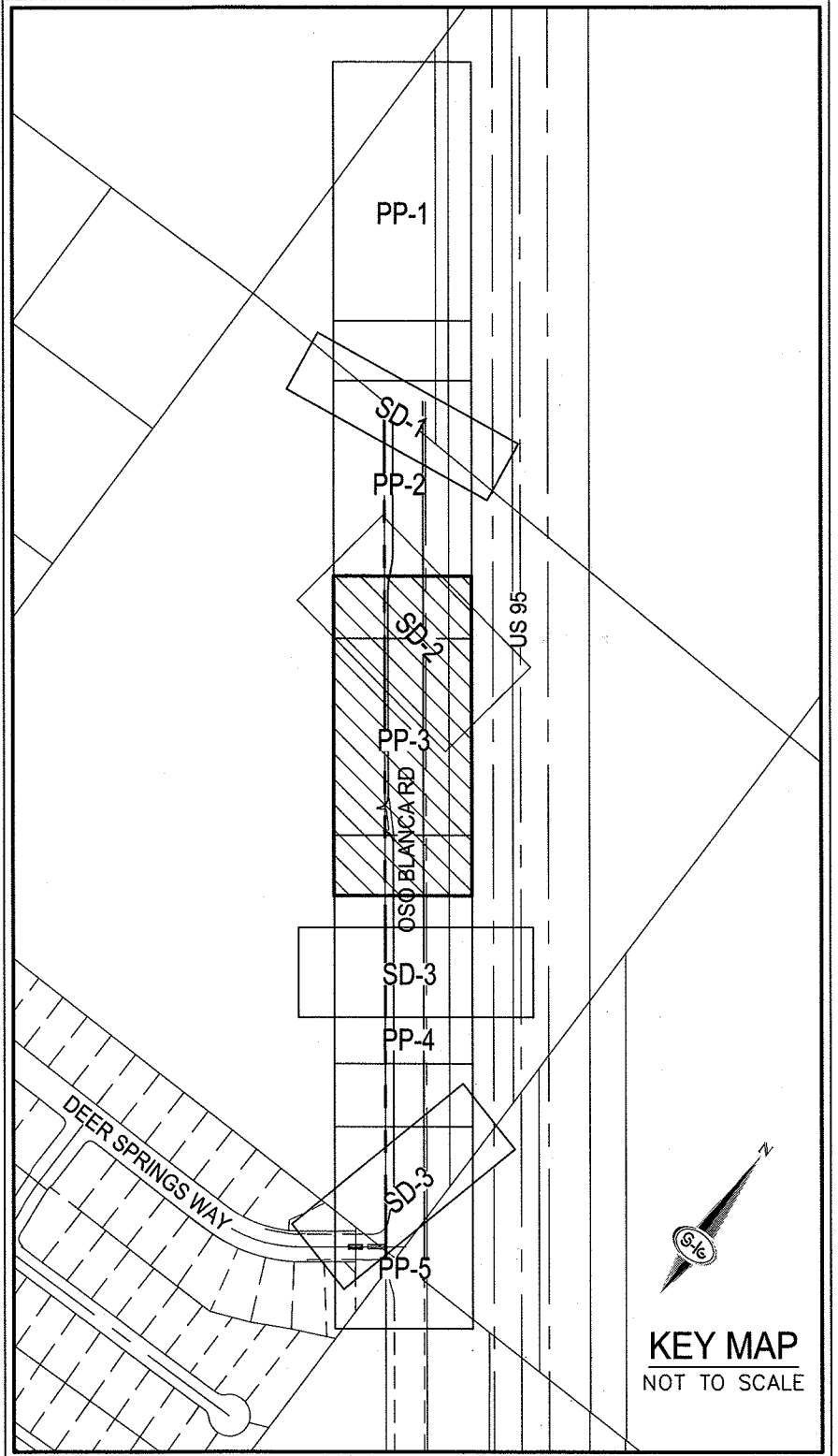
**DISCLAIMER NOTE**  
1. EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

**GENERAL NOTES:**

- SEE DRAWING C-2 & C-3 FOR GENERAL NOTES.
- REFER TO CCAUSD DWG NO. 501 FOR TYPICAL UNDERGROUND UTILITY LOCATIONS. THE WATER SERVICE LATERALS ARE GENERALLY LOCATED PERPENDICULAR TO THE WATER MAIN AND IN-LINE WITH THE WATER METER. CONTRACTOR TO REPLACE WATER SERVICE LATERAL FROM THE MAIN TO THE ANGLE METER STOP PER UDACS IF DAMAGED DURING CONSTRUCTION.
- REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS OR PAVEMENT MARKINGS) THAT ARE DISTURBED, DESTROYED, MOVED OR MODIFIED BY TRENCHING ACTIVITY TO CLARK COUNTY SATISFACTION. ALL MATERIAL USED SHALL MEET CLARK COUNTY'S SPECIFICATIONS, OR WILL BE APPROVED EQUIVALENT.
- PIPE LENGTH IS MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.

**NDOT NOTES**

- THE AGGREGATE BASE SHALL BE 16-INCHES OF TYPE I CLASS B CONFORMING TO THE REQUIREMENTS AS SET FORTH IN SUBSECTION 704.03.03 OF THE NDOT 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- THE DENSE-GRADED PLANT MIX BITUMINOUS SURFACE, EXCLUDING THE OPEN GRADE LAYER, SHALL BE 6-INCHES OF TYPE 2C CONFORMING TO THE REQUIREMENTS AS SET FORTH IN SUBSECTION 705.03.01 OF THE NDOT 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. BITUMINOUS SURFACE, EXCLUDING THE OPEN GRADE LAYER, SHALL BE 6-INCHES OF TYPE 2C CONFORMING TO THE REQUIREMENTS.
- THE GRADE OF ASPHALT FOR BOTH OPEN AND DENSE GRADE MIXTURES SHALL BE PG78-22NVR OR PG76-22NVR, CONFORMING TO SUBSECTION 703.03.02 OF THE NDOT 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- APPLY FULL-WIDTH OPEN GRADE.
- SUBGRADE PREPARATION SHALL CONFORM TO SUBSECTION 302.03.01 OF THE NDOT 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- TACK COAT SHALL BE EMULSIFIED ASPHALT, TYPE SS-1H (DILUTED) AT THE FOLLOWING APPLICATION RATES:  
i. TACK BETWEEN DENSE GRADE LIFTS 0.06 GAL/YD<sup>2</sup>  
ii. TACK OPEN GRADE TO DENSE GRADE 0.07 GAL/YD<sup>2</sup>  
iii. TACK COLD MILLED SURFACE 0.10 GAL/YD<sup>2</sup>  
7) PRIME COAT SHALL BE CUTBACK ASPHALT, TYPE MC-70NVR, WITH AN APPLICATION RATE OF 0.28 GAL/YD<sup>2</sup>, OR THE PRIME COAT MAY BE AN APPROVED EQUAL FROM THE NDOT OPL.



**SLATER HANIFAN GROUP**  
a Westwood team  
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118  
PHONE (702) 284-5300 FAX (702) 284-5309

**kb HOME**

**MONTECITO - OFFSITE OSO BLANCA ROAD**  
**PLAN & PROFILE - OSO BLANCO RD STA 57+50 TO 52+50**

**PP-3**  
SHEET 6 OF 16  
L19-01731

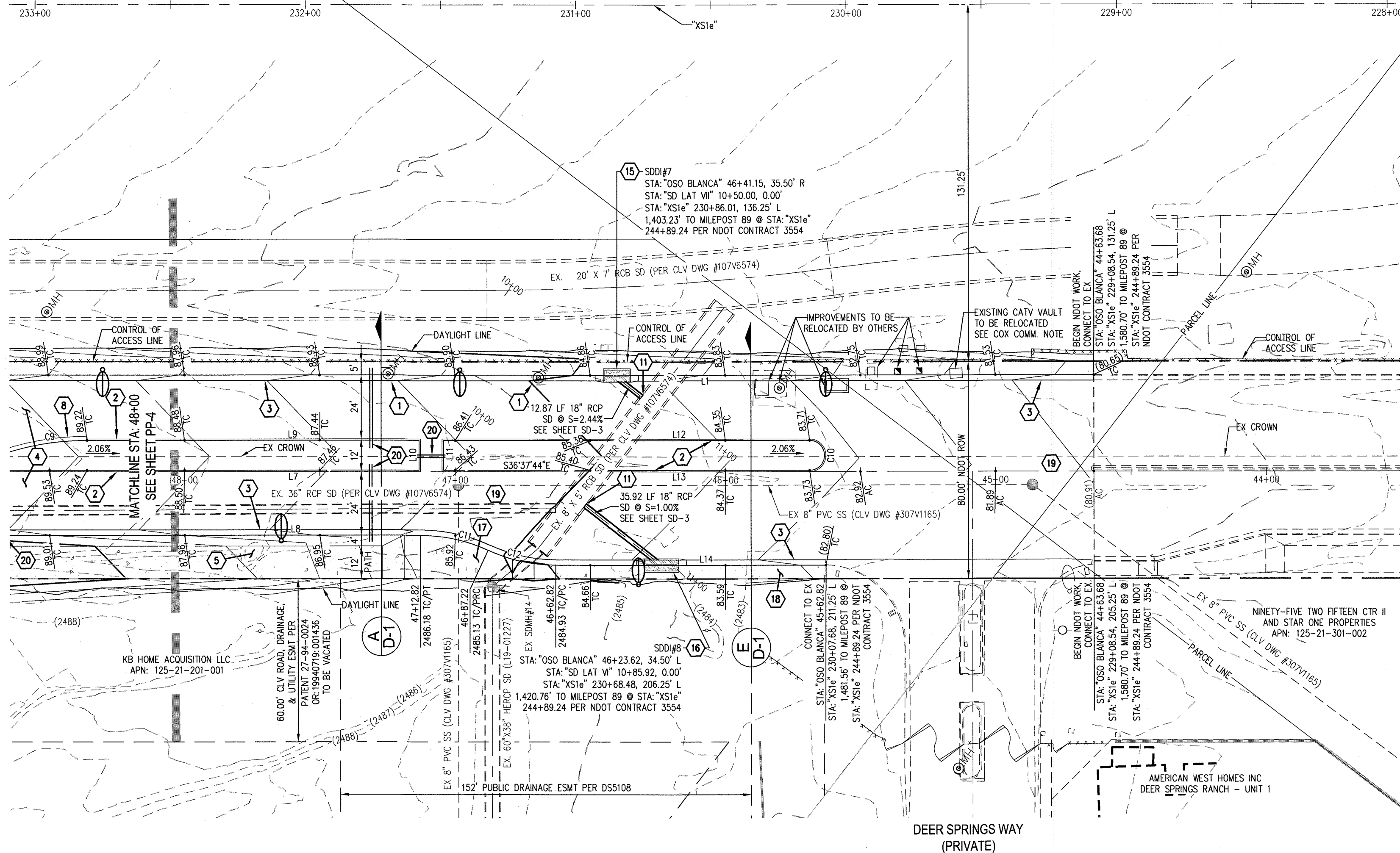
**ENGINEER**  
TIMOTHY M. MULROONEY  
Exp. 12/31/2019  
CIVIL  
No. 22958

DATE: 8/7/19  
DRAFTER: BCS  
DESIGNER: BCS  
CHECKED: MAK  
PROJECT NO. KBH1805-006

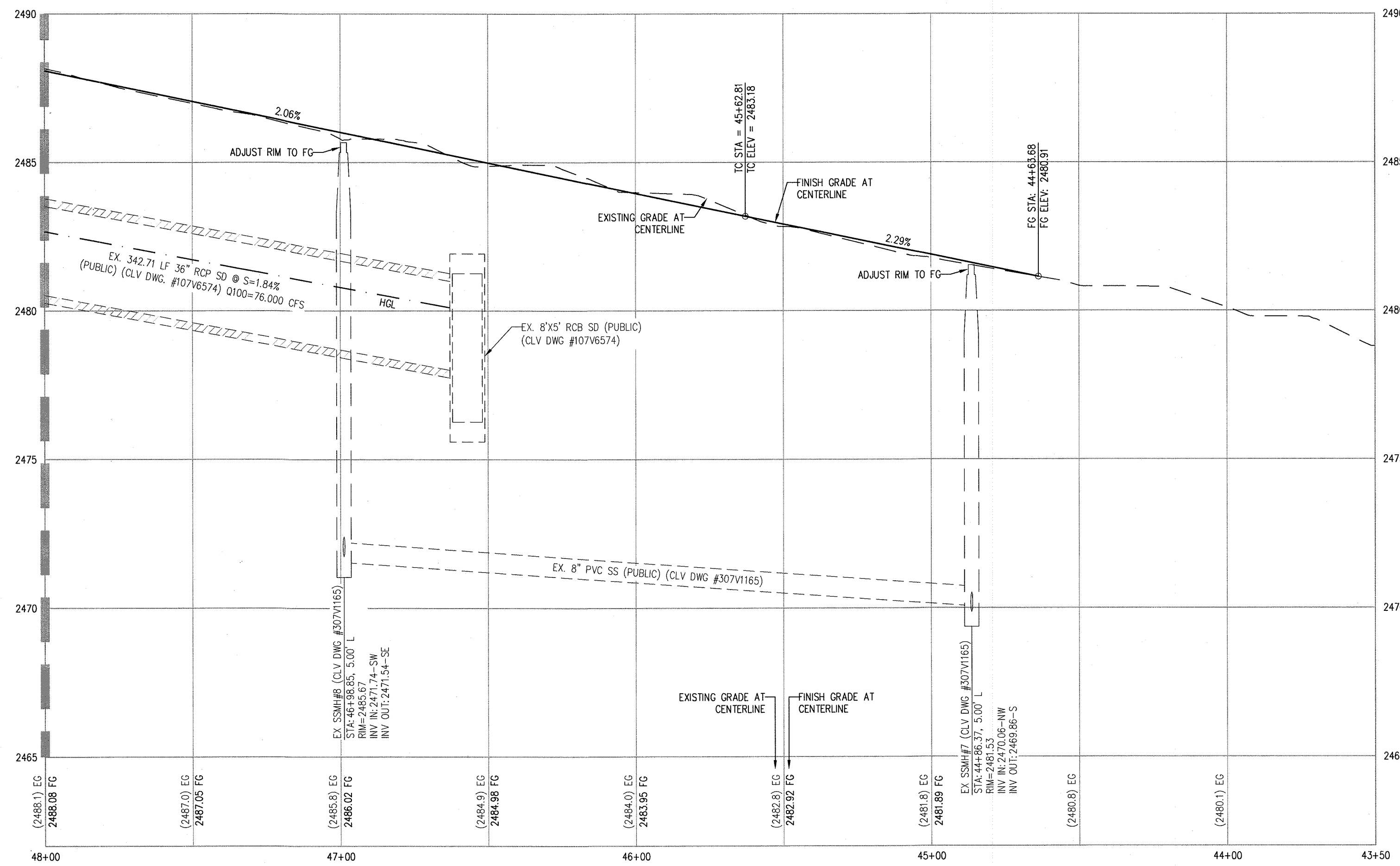
CITY OF LAS VEGAS, NV



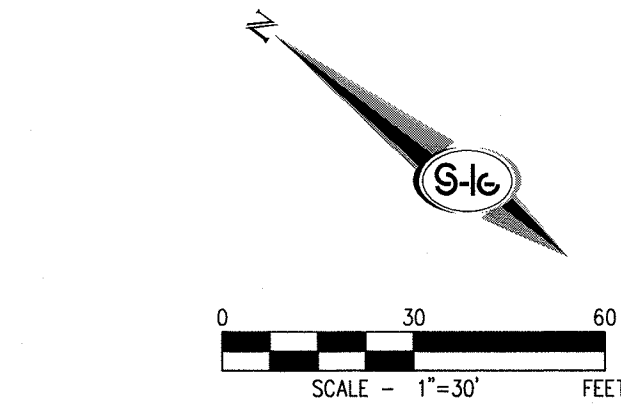
J:\kbl1805-c06-monteicito-60-on-roadway-oso blanca.dwg\kbl1805-c06-pno.dwg 9/12/2019 11:02 AM E:\pwn Sarmiento



OSO BLANCA RD - PLAN VIEW  
(PUBLIC)



OSO BLANCA RD - PROFILE VIEW  
HORIZ: 1" = 30'  
VERT: 1" = 3'



#### BENCHMARK

BENCHMARK NUMBER: 6LV90 17NWE  
RIVET AND PLATE IN TOP OF CURB AT SW CORNER  
GILCREASE AVENUE AND OSO BLANCA ROAD  
(W FRONTAGE ROAD)  
ELEVATION = 2631.88 FEET, 802.1998 METERS, N.A.V.D. 88 DATUM

#### BASIS OF BEARINGS

NORTH 89°56'20" EAST, BEING THE BEARING OF THE SOUTH LINE OF THE  
SOUTHEAST QUARTER (SE 1/4) OF THE NORTHEAST QUARTER (NE 1/4) OF  
SECTION 20, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M. CITY OF LAS  
VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF ON FILE IN  
THE CLARK COUNTY, NEVADA RECORDER'S OFFICE IN FILE 158, PAGE 78 OF  
SURVEYS.

#### SURVEY NOTE

OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO  
REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR  
OBSOLETE DURING CONSTRUCTION.

#### NDOT PERMIT

NO WORK WITHIN NDOT RIGHT OF WAY WITHOUT AN NDOT PERMIT.

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN  
EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

#### COX COMMUNICATION NOTES

CONTACT GENE SEGEL AT COX COMMUNICATION WITH REGARDS TO THE CATV VAULT  
ADJUSTMENTS (702-210-7024)

#### CONSTRUCTION NOTES

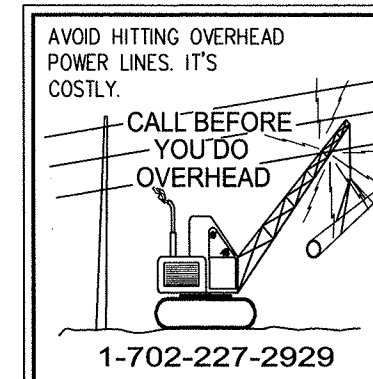
- EXISTING IMPROVEMENTS TO BE RELOCATED BY FACILITY OWNERS
- INSTALL "A" TYPE ISLAND CURB PER CCAUSD NO. 219
- INSTALL "L" TYPE CURB & GUTTER PER CCAUSD NO. 216
- INSTALL 1" OPEN GRADE OVER 6" DENSE GRADE OVER 16" TYPE I CLASS B  
AGGREGATE BASE PER DETAIL 2 ON SHEET D-1
- INSTALL 12" WIDE, CONCRETE SHARED USE PATH W/ 4" TYPE II  
AGGREGATE BASE
- INSTALL SIDEWALK RAMP PER CCAUSD NO. 235, CASE 1 AND CCAUSD NO. 235.1
- REMOVE EXISTING RIPRAP
- INSTALL "L" TYPE ISLAND CURB & GUTTER PER CCAUSD NO. 219
- INSTALL 8" VALLEY GUTTER PER CCAUSD NO. 228
- INSTALL 48" TYPE II STORM DRAIN MANHOLE PER CCAUSD NO. 405
- CONSTRUCT PENETRATION INTO EX RCB SD PER DETAIL ON SHEET D-1
- REMOVE EX NDOT INLET AND CONCRETE APRON PER DSS108
- INSTALL 5.0' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
- INSTALL 7.5' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
- INSTALL 10.0' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
- INSTALL 12.5' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
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- INSTALL 5' WIDE, CONCRETE SHARED USE PATH W/ 4" TYPE II  
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- ADJUST MANHOLE RIM TO FINISH GRADE
- INSTALL 2-4" IRRIGATION SLEEVES

#### BACK OF CURB CURVE TABLE

| CURVE | LENGTH | RADIUS | DELTA      | TANGENT  |
|-------|--------|--------|------------|----------|
| C9    | 31.60' | 99.50' | 18°11'42"  | 15.93'   |
| C10   | 17.28' | 5.50'  | 180°00'00" | INFINITY |
| C11   | 24.58' | 59.87' | 23°31'11"  | 12.46'   |
| C12   | 25.80' | 59.57' | 24°48'53"  | 13.11'   |

#### BACK OF CURB LINE TABLE

| LINE | BEARING     | LENGTH  |
|------|-------------|---------|
| L1   | S36°37'44"E | 1683.77 |
| L7   | N36°37'44"W | 579.47  |
| L8   | S36°37'44"E | 580.99  |
| L9   | S36°37'44"E | 122.74  |
| L10  | N53°22'16"E | 11.00   |
| L11  | N53°22'16"E | 11.00   |
| L12  | S36°37'44"E | 135.54  |
| L13  | N36°37'44"W | 135.54  |
| L14  | N36°37'44"W | 100.00  |



#### DISCLAIMER NOTE

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BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND  
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UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR  
UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

#### GENERAL NOTES:

- SEE DRAWING C-2 & C-3 FOR GENERAL NOTES.
- REFER TO CCAUSD DWG NO. 501 FOR TYPICAL UNDERGROUND UTILITY LOCATIONS.  
THE WATER SERVICE LATERALS ARE GENERALLY LOCATED PERPENDICULAR TO  
THE WATER MAIN AND IN-LINE WITH THE WATER METER. CONTRACTOR TO  
REPLACE WATER SERVICE LATERAL FROM THE MAIN TO THE ANGLE METER STOP  
PER UDACS IF DAMAGED DURING CONSTRUCTION.
- REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS OR PAVEMENT MARKINGS) THAT  
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SPECIFICATIONS, OR WILL BE APPROVED EQUIVALENT.
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#### NDOT NOTES

- THE AGGREGATE BASE SHALL BE 16-INCHES OF TYPE I CLASS B CONFORMING TO  
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STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- THE DENSE-GRADED PLANT MIX BITUMINOUS SURFACE, EXCLUDING THE OPEN  
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SURFACE, EXCLUDING THE OPEN GRADE LAYER, SHALL BE 6-INCHES OF TYPE 2C  
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- THE GRADE OF ASPHALT FOR BOTH OPEN AND DENSE GRADE MIXTURES SHALL BE  
PG76-22NVR OR PG76-22NVR, CONFORMING TO SUBSECTION 703.03.02 OF THE  
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- APPLY FULL-WIDTH OPEN GRADE.
- SUBGRADE PREPARATION SHALL CONFORM TO SUBSECTION 302.03.01 OF THE NDOT  
2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- TACK COAT SHALL BE EMULSIFIED ASPHALT, TYPE SS-1H (DILUTED) AT THE  
FOLLOWING APPLICATION RATES:

|      |                                |                          |
|------|--------------------------------|--------------------------|
| i.   | TACK BETWEEN DENSE GRADE LIFTS | 0.06 GAL/YD <sup>2</sup> |
| ii.  | TACK OPEN GRADE TO DENSE GRADE | 0.07 GAL/YD <sup>2</sup> |
| iii. | TACK COLD MILLED SURFACE       | 0.10 GAL/YD <sup>2</sup> |
- PRIME COAT SHALL BE CUTBACK ASPHALT, TYPE MC-70NVR, WITH AN APPLICATION  
RATE OF 0.28 GAL/YD<sup>2</sup>, OR THE PRIME COAT MAY BE AN APPROVED EQUAL FROM  
THE NDOT QPL.

#### FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE X (UNSHADED) AS  
DEPICTED ON FLOOD INSURANCE RATE MAP (FIRM) PANEL 32003C1745C, DATED  
SEPTEMBER 27, 2002. A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA  
DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

#### FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED  
TECHNICAL DRAINAGE STUDY DSS145 ON FILE AT CITY OF LAS VEGAS FOR THE  
SUBJECT PROJECT.

*Timothy M. Mulrooney* 9/12/19  
TIMOTHY M. MULROONEY, P.E. 22938 DATE

CITY OF LAS VEGAS, NV

kb HOME

PP-5  
SHEET 8 OF 16

DATE: 8/7/19

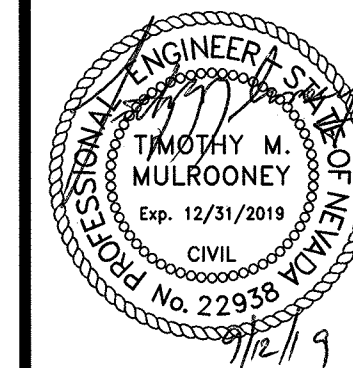
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DESIGNER: BCS

CHECKED: MAK

PROJECT NO.

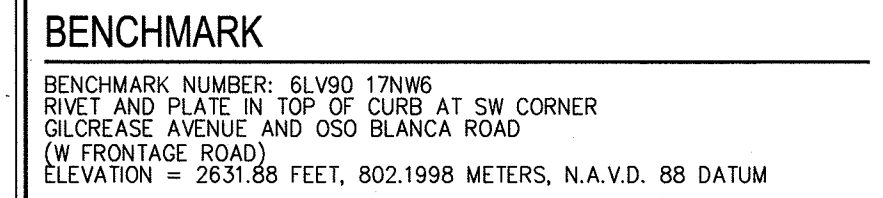
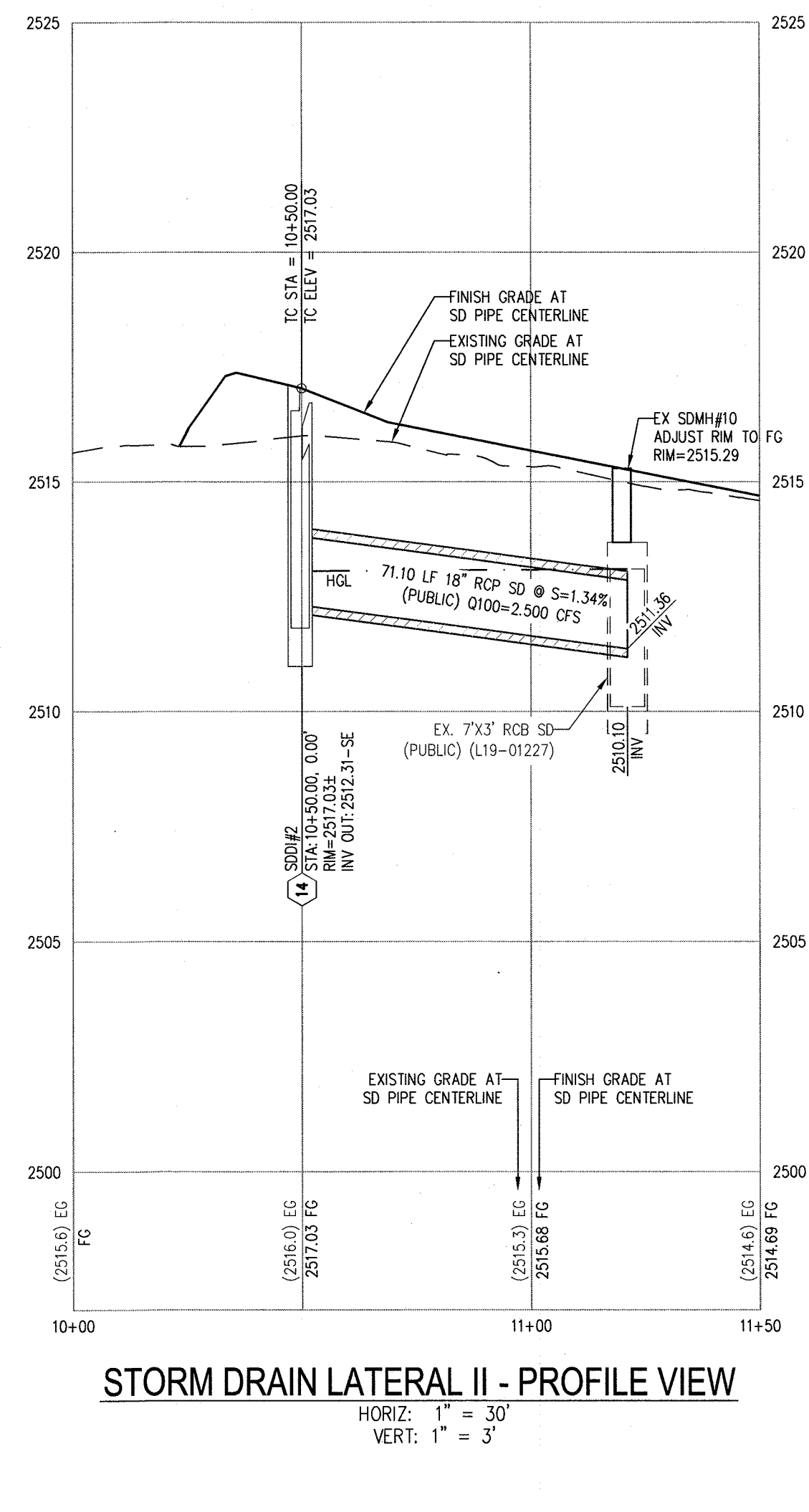
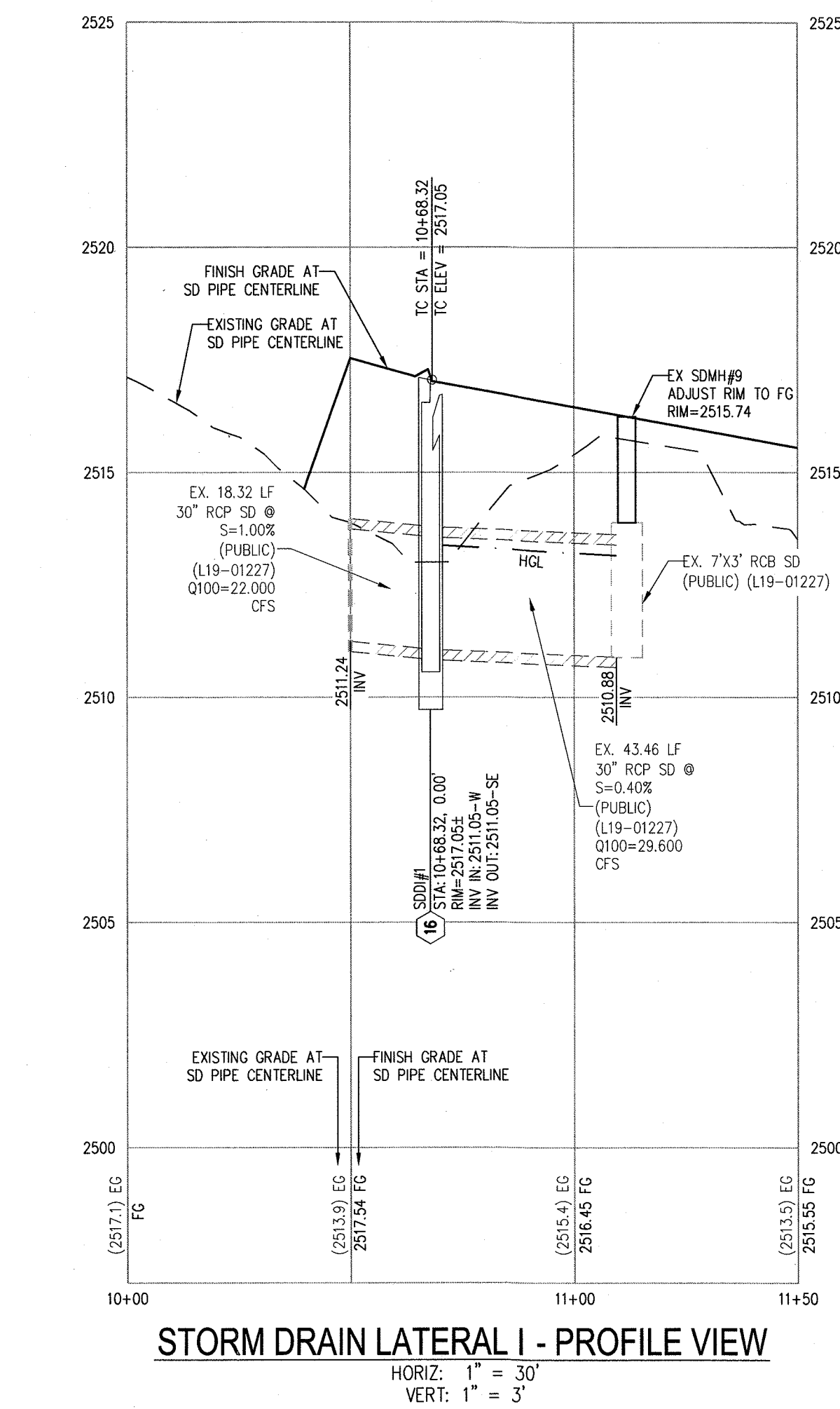
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PP-5  
SHEET 8 OF 16

L19-01731

SLATER  
HANIFAN  
GROUP  
a Westwood team  
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118  
PHONE (702) 284-5300 FAX (702) 284-5399



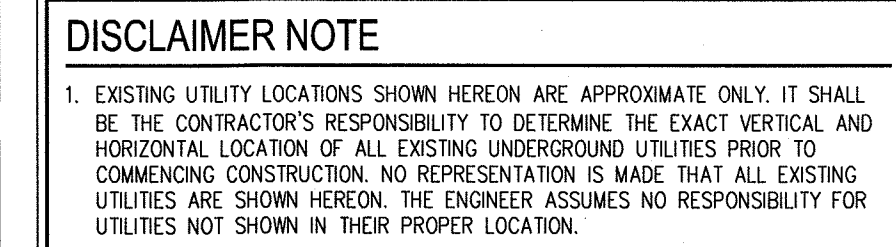
NORTH 89°56'20" EAST, BEING THE BEARING OF THE SOUTH LINE OF THE SOUTHEAST QUARTER (SE ¼) OF THE NORTHEAST QUARTER (NE ¼) OF SECTION 20, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF ON FILE IN THE CLARK COUNTY, NEVADA RECORDER'S OFFICE IN FILE 158, PAGE 78 OF SURVEYS.

OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION.

NO WORK WITHIN NDOT RIGHT OF WAY WITHOUT AN NDOT PERMIT.

CONTACT GENE SIEGEL AT COX COMMUNICATION WITH REGARDS TO THE CATV VAULT  
ADJUSTMENTS (702-210-7024)

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- 3 INSTALL "L" TYPE CURB & GUTTER PER CCAUSD NO. 216
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5 AGGREGATE BASE PER DETAIL 2 ON SHEET D-1
- 6 INSTALL 12" WIDE, CONCRETE SHARED USE PATH W/ 4" TYPE II  
7 AGGREGATE BASE
- 8 INSTALL SIDEWALK RAMP PER CCAUSD NO. 235, CASE 1 AND CCAUSD NO. 235.
- 9 REMOVE EXISTING RAMP
- 10 INSTALL "L" TYPE ISLAND CURB & GUTTER PER CCAUSD NO. 219
- 11 INSTALL 48" VALLEY GUTTER PER CCAUSD NO. 228
- 12 INSTALL 48" TYPE II STORM DRAIN MANHOLE PER CCAUSD NO. 405
- 13 CONSTRUCT PENETRATION INTO EX RCB SD PER DETAIL ON SHEET D-1
- 14 REMOVE EX NDOT INLET AND CONCRETE APRON PER D55108
- 15 INSTALL 5.0' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
- 16 INSTALL 7.5' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
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- 20 INSTALL 5' WIDE, CONCRETE SHARED USE PATH W/ 4" TYPE II  
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- 21 ADJUST MANHOLE RIM TO FINISH GRADE
- 22 INSTALL 2-4" IRRIGATION SLEEVES



1. SEE DRAWING C-2 & C-3 FOR GENERAL NOTES.
2. REFER TO CALSWD DOWD NO. 501 FOR TYPICAL UNDERGROUND UTILITY LOCATIONS. THE WATER SERVICE LATERALS ARE GENERALLY LOCATED PERPENDICULAR TO THE WATER MAIN AND IN-LINE WITH THE WATER METER. CONTRACTOR TO REPLACE WATER SERVICE LATERAL FROM THE MAIN TO THE ANGLE METER STOP PER UG4S IF DAMAGED DURING CONSTRUCTION.
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- 2) THE DENSE-GRADED PLANTAIN BITUMINOUS SURFACE, EXCLUDING THE OPEN GRADE LAYER, SHALL BE 6-INCHES OF TYPE 2C CONFORMING TO THE REQUIREMENTS AS SET FORTH IN SUBSECTION 705.03.01 OF THE NDOT 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. BITUMINOUS SURFACE, EXCLUDING THE OPEN GRADE LAYER, SHALL BE 6-INCHES OF TYPE 2C CONFORMING TO THE REQUIREMENTS
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|                                    |                          |
|------------------------------------|--------------------------|
| i. TACK BETWEEN DENSE GRADE LIFTS  | 0.06 GAL/YD <sup>2</sup> |
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THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE X (UNSHADED) AS DEPICTED ON FLOOD INSURANCE RATE MAP (FIRM) PANEL 32003C1745E, DATED SEPTEMBER 27, 2002. A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

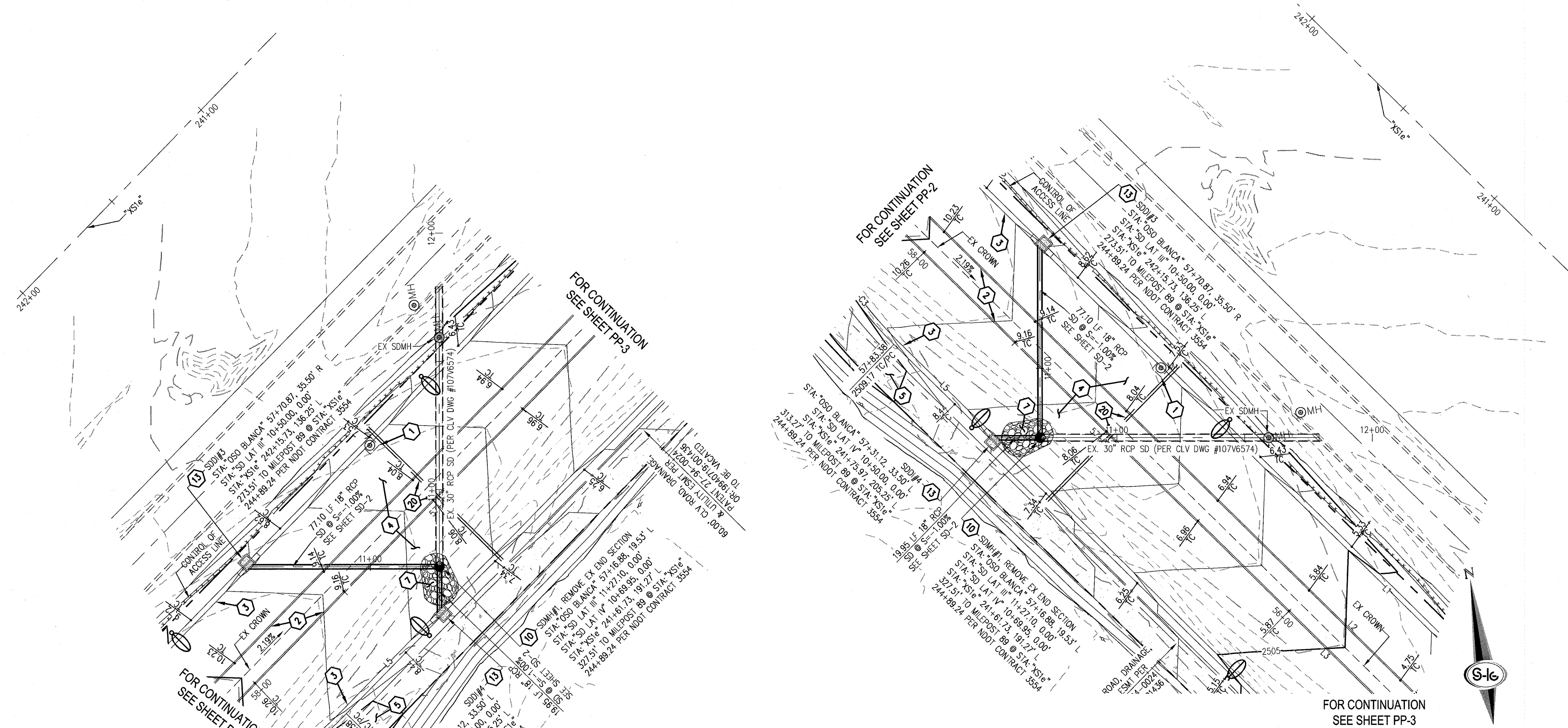
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED  
TECHNICAL DRAINAGE STUDY DS5145 ON FILE AT CITY OF LAS VEGAS FOR THE  
SUBJECT PROJECT.

*Timothy M. Mulhoney* 7/12/19  
TIMOTHY M. MULHONEY, P.E. 22938 DATE



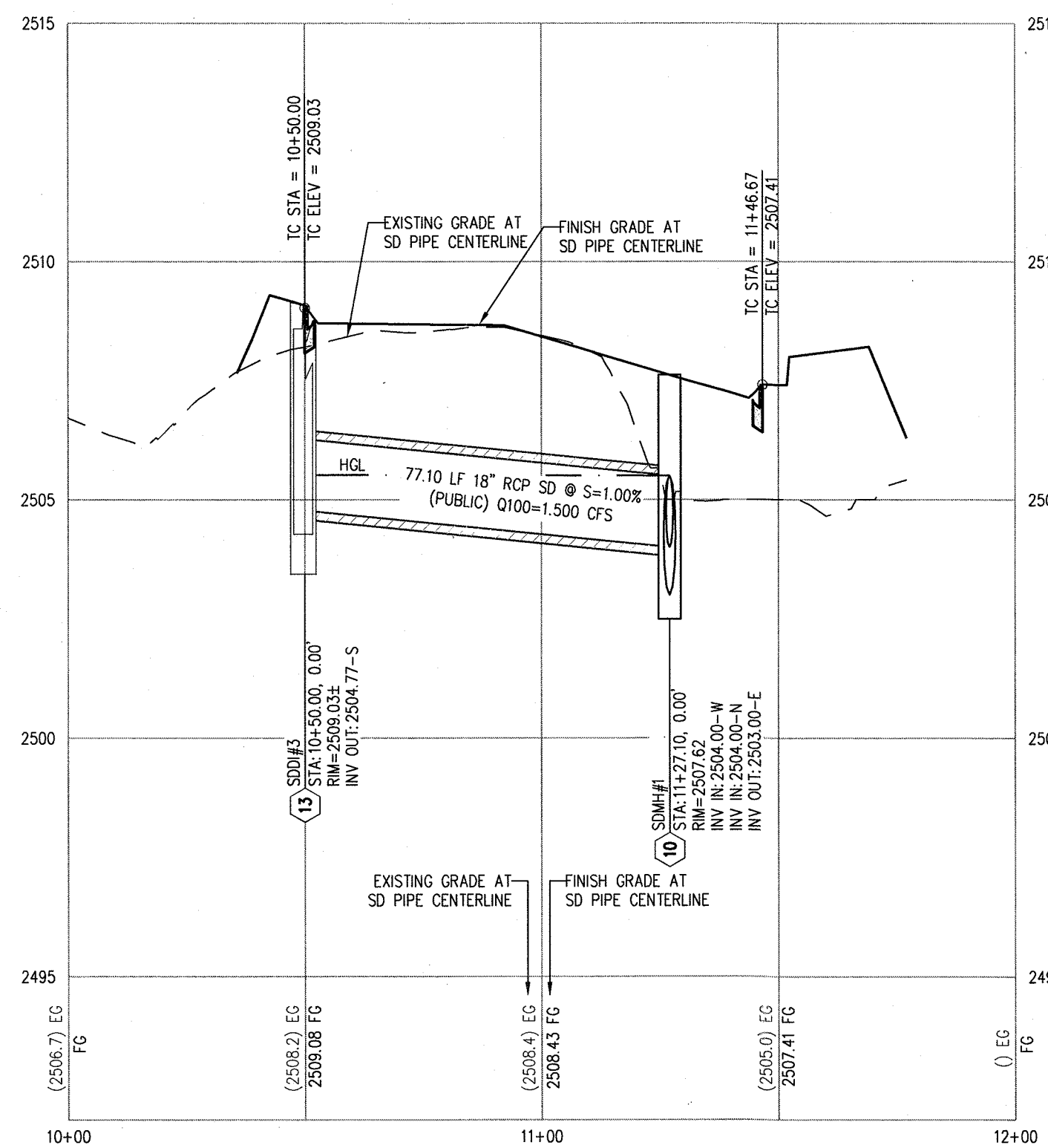
Call before you Dig  
AVOID CUTTING UNDERGROUND  
UTILITY LINES. IT'S COSTLY.  
Call  
  
OR  
1-800-227-2600

J:\Veh\805-006\_montecito\_offsite\_oso blanca\dwg\imprcv\kbh\805-006\_ana.dwg 9/12/2019 11:03 AM Byron Sarmiento



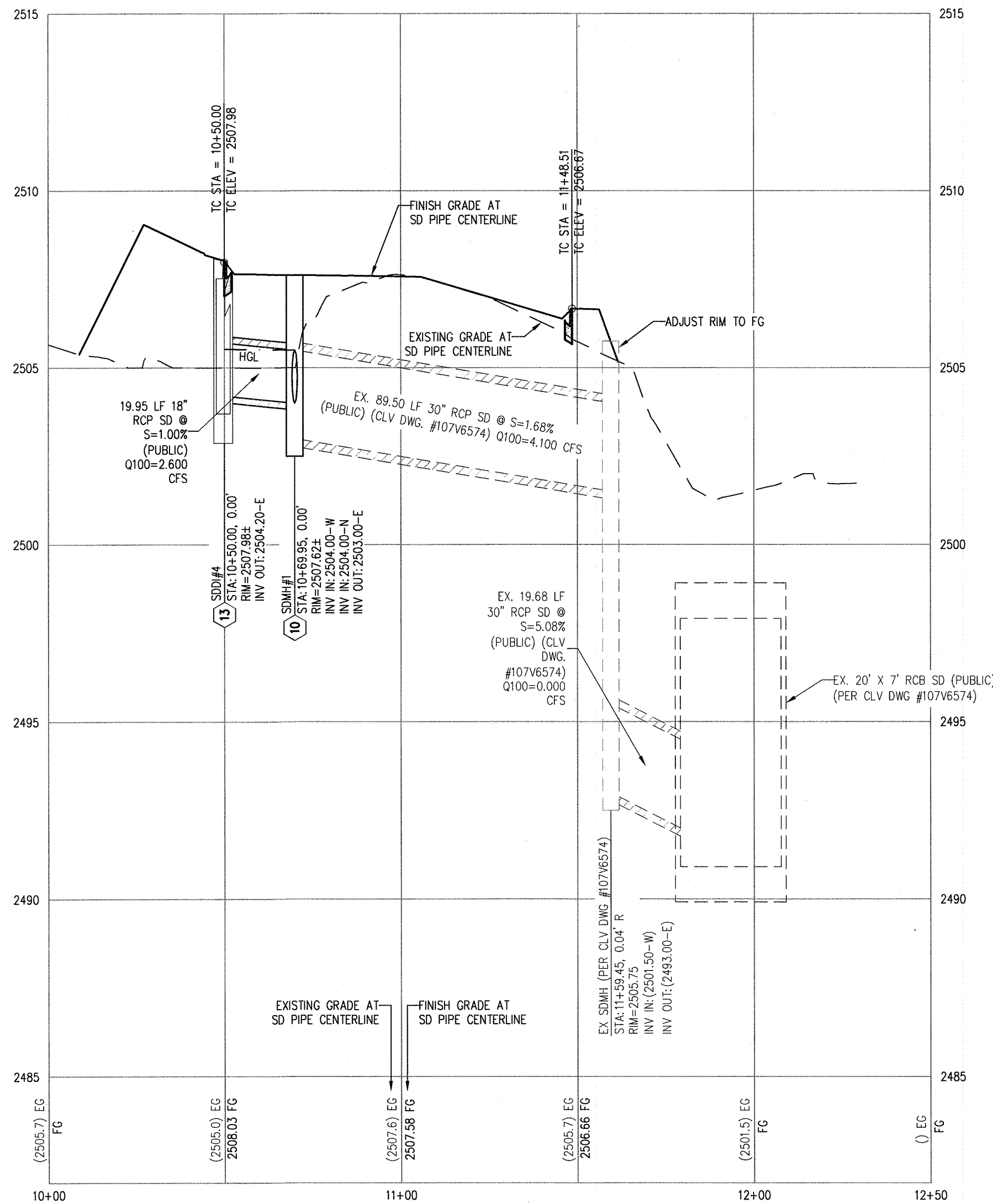
STORM DRAIN LATERAL IV - PLAN VIEW

STORM DRAIN LATERAL III - PLAN VIEW



STORM DRAIN LATERAL III - PROFILE VIEW

HORIZ: 1" = 30'  
VERT: 1" = 5'



STORM DRAIN LATERAL IV - PROFILE VIEW

HORIZ: 1" = 30'  
VERT: 1" = 5'



#### BENCHMARK

BENCHMARK NUMBER: 6LV90 17NW6  
RIVET AND PLATE IN TOP OF CURB AT SW CORNER  
GILCREASE AVENUE AND OSO BLANCA ROAD  
(W FRONTAGE ROAD)  
ELEVATION = 2631.88 FEET, 802.1998 METERS, N.A.V.D. 88 DATUM

#### BASIS OF BEARINGS

NORTH 89°56'20" EAST, BEING THE BEARING OF THE SOUTH LINE OF THE  
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VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF ON FILE IN  
THE CLARK COUNTY, NEVADA RECORDER'S OFFICE IN FILE 158, PAGE 78 OF  
SURVEYS.

#### SURVEY NOTE

OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO  
REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR  
OBSOLETE DURING CONSTRUCTION.

#### NDOT PERMIT

NO WORK WITHIN NDOT RIGHT OF WAY WITHOUT AN NDOT PERMIT.

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN  
EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

#### COX COMMUNICATION NOTES

CONTACT GENE SIEGEL AT COX COMMUNICATION WITH REGARDS TO THE CATV VAULT  
ADJUSTMENTS (702-210-7024)

#### CONSTRUCTION NOTES

- EXISTING IMPROVEMENTS TO BE RELOCATED BY FACILITY OWNERS
- INSTALL "A" TYPE ISLAND CURB PER CCAUSD NO. 219
- INSTALL "L" TYPE CURB & GUTTER PER CCAUSD NO. 216
- INSTALL 1" OPEN GRADE OVER 6" DENSE GRADE OVER 16" TYPE I CLASS B  
AGGREGATE BASE PER DETAIL 2 ON SHEET D-1
- INSTALL 1/2" WIDE, CONCRETE SHARED USE PATH W/ 4" TYPE II  
AGGREGATE BASE
- INSTALL SIDEWALK RAMP PER CCAUSD NO. 235, CASE 1 AND CCAUSD NO. 235.1
- REMOVE EXISTING RIPRAP
- INSTALL "L" TYPE ISLAND CURB & GUTTER PER CCAUSD NO. 219
- INSTALL 8" VALLEY GUTTER PER CCAUSD NO. 228
- INSTALL 48" TYPE II STORM DRAIN MANHOLE PER CCAUSD NO. 405
- CONSTRUCT PENETRATION INTO EX RCB SD PER DETAIL ON SHEET D-1
- REMOVE EX NDOT INLET AND CONCRETE APRON PER D55108
- INSTALL 5.0' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
- INSTALL 7.5' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
- INSTALL 10.0' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
- INSTALL 12.5' DROP INLET TYPE "CM2" PER CCAUSD NO. 412.1 AND 421
- INSTALL MODIFIED RESIDENTIAL DRIVEWAY PER NDOT STD DWG R-5.3.2
- INSTALL 5' WIDE, CONCRETE SHARED USE PATH W/ 4" TYPE II  
AGGREGATE BASE
- ADJUST MANHOLE RIM TO FINISH GRADE
- INSTALL 2-4" IRRIGATION SLEEVES

#### DISCLAIMER NOTE

1. EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL  
BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND  
HORIZONTAL LOCATION OF ALL EXISTING 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 IN THEIR PROPER LOCATION.

#### GENERAL NOTES:

- SEE DRAWING C-2 & C-3 FOR GENERAL NOTES.
- REFER TO CCAUSD DWG NO. 501 FOR TYPICAL UNDERGROUND UTILITY LOCATIONS.  
THE WATER SERVICE LATERALS ARE GENERALLY LOCATED PERPENDICULAR TO  
THE WATER MAIN AND IN-LINE WITH THE WATER METER. CONTRACTOR TO  
REPLACE WATER SERVICE LATERAL FROM THE MAIN TO THE ANGLE METER STOP  
PER UDACS IF DAMAGED DURING CONSTRUCTION.
- REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS OR PAVEMENT MARKINGS) THAT  
ARE DISTURBED, DESTROYED, MOVED OR MODIFIED BY TRENCHING ACTIVITY TO  
CLARK COUNTY SATISFACTION. ALL MATERIAL USED SHALL MEET CLARK COUNTY'S  
SPECIFICATIONS, OR WILL BE APPROVED EQUIVALENT.
- PIPE LENGTH IS MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.

#### NDOT NOTES

- THE AGGREGATE BASE SHALL BE 16-INCHES OF TYPE I CLASS B CONFORMING TO  
THE REQUIREMENTS AS SET FORTH IN SUBSECTION 704.03.03 OF THE NDOT 2014  
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- THE DENSE-GRADED PLANT MIX BITUMINOUS SURFACE, EXCLUDING THE OPEN  
GRADE LAYER, SHALL BE 6-INCHES OF TYPE 2C CONFORMING TO THE  
REQUIREMENTS AS SET FORTH IN SUBSECTION 705.03.01 OF THE NDOT 2014  
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. BITUMINOUS  
SURFACE, EXCLUDING THE OPEN GRADE LAYER, SHALL BE 6-INCHES OF TYPE 2C  
CONFORMING TO THE REQUIREMENTS.
- THE GRADE OF ASPHALT FOR BOTH OPEN AND DENSE GRADE MIXTURES SHALL BE  
PG78-22NVR OR PG76-22NVR, CONFORMING TO SUBSECTION 703.03.02 OF THE  
NDOT 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- APPLY FULL-WIDTH OPEN GRADE.
- SUBGRADE PREPARATION SHALL CONFORM TO SUBSECTION 302.03.01 OF THE NDOT  
2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- TACK COAT SHALL BE EMULSIFIED ASPHALT, TYPE SS-1H (DILUTED) AT THE  
FOLLOWING APPLICATIONS RATES:

|                                    |                          |
|------------------------------------|--------------------------|
| i. TACK BETWEEN DENSE GRADE LIFTS  | 0.06 GAL/YD <sup>2</sup> |
| ii. TACK OPEN GRADE TO DENSE GRADE | 0.07 GAL/YD <sup>2</sup> |
| iii. TACK COLD MILLED SURFACE      | 0.10 GAL/YD <sup>2</sup> |
- PRIME COAT SHALL BE CUTBACK ASPHALT, TYPE MC-70NVR, WITH AN APPLICATION  
RATE OF 0.28 GAL/YD<sup>2</sup>, OR THE PRIME COAT MAY BE AN APPROVED EQUAL FROM  
THE NDOT QPL.

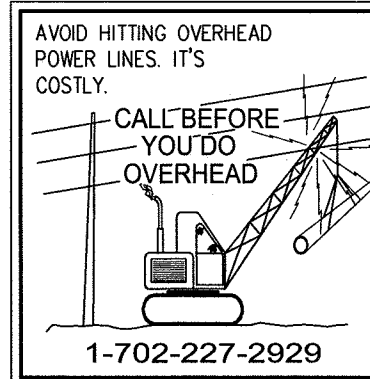
#### FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE X (UNSHADED) AS  
DEPICTED ON FLOOD INSURANCE RATE MAP (FIRM) PANEL 32003C1745E, DATED  
SEPTEMBER 27, 2002. A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA  
DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

#### FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED  
TECHNICAL DRAINAGE STUDY D55145 ON FILE AT CITY OF LAS VEGAS FOR THE  
SUBJECT PROJECT.

*Timothy M. Mulrooney* 9/12/19 DATE  
TIMOTHY M. MULROONEY, PE 22938



CITY OF LAS VEGAS, NV

kb HOME

SD-2  
R808

DATE: 8/7/19

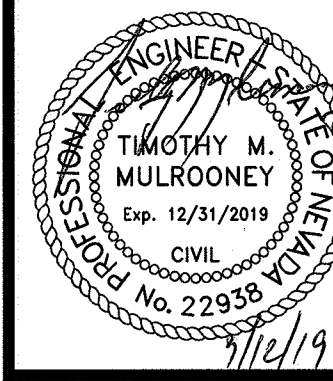
DRAFTER: BCS

DESIGNER: BCS

CHECKED: MAK

PROJECT NO.

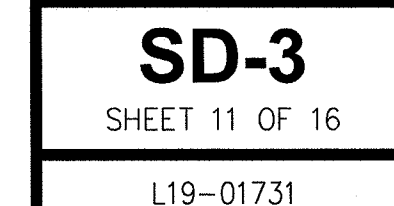
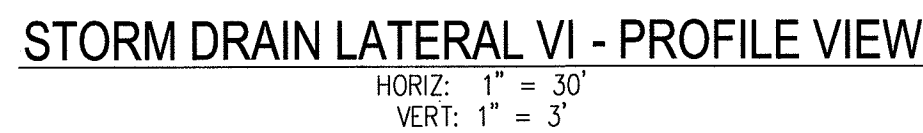
KBH1805-006



SD-2  
SHEET 10 OF 16

L19-01731

SLATER  
HANIFAN  
GROUP  
a Westwood team  
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118  
PHONE (702) 284-5300  
FAX (702) 284-5389





OSO BLANCA ROAD



NOT TO SCALE

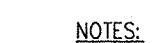


OSO BLANCA RD



NOT TO SCALE

OSO BLANCA ROAD



1. ANGLE "A" SHALL BE BETWEEN 45° AND 90°.
2. DIMENSION "D" SHALL BE EQUAL TO OR LESS THAN 1/2 THE INSIDE DIAMETER OF THE MAINLINE RCB.
3. DIMENSION "X" SHALL BE 1" MINIMUM AND 3" MAXIMUM.
4. TRIM EXCESS OF INLET PIPE TO FLUSH WITH INNER SURFACE OF DROP INLET STRUCTURE, ROUND EDGES OF STRUCTURE'S AND PIPES.

### PENETRATION DETAIL

NOT TO SCALE



NOT TO SCALE

OSO BLANCA ROAD



NOT TO SCALE

OSO BLANCA ROAD



NOT TO SCALE

OSO BLANCA ROAD

