DS #: 5204

APN: 137-23-101-002

PROJECT: Summerlin West Village 22 - Kettle Bend Road
(Sunset Run Drive to Kestrel Creek Road)

SUBMITTAL: Supplement

SCANNED BY/DATE:

CHECKED BY/DATE:

CITY OF LAS VEGAS NEVADA

CITY OF LAS VEGAS
INTER-OFFICE MEMORANDUM

DATE: February 20, 2020

TO:
Land Development Services
Department of Building & Safety

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

SUBJECT: Drainage Study for:
Summerlin West Village 22 - Kettle Bend Road (Sunset Run Drive to Kestrel Creek Road)

COPIES TO:
VTN Nevada
The Howard Hughes Company, LLC
Bart Anderson, P.E., DevCo
CCRFCD

Cross Streets:	Kettle Bend Road & Summerlin Parkway		
File Number:	F:\Depot\DSMemos\DS5204C.doc		
Parcel Number:	137-23-101-002		
Zoning Action:	N/A		
FEMA Flood Zone	YES	NO **X**	
Proposed Storm Drain	YES **X**	NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	10/15/2019	11/20/2019	Not Approved	$400.00	3611329: $400
2nd Submittal	1/14/2020	2/5/2020	Not Approved	$400.00	3705772: $400
Supplement	2/13/2020	2/20/2020	See Comments Below	N/C	N/C
			TOTAL FEES (LDDRS):	**$800.00**	**----**

REMARKS:

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

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

***** The Conditional Approval of this Drainage Study is to allow the engineer/developer to submit the Improvement Plans to City Land Development Only**

***** Do not submit the Drainage Study to Clark County Regional Flood Control District (CCRFCD) prior to the Structural Design and Calculations being approved by the City Building & Safety Department**

1. The subject drainage study is premised on the developed *Sunset Run Drive (Summerlin Parkway Extension West Bound)* to the south. The subject improvement plans will not be approved prior to the execution of the construction bond of *Summerlin West V21 – Summerlin Parkway Extension* and the associated facilities.
2. **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.

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

http://gustfront.ccrfcd.org/LandDev/LandDev.aspx

3. The street and the associated storm drain facilities will eventually be transferred to the *City of Las Vegas*, the engineer/developer must coordinate with *City of Las Vegas Streets & Sanitation Department* for their review and approval prior to the final acceptance of the subject improvement plans.

4. The project proposes to build temporary drainage facilities including drainage berms/swales along the west side of the proposed *Kettle Bend Road* and a 20'-wide *Interim Berm*. Prior to final plan approval the developer must complete a ***Maintenance & Liability Agreement*** for the interim drainage improvements and post a minimum maintenance bond of $50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for constructing the facilities and an exhibit that adequately shows the location and limits of the drainage facilities to *City of Las Vegas Flood Control* for approval. Once the drainage study is conditionally approved, the engineer should contact the *City's Land Development Section* (229-6371) to begin the agreement process.

   In order for the maintenance bond to be released in the future, a drainage update / letter will be required to justify that the offsite berms / channels are no longer necessary and can be removed.

5. Drop inlets deeper than 10' require special structural design and structural calculations. Provide a soils report, structural calculations and specifications, two wet stamped structural sets, and a grading plan to the *City of Las Vegas Building & Safety Department* for processing. The engineer must provide a copy of *Building Department* approval of the structures to *Flood Control* prior to final acceptance of the drainage study.

6. All special structures and mainline storm drain connection require details and structural calculations to be reviewed by the *City of Las Vegas Building & Safety Department*. Approval by the *Building Department* must be obtained prior to the final approval of the subject drainage study.

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

END OF REMARKS
HDR/AYS

T/R/S: T20S/R59E/23
AREA K-23

Aaron Yup

To: Albert Sung
Subject: RE: (DS05204B) Kettle Bend ADD1 Comment Letter

From: Albert Sung <YSung@LasVegasNevada.GOV>
Sent: Tuesday, February 11, 2020 4:05 PM
To: Aaron Yup <ayup@vtnnv.com>
Subject: RE: (DS05204B) Kettle Bend ADD1 Comment Letter

Aaron,

No, just provide me with the pertinent sheets.

You may submit it as Supplement, no charge.

Albert Y. Sung
Project Engineer
Public Works Dept. / Flood Control
(702) 229-6541
333 N. Rancho Dr. 7th Floor
Las Vegas, NV 89106

lasvegasnevada.gov

Your opinion is important! Click here to take a short survey.

From: Aaron Yup <ayup@vtnnv.com>
Sent: Tuesday, February 11, 2020 10:17 AM
To: Albert Sung <YSung@LasVegasNevada.GOV>
Subject: RE: (DS05204B) Kettle Bend ADD1 Comment Letter

EXTERNAL EMAIL: This email originated from outside the organization, do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Albert,

Were you expecting a full plan set with this submittal or can we treat this as a supplement and just provide the revised sheets? Only a couple of the ~100 have been revised + added a structural sheet.

Supplement #1 to the Technical Drainage Study for

Summerlin West Village 22
Kettle Bend Road

Las Vegas, Nevada

Prepared for:
Howard Hughes Company, LLC

Submitted to:
City of Las Vegas
Public Works

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Summerlin West Village 22 Kettle Bend Road Date: February 12, 2020

Location of Development: a) Descriptive (Cross Streets) North/South: Kettle Bend Road

East/West: Summerlin Parkway

b) Section: 23 Township: 20S Range: 59E

c) APN : 137-23-101-002

Name of Owner: The Howard Hughes Company, LLC

Telephone No.: (702) 791-4336 Fax No.: (702) 791-4453 E-Mail Address: chris.anderson@howardhughes.com

Address: 10801 W. Charleston Blvd. LV, NV, 89135

Contact Person-Name: Aaron Yup **Telephone No.:** (702)-873-7550

* **E-Mail Address:** ayup@vtnnv.com **Fax No.:** (702)-362-2597

Firm: VTN Nevada

Address: 2727 S. Rainbow Blvd, LV, NV, 89146

Type of Land Development/Land Disturbance Process:

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

1. Total Owned Land Area: At Site: +/-17 Acres Being Developed/Disturbed: +/-17 Acres
2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ Yes** ☒ No
3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☒ Yes** ☐ No
4. Proposed type of development (Residential, Commercial, Etc.): Roadway
5. Approximate upstream land area which drains to the subject site: +/- 376 acres
6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: SWPA MPU (DS4926)
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Existing 30" RCP southeast of the project in Carriage Hill Drive, Existing RCB in Desert Foothills Drive South of the project, Existing Western Beltway Channel east of the project
8. Briefly describe your proposed schedule for the subject project: As soon as possible

Engineer's Seal

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

*New Required Field

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

Revision	Date

Local Entity File No.

REFERENCE:

STANDARD FORM 1

Updated 05/01/2008

PROVIDING QUALITY PROFESSIONAL
SERVICE SINCE 1960

February 12, 2020

Albert Sung, P.E.
Flood Control Division
Department of Public Works
CITY OF LAS VEGAS
333 N. Rancho Blvd, 7th Floor
Las Vegas, NV 89106

Subject: **Supplement #1 to the Technical Drainage Study for Summerlin West Village 22 Kettle Bend Road**

Mr. Sung:

This letter certifies that all items on the **Supplement #1 to the Technical Drainage Study for Summerlin West Village 22 Kettle Bend Road** electronic submittal matches the paper version bound into the study.

Respectfully submitted,

Brian Ruiz, P.E.

SUPPLEMENT #1

TO THE TECHNICAL DRAINAGE STUDY

FOR

SUMMERLIN WEST VILLAGE 22

KETTLE BEND ROAD

SUNSET RUN DRIVE TO KESTREL CREEK ROAD

CLARK COUNTY, NEVADA

W.O. # 7861

Prepared for:
HOWARD HUGHES COMPANY, LLC.

Submitted to:
CITY OF LAS VEGAS
333 N. Rancho Drive
Las Vegas, Nevada 89106

PROVIDING QUALITY PROFESSIONAL SERVICE SINCE 1960

February 12, 2020
W.O. #7861

City of Las Vegas
333 N. Rancho Dr.
Las Vegas, NV 89106

Attention: Albert Sung, P.E.
Flood Control Project Engineer

SUBJECT: SUPPLEMENT #1 TO THE TECHNICAL DRAINAGE STUDY FOR SUMMERLIN WEST VILLAGE 22 KETTLE BEND ROAD (SUNSET RUN DRIVE TO KESTREL CREEK ROAD)

Mr. Sung:

This *Supplement #1 to the Technical Drainage Study for Summerlin Village 22 Kettle Bend Road* is being submitted to the City of Las Vegas to address review comments dated February 5, 2020.

Comment #1

The subject drainage study is premised on the developed Sunset Run Drive (Summerlin Parkway Extension West Bound) to the south. The subject improvement plans will not be approved prior to the execution of the construction bond of Summerlin West V21 – Summerlin Parkway Extension and the associated facilities.

RESPONSE: Noted.

Comment #2

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.

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

http://gustfront.ccrfcd.org/LandDev/LandDev.aspx

RESPONSE: Noted. A copy of the drainage study and all relevant addenda will be provided to CCRFCD upon approval by the CLV.

Comment #3

The street and the associated storm drain facilities will eventually be transferred to the City of Las Vegas, the engineer/developer must coordinate with City of Las Vegas Streets & Sanitation Department for their review and approval prior to the final acceptance of the subject improvement plans.

RESPONSE: Noted. Storm drain facility design will be sent to the City of Las Vegas Streets & Sanitation Department for their review and approval.

Comment #4

The project proposes to build temporary drainage facilities including drainage berms/swales along the west side of the proposed Kettle Bend Road and 20' – wide Interim Berm. Prior to final plan approval the developer must complete a Maintenance & Liability Agreement for the interim drainage improvements and post a minimum maintenance bond of $50,000 or 50 percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for constructing the facilities and an exhibit that adequately shows the location and limits of the drainage facilities to City of Las Vegas Flood Control for approval. Once the drainage study is conditionally approved, the engineer should contact the City's Land Development Section (229-6371) to begin the agreement process.

In order for the maintenance bond to be released in the future, a drainage update/letter will be required to justify that the offsite berms/channels are no longer necessary and can be removed.

RESPONSE: The engineer/developer agrees to complete a Maintenance & Liability agreement for the interim drainage improvements and to post a maintenance bond. The engineer/developer acknowledges that in order for the maintenance bond to be released in the future, a drainage letter will be required to justify that the interim facilities are no longer necessary and can be removed. Note that as stated in the previous submittals, the temporary 20' berm west of Kettle Bend in Interim Condition 1 will no longer be required after construction of the Grand Park Detention Basin.

Comment #5

Drop inlets deeper than 10' require special structural design and structural calculations. Provide a soils report, structural calculations and specifications, two wet stamped structural sets, and a grading plan to the City of Las Vegas Building & Safety Department for processing. The engineer must provide a copy of Building Department approval of the structures to Flood Control prior to final acceptance of the drainage study.

RESPONSE: See response to comment #6.

Comment #6

All special structures and mainline storm drain connection require details and structural calculations to be reviewed by the City of Las Vegas Building & Safety Department. Approval by the Building Department must be obtained prior to the final approval of the subject drainage study.

RESPONSE: Noted. All structural details and calculations will be submitted to the City of Las Vegas Building & Safety Department. It is understood drainage approval will be conditioned for approval of the submitted structural details and calculations. Additionally, the structural details have been included with the grading plans for this drainage submittal.

Comment #7

Previous Comments #9 & #10: Figure 6 (Existing Condition Map): The response stated that interim facilities have been proposed at the north boundary of offsite basin OFF3 in order to convey flow east instead of going north. However, the contours presented on the Existing Condition Map did not reflect such a facility. A mere callout of "Atkins Interim Flowline" is not acceptable. Coordinate with Atkins about the status of the proposed interim facility and incorporate on all pertinent drainage condition maps and improvement plans.

RESPONSE: Per City of Las Vegas request the two interim berm facilities at the north boundary of offsite basin OFF3 have been shown and labelled on *Figure 6: Existing Condition Basin*. However, as these are interim facilities being proposed within this study, it should be noted that the facilities do not actually exist in the existing condition, only the interim conditions. As acknowledged in the previous submittal, a portion of the flow in the existing condition will be redirected north in the existing swale before eventually recombining in the Gowan Lone Mountain Beltway System. Grading for the berms has been provided on plan sheet GR12. E-mail correspondence with CLV has been provided in Appendix B.

Comment #8

Previous Comment #17: Sheet UT1: Provide a note and connection detail between the new and existing 8'x8' regional box culvert.

A structural connection detail has not been provided in the last submittal.

RESPONSE: The RCB connection detail has been provided as Detail 1 on Sheet S1.

I hope this addresses your concerns regarding this project. If there are any questions or any additional information is required, please contact this office.

Respectfully Submitted,

VTN Consulting

Aaron Yup, E.I.

APPENDIX

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: February 5, 2020
TO: **Land Development Services** Department of Building & Safety			FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT: Drainage Study for: **Summerlin West Village 22 - Kettle Bend Road (Sunset Run Drive to Kestrel Creek Road)**			**COPIES TO:** VTN Nevada
Cross Streets:	Kettle Bend Road & Summerlin Parkway		The Howard Hughes Company, LLC
File Number:	F:\Depot\DSMemos\DS05204B.doc		Bart Anderson, P.E., DevCo
Parcel Number:	137-23-101-002		CCRFCD
Zoning Action:	N/A		
FEMA Flood Zone	YES	NO X	
Proposed Storm Drain	YES X	NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	10/15/2019	11/20/2019	Not Approved	$400.00	3611329: $400
2nd Submittal	1/14/2020	2/5/2020	See Comments Below	$400.00	3705772: $400
			TOTAL FEES (LDDRS):	**$800.00**	----

REMARKS:

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

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

1. The subject drainage study is premised on the developed *Sunset Run Drive (Summerlin Parkway Extension West Bound)* to the south. The subject improvement plans will not be approved prior to the execution of the construction bond of *Summerlin West V21 – Summerlin Parkway Extension* and the associated facilities.

2. 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.

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

   http://gustfront.ccrfcd.org/LandDev/LandDev.aspx

3. The street and the associated storm drain facilities will eventually be transferred to the *City of Las Vegas*, the engineer/developer must coordinate with *City of Las Vegas Streets & Sanitation Department* for their review and approval prior to the final acceptance of the subject improvement plans.

4. The project proposes to build temporary drainage facilities including drainage berms/swales along the west side of the proposed *Kettle Bend Road* and a 20'-wide *Interim Berm*. Prior to final plan approval the developer must complete a ***Maintenance & Liability Agreement*** for the interim drainage improvements and post a minimum maintenance bond of $50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for constructing the facilities and an exhibit that adequately shows the location and limits of the drainage facilities to *City of Las Vegas Flood Control* for approval. Once the drainage study is conditionally approved, the engineer should contact the *City's Land Development Section* (229-6371) to begin the agreement process.

   In order for the maintenance bond to be released in the future, a drainage update / letter will be required to justify that the offsite berms / channels are no longer necessary and can be removed.

5. Drop inlets deeper than 10' require special structural design and structural calculations. Provide a soils report, structural calculations and specifications, two wet stamped structural sets, and a grading plan to the *City of Las Vegas Building & Safety Department* for processing. The engineer must provide a copy of *Building Department* approval of the structures to *Flood Control* prior to final acceptance of the drainage study.

6. All special structures and mainline storm drain connection require details and structural calculations to be reviewed by the *City of Las Vegas Building & Safety Department*. Approval by the *Building Department* must be obtained prior to the final approval of the subject drainage study.

7. **Previous Comments #9 & #10: Figure 6 (Existing Condition Map)**: The response stated that interim facilities have been proposed at the north boundary of offsite basin OFF3 in order to convey flow east instead of going north. However, the contours presented on the *Existing Condition Map* did not reflect such a facility. A mere callout of "Atkins Interim Flowline" is not acceptable. Coordinate with Atkins about the status of the proposed interim facility and incorporate on all pertinent drainage condition maps and improvement plans.

8. **Previous Comment #17: Sheet UT1**: Provide a note and connection detail between the new and existing 8'x8' regional box culvert.

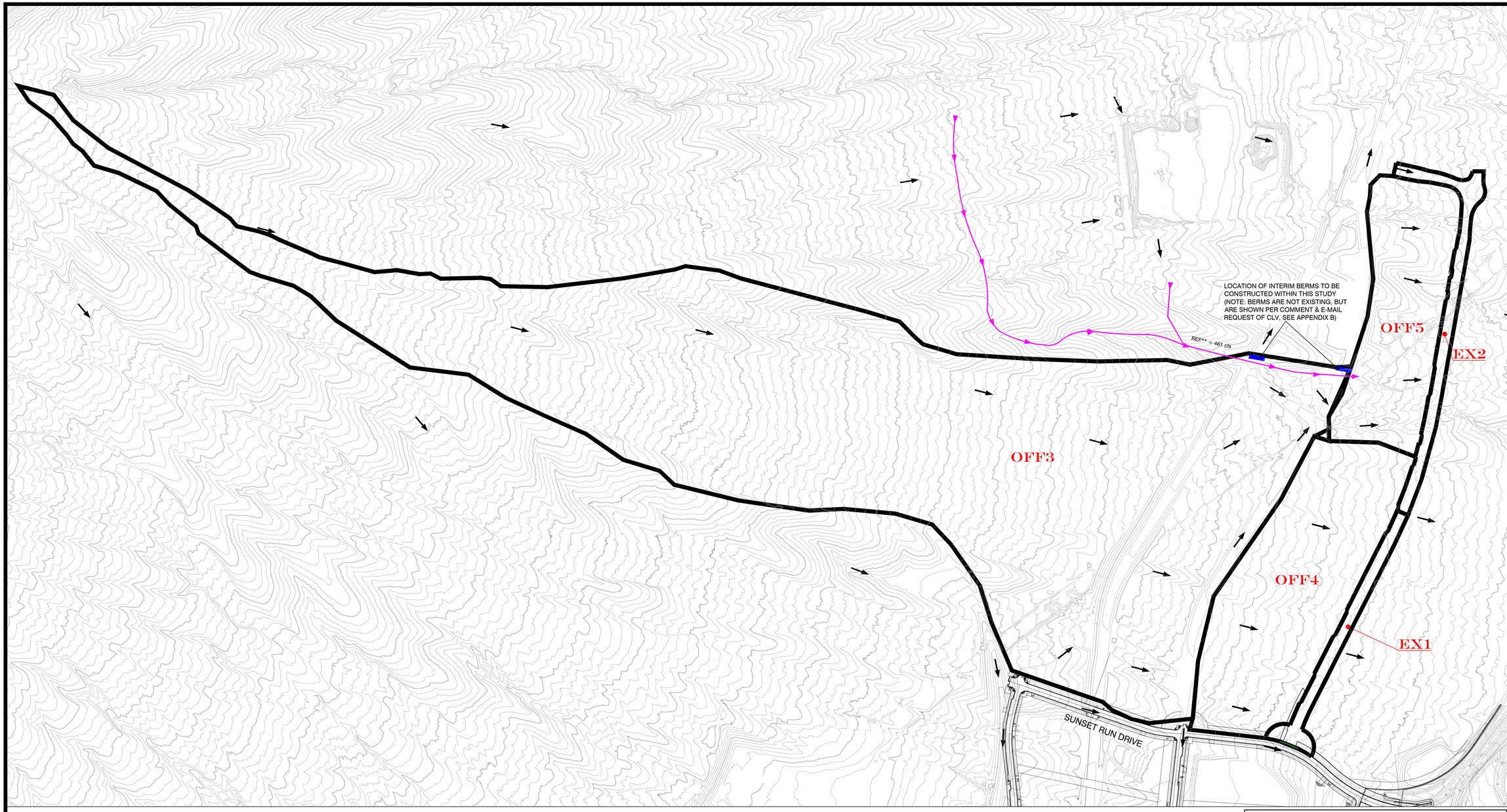
   A structural connection detail has not been provided in the last submittal.

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

END OF REMARKS
HDR/AYS

T/R/S: T20S/R59E/23
AREA K-23

APPENDIX A
FIGURES



LEGEND

- BASIN BOUNDARY
- ST7 BASIN DESIGNATION
- FLOW ARROW
- ATKINS INTERIM FLOWLINE
- LOCAL STORM DRAIN ALIGNMENT
- CCRFCD STORM DRAIN ALIGNMENT
- PROPOSED BERM LOCATIONS

NORTH

GRAPHIC SCALE

300 0 150 300 600

1" = 300'

EXISTING CONDITION HEC-1 SUMMARY TABLE

BASIN ID	AREA (ac)	Q100 (CFS)
OFF3	196.33	233
OFF4	33.12	64
OFF5	21.09	62
EX1	3.58	7
EX2	5.02	14
REF**	-	461

**Referenced from Kettle Ridge Drive Technical Drainage Study by Atkins

REV | DATE | BY | REVISION

HOWARD HUGHES COMPANY, LLC
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
702-791-4000

CITY OF LAS VEGAS

2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148
PH. (702) 873-7500 FAX (702) 362-2597 WEB WWW.VTNNV.COM
CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS

EXISTING CONDITION MAP
FIGURE 6

SUMMERLIN WEST VILLAGE 22
KETTLE BEND ROAD

DRAWN BY: ACY — 2/11/20
DESIGNED BY:
CHECKED BY:
SCALE: 1" = 300' HORIZ. 1" = 300' VERT.
PROJECT NO: 7981-5.2

SHEET
FIG 6
1 OF 4 SHEETS

DRAWING NO.
1

H:\7981\Kettle Bend Road\Drainage\3_ADD2A_Figures\Figure 6 - Existing Condition Map.dwg, Feb 11, 2020

APPENDIX B
CLV E-MAIL CORRESPONDENCE

Aaron Yup

To: Albert Sung
Subject: RE: (DS05204B) Kettle Bend ADD1 Comment Letter

From: Albert Sung <YSung@LasVegasNevada.GOV>
Sent: Monday, February 10, 2020 5:51 PM
To: Aaron Yup <ayup@vtnnv.com>
Subject: RE: (DS05204B) Kettle Bend ADD1 Comment Letter

Hi Aaron,

As you said, VTN is proposing the interim facilities as part of this study to convey the flow east, however, I didn't see this facility on the Existing Condition Map. You need to show this interim berm/channel on all pertinent drainage condition maps and improvement plans.

Albert Y. Sung
Project Engineer
Public Works Dept. / Flood Control
(702) 229-6541
333 N. Rancho Dr. 7th Floor
Las Vegas, NV 89106

lasvegasnevada.gov

Your opinion is important! Click here to take a short survey.

From: Aaron Yup <ayup@vtnnv.com>
Sent: Monday, February 10, 2020 1:30 PM
To: Albert Sung <YSung@LasVegasNevada.GOV>
Subject: (DS05204B) Kettle Bend ADD1 Comment Letter

Hi Albert,

I'd like to have a brief discussion for clarity on Comment #7 on the most recent comment letter for Summerlin West V22 Kettle Bend Road (attached).

7.) Previous Comments #9 & #10: Figure 6 (Existing Condition Map) : The response stated that interim facilities have been proposed at the north boundary of offsite basin OFF3 in order to convey flow east instead of going north. However, the contours presented on the *Existing Condition Map* did not reflect such a facility. A mere callout of "Atkins Interim Flowline" is not acceptable. Coordinate with Atkins about the status of the proposed interim facility and incorporate on all pertinent drainage condition maps and improvement plans.

-Note VTN, not Atkins is proposing the interim facilities as part of this study to convey the flow east as shown on the interim condition maps and plan sheet GR12.
Please call me when you get the chance at 702-253-2431.

SUMMERLIN WEST VILLAGE 22
KETTLE BEND ROAD-SUNSET RUN DRIVE TO KESTREL CREEK AVENUE

APN: 137-23-201-101

CITY OF LAS VEGAS

STATE OF NEVADA

DEVELOPED BY:

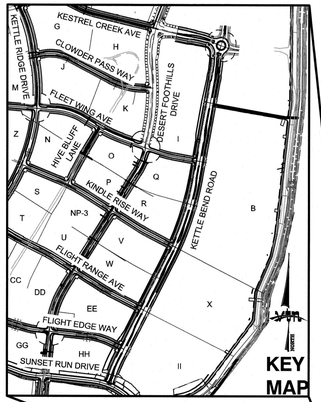
HOWARD HUGHES COMPANY, LLC

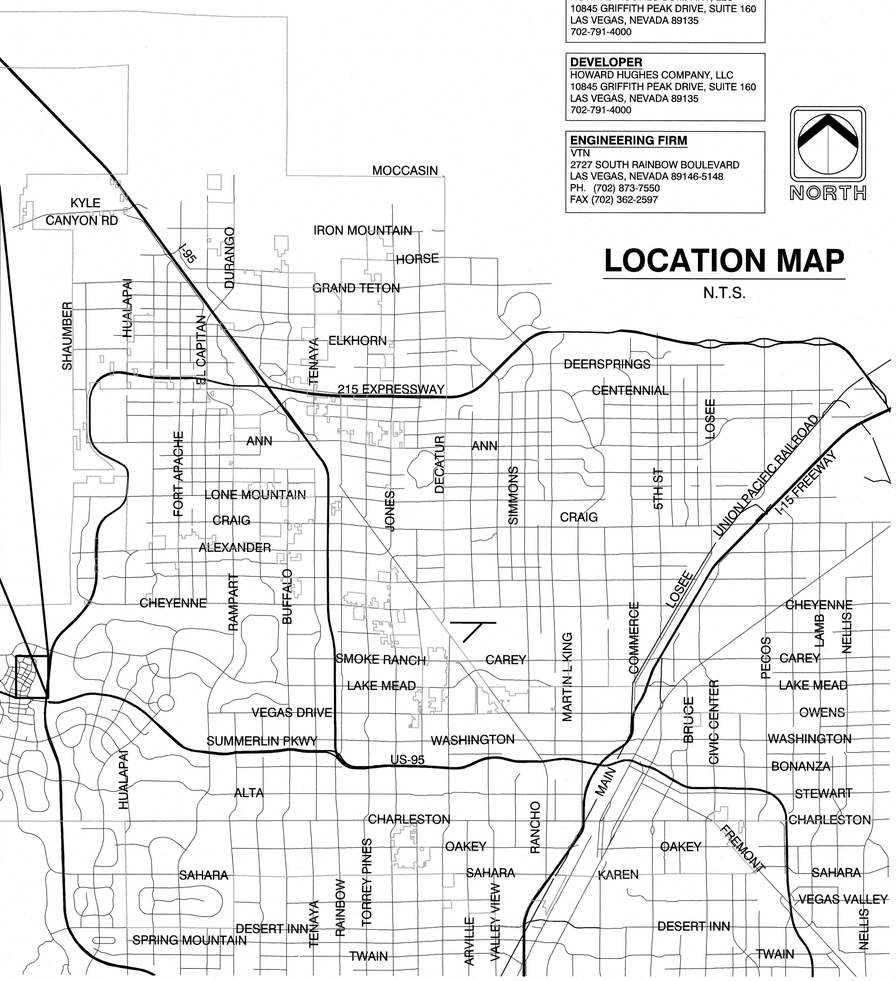
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
702-791-4000

FUTURE S.I.D. PROJECT

SHEET INDEX

SHEET #	SHEET	DESCRIPTION	
1	CV	COVER SHEET	
2	NT	NOTE SHEET	
3	HC1	HORIZONTAL CONTROL PLAN 1	
4	HC2	HORIZONTAL CONTROL PLAN 2	
5	HC3	HORIZONTAL CONTROL PLAN 3	
6	HC4	HORIZONTAL CONTROL PLAN 4	
7	HC5	HORIZONTAL CONTROL PLAN 5	
8	HC6	HORIZONTAL CONTROL PLAN 6	
9	HC7	HORIZONTAL CONTROL PLAN 7	
10	HC8	HORIZONTAL CONTROL PLAN 8	
11	HC9	HORIZONTAL CONTROL PLAN 9	
12	HC10	HORIZONTAL CONTROL PLAN 10	
13	HC11	HORIZONTAL CONTROL PLAN 11	
14	MUTW	MASTER UTILITY WATER	
15	MUTSS	MASTER UTILITY SANITARY SEWER	
16	MUTSD	MASTER UTILITY STORM DRAIN	
17	MGRD-1	MASTER GRADING PLAN 1	
18	MGRD-2	MASTER GRADING PLAN 2	
19	GR1	GRADING PLAN 1	
20	GR2	GRADING PLAN 2	
21	GR3	GRADING PLAN 3	
22	GR4	GRADING PLAN 4	
23	GR5	GRADING PLAN 5	
24	GR6	GRADING PLAN 6	
25	GR7	GRADING PLAN 7	
26	GR8	GRADING PLAN 8	
27	GR9	GRADING PLAN 9	
28	GR10	GRADING PLAN 10	
29	GR11	GRADING PLAN 11	
30	GR12	GRADING PLAN 12	
31	GR13	GRADING PLAN 13	
32	DT1	DETAIL SHEET 1	
33	DT2	DETAIL SHEET 2	
34	DT3	DETAIL SHEET 3	
35	DT4	DETAIL SHEET 4	
36	DT5	DETAIL SHEET 5	
37	UT1	UTILITY PLAN 1	51+00 TO 54+00
38	UT1A	UTILITY PROFILE 1A	
39	UT2	UTILITY PLAN 2	54+00 TO 59+00
40	UT2A	UTILITY PROFILE 2A	
41	UT3	UTILITY PLAN 3	59+00 TO 64+25
42	UT3A	UTILITY PROFILE 3A	
43	UT4	UTILITY PLAN & PROFILE 4	64+25 TO 68+50
44	UT5	UTILITY PLAN & PROFILE 5	68+50 TO 72+80
45	UT6	UTILITY PLAN & PROFILE 6	72+80 TO 77+40
46	UT7	UTILITY PLAN & PROFILE 7	77+40 TO 81+00
47	UT8	UTILITY PLAN & PROFILE 8	81+00 TO 84+20
48	UT9	UTILITY PLAN & PROFILE 9	84+20 TO 87+75
49	UT10	UTILITY PLAN & PROFILE 10	10+00 TO 14+19
50	UT11	UTILITY PLAN & PROFILE 11	10+00 TO 12+20
51	UT12	UTILITY PLAN & PROFILE 12	7+50 TO 4+40.98
52	UT13	UTILITY PLAN & PROFILE 13	7+50 TO 10+00
53	UT14	UTILITY PLAN & PROFILE 14 WATER LATERAL	
54	UT15	UTILITY PLAN & PROFILE 15 SEWER LATERAL	
55	UT16	UTILITY PLAN & PROFILE 16 SEWER & WATER LATERAL	
56	UT17	UTILITY PLAN & PROFILE 17 SEWER LATERAL	
57	UT18	UTILITY PLAN & PROFILE 18 WATER LATERAL	
58	UT19	UTILITY PLAN & PROFILE 19 SEWER LATERAL	
59	UT20	UTILITY PLAN & PROFILE 20 SEWER & WATER LATERAL	
60	UT21	UTILITY PLAN & PROFILE 21 WATER LATERAL	
61	UT22	UTILITY PLAN & PROFILE 22 SEWER LATERAL	
62	UT23	UTILITY PLAN & PROFILE 23 SEWER LATERAL	
63	UT24	UTILITY PLAN & PROFILE 24 WATER LATERAL	
64	UT25	UTILITY PLAN & PROFILE 25 SEWER & WATER LATERAL	
65	UT26	UTILITY PLAN & PROFILE 26 SEWER & WATER LATERAL	
66	UT27	UTILITY PLAN & PROFILE 27 WATER LATERAL	
67	UT28	UTILITY PLAN & PROFILE 28 WATER LATERAL	
68	UT29	UTILITY PLAN & PROFILE 29 STORM DRAIN LATERAL	
69	UT30	UTILITY PLAN & PROFILE 30 STORM DRAIN LATERAL	
70	UT31	UTILITY PLAN & PROFILE 31 STORM DRAIN LATERAL	
71	UT32	UTILITY PLAN & PROFILE 32 STORM DRAIN LATERAL	
72	UT33	UTILITY PLAN & PROFILE 33 STORM DRAIN LATERAL	
73	UT34	UTILITY PLAN & PROFILE 34 STORM DRAIN LATERAL	
74	UT35	UTILITY PLAN & PROFILE 35 STORM DRAIN LATERAL	
75	UT36	UTILITY PLAN & PROFILE 36 STORM DRAIN LATERAL	
76	UT37	UTILITY PLAN & PROFILE 37 STORM DRAIN LATERAL	
77	UT38	UTILITY PLAN & PROFILE 38 STORM DRAIN LATERAL	
78	UT39	UTILITY PLAN & PROFILE 39 STORM DRAIN LATERAL	
79	UT40	UTILITY PLAN & PROFILE 40 STORM DRAIN LATERAL	
80	UT41	UTILITY PLAN & PROFILE 41 STORM DRAIN LATERAL	
81	UT42	UTILITY PLAN & PROFILE 42 STORM DRAIN LATERAL	
82	UT43	UTILITY PLAN & PROFILE 43 STORM DRAIN LATERAL	
83	UT44	UTILITY PLAN & PROFILE 44 STORM DRAIN LATERAL	
84	UT45	UTILITY PLAN & PROFILE 45 STORM DRAIN LATERAL	
85	UT46	UTILITY PLAN & PROFILE 46 STORM DRAIN LATERAL	
86	UT47	UTILITY PLAN & PROFILE 47 STORM DRAIN LATERAL	
87	TR1	TRAFFIC PLAN 1	
88	TR2	TRAFFIC PLAN 2	
89	TR3	TRAFFIC PLAN 3	
90	TR4	TRAFFIC PLAN 4	
91	TR5	TRAFFIC PLAN 5	
92	TR6	TRAFFIC PLAN 6	
93	S1	STRUCTURAL SHEET 1	
94	S2	STRUCTURAL SHEET 2	





LOCATION MAP

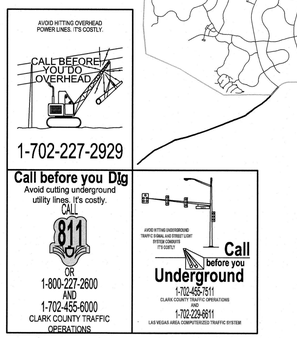
N.T.S.

NORTH

OWNER
HOWARD HUGHES COMPANY, LLC
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
702-791-4000

DEVELOPER
HOWARD HUGHES COMPANY, LLC
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
702-791-4000

ENGINEERING FIRM
VTN
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148
PH. (702) 873-7550
FAX (702) 362-2597



FIRE DEPARTMENT APPROVAL

APPROVAL BY THE FIRE DEPARTMENT HAVING JURISDICTION IS REQUIRED PRIOR TO OBTAINING FINAL APPROVAL FROM THE LVVWD.

THESE PLANS AND THE DESIGN CRITERIA CONTAINED WITHIN THESE PLANS ARE BASED UPON THE INFORMATION PRESENTLY KNOWN BY THE ENGINEER AND INTENDED SOLELY AS A GENERAL GUIDELINE FOR CONSTRUCTION. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL STATUTES, LAWS, CODES, REGULATIONS AND ORDINANCES, INCLUDING BUT NOT LIMITED TO THE FEDERAL FAIR HOUSING AMENDMENTS ACT, AMERICANS WITH DISABILITIES ACT, THE ARCHITECTURAL BARRIERS ACT AND ANY APPLICABLE UNIFORM STANDARDS, SPECIFICATIONS OR DRAWINGS. THE PERSON OR ENTITY PERFORMING THE CONSTRUCTION SHALL BE SOLELY RESPONSIBLE TO MAKE SURE CONSTRUCTION IS IN CONFORMANCE WITH ALL LOCAL, STATE AND FEDERAL STATUES, LAWS, CODES, REGULATIONS, STANDARDS, GUIDELINES AND ORDINANCES AND FURTHER, IS IN CONFORMANCE WITH ANY APPLICABLE DESIGN CRITERIA, INCLUDING BUT NOT LIMITED TO SOILS REPORTS, TRAFFIC STUDIES, GEOTECHNICAL REPORTS, ARCHITECTURAL PLANS AND SPECIFICATIONS, DRAINAGE PLANS OR STUDIES AND ANY OTHER CRITERIA, STANDARDS OR REQUIREMENTS LISTED IN THE PLANS OR THE GENERAL NOTES RELATED TO THESE PLANS OR PROVIDED BY ANYONE IN REFERENCE TO THIS PROJECT.

APPROVALS

ACTING CITY ENGINEER ROSA CORTEZ, P.E. # 17505

APPROVAL OF THESE PLANS BY THE CITY ENGINEER IS LIMITED TO THOSE IMPROVEMENTS CONSTRUCTED IN THE DEDICATED RIGHT-OF-WAY AND/OR DEDICATED EASEMENTS. THIS APPROVAL DOES NOT AUTHORIZE THE CONSTRUCTION OF ANY IMPROVEMENTS THAT DEVIATE FROM ADOPTED STANDARDS AND/OR SPECIFICATIONS EXCEPT THOSE SPECIFICALLY LISTED UNDER DEVIATIONS FROM STANDARD 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.

DEPARTMENT OF PLANNING, CITY OF LAS VEGAS DATE

THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE PLANNING AND DEVELOPMENT DEPARTMENT

DIRECTOR OF BUILDING & SAFETY DATE

THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE PLANNING AND DEVELOPMENT DEPARTMENT

CENTRAL TELEPHONE COMPANY d/b/a CENTURYLINK DATE

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

NV ENERGY DATE

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

COX COMMUNICATIONS LAS VEGAS, INC. DATE

SOUTHWEST GAS CORPORATION DATE

LAS VEGAS FIRE & RESCUE DATE

OWNER:DEVELOPER

KEVIN T. ORROCK, VICE PRESIDENT DATE

HOWARD HUGHES COMPANY, LLC
A DELAWARE LIMITED LIABILITY COMPANY

LAS VEGAS VALLEY WATER DISTRICT

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

PROJECT:---- DATE:_____.

SHEETS:

REV	DATE	BY	REVISION

HOWARD HUGHES COMPANY, LLC
A DELAWARE LIMITED LIABILITY COMPANY
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
702-791-4000

CITY OF LAS VEGAS

2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148
PH. (702) 873-7550 FAX (702) 362-2597 WEB WWW.VTNNV.COM
CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS

COVER SHEET

SUMMERLIN WEST VILLAGE 22
KETTLE BEND ROAD-SUNSET RUN DRIVE TO KESTREL CREEK AVENUE

DRAWN BY:	DESIGNED BY:	CHECKED BY:	PROJECT NO:	SCALE:	
BCC	BCC	WJM	7981	---	HORIZ.
06/28/2019	06/28/2019	01/13/2020		N/A	VERT.

PROFESSIONAL ENGINEER STATE OF NEVADA
WILLIAM J. MEYER
EXP: 12/31/21
CIVIL
No. 15745
1/14/20

SHEET
CV
1 OF 94 SHEETS

DRAWING NO.

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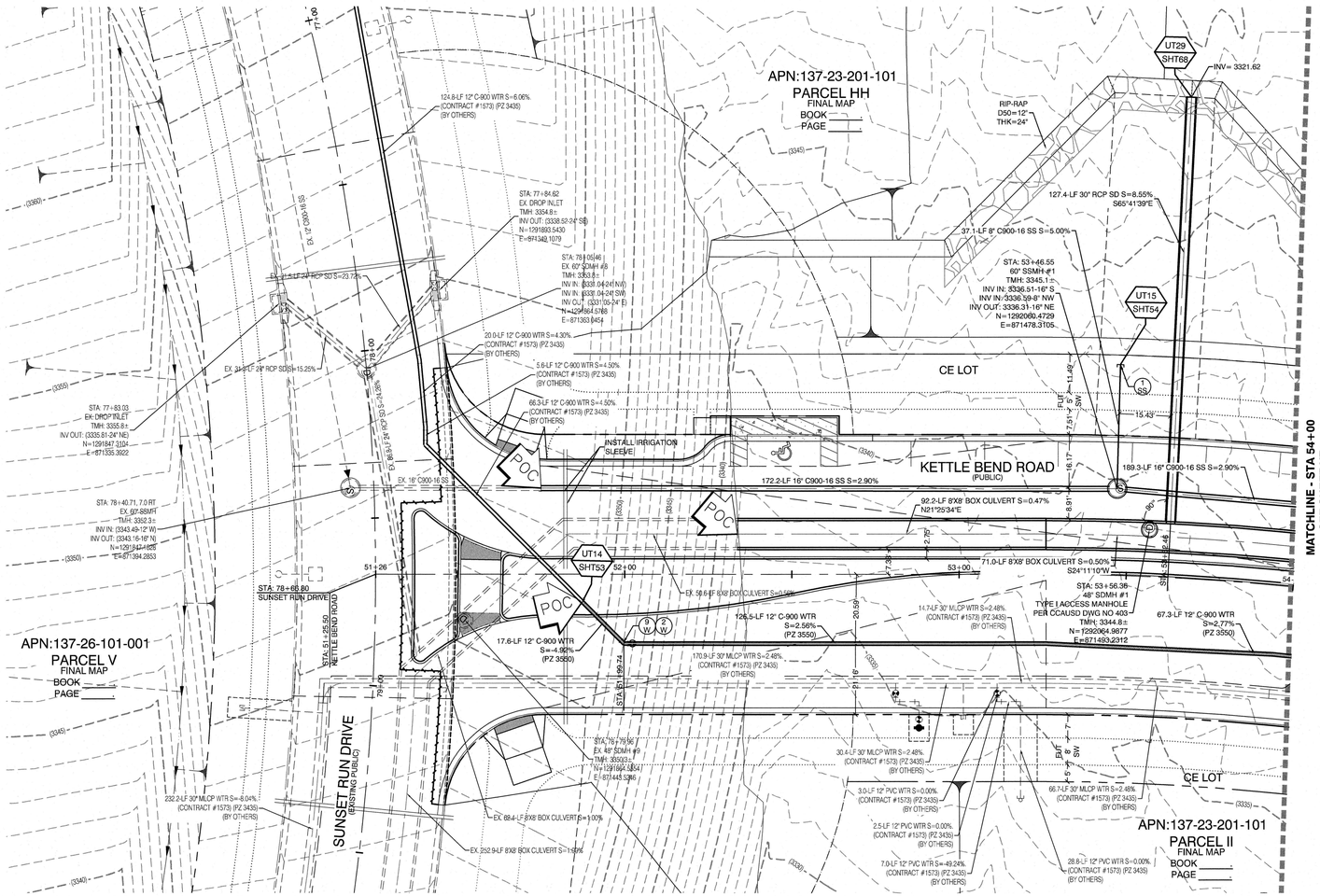
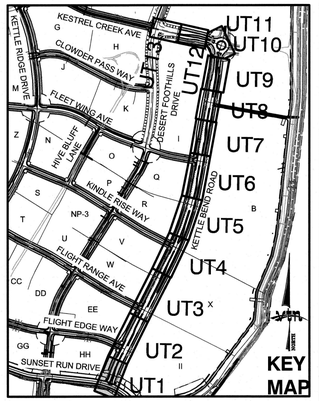


GRAPHIC SCALE

-20 0 10 20 40

1" = 20'



CONSTRUCTION NOTES

	WATER	PUBLIC
FH W	FIRE HYDRANT ASSEMBLY: (PER UDACS PLATE NO. 39 & 40)	8 EA.
GV W	12" GATE VALVE (PER UDACS PLATE 39)	10 EA.
CAP W	12" CAP & BLOW OFF (PER UDACS PLATE 36)	12 EA.
12"X12" TEE	12"X12" TEE (PER UDACS PLATE 31)	4 EA.
24"X12" TEE	24"X12" TEE (PER UDACS PLATE 31)	6 EA.
24" 5° BEND	24" 5° BEND (PER UDACS PLATE 31)	10 EA.
24" 11° BEND	24" 11° BEND (PER UDACS PLATE 31)	5 EA.
24" 22° BEND	24" 22° BEND (PER UDACS PLATE 31)	9 EA.
12" 45° BEND	12" 45° BEND (PER UDACS PLATE 31)	1 EA.
1" H DEFL	1" HORIZONTAL DEFLECTION (PER UDACS 2.07)	15 EA.
1.5" SERVICE	1.5" TYPE K SOFT COPPER WATER LATERAL SERVICE WITH 1.5" METER PER UDACS PLATE #4 (IRRIGATION) AND 1.5" RPPA PER UDACS PLATE #8	2 EA.
	6" C-900 WATER MAIN PER UDACS 2.06.01 & PLATE 17	254 LF.
	12" C-900 WATER MAIN PER UDACS 2.06.01 & PLATE 17	1,636 LF.
	24" DIP WATER MAIN PER UDACS 2.06.01 & PLATE 17	3,412 LF.
POC	WATER POINT OF CONNECTION	

NOTE:

5' MINIMUM HORIZONTAL SEPARATION FROM OUTSIDE EDGE OF THE WATER MAIN TO OUTSIDE EDGE OF DROP INLET

WATER LINE MARKER BALLS NOTE

INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING, PER UDACS PLATE No. 15

FIRE HYDRANT MARKER NOTES

BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKERS ARE TO BE INSTALLED:

1. ON ROADWAYS WITH NO PARKING PERMITTED ON HYDRANT SIDE; LOCATE MARKER 8' FROM FACE OF CURB ON HYDRANT SIDE.
2. ON ROADWAYS WITH PARKING PERMITTED ON HYDRANT SIDE; LOCATE MARKER 16' FROM FACE OF CURB ON HYDRANT SIDE.

WATER MAIN JOINT DEFLECTION

PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.

FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.

UTILITY CROSSING NOTE:

ALL SEWER/STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR PORTABL WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.

ENGINEER DISCLAIMER NOTE:

UTILITY LOCATIONS SHOWN HERE ON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES AND NOTIFY THE DESIGN ENGINEER IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HERE ON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

CONSTRUCTION NOTES

	SEWER	PUBLIC
S	STANDARD MANHOLE PER SD-1 & SD-4 W/ SINGLE 24" DIAMETER MANHOLE COVER AND CORROSION PROTECTION	12 EA.
	8" C-900-16 SANITARY SEWER MAIN	296 LF.
	16" C-900-16 SANITARY SEWER MAIN	3,174 LF.
SE	12" SEWER CAP (PER STD 4.6 & 4.11)	8 EA.
POC	SEWER POINT OF CONNECTION	

WATERLINE TRENCH NOTE:

CONSTRUCT WATERLINE TRENCH SECTION AND BACKFILL PER UDACS PLATE NO. 17.

WATER PRESSURE ZONE:

WATER SERVICE LOCATED IN THE 3435 AND 3550 PRESSURE ZONES.

WATER MAIN COVER NOTE:

ALL NEW WATER MAIN TO HAVE MINIMUM DEPTH OF COVER PER UDACS SECTION 2.08

LAS VEGAS FIRE & RESCUE APPROVAL

BY: _____ DATE: _____

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

LAS VEGAS VALLEY WATER DISTRICT APPROVAL

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: PROJECT:----
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL

REV	DATE	BY	REVISION

HOWARD HUGHES COMPANY, LLC
A DELAWARE LIMITED LIABILITY COMPANY
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
702-791-4400

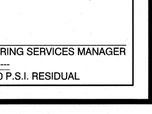
CITY OF LAS VEGAS

2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148
PH. (702) 873-7500 FAX (702) 362-2997 WEB WWW.VTNNV.COM
CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS

UTILITY PLAN 1
51+00 TO 54+00

SUMMERLIN WEST VILLAGE 22
KETTLE BEND ROAD-SUNSET RUN DRIVE TO KESTREL CREEK AVENUE

DRAWN BY: BCC 05/28/2019
DESIGNED BY: BCC 05/28/2019
CHECKED BY: WJM 01/13/2020
PROJECT NO: 7861
SCALE: HORIZ. 1"=20' VERT. 1"=4'

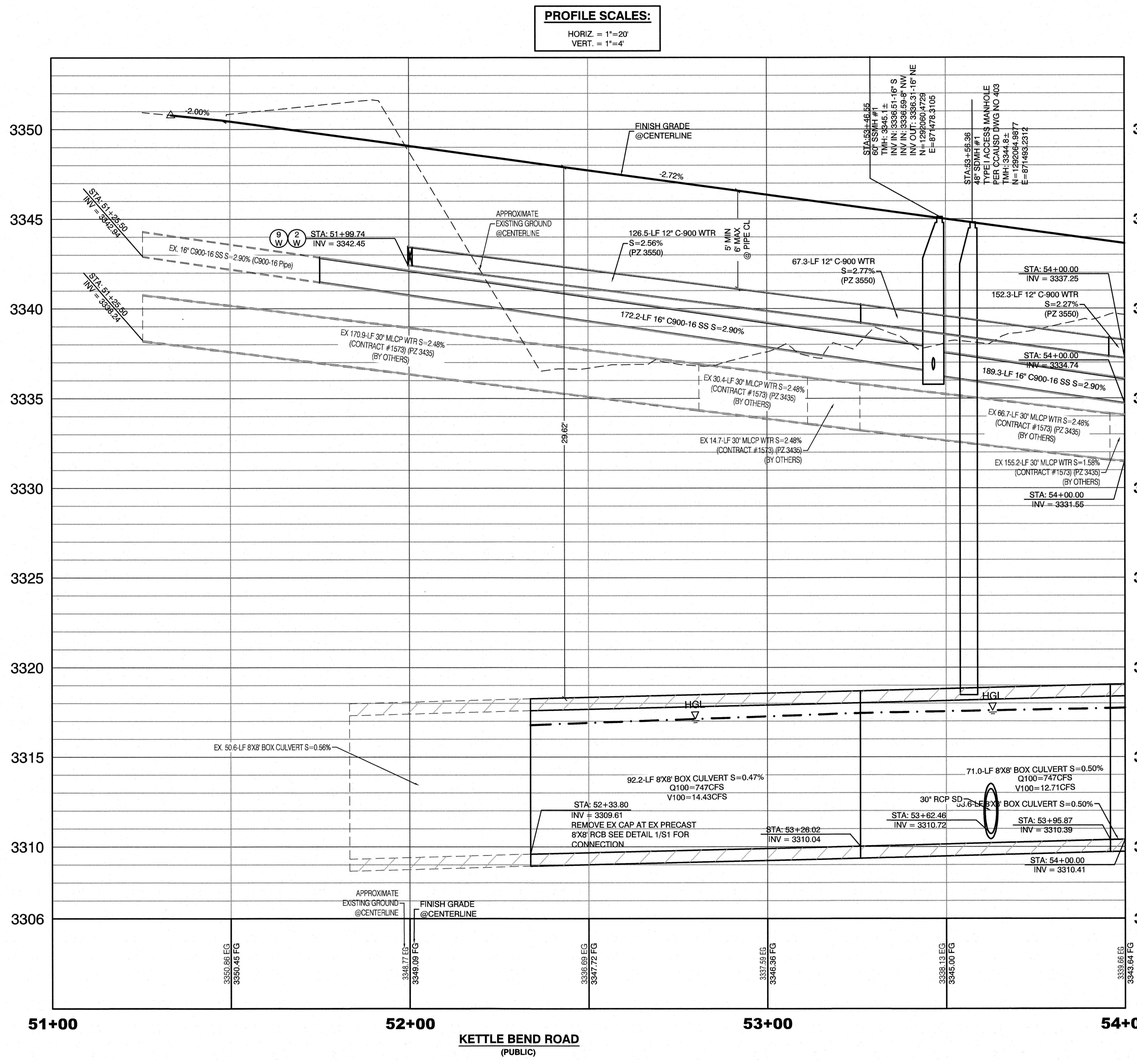


SHEET
UT1
37 OF 94 SHEETS
DRAWING NO.

H:\7861\Kettle Bend Road\Sheet Set\7861-UT-1.dwg2/11/2020 10:05 AM jmmyp

SEE SHEET UT1 FOR PLAN VIEW

PROFILE SCALES:
HORIZ. = 1"=20'
VERT. = 1"=4'



NOTE:
5' MINIMUM HORIZONTAL SEPARATION FROM OUTSIDE EDGE OF THE WATER MAIN TO OUTSIDE EDGE OF DROP INLET

WATER LINE MARKER BALLS NOTE

INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING, PER UDACS PLATE No. 15

FIRE HYDRANT MARKER NOTES

BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKERS ARE TO BE INSTALLED:

1. ON ROADWAYS WITH NO PARKING PERMITTED ON HYDRANT SIDE; LOCATE MAKER 8' FROM FACE OF CURB ON HYDRANT SIDE.
2. ON ROADWAYS WITH PARKING PERMITTED ON HYDRANT SIDE; LOCATE MARKER 16' FROM FACE OF CURB ON HYDRANT SIDE.

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UTILITY CROSSING NOTE:

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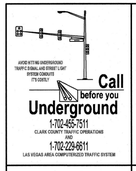


CONSTRUCTION NOTES

	WATER	PUBLIC
⑦	FIRE HYDRANT ASSEMBLY: (PER UDACS PLATE NO. 39 & 40)	8 EA.
⑫	12" GATE VALVE (PER UDACS PLATE 39)	10 EA.
⑫	12" CAP & BLOW OFF (PER UDACS PLATE 36)	12 EA.
⑫	12"X12" TEE (PER UDACS PLATE 31)	4 EA.
⑫	24"X12" TEE (PER UDACS PLATE 31)	6 EA.
⑫	24" 5° BEND (PER UDACS PLATE 31)	10 EA.
⑦	24" 11° BEND (PER UDACS PLATE 31)	5 EA.
⑧	24" 22° BEND (PER UDACS PLATE 31)	9 EA.
⑧	12" 45° BEND (PER UDACS PLATE 31)	1 EA.
⑩	1" HORIZONTAL DEFLECTION (PER UDACS 2.07)	15 EA.
⑪	1.5" TYPE K SOFT COPPER WATER LATERAL SERVICE WITH 1.5" METER PER UDACS PLATE #4 (IRRIGATION) AND 1.5" RPPA PER UDACS PLATE #8	2 EA.
	6" C-900 WATER MAIN PER UDACS 2.06.01 & PLATE 17	254 LF.
	12" C-900 WATER MAIN PER UDACS 2.06.01 & PLATE 17	1,636 LF.
	24" DIP WATER MAIN PER UDACS 2.06.01 & PLATE 17	3,412 LF.
	WATER POINT OF CONNECTION	

CONSTRUCTION NOTES

	SEWER	PUBLIC
Ⓢ	STANDARD MANHOLE PER SD-1 & SD-4 W/ SINGLE 24" DIAMETER MANHOLE COVER AND CORROSION PROTECTION	12 EA.
	8" C-900-16 SANITARY SEWER MAIN	296 LF.
	16" C-900-16 SANITARY SEWER MAIN	3,174 LF.
⑥S	12" SEWER CAP (PER STD 4.6 & 4.11)	8 EA.
	SEWER POINT OF CONNECTION	

WATERLINE TRENCH NOTE:

CONSTRUCT WATERLINE TRENCH SECTION AND BACKFILL PER UDACS PLATE NO. 17.

WATER PRESSURE ZONE:

WATER SERVICE LOCATED IN THE 3435 AND 3550 PRESSURE ZONES.

WATER MAIN COVER NOTE:

ALL NEW WATER MAIN TO HAVE MINIMUM DEPTH OF COVER PER UDACS SECTION 2.08

LAS VEGAS FIRE & RESCUE APPROVAL

BY: _____ DATE: _____

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

LAS VEGAS VALLEY WATER DISTRICT APPROVAL

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: PROJECT:----
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL

REV	DATE	BY	REVISION

HOWARD HUGHES COMPANY, LLC
A DELAWARE LIMITED LIABILITY COMPANY
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
702-791-4000

CITY OF LAS VEGAS

2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148
PH. (702) 873-7550 FAX (702) 362-2397 WEB WWW.VTNNV.COM
CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS

UTILITY PROFILE 1A

SUMMERLIN WEST VILLAGE 22
KETTLE BEND ROAD-SUNSET RUN DRIVE TO KESTREL CREEK AVENUE

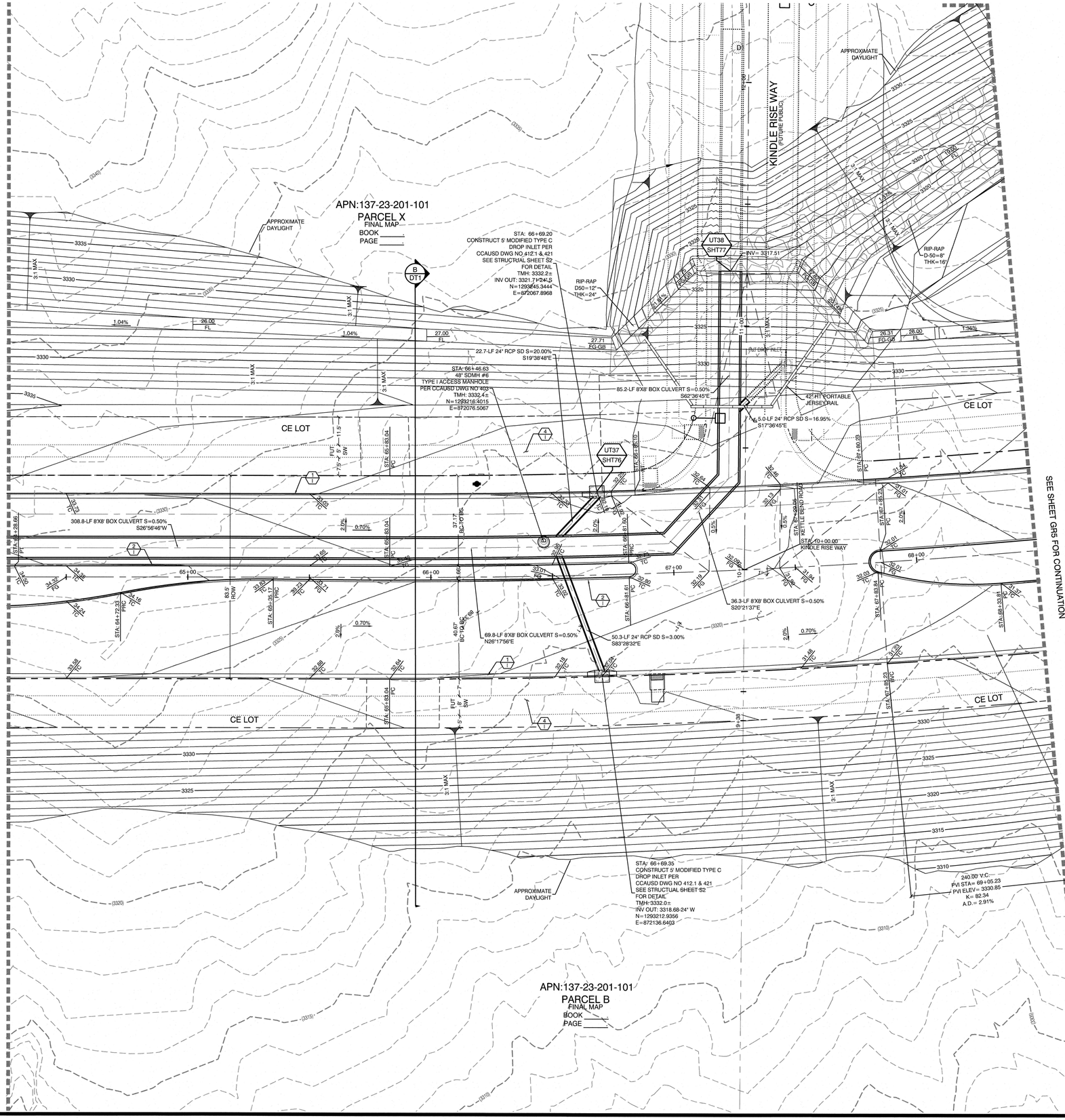
DRAWN BY:	DESIGNED BY:	CHECKED BY:	SCALE:
DSC 05/28/2019	BCC 05/28/2019	WJM 01/13/2020	HORIZ. 1"=20' VERT. 1"=4'

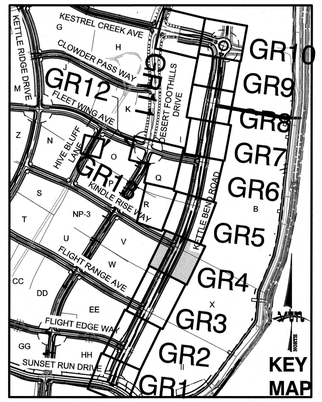
PROJECT NO: 7861

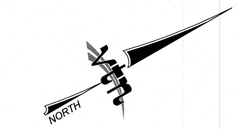
PROFESSIONAL ENGINEER STATE OF NEVADA
WILLIAM J. MEYER
EXP: 12/31/21
CIVIL
No. 15795
1/13/20

SHEET
UT1A
38 OF 94 SHEETS
DRAWING NO.

H:\7861\Kettle Bend Road\Sheet Set\7861 UT1.dwg,2/11/2020 10:05 AM,jtimmp







CONSTRUCTION NOTES

1. CONSTRUCT 24" TYPE "L" CURB & GUTTER PER STD. DWG. 216.
2. CONSTRUCT TYPE "A" CURB PER STD. DWG. 219.
3. CONSTRUCT HANDICAP RAMP SEE DETAIL ON SHEET DT 2,3 & 4
4. FUTURE SIDEWALK
5. SAWCUT AND REMOVE ASPHALT PAVING AND MATCH WITH NEW CONSTRUCTION PER CCAUSD #500.5 & #503.
6. FIELD VERIFY AND MATCH EXISTING
7. CONSTRUCT APRON CURB SEE SHEET DT1

STORM DRAIN DROP INLET NOTE:

ALL STORM DRAIN INLETS SHALL INCLUDE A STORM WATER INLET CONCRETE STAMP IN ACCORDANCE WITH CCAUSD DWG NO. 421

OFFSITE FLOOD CONTROL NOTE:

ALL OFFSITE INTERIM FLOOD CONTROL FACILITIES SUCH AS BUT NOT LIMITED TO BERMS/DITCHES AND TEMPORARY SUMPS ARE PRIVATELY OWNED AND TO BE PRIVATELY MAINTAINED BY THE HOWARD HUGHES COMPANY.

GRADING PERMIT NOTE

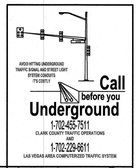
THIS GRADING PERMIT DOES NOT INCLUDE THE CONSTRUCTION OF RETAINING WALLS AND OTHERS STRUCTURES. SEPARATE PERMITS AND APPLICATIONS ARE REQUIRED FOR THESE.

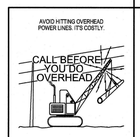
GEOTECHNICAL NOTE:

REFER TO SOILS REPORT: NOVA GEOTECHNICAL
PROJECT #G-18-003, DATED DECEMBER 30, 2019

SIGHT VISIBILITY ZONES:

NO STRUCTURE, WALLS, VEGETATION, OR OBJECT OF ANY KIND IS PERMITTED OVER TWENTY FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF ADJACENT CURB IF CURB EXISTS) WITHIN THE SIGHT VISIBILITY ZONES.





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AND
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CLARK COUNTY TRAFFIC OPERATIONS

ENGINEER DISCLAIMER NOTE:

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I CERTIFY THAT THIS GRADING PLAN CONFORMS TO THE APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE WITH CITY OF LAS VEGAS, #DS05204

WILLIAM J MEYER , P.E. No. 15745 DATE

REV	DATE	BY	REVISION

HOWARD HUGHES COMPANY, LLC
A DELAWARE LIMITED LIABILITY COMPANY
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
(702) 407-6000

CITY OF LAS VEGAS

2757 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148
PH. (702) 873-7500 FAX (702) 362-2897 WEB WWW.VTNNV.COM
CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS

GRADING PLAN 4

SUMMERLIN WEST VILLAGE 22
KETTLE BEND ROAD-SUNSET RUN DRIVE TO KESTREL CREEK AVENUE

DRAWN BY:	DESIGNED BY:	CHECKED BY:	PROJECT NO:	SCALE:
BCC	BCC	WJM	7881	1"=20' HORIZ. N/A VERT.
05/28/2019	05/28/2019	01/13/2020		

PROFESSIONAL ENGINEER - STATE OF NEVADA
WILLIAM J. MEYER
EXP: 12/31/21
CIVIL
No. 15745
2/11/20

SHEET
GR4
22 OF 94 SHEETS
DRAWING NO.

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SEE SHEET GR13 FOR CONTINUATION

SEE SHEET GR4 FOR CONTINUATION

SEE SHEET GR6 FOR CONTINUATION

APN:137-23-201-101
PARCEL R
FINAL MAP
BOOK
PAGE

APN:137-23-201-101
PARCEL B
FINAL MAP
BOOK
PAGE

APPROXIMATE DAYLIGHT

RIP-RAP D-50=8" THK= 16"

STA: 71+93.32
60" SDMH #8
TYPE III ACCESS MANHOLE
PER CCAUSD DWG NO 406
TMH: 3320.9±
INV IN: 3304.01-30" W
INV IN: 3304.01-24" S
INV OUT: 3304.01-36" N
N=1293723.9266
E=872271.7843

STA: 70+72.95
CONSTRUCT 5' MODIFIED TYPE C
DROP INLET PER
CCAUSD DWG NO 412.1 & 421
SEE STRUCTUAL SHEET S2
FOR DETAIL
TMH: 3324.3±
INV OUT: 3306.21-24" E
N=1293618.3797
E=872207.7865

STA: 70+79.09
60" SDMH #7
TYPE III ACCESS MANHOLE
PER CCAUSD DWG NO 406
TMH: 3324.3±
INV IN: 3305.56-24" W
INV IN: 3305.56-24" SE
INV OUT: 3305.56-24" N
N=1293615.4717
E=872237.3160

STA: 70+72.80
CONSTRUCT 5' MODIFIED TYPE C
DROP INLET PER
CCAUSD DWG NO 412.1 & 421
SEE STRUCTUAL SHEET S2
FOR DETAIL
TMH: 3324.3±
INV OUT: 3310.83-24" NW
N=1293592.7833
E=872287.1961

UT40 SHT79
UT39 SHT78

42" HT ROBTABLE JERSEY RAIL

FUTURE PARCEL ENTRY

CE LOT

97.9-LF 30" RCP SD S=3.90%
S74°20'01"E

142.0-LF 36" RCP SD S=1.37%
S13°37'26"W

113.8-LF 24" RCP SD S=1.37%
S17°37'51"W

27.6-LF 24" RCP SD S=2.35%
N84°55'34"W

52.6-LF 24" RCP SD S=10.00%
S76°15'E

240.00' V.C.
PVI STA= 69+05.23
PVI ELEV= 3330.86
K=82.34
A.D.= 2.91%

220.00' V.C.
PVI STA= 72+00.23
PVI ELEV= 3320.19
K=75.48
A.D.= 2.91%

GRAPHIC SCALE
-20 0 10 20 40
1" = 20'

NORTH

KEY MAP

CONSTRUCTION NOTES

1. CONSTRUCT 24" TYPE "L" CURB & GUTTER PER STD. DWG. 216.
2. CONSTRUCT TYPE "A" CURB PER STD. DWG. 219.
3. CONSTRUCT HANDICAP RAMP SEE DETAIL ON SHEET DT 2,3 & 4
4. FUTURE SIDEWALK
5. SAWCUT AND REMOVE ASPHALT PAVING AND MATCH WITH NEW CONSTRUCTION PER CCAUSD #500.5 & #503.
6. FIELD VERIFY AND MATCH EXISTING
7. CONSTRUCT APRON CURB SEE SHEET DT1

STORM DRAIN DROP INLET NOTE:

ALL STORM DRAIN INLETS SHALL INCLUDE A STORM WATER INLET CONCRETE STAMP IN ACCORDANCE WITH CCAUSD DWG NO. 421

OFFSITE FLOOD CONTROL NOTE:

ALL OFFSITE INTERIM FLOOD CONTROL FACILITIES SUCH AS BUT NOT LIMITED TO BERMS/DITCHES AND TEMPORARY SUMPS ARE PRIVATELY OWNED AND TO BE PRIVATELY MAINTAINED BY THE HOWARD HUGHES COMPANY.

GRADING PERMIT NOTE

THIS GRADING PERMIT DOES NOT INCLUDE THE CONSTRUCTION OF RETAINING WALLS AND OTHERS STRUCTURES. SEPARATE PERMITS AND APPLICATIONS ARE REQUIRED FOR THESE.

GEOTECHNICAL NOTE:

REFER TO SOILS REPORT: NOVA GEOTECHNICAL
PROJECT #G-18-003, DATED DECEMBER 30, 2019

SIGHT VISIBILITY ZONES:

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

Call before you Underground
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS
AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

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1-702-455-6000
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WILLIAM J MEYER , P.E. No. 15745 DATE

REV	DATE	BY	REVISION

HOWARD HUGHES COMPANY, LLC
A DELAWARE LIMITED LIABILITY COMPANY
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
702-791-4000

CITY OF LAS VEGAS

2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148
PH. (702) 873-7500 FAX (702) 362-2597 WEB WWW.VTNNV.COM
CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS

GRADING PLAN 5

SUMMERLIN WEST VILLAGE 22
KETTLE BEND ROAD-SUNSET RUN DRIVE TO KESTREL CREEK AVENUE

DRAWN BY: BCC 05/28/2019
DESIGNED BY: BCC 05/28/2019
CHECKED BY: WJM 01/13/2020
PROJECT NO: 7861
SCALE: 1"=20' HORIZ. N/A VERT.

PROFESSIONAL ENGINEER-STATE OF NEVADA
No. 15745
WILLIAM J. MEYER
EXP: 12/31/21
CIVIL
1/11/20

SHEET
GR5
23 OF 94 SHEETS

DRAWING NO.

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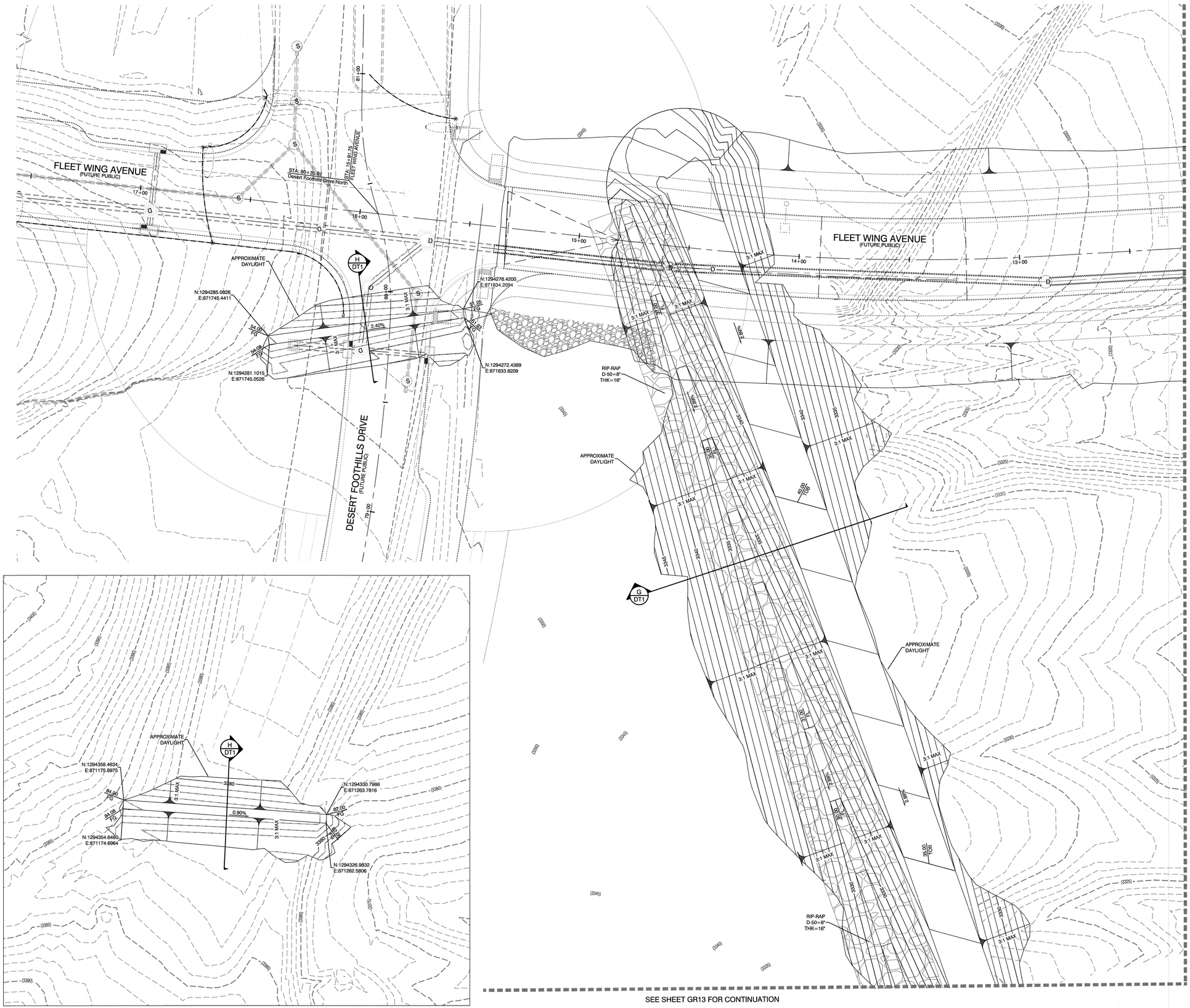

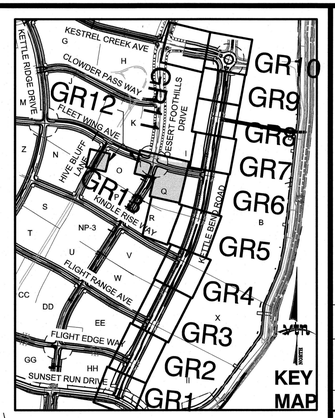

GRAPHIC SCALE

-20 0 10 20 40

1" = 20'

CONSTRUCTION NOTES

1. CONSTRUCT 24" TYPE "L" CURB & GUTTER PER STD. DWG. 216.
2. CONSTRUCT TYPE "A" CURB PER STD. DWG. 219.
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4. FUTURE SIDEWALK
5. SAWCUT AND REMOVE ASPHALT PAVING AND MATCH WITH NEW CONSTRUCTION PER CCAUSD #500.5 & #503.
6. FIELD VERIFY AND MATCH EXISTING
7. CONSTRUCT APRON CURB SEE SHEET DT1

OFFSITE FLOOD CONTROL NOTE:

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GEOTECHNICAL NOTE:

REFER TO SOILS REPORT: NOVA GEOTECHNICAL PROJECT #G-18-003, DATED DECEMBER 30, 2019

SIGHT VISIBILITY ZONES:

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1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

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WILLIAM J MEYER , P.E. No. 15745 DATE

REV	DATE	BY	REVISION

HOWARD HUGHES COMPANY, LLC
A DELAWARE LIMITED LIABILITY COMPANY
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
702-791-4000

CITY OF LAS VEGAS

2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148
PH: (702) 873-7590 FAX: (702) 362-2597 WEB WWW.VTNNV.COM
CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS

GRADING PLAN 12

SUMMERLIN WEST VILLAGE 22
KETTLE BEND ROAD-SUNSET RUN DRIVE TO KESTREL CREEK AVENUE

DRAWN BY:	DESIGNED BY:	CHECKED BY:	PROJECT NO:
BOC	BOC	WJM	7861

07/29/2019 | 07/29/2019 | 01/13/2020

SCALE: 1"=20' HORIZ, N/A VERT.

PROFESSIONAL ENGINEER - STATE OF NEVADA
WILLIAM J. MEYER
EXP: 12/31/21
CIVIL
No. 15745
2/11/20

SHEET
GR12
30 OF 94 SHEETS

DRAWING NO.

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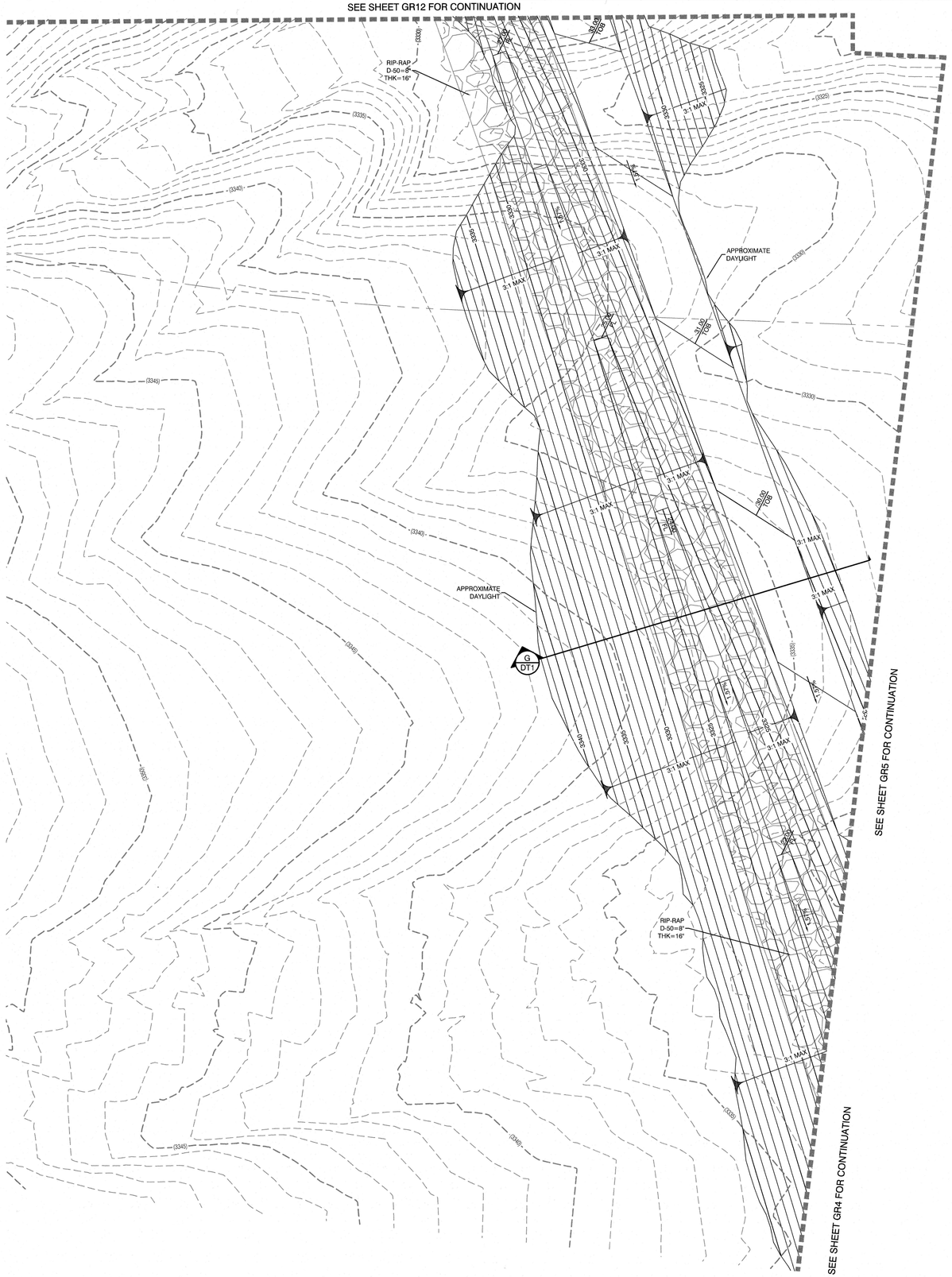
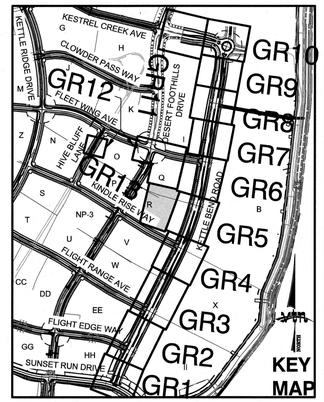
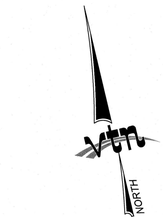
SEE SHEET GR12 FOR CONTINUATION







CONSTRUCTION NOTES

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2. CONSTRUCT TYPE "A" CURB PER STD. DWG. 219.
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AVOID HITTING UNDERGROUND TRAFFIC SIGNAL AND STREET LIGHT SYSTEM CONDUITS (TYP.)

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AND
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WILLIAM J MEYER , P.E. No. 15745 DATE

REV	DATE	BY	REVISION

HOWARD HUGHES COMPANY, LLC
A DELAWARE LIMITED LIABILITY COMPANY
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NEVADA 89135
702-791-4000

CITY OF LAS VEGAS

2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148
PH. (702) 873-7550 FAX (702) 382-2597 WEB WWW.LTNNV.COM
CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS

GRADING PLAN 13

SUMMERLIN WEST VILLAGE 22
KETTLE BEND ROAD-SUNSET RUN DRIVE TO KESTREL CREEK AVENUE

DRAWN BY: BCC	07/29/2019	SCALE:	1"=20' HORZ. N/A VERT.
DESIGNED BY: BCC	07/29/2019		
CHECKED BY: WJM	01/13/2020		
PROJECT NO: 7861			

PROFESSIONAL ENGINEER STATE OF NEVADA
WILLIAM J. MEYER
EXP: 12/31/21
CIVIL
No. 15745
2/11/20

SHEET
GR13
31 OF **94** SHEETS

DRAWING NO.

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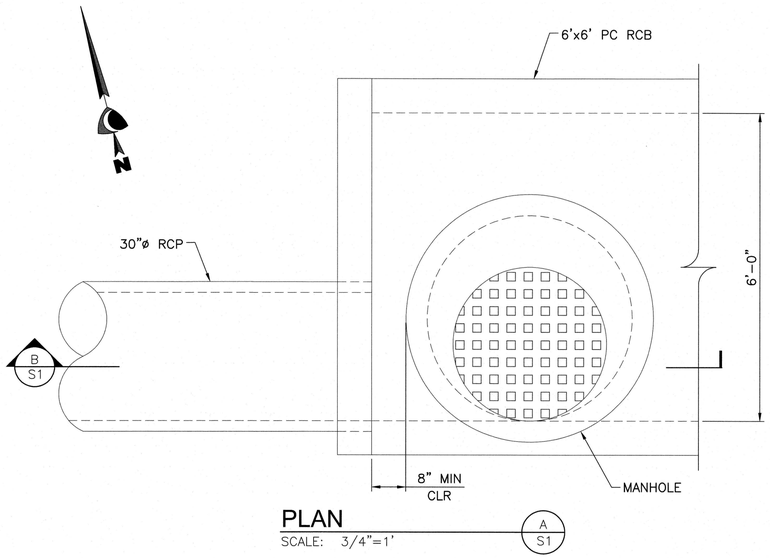
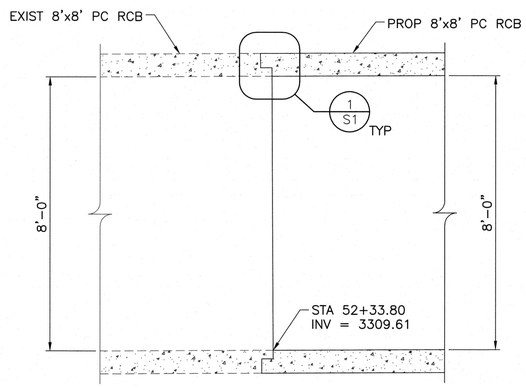


PLAN
SCALE: 3/4"=1'

A
S1

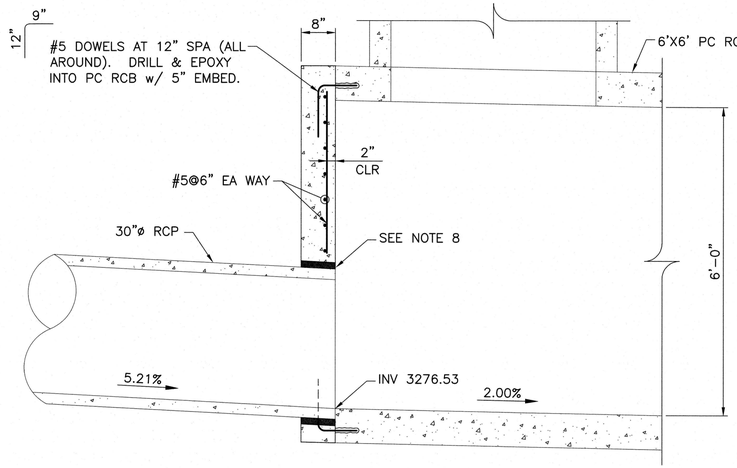


PC RCB CONNECTION
SCALE: 1/2"=1'

C
S1

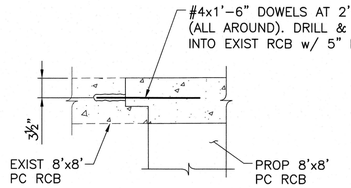
NOTES:

1. PORTLAND CEMENT SHALL CONFORM TO A.S.T.M. C 150–18, TYPE V. AGGREGATE SHALL CONFORM TO A.S.T.M. C 33–18.
2. ALL STRUCTURAL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
3. ALL REINFORCING STEEL SHALL BE ASTM DESIGNATION A615 GRADE 60.
4. COVERAGE FOR REINFORCING BARS, EXCEPT WHERE OTHERWISE SHOWN, SHALL BE: 3" FOR CONCRETE PLACED AGAINST EARTH; 2" FOR OTHERS.
5. USE 3/4" CHAMFER ON ALL EXPOSED CORNERS.
6. ALL REINFORCING BAR LAP SPLICES SHALL CONFORM TO ACI 318.
7. PROVIDE 'SIMPSON SET–XP' EPOXY OR ENGINEER APPROVED EQUAL.
8. THE OPENING SIZE MAY BE INCREASED (±3") FOR EASE OF INSTALLATION. SEAL THE GAP WITH NON–SHRINK GROUT.



SECTION
SCALE: 3/4"=1'

B
S1



DETAIL
SCALE: 1"=1'

1
S1

REV	DATE	BY	REVISION

HOWARD HUGHES COMPANY, LLC
A DELEWARD LIMITED LIABILITY COMPANY
10845 GRIFFITH PEAK DRIVE, SUITE 160
LAS VEGAS, NV 89135
(702) 486-4300

CITY OF LAS VEGAS

PREPARED BY
CA Group, Inc
CAVIOLA ANSON
2785 S. RAINBOW BLVD
LAS VEGAS, NV 89146
PHONE: (702) 685–5945

STRUCTURAL DETAILS
6'x6' PC RCB TO 30" RCP CONNECTION

SUMMERLIN WEST VILLAGE 22
KETTLE BEND ROAD-SUNSET RUN
DRIVE TO KESTREL CREEK AVENUE

DRAWN BY: CW
DESIGNED BY: CW
CHECKED BY: JM
PROJECT NO: #
SCALE: N/A (HORIZ.) N/A (VERT.)

PROFESSIONAL ENGINEER – STATE OF NEVADA
CHRISTOPHER A. WUNSCH
EXP. 6/30/20
CIVIL
No. 18349
02/11/2020

SHEET
S1
93 OF **94** SHEETS

DRAWING NO.
#

H:\0195 Summerlin West Jobs (sub to VTN)\Kettle Bend_Task 01\CAD\DS1.dwg - 12/30/2019 11:14 AM Chris Wunsch