

DS #: 5210-1

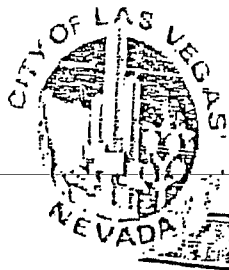
APN: 164-04-511-001

PROJECT: Summitin Village 24 Parcels FGH Units 1, 2 and 3 Update

SUBMITTAL: 3rd

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: September 24, 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 Village 24 Parcels FGH - Units 1, 2 and 3 - Update	
Cross Streets:	Crossbridge Drive & Sky Vista Drive	
File Number:	F:\Depot\DSMemos\DS5210E.doc	
Parcel Number:	164-04-511-001	
Zoning Action:	TMP-76536	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES X	NO
COPIES TO:		
		RCI Engineering
		Lennar Communities Nevada, LLC
		Bart Anderson, P.E., DevCo
		CCPW
		BLM

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	10/30/2019	12/2/2019	Not Approved	\$400.00	3627256: \$400
2 nd Submittal	1/23/2020	2/12/2020	Not Approved	\$400.00	3716412: \$400
Supplement	2/20/2020	2/24/2020	Conditional Approval	N/C	N/C
CCPW	4/2/2020	4/14/2020	Concurrence Recv'd	N/C	N/C
3 rd Submittal	9/15/2020	9/24/2020	See Comments Below	\$100.00	3992803: \$100
TOTAL FEES (LDDRS):				\$900.00	----

REMARKS:

3rd Submittal: Update to revise some storm drains from RCP to C900 PVC in compliance to recent changes of LVVWD and SNHD criteria

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

X	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.

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
HDR/AYS

T/R/S: T20S/R59E/04
AREA P-04

**UPDATE TO THE
TECHNICAL DRAINAGE STUDY
For
SUMMERLIN VILLAGE 24 PARCELS FGH
Units 1, 2 and 3**

Prepared for:

**Lennar Communities Nevada LLC
2490 Paseo Verde Parkway, Suite 120
Henderson, NV 89074
Phone: (702) 736-9100
Fax: (702) 736-9200**

September 13, 2020

PROJECT 3040.0057

**RCI Engineering
500 South Rancho Drive, Suite 17 * Las Vegas, NV 89106
Tel: 702.453.0800 * Fax: 702.453.0801
www.rcinevada.com**

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		February 24, 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 Village 24 Parcels FGH - Units 1, 2 and 3	
Cross Streets:	Crossbridge Drive & Sky Vista Drive	
File Number:	F:\Depot\DSMemos\DS5210C.doc	
Parcel Number:	164-04-511-001	
Zoning Action:	TMP-76536	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES X	NO
COPIES TO:		
RCI Engineering		
Lennar Communities Nevada, LLC		
Bart Anderson, P.E., DevCo		
CCPW		
BLM		

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	10/30/2019	12/2/2019	Not Approved	\$400.00	3627256: \$400
2 nd Submittal	1/23/2020	2/12/2020	Not Approved	\$400.00	3716412: \$400
Supplement	2/20/2020	2/24/2020	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:
	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
X	is conditionally approved subject to Clark County Public Works Department concurrence.

- The site is adjacent to the Clark County jurisdiction boundary to the south. The engineer must coordinate with Clark County Public Works and incorporate any concerns for boundary conditions along the south border. CCPW concurrence is required prior to final acceptance of the 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/04
AREA P-04

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Summerlin Village 24 Parcels FGH Units 1, 2 and 3 Date: September 2020
Location of Development: a) Descriptive (Cross Streets) North/South: Crossbridge Drive
East/West: Crossbridge Drive
b) Section: 33 Township: 20 South Range: 59 East
c) APN : 164-04-511-001

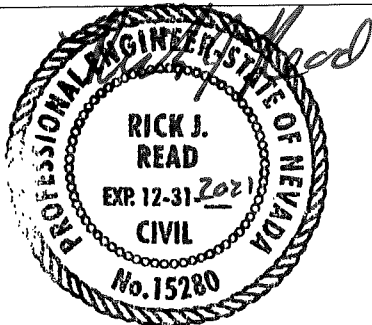
Name of Owner: Lennar Communities Nevada, LLC
Telephone No.: 702-739-9100 Fax No.: 702-739-9200 E-Mail Address: _____
Address: 2490 Paseo Verde Pkwy, Suite 120, Henderson, NV 89074

Contact Person-Name: Rick J Read, P.E. Telephone No.: 702-453-0800
* E-Mail Address: rread@rcinevada.com Fax No.: 702-453-0801
Firm: RCI Engineering
Address: 500 South Rancho Drive, Suite 17, Las Vegas, Nevada 89106

Type of Land Development/Land Disturbance Process:

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

1. Total Owned Land Area: At Site: 103.8 acres +/- Being Developed/Disturbed: 103.8 acres +/-
2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ Yes** ☒ No
3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☐ Yes** ☒ No
4. Proposed type of development (Residential, Commercial, Etc.): Residential
5. Approximate upstream land area which drains to the subject site: 3,300 acres +/-
6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: Technical Drainage Study for Summerlin Village 24 Parcels FGH (DS 5210C)
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: east into the COS-3 Wash, the COS-4 Wash and south and west into the Redrock Conservation Area
8. Briefly describe your proposed schedule for the subject project: ASAP



Engineer's Seal

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

*New Required Field

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

	Revision	Date

Local Entity File No. _____

REFERENCE:

STANDARD FORM 1



RCI
ENGINEERING

September 14, 2020

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

**RE: Certification Letter for Paper and Digital Plans for the
Update to the Technical Drainage Study for Summerlin Village 24 Parcels FGH**

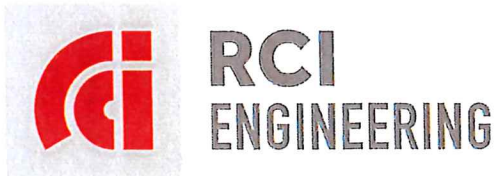
Mr. Sung,

This letter has been provided as certification that the paper version of the plans match the digital PDF plans on the CD submitted with the drainage study.

Sincerely,

RCI Engineering

Rick J. Read, P.E.



3040.0057

September 14, 2020

City Of Las Vegas Public Works
Flood Control Division
333 North Rancho Drive
Las Vegas, NV 89106

Subject: Update to the Technical Drainage Study for Summerlin Village 24 Parcel FGH (DS 5210C)

The project is a 103 acre residential subdivision located between the Red Rock Wash and Crossbridge Drive in Summerlin Village 24 on the southwest corner of Hualapai Way and Mesa Park Drive in Summerlin Village 16A. A copy of the approval letter for the Original Study has been enclosed. Figure 1 (Vicinity Map), Figure 2 (Location Map), Figure 3a and 3b (FIRM Panel) and Figure 4 (201 MPU Facilities Map) from the Original Study have also been enclosed. The purpose of this update is to address some minor changes to the storm drain in Unit 1 of the Project. This Update will address only Unit 1 of the Project and if any changes are made to Units 2 and 3 an update will be submitted at a later date to address those changes.

Since the Original Study was approved the plans have been submitted to the Las Vegas Valley Water District (LVVWD) and Southern Nevada Health District (SNHD) for improvement plan review. There have been recent changes to the LVVWD and SNHD criteria for the vertical separation of domestic water and storm drain and for the horizontal alignment for the crossings that have caused the plans to be revised. In several cases the privately maintained storm drain has been changed from RCP to C900 PVC pipe to meet current LVVWD and SNHD criteria that all crossings not at 90 degrees must be constructed with water quality storm drain no matter the vertical separation. There are a couple locations where the storm drain manhole callouts have been revised to call out "USE FULL-STRENGTH GROUT WITH WATERTIGHT JOINTS WITH

A MINIMUM OF 4-INCHES OF CEMENT SLURRY" to meet LVVWD and SNHD separation criteria from SDMH to water main. Revisions to change to C900 PVC pipe are listed below:

Sheet P-1

24" mainline from SDMH#1-2 to end of pipe.

18" lateral from SDMH#1-2 to DI U1-2.

Sheet P-3

18" lateral from DI U1-3 to DI U1-4.

24" lateral from DI U1-4 to SDMH 1-6.

36" mainline from SDMH1-6 to SDMH 1-5.

18" laterals from DI U1-6 and DI U1-7.

Sheet P-4

18" laterals from DI U1-8 and DI U1-9.

30" mainline from SDMH 1-17 to DI U1-44.

Sheet P-5

18" lateral from DI U1-41 to SDMH1-4.

24" mainline from SDMH 1-5 to SDMH 1-4.

Sheet P-6

30" mainline from SDMH 1-17 to DI U1-44.

18" lateral from DI U1-41 to SDMH1-4.

Sheet P-7

18" lateral from DI U1-3 to DI U1-4.

24" lateral from DI U1-4 to SDMH 1-6.

18" laterals from DI U1-6 and DI U1-7.

18" laterals from DI U1-8 and DI U1-9.



The changes that have been made to the plans are minor. Some of the storm drain inverts have been revised on the plans to get the proper vertical clearance between storm drain and domestic water. The remaining changes are that RCP storm drain has been change to C900 PVC. Standard Form 6 models for the Project have been revised to match those revisions to the plans. In cases where the slopes and inverts of the storm drain changed the 100-year HGL's only changed by a couple of tenths in the worst case and those have been updated on the plans.

As shown on the revised plan and profiles sheets, the 100-year HGL remains a minimum of 1-foot below finished grade per Manual criteria. A copy of the plans that were approved with the Original Study have been enclosed so you can see that the revisions are minor and have not had a negative impact to the storm drain system.

If you have any questions or require any additional information please do not hesitate to contact us.

Sincerely,

A handwritten signature in blue ink that reads 'Rick J. Read'.

Rick J. Read, PE

RCI Engineering

702-998-2102

PROJECT SITE



SUMMERLIN VILLAGE 24
PARCEL FGH UNITS 1, 2 AND 3
LENNAR

FIGURE 1
VICINITY MAP

RCI Engineering

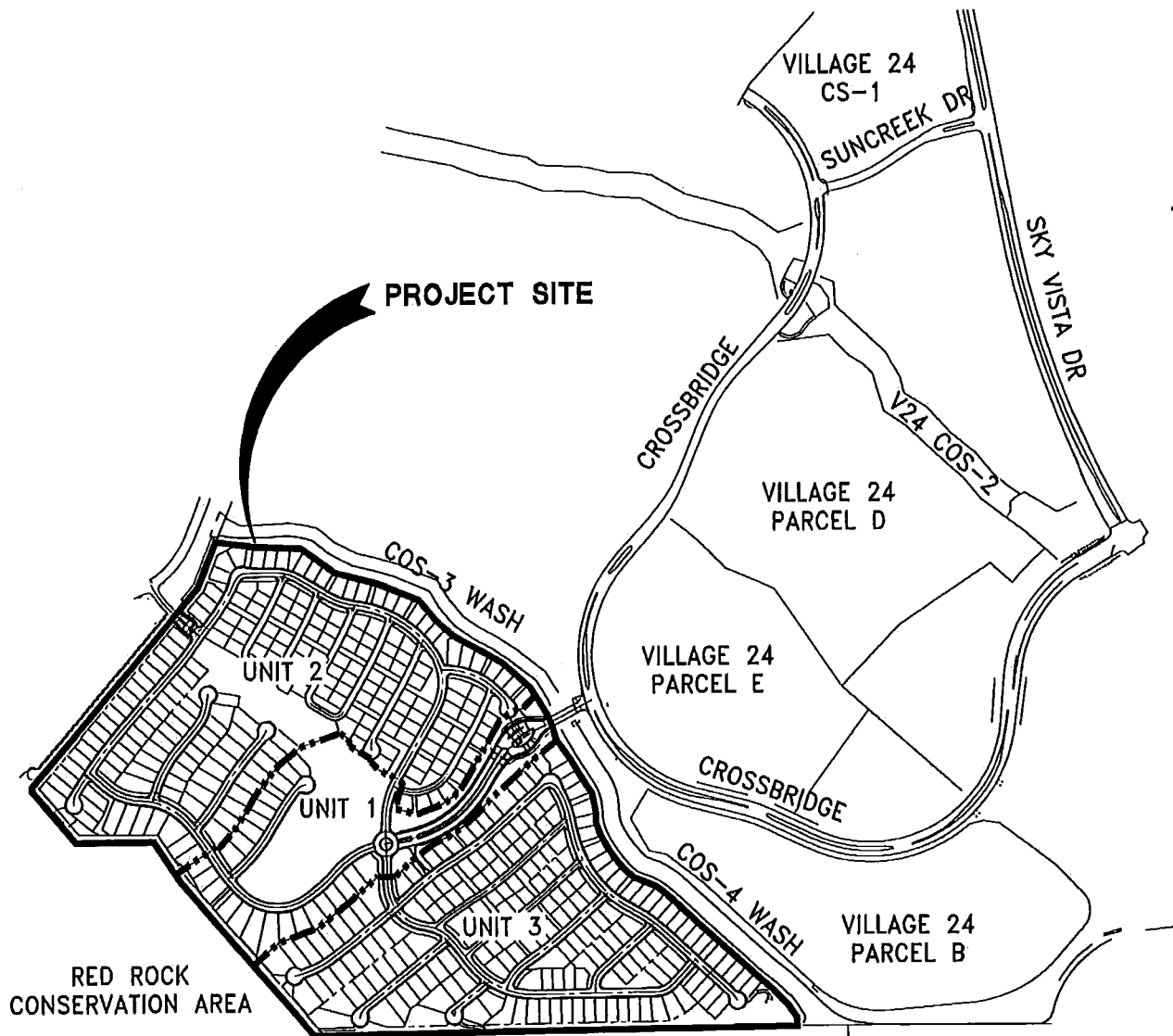
500 S. RANCHO DRIVE, SUITE 17
LAS VEGAS, NV 89106
PHN702.453.0800 FAXN702.453.0801



400' 0' 400' 800'



SCALE: 1" = 800'



RED ROCK
CONSERVATION AREA

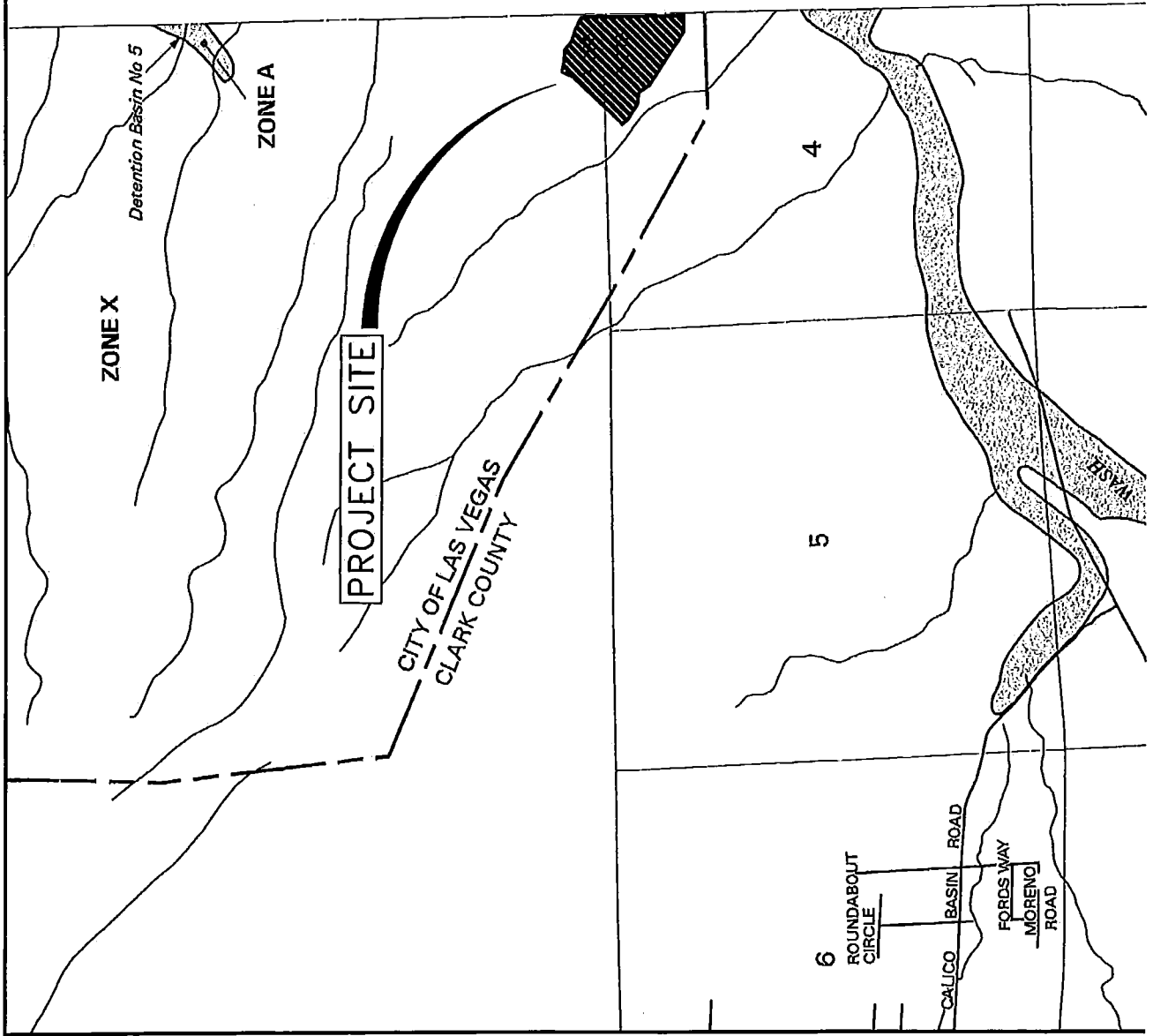
----- PHASE LINE

**SUMMERLIN VILLAGE 24
PARCEL FGH UNITS 1-3**
LENNAR

FIGURE 2
VICINITY MAP

RCI Engineering

500 S. RANCHO DRIVE, SUITE 17
LAS VEGAS, NV 89106
PH#702.453.0800 FAX#702.453.0801



PANEL 2125 E

FIRM
FLOOD INSURANCE RATE MAP
CLARK COUNTY,
NEVADA AND
INCORPORATED AREAS

PANEL 2125 OF 4090

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:	NUMBER	PANEL	SUFFIX
COMMUNITY			
LAS VEGAS, CITY OF	32376	2125	E
CLARK COUNTY, UNINCORPORATED AREAS	32030	2125	E

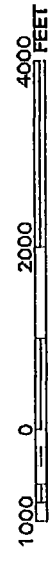
Notes to User: The Map Number shown below should be used when referring to the entire map. The Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
32003C2125 E

MAP REVISED:
SEPTEMBER 27, 2002

MAP SCALE 1" = 2000'



SUMMERLIN VILLAGE 24 PARCEL FGH
LENNAR

FIGURE 3.B
F.I.R.M. MAP

RCI Engineering

500 S. RANCHO DRIVE, SUITE 17 LAS VEGAS, NV 89106
PH#702.453.0800 FAX#702.453.0801

PANEL 2150 E

FIRM

**FLOOD INSURANCE RATE MAP
CLARK COUNTY,
NEVADA AND
INCORPORATED AREAS**

PANEL 2150 OF 4090

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTENTS

COMMUNITY

NUMBER PANEL SUFFIX

LAS VEGAS, CITY OF

DATE

11

11

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

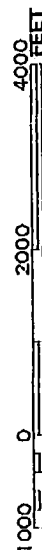


MAP NUMBER
32003C2150 E

**MAP REVISED:
SEPTEMBER 27, 2002**

Federal Emergency Management Agency

MAP SCALE 1" = 2000'

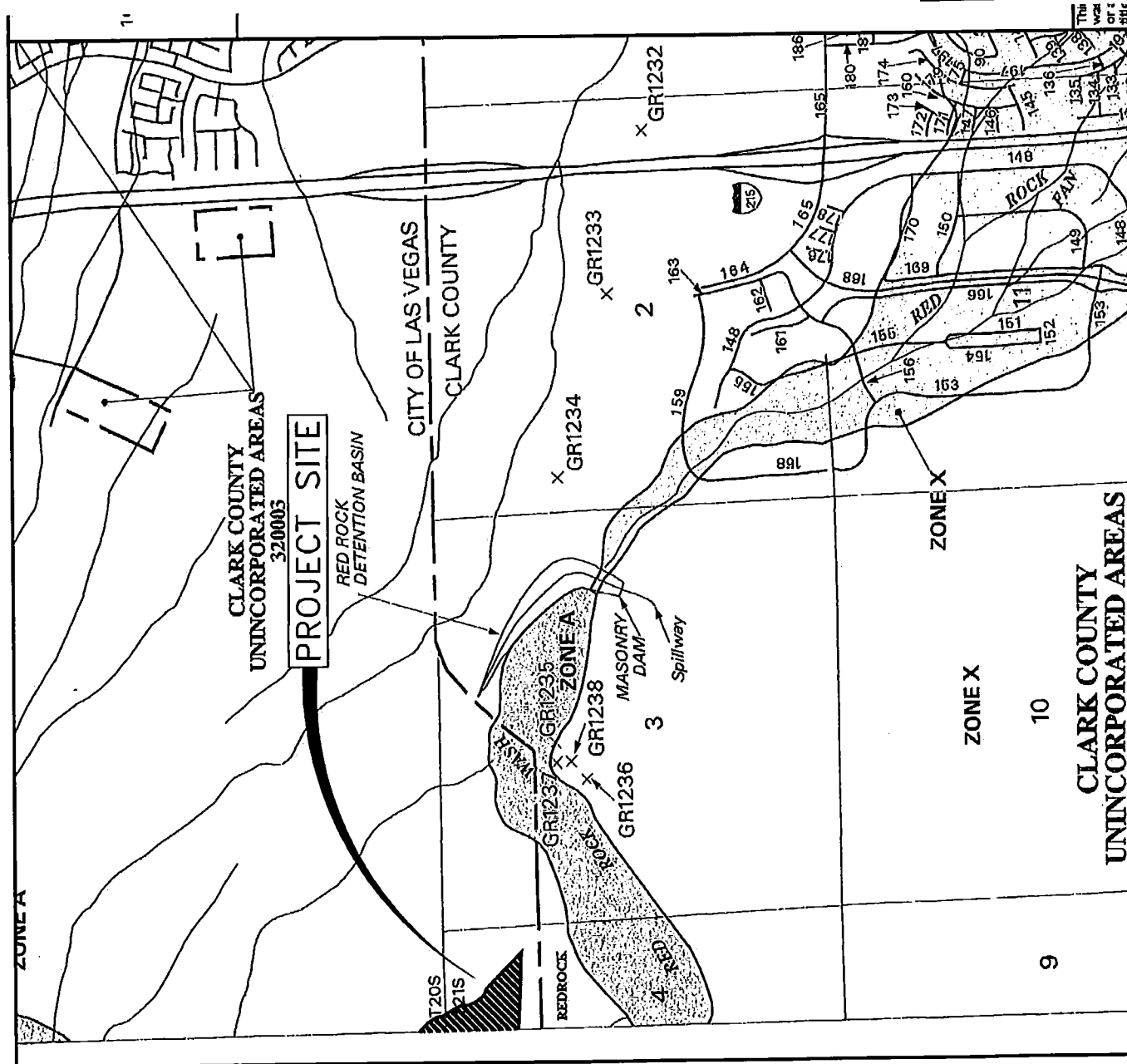


SUMMERLIN VILLAGE 24 PARCEL FGH
LENNAR

FIGURE 3.A
F.I.R.-M. MAP

RCI Engineering

500 S. RANCHO DRIVE, SUITE 17 LAS VEGAS, NV 89106
PH#702.453.0800 FAX#702.453.0801





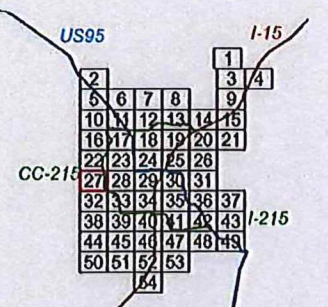
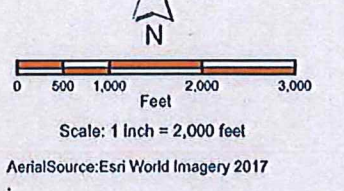
2018
LAS VEGAS VALLEY
FLOOD CONTROL
MASTER PLAN UPDATE

FIGURE F-27

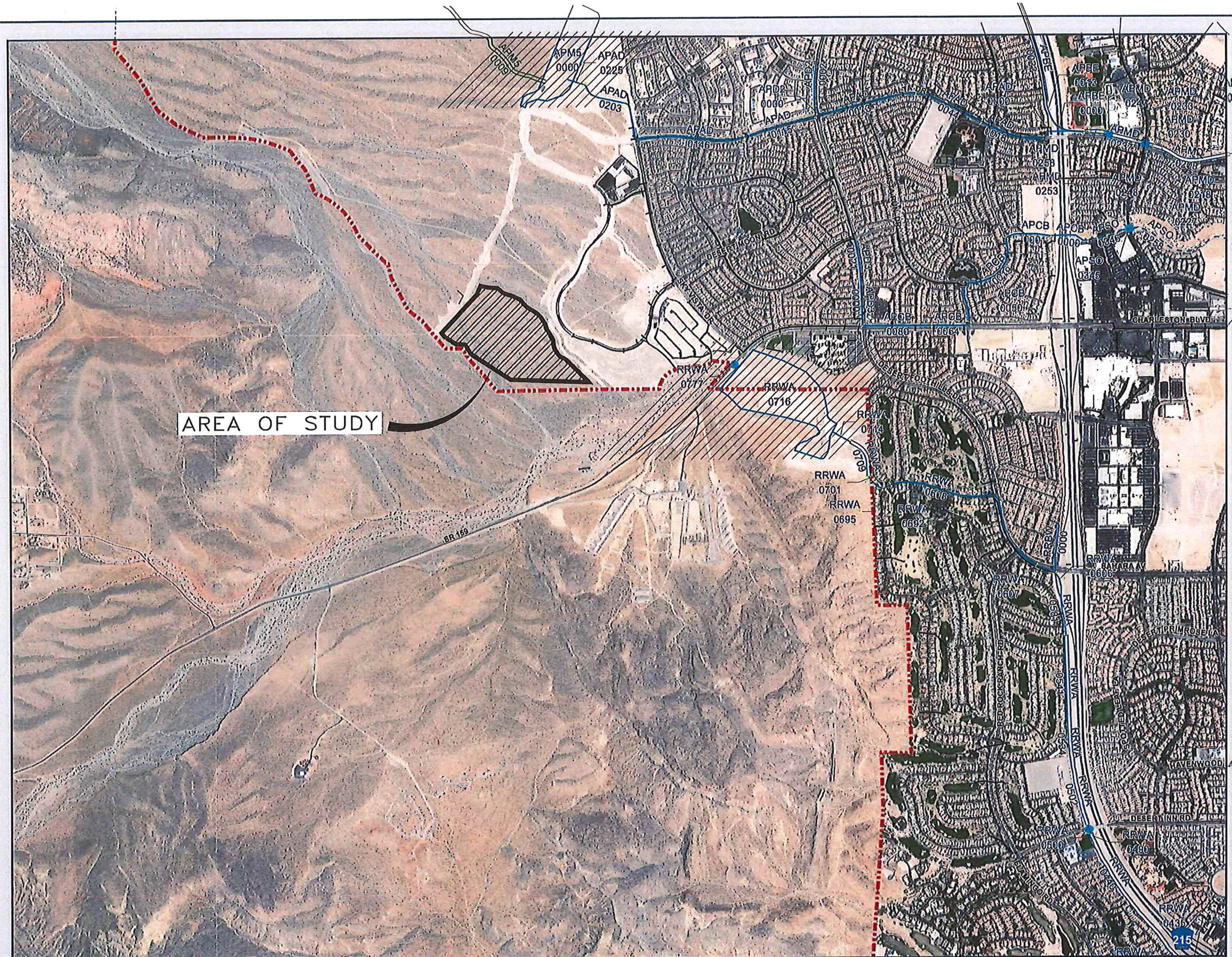
FLOOD CONTROL FACILITIES
LEGEND

- Ultimate Development Boundary
- Existing Facilities
- Category A Proposed Facilities
- Category B Proposed Facilities
- Local Existing Facilities
- Detention Basin
- Culvert or Bridge Crossing
- Stormdrain
- Lined Channel
- Unlined Channel
- Levee/Dike
- Natural Wash/Floodway
- ID-Mile Separator
- Remove & Replace/Parallel Facilities
- Category A Channel
- Category B Channel
- Category A Stormdrain
- Category B Stormdrain
- Category A Crossing
- Category B Crossing

FIGURE 4



AREA OF STUDY

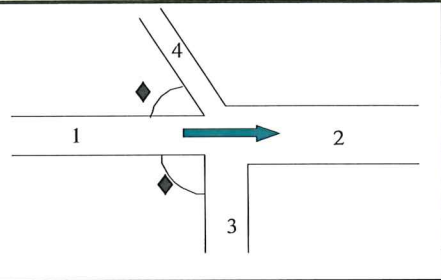


Storm Drain Hydraulics Calculations

SUMMERLIN VILLAGE 24 PARCELS FGH STORM DRAIN Entrance Storm Drain in Unit 1

DATE: 09/09/20

[illegible]

Junction Head Loss Calculation		
Known		
Diameter of Pipe 1 (in)	42.0	
Diameter of Pipe 2 (in)	48.0	
Diameter of Pipe 3 (in)	18.0	
Diameter of Pipe 4 (in)*	18.0	
Flow in Pipe 1 (cfs)	73	
Flow in Pipe 2 (cfs)	81	
Flow in Pipe 3 (cfs)	4	
Flow in Pipe 4 (cfs)*	4	
Angle of Pipe 3	47	
Angle of Pipe 4*	48	
*Optional		
		Headloss is applied at Entrance to Junction
Solve For		Insert Loss in Misc. Loss Column and leave Junction Loss Column Blank
Area of Pipe 1 (ft ²)	9.62	
Area of Pipe 2 (ft ²)	12.57	
Area of Pipe 3 (ft ²)	1.77	
Area of Pipe 4 (ft ²)	1.77	
Head Loss at Junction (ft)	0.38	
Equation Used:		
Incorporates Pressure plus Momentum Laws		
$H_j = ((Q_2^2/A_2 \cdot g - Q_1^2/A_1 \cdot g - Q_3^2 \cdot \cos(\text{Ang}3)/A_3 \cdot g - Q_4^2 \cdot \cos(\text{Ang}4)/A_4 \cdot g) \cdot 2 / ((A_1 + A_2) - D_1 + D_2))$		

$Q_2^2/(A_2 \cdot 32.2)$

16.21

$Q_1^2/(A_1 \cdot 32.2)$

17.20

$Q_3^2 \cdot \cos(\text{ANG}3)/(A_3 \cdot 32.2)$

0.19

$Q_4^2 \cdot \cos(\text{ANG}4)/(A_4 \cdot 32.2)$

0.19

$(2/((A_1 + A_2)))$

0.09

$(-D_1/12) + (D_2/12)$

0.50

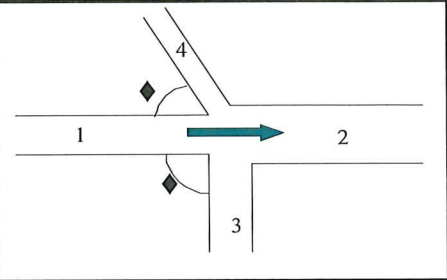
0.376796

Note: This calculation only works properly when the storm drain is full. It may result in a negative result if Pipe 2 is partial flow.

Junction Head Loss Calculation

Known

Diameter of Pipe 1 (in)	42.0
Diameter of Pipe 2 (in)	42.0
Diameter of Pipe 3 (in)	18.0
Diameter of Pipe 4 (in)*	18.0
Flow in Pipe 1 (cfs)	81
Flow in Pipe 2 (cfs)	89
Flow in Pipe 3 (cfs)	4
Flow in Pipe 4 (cfs)*	4
Angle of Pipe 3	49
Angle of Pipe 4*	68



*Optional

Headloss is applied at Entrance to Junction

Solve For

Insert Loss in Misc. Loss Column and
leave Junction Loss Column Blank

Area of Pipe 1 (ft ²)	9.62
Area of Pipe 2 (ft ²)	9.62
Area of Pipe 3 (ft ²)	1.77
Area of Pipe 4 (ft ²)	1.77

Head Loss at Junction (ft) 0.43

Equation Used:

Incorporates Pressure plus Momentum Laws

$$H_j = ((Q_2^2/A_2 + Q_1^2/A_1 - Q_3^2 \cos(\text{Ang}3)/A_3 - Q_4^2 \cos(\text{Ang}4)/A_4) * 2 / (A_1 + A_2) - D_1 + D_2)$$

$Q_2^2/(A_2 * 32.2)$

25.57

$Q_1^2/(A_1 * 32.2)$

21.18

$Q_3^2 * \cos(\text{ANG}3)/(A_3 * 32.2)$

0.18

$Q_4^2 * \cos(\text{ANG}4)/(A_4 * 32.2)$

0.11

$(2/(A_1 + A_2))$

0.10

$(-D_1/12) + (D_2/12)$

0.00

0.426158

Note: This calculation only works properly when the storm drain is full. It may result in a negative result if Pipe 2 is partial flow.

Summary of Results									
STATION	INVERT	SOFFIT	EGL	HGL	(Optional)			HGL with respect to FG	Plan Set and Sheet Number
					GRADE	LOCATION	DESCRIPTION		
100.00	21.63	26.63	27.51	26.63	26.63	COS-4 Wash	top pipe	HGL<1ft below FG	Sheet P-4 Unit 1
139.04	22.13	27.13	28.01	27.13	35.00			OK	
144.04	22.19	27.19	28.07	27.19	35.00	ex mh	tmh	OK	Sheet P-4 Unit 1
198.04	23.52	28.52	29.40	28.52	35.50			OK	
203.04	23.62	27.62	30.22	29.44	35.50	MH 1-17	TMH	OK	Sheet P-4 Unit 1
291.65	24.28	28.28	30.56	29.78	35.90			OK	
296.65	24.32	28.32	30.75	29.97	35.90	MH 1-16	TMH	OK	Sheet P-4 Unit 1
378.59	24.89	28.89	31.06	30.28	36.50			OK	
383.59	24.92	28.92	31.17	30.39	36.50	MH 1-15	TMH	OK	Sheet P-4 Unit 1
433.84	25.19	29.19	31.36	30.58	38.20			OK	
438.34	25.23	28.73	31.80	30.70	38.20	MH 1-14	TMH	OK	Sheet P-4 Unit 1
485.19	25.78	29.28	32.11	31.01	37.20			OK	
490.19	25.82	29.32	32.19	31.09	37.20	MH 1-13	TMH	OK	Sheet P-4 Unit 1
598.25	26.87	30.37	32.89	31.79	37.90			OK	
603.25	26.92	30.42	33.37	32.48	37.90	MH 12	TMH	OK	Sheet P-3 Unit 1
695.62	27.49	30.99	33.86	32.97	38.50			OK	
700.62	27.52	31.02	33.93	33.04	38.50	MH 11	TMH	OK	Sheet P-3 Unit 1
805.79	28.19	31.69	34.48	33.59	39.20			OK	
810.79	28.22	31.72	34.56	33.66	39.20	MH 10	TMH	OK	Sheet P-3 Unit 1
899.85	28.79	32.29	35.02	34.13	39.80			OK	
904.85	28.82	32.32	35.09	34.20	39.80	MH 9	TMH	OK	Sheet P-3 Unit 1
978.11	29.29	32.79	35.48	34.59	40.30			OK	
983.11	29.32	32.82	35.55	34.66	40.30	MH 8	TMH	OK	Sheet P-3 Unit 1
1080.06	29.84	33.34	36.06	35.17	41.00			OK	
1085.06	29.86	33.36	36.50	35.60	41.00	MH 7	TMH	OK	Sheet P-3 Unit 1
1165.15	30.28	33.78	36.92	36.03	43.40			OK	
1170.15	30.38	33.38	38.57	37.94	43.40	MH 5	TMH	OK	Sheet P-3 Unit 1
1249.57	33.295	36.30	38.93	38.30	42.20			OK	
1254.57	33.42	35.42	39.30	38.31	42.20	MH6	TMH	OK	Sheet P-3 and P-7 Unit 1
1278.13	33.656	35.66	39.58	38.60	41.90			OK	
1290.63	33.7	35.20	39.75	38.97	41.90	DI 5	FL	OK	Sheet P-7 Unit 1
1306.63	34.5	36.00	39.97	39.20	41.90			OK	
1306.63	34.5	36.00	40.28	40.28	41.90	DI 6	fl	OK	Sheet P-7 Unit 1

Storm Drain Hydraulics Calculations

SUMMERLIN VILLAGE 24 PARCELS FGH STORM DRAIN FOR EASEMENT TO RED ROCK WASH AND MAYFIELD MANOR DRIVE

DATE: 09/09/20

[illegible]

Junction Head Loss Calculation		
Known		
Diameter of Pipe 1 (in)	18.0	
Diameter of Pipe 2 (in)	24.0	
Diameter of Pipe 3 (in)	18.0	
Diameter of Pipe 4 (in)*	18.0	
Flow in Pipe 1 (cfs)	14	
Flow in Pipe 2 (cfs)	26	
Flow in Pipe 3 (cfs)	6	
Flow in Pipe 4 (cfs)*	6	
Angle of Pipe 3	58	
Angle of Pipe 4*	72	
*Optional		
		Headloss is applied at Entrance to Junction
Solve For		Insert Loss in Misc. Loss Column and
Area of Pipe 1 (ft ²)	1.77	leave Junction Loss Column Blank
Area of Pipe 2 (ft ²)	3.14	
Area of Pipe 3 (ft ²)	1.77	
Area of Pipe 4 (ft ²)	1.77	
Head Loss at Junction (ft)	1.60	
Equation Used:		
Incorporates Pressure plus Momentum Laws		
$H_j=((Q_2^2/A_{2*g}-Q_1^2/A_{1*g}-Q_3^2*\cos(\text{Ang}3)/A_{3*g}-Q_4^2*\cos(\text{Ang}4)/A_{4*g})*2/(A_1+A_2)-D_1+D_2)$		

$Q_2^2/(A_2 \cdot 32.2)$	6.68
$Q_1^2/(A_1 \cdot 32.2)$	3.44
$Q_3^2 \cdot \cos(\text{ANG}3)/(A_3 \cdot 32.2)$	0.34
$Q_4^2 \cdot \cos(\text{ANG}4)/(A_4 \cdot 32.2)$	0.20
$(2/(A_1 + A_2))$	0.41
$(-D_1/12) + (D_2/12)$	0.50
	1.603035

Note: This calculation only works properly when the storm drain is full. It may result in a negative result if Pipe 2 is partial flow.

Summary of Results									
STATION	INVERT	SOFFIT	EGL	HGL	(Optional)		HGL with respect to FG	Plan Set and Sheet Number	
					GRADE	LOCATION DESCRIPTION			
100.00	3459.00	3461.50	3462.34	3461.50	3461.10	OUTLET OUTLET	HGL<1ft below FG	Mass Grade Sheet P-6	
135.98	3459.47	3461.97	3462.80	3461.97	3465.20		OK		
140.98	3459.58	3462.08	3462.93	3462.10	3465.20	MH 5 TMH	OK	Mass Grade Sheet P-6	
300.26	3464.95	3467.45	3468.29	3467.45	3474.40		OK		
305.26	3465.03	3467.53	3469.43	3468.60	3474.40	MH 4 TMH	OK	Unit 1 Sheet P-1	
427.92	3465.77	3468.27	3470.38	3469.54	3473.58		OK		
432.92	3465.80	3468.30	3470.41	3469.79	3473.58	DI 1 FL	OK	Unit 1 Sheet P-1	
445.49	3465.86	3468.36	3470.48	3469.86	3474.50		OK		
450.49	3465.98	3467.98	3471.54	3470.48	3474.50	MH2 TMH	OK	Unit 1 Sheet P-1	
571.18	3473.20	3475.20	3476.26	3475.20	3482.30		OK		
576.18	3473.95	3475.95	3477.01	3475.95	3482.30	MH1 TMH	OK	Unit 1 Sheet P-1	
711.02	3482.43	3484.43	3485.49	3484.43	3491.00		OK		
716.02	3482.75	3484.25	3487.17	3486.20	3491.00	MH 4 TMH	OK	Unit 2 Sheet P-1	
777.59	3486.54	3488.04	3489.01	3488.04	3495.20		OK		
782.59	3486.88	3488.38	3489.35	3488.38	3495.20	MH 3 TMH	OK	Unit 2 Sheet P-1	
864.41	3492.44	3493.94	3494.91	3493.94	3500.70		OK		
869.41	3492.74	3494.24	3495.21	3494.24	3500.70	MH 2 TMH	OK	Unit 2 Sheet P-1	
916.11	3495.47	3496.97	3497.94	3496.97	3503.90		OK		
921.11	3495.81	3497.31	3499.73	3499.49	3503.90	MH1 TMH	OK	Unit 2 Sheet P-1	
935.54	3496.90	3498.40	3499.80	3499.55	3503.36		OK		
935.54	3496.90	3498.40	3499.90	3499.90	3503.36	DI 13 FL	OK	Unit 2 Sheet P-17	

Storm Drain Hydraulics Calculations

SUMMERLIN VILLAGE 24 PARCELS FGH STORM DRAIN Unit 1 18-inch RCP to DI 10 (3x3 jensen precaste inlet)

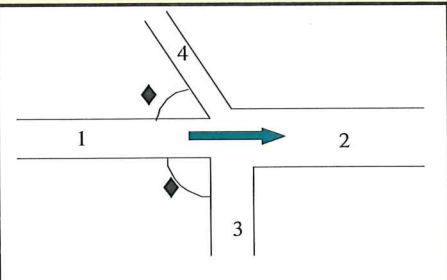
DATE: 09/09/20

[illegible]

Junction Head Loss Calculation

Known

Diameter of Pipe 1 (in)	18.0
Diameter of Pipe 2 (in)	24.0
Diameter of Pipe 3 (in)	18.0
Diameter of Pipe 4 (in)*	18.0
Flow in Pipe 1 (cfs)	11
Flow in Pipe 2 (cfs)	28
Flow in Pipe 3 (cfs)	9
Flow in Pipe 4 (cfs)*	9
Angle of Pipe 3	45
Angle of Pipe 4*	45



*Optional

Headloss is applied at Entrance to Junction

Solve For

Insert Loss in Misc. Loss Column and
leave Junction Loss Column Blank

Area of Pipe 1 (ft ²)	1.77
Area of Pipe 2 (ft ²)	3.14
Area of Pipe 3 (ft ²)	1.77
Area of Pipe 4 (ft ²)	1.77

Head Loss at Junction (ft) 2.06

Equation Used:

Incorporates Pressure plus Momentum Laws

$$H_j = ((Q_2^2/A_2 + Q_1^2/A_1 - Q_3^2 \cos(\text{Ang}3)/A_3 - Q_4^2 \cos(\text{Ang}4)/A_4) * 2 / (A_1 + A_2) - D_1 + D_2)$$

$$Q_2^2/(A_2 * 32.2)$$
$$Q_1^2/(A_1 * 32.2)$$
$$Q_3^2 * \cos(\text{ANG}3)/(A_3 * 32.2)$$
$$Q_4^2 * \cos(\text{ANG}4)/(A_4 * 32.2)$$
$$(2/(A_1 + A_2))$$
$$(-D_1/12) + (D_2/12)$$

7.75

2.13

0.90

0.90

0.41

0.50

2.059683

Note: This calculation only works properly when the storm drain is full. It may result in a negative result if Pipe 2 is partial flow.

[illegible][illegible]

Storm Drain Hydraulics Calculations

SUMMERLIN VILLAGE 24 PARCELS FGH STORM DRAIN Unit 1 lateral to DI 5

DATE: 09/13/20

[illegible]

Summary of Results

[illegible]

Storm Drain Hydraulics Calculations

SUMMERLIN VILLAGE 24 PARCELS FGH STORM DRAIN UNIT 1 LATERAL

DATE: 09/09/20

[illegible]

Summary of Results

[illegible]

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND OR OVERHEAD 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 THE PROPER LOCATION. CONTRACTOR TO NOTIFY ENGINEER OF ANY CHANGES OR DISCREPANCIES.

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CITY OF LAS VEGAS BENCHMARK 7LV09 34SW6
RIVET AND ROUND PLATE IN THE TOP OF CURB
AT THE SOUTHEAST CORNER OF DESERT MOON RD.
AND SKY VISTA DR.

ELEVATION = 1011.422 METERS (NAVD '88)
ELEVATION = 3318.31 US SURVEY FEET (NAVD '88)

BASIS OF BEARINGS
NORTH 05°36'00" WEST, BEING THE BEARING OF
THE WEST LINE OF THE SOUTHWEST QUARTER (SW
1/4) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE
59 EAST, M.D.M., AS SHOWN IN FILE 118, PAGE
100 OF PARCEL MAPS ON FILE AT THE CLARK
COUNTY, NEVADA RECORDERS OFFICE

21	INSTALL 48" STANDARD MANHOLE (PER DCSWS TECH. No. S0-1A, S0-4, S0-5 & S0-6) WITH SINGLE 24" LID
22	INSTALL 4" SEWER LATERAL (PER DCSWS TECH. No. S0-17, S0-22 & S0-25) AT 1 CU-FT THRUST BLOCK @ CAP
23	TYPICAL LOCATION FOR SEWER LATERAL AT WATER MAIN CROSSING. ALL SEWER LATERALS SHALL BE 12" MIN. VERTICAL CLEARANCE BELOW WATER MAIN AT CROSSINGS.
24	REMOVE EXISTING CAP WITH THRUST BLOCK AND CONNECT TO EXISTING SEWER STUB
25	INSTALL 8" SEWER CAP AND 1 CU-FT THRUST BLOCK @ CAP
26	INSTALL 48" STANDARD MANHOLE (PER DCSWS TECH. No. S0-1A, S0-1B, S0-4, S0-5 & S0-6) & WITH CORROSION PROTECTION AND 1 CU-FT THRUST BLOCK @ CAP. ALL EXISTING CONCRETE SURFACES, PER DCSWS 3.1.6.8

- (1) CONSTRUCT S1 AC PAVEMENT PER DETAILS 1 AND 2 ON SHEET D-1
- (2) CONSTRUCT 24" L¹ CURB AND GUTTER PER CAUS2 #216
- (3) CONSTRUCT 24" R¹ CURB PER CAUS2 #217.3 51
- (4) CONSTRUCT A¹ TYPE ISLAND CURB PER CAUS2 #219
- (5) CONSTRUCT 5" CURB TRANSITION FROM 24" L¹ TYPE CURB AND 24" R¹ TYPE CURB TO 24" TYPE CURB PER CAUS2 #220
- (6) CONSTRUCT 8" MOULDED (R CURB) CROSS GUTTER PER CAUS2 #221
- (7) CONSTRUCT 4" SIDEWALK PER CAUS2 #234
- (8) CONSTRUCT 1" TYPE ISLAND CURB PER CAUS2 #218
- (9) CONSTRUCT SIDEWALK RAMP USING ANKOR 12" TRUNCATED CONE EQUIVALENT PER CAUS2 #235 (CASE I) SEE PLAN & PROFILE SHEET CURVE TABLES FOR A¹ & B¹ DIMENSIONS
- (10) CONSTRUCT SIDEWALK RAMP USING ANKOR 12" TRUNCATED CONE EQUIVALENT PER CAUS2 #235 (CASE II) SEE PLAN & PROFILE SHEET CURVE TABLES FOR A¹ & B¹ DIMENSIONS
- (11) CONSTRUCT ELECTRONICALLY CONTROLLED ACCESS GATES
- (12) CONSTRUCT 5' WIDE PEDESTRIAN ACCESS GATE
- (13) GUARD HOUSE
- (14) 3' WIDE X 38' LONG RAMP D50=6", THICKNESS=12"

(PRIVATE)

16 CONSTRUCT COMMERCIAL DRIVEWAY PER CCAUSD #224

17 2% MAX GRADING ADJACENT TO FIRE HYDRANT PER PUBLIC

18 FIRE HYDRANT INSTALLATION DETAIL ON UTILITY SHEETS

19 CONSTRUCT CONCRETE PAVEMENTS AND 2" WIDE CONCRETE BA

20 CONSTRUCT 16" X 16" JENSEN PRECAST DROP INLET PER CCAUSD #11

21 CONSTRUCT 15" X 15" JENSEN PRECAST DROP INLET PER CCAUSD #11

22 CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #11

23 & #421 (4 GRATES)

24 CONSTRUCT 10.5" TYPE CM2 DROP INLET PER CCAUSD #11

25 & #421 (4 GRATES)

26 CONSTRUCT 32.5" TYPE CM2 DROP INLET PER CCAUSD #11

27 & #421 (4 GRATES)

28 CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #11

29 & #421 (2 GRATES)

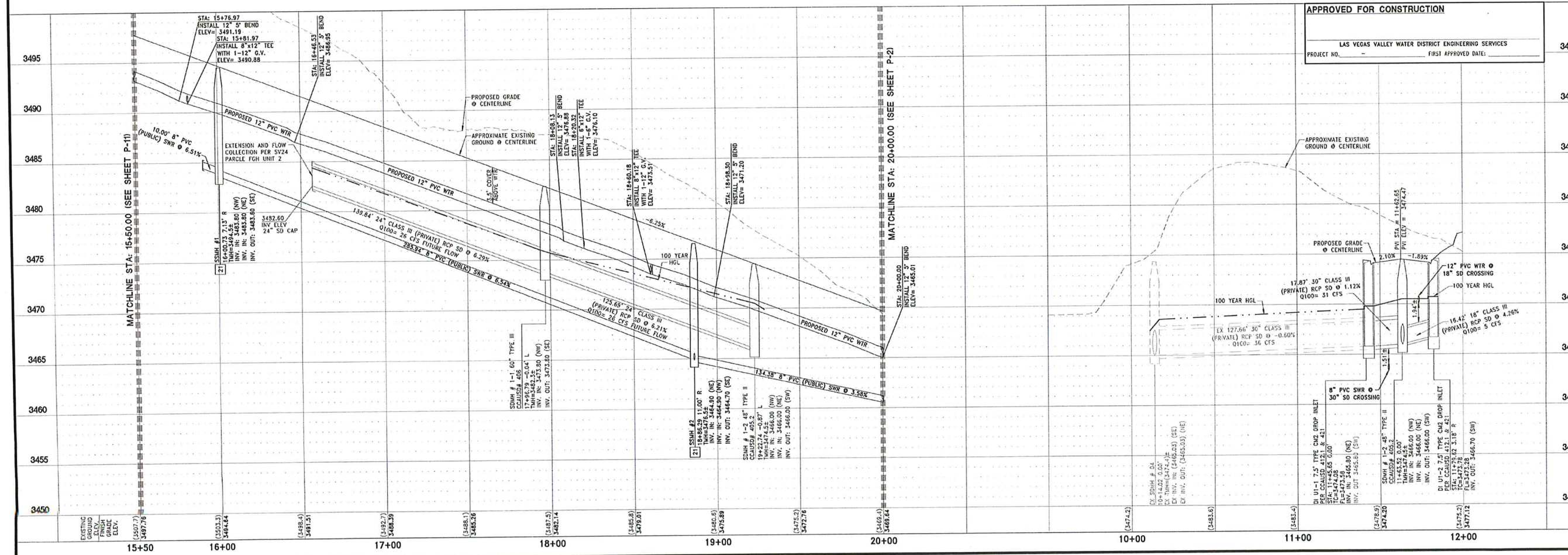
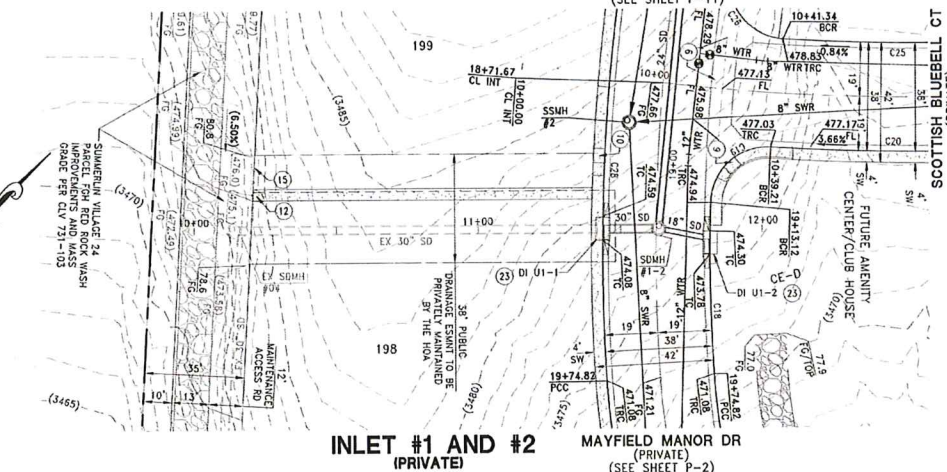
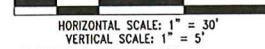
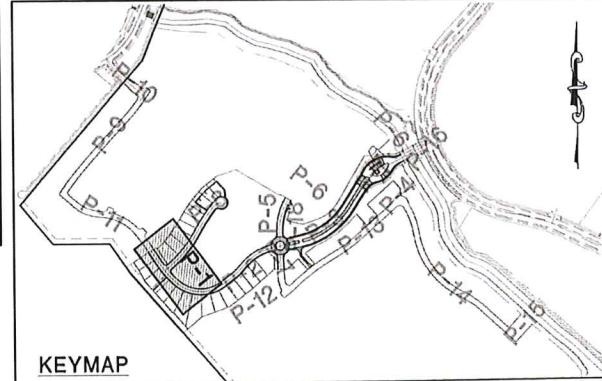
30 CONSTRUCT 12" PRECAST ROCK OSO-4", THICKNESS=8"

31 USE GRADING SHEETS FOR LENGTH

32 CONSTRUCT 4" TYPE A DROP INLET PER CCAUSD #11

33 CONSTRUCT 8" TYPE A DROP INLET PER CCAUSD #11

CURVE TABLE							
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"	
C17	80°42'21"	218.08'	307.18'	185.29'	—	—	
C18	4°36'50"	646.55'	52.00'	26.01'	—	—	
C19	92°04'50"	50.00'	32.14'	20.74'	21.5'	4.5'	
C20	21°12'22"	769.00'	286.63'	145.00'	—	—	
C21	5°47'08"	731.00'	73.81'	36.94'	—	—	
C26	90°54'52"	20.00'	31.74'	20.32'	—	—	
C27	1°53'55"	848.55'	21.43'	10.71'	—	—	
C28	14°21'01"	684.55'	171.45'	86.18'	21.5'	4.5'	
C29	60°42'21"	255.08'	350.71'	217.58'	—	—	



IMPROVEMENT PLANS FOR
SUMMERLIN VILLAGE 24 PARCEL FGH UNIT 1
A SINGLE FAMILY RESIDENTIAL SUBDIVISION
PLAN AND PROFILES
MAYFIEL D MANOR DR AND INLET # 1 AND #2



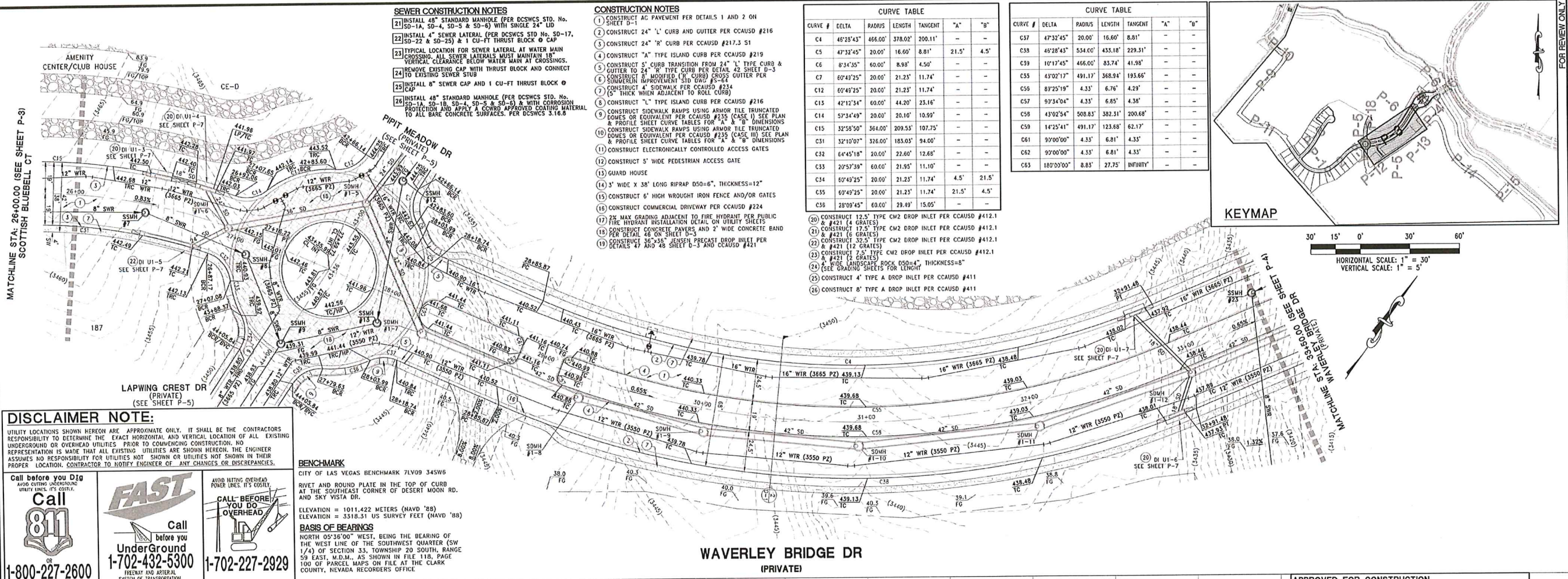
DATE: 1-25-20
DRAWING P-1
SHT 20 OF 42
CLV DRAWING NUMBER
CLV PROJECT #

CITY OF LAS VEGAS

STATE OF NEVADA

[illegible]

Approved w/ original study



DISCLAIMER NOTE:
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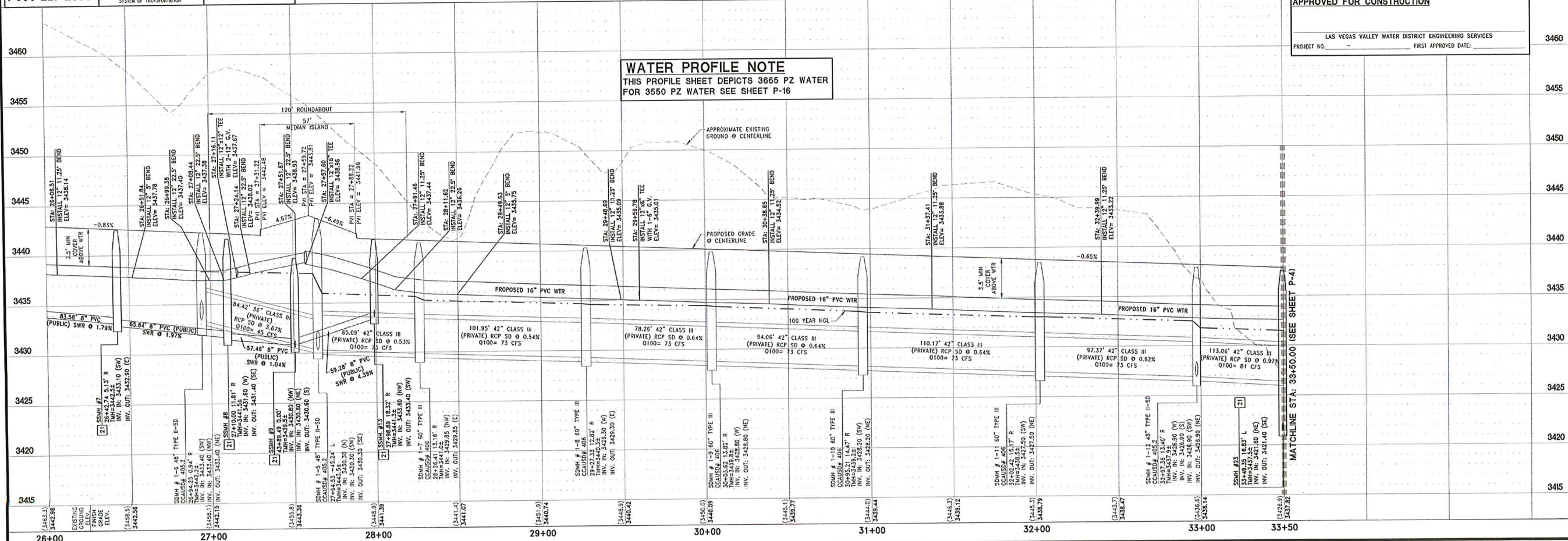
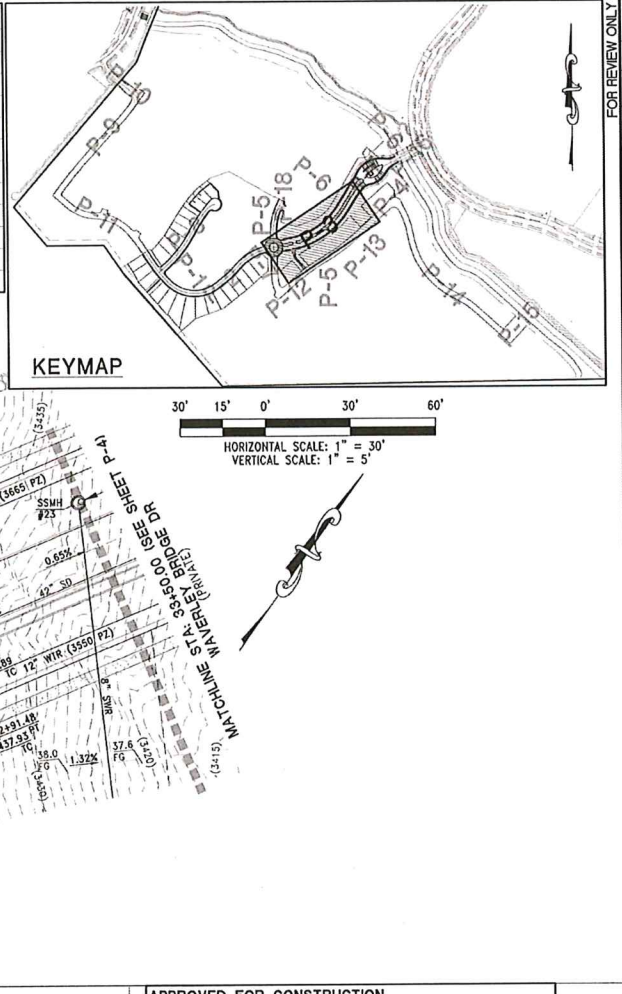
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SEWER CONSTRUCTION NOTES
21. INSTALL 48" STANDARD MANHOLE (PER DCSWCS STD. No. 50-1A, 50-4, 50-5 & 50-6) WITH SINGLE 24" LID.
22. INSTALL 4" SEWER LATERAL (PER DCSWCS STD No. 50-17, 50-22 & 50-25) & 1 CU-FT THRUST BLOCK @ CAP.
23. TYPICAL LOCATION FOR SEWER LATERAL AT WATER MAIN CROSSING. ALL SEWER LATERALS MUST MAINTAIN 18" VERTICAL CLEARANCE BELOW WATER MAIN AT CROSSINGS.
24. REMOVE EXISTING CAP WITH THRUST BLOCK AND CONNECT TO EXISTING SEWER STUB.
25. INSTALL 8" SEWER CAP AND 1 CU-FT THRUST BLOCK @ CAP.
26. INSTALL 48" STANDARD MANHOLE (PER DCSWCS STD. No. 50-1A, 50-1B, 50-4, 50-5 & 50-6) & WITH CORROSION PROTECTION AND APPLY A CORRO APPROVED COATING MATERIAL TO ALL BARE CONCRETE SURFACES. PER DCSWCS 3.16.8

CONSTRUCTION NOTES
1. CONSTRUCT AC PAVEMENT PER DETAILS 1 AND 2 ON SHEET D-1.
2. CONSTRUCT 24" "L" CURB AND GUTTER PER CCAUSD #216.
3. CONSTRUCT 24" "R" CURB PER CCAUSD #217.3 S1.
4. CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD #219.
5. CONSTRUCT 5" CURB TRANSITION FROM 24" "L" TYPE CURB & GUTTER TO 24" "R" TYPE CURB PER CCAUSD #217.3 S1.
6. CONSTRUCT 8" MODIFIED (1" CURB) CROSS CUTTER PER SOUTHERN IMPROVEMENT STD. 04-41.
7. CONSTRUCT 4" SIDEWALK PER CCAUSD #234 (5" THICK WHEN ADJACENT TO ROLL CURB).
8. CONSTRUCT "L" TYPE ISLAND CURB PER CCAUSD #216.
9. CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED CORNERS OR EQUIVALENT PER CCAUSD #235 (CASE I) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS.
10. CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED CORNERS OR EQUIVALENT PER CCAUSD #235 (CASE II) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS.
11. CONSTRUCT ELECTRONICALLY CONTROLLED ACCESS GATES.
12. CONSTRUCT 5' WIDE PEDESTRIAN ACCESS GATE.
13. GUARD HOUSE.
14. 3' WIDE X 38" LONG RIPRAP D50=6", THICKNESS=12".
15. CONSTRUCT 6" HIGH WROUGHT IRON FENCE AND/OR GATES.
16. CONSTRUCT COMMERCIAL DRIVEWAY PER CCAUSD #224.
17. FIRE HYDRANT ADJACENT TO FIRE HYDRANT PER PUBLIC WORKS OR EQUIVALENT PER CCAUSD #235 (CASE I) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS.
18. CONSTRUCT CONCRETE PAVERS AND 2" WIDE CONCRETE BAND PER DETAIL 48 ON SHEET D-3.
19. CONSTRUCT 36"x36" JENSEN PRECAST DROP INLET PER DETAILS 47 AND 48 SHEET D-3 AND CCAUSD #421.
20. CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES).
21. CONSTRUCT 17.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (6 GRATES).
22. CONSTRUCT 32.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (12 GRATES).
23. CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (2 GRATES).
24. A WIDE LANDSCAPE ROCK D50=4", THICKNESS=8".
25. CONSTRUCT 4" TYPE A DROP INLET PER CCAUSD #411.
26. CONSTRUCT 8" TYPE A DROP INLET PER CCAUSD #411.

CURVE TABLE					
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A" "B"
C4	46°25'43"	466.00'	378.02'	200.11'	- -
C5	47°32'45"	20.00'	16.60'	8.81'	21.5' 4.5'
C6	8°34'35"	60.00'	8.98'	4.50'	- -
C7	60°43'25"	20.00'	21.23'	11.74'	- -
C12	60°43'25"	20.00'	21.23'	11.74'	- -
C13	42°12'34"	60.00'	44.20'	23.16'	- -
C14	57°34'49"	20.00'	20.10'	10.99'	- -
C15	32°58'50"	364.00'	209.53'	107.75'	- -
C31	32°10'07"	326.00'	183.03'	94.00'	- -
C32	64°45'18"	20.00'	22.60'	12.68'	- -
C33	20°57'39"	60.00'	21.95'	11.10'	- -
C34	60°49'25"	20.00'	21.23'	11.74'	4.5' 21.5'
C35	60°49'25"	20.00'	21.23'	11.74'	21.5' 4.5'
C36	28°09'45"	60.00'	29.40'	15.05'	- -

CURVE TABLE					
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A" "B"
C37	47°32'45"	20.00'	16.60'	8.81'	- -
C38	49°28'43"	534.00'	435.18'	229.31'	- -
C39	10°17'45"	466.00'	83.74'	41.98'	- -
C55	43°02'17"	491.17'	368.94'	193.66'	- -
C56	89°25'19"	4.33'	6.76'	4.29'	- -
C57	99°34'04"	4.33'	6.85'	4.38'	- -
C58	43°02'54"	508.83'	382.31'	200.68'	- -
C59	14°25'41"	491.17'	123.68'	62.17'	- -
C61	90°00'00"	4.33'	6.81'	4.35'	- -
C62	99°00'00"	4.33'	6.81'	4.35'	- -
C63	180°00'00"	8.83'	27.75'	INFINITY	- -



FOR REVIEW ONLY

DATE	REVISION	DESCRIPTION	BY	APP'D	DATE
January 22, 2020	1	1"=30'	SC		
	2	1"=5'	SC		
	3	AW			
	4	AW			
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RCI ENGINEERING
500 SOUTH RANCHO DRIVE, SUITE 17, LAS VEGAS, NV 89106
MAIN: 702.551.8800 FAX: 702.551.8801

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. _____ FIRST APPROVED DATE: _____

IMPROVEMENT PLANS FOR
SUMMERLIN VILLAGE 24 PARCEL FGH UNIT 1
A SINGLE FAMILY RESIDENTIAL SUBDIVISION
PLAN AND PROFILE
WAVERLEY BRIDGE DR STA: 26+00.00-33+50.00
CITY OF LAS VEGAS

PROFESSIONAL ENGINEER
CHRISTOPHER R. ZIRINI
Exp. 6/30/2020
CIVIL
No. 13976 (NV) 2020

DRAWING
P-3
SHEET 22 OF 42
CLV DRAWING NUMBER
CLV PROJECT #

Approved w/Original Study

DISCLAIMER NOTE:

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



1-800-227-2600



Call before you
Underground
1-702-432-5300
FREEMAN AND ARTERIAL
SYSTEM OF TRANSPORTATION



1-702-227-2929

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 345W6
RIVET AND ROUND PLATE IN THE TOP OF CURB
AT THE SOUTHEAST CORNER OF DESERT MOON RD.
AND SKY VISTA DR.

ELEVATION = 1011.422 METERS (NAVD '88)
ELEVATION = 3318.31 US SURVEY FEET (NAVD '88)

BASIS OF BEARINGS

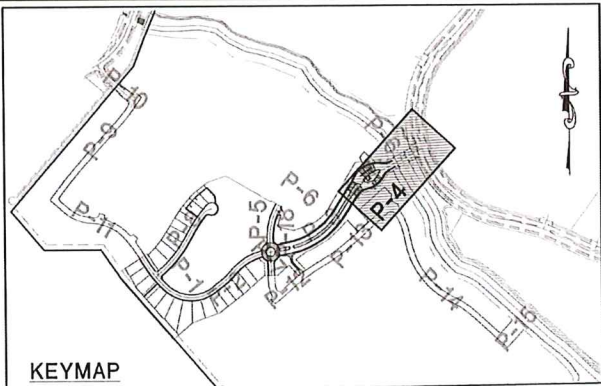
NORTH 05°36'00" WEST, BEING THE BEARING OF
THE WEST LINE OF THE SOUTHWEST QUARTER (SW
1/4) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE
59 EAST, M.D.M., AS SHOWN IN FILE 118, PAGE
100 OF PARCEL MAPS ON FILE AT THE CLARK
COUNTY, NEVADA RECORDERS' OFFICE

SEWER CONSTRUCTION NOTES

- INSTALL 48" STANDARD MANHOLE (PER DCSWCS STD. No. SD-1A, SD-4, SD-5 & SD-6) WITH SINGLE 24" LID
- INSTALL 4" SEWER LATERAL (PER DCSWCS STD. No. SD-17, SD-22 & SD-23) & 1 CU-FT THRUST BLOCK @ CAP
- TYPICAL LOCATION FOR SEWER LATERAL AT WATER MAIN CROSSING. ALL SEWER LATERALS MUST MAINTAIN 18" VERTICAL CLEARANCE BELOW WATER MAIN AT CROSSINGS.
- REMOVE EXISTING CAP WITH THRUST BLOCK AND CONNECT TO EXISTING SEWER STUB
- INSTALL 8" SEWER CAP AND 1 CU-FT THRUST BLOCK @ CAP
- INSTALL 48" STANDARD MANHOLE (PER DCSWCS STD. No. SD-1A, SD-1B, SD-4, SD-5 & SD-6) WITH CORROSION PROTECTION AND APPLY A CORROSION RESISTANT COATING MATERIAL TO ALL BARE CONCRETE SURFACES. PER DCSWCS 3.16.8

CURVE TABLE					
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A" "B"
C1	37°39'33"	69.00'	35.44'	20.45'	- -
C2	75°32'22"	171.89'	226.62'	133.18'	- -
C3	7°26'31"	280.19'	36.40'	18.22'	- -
C39	10°17'45"	456.00'	83.74'	41.98'	- -
C40	36°51'48"	100.00'	64.34'	33.33'	- -
C41	53°45'43"	137.67'	129.18'	69.79'	- -
C42	37°02'26"	85.00'	54.95'	28.47'	- -
C43	127°43'04"	8.66'	19.29'	17.64'	- -
C44	7°34'29"	146.40'	19.35'	9.69'	- -
C45	9°57'49"	500.78'	87.08'	43.65'	- -

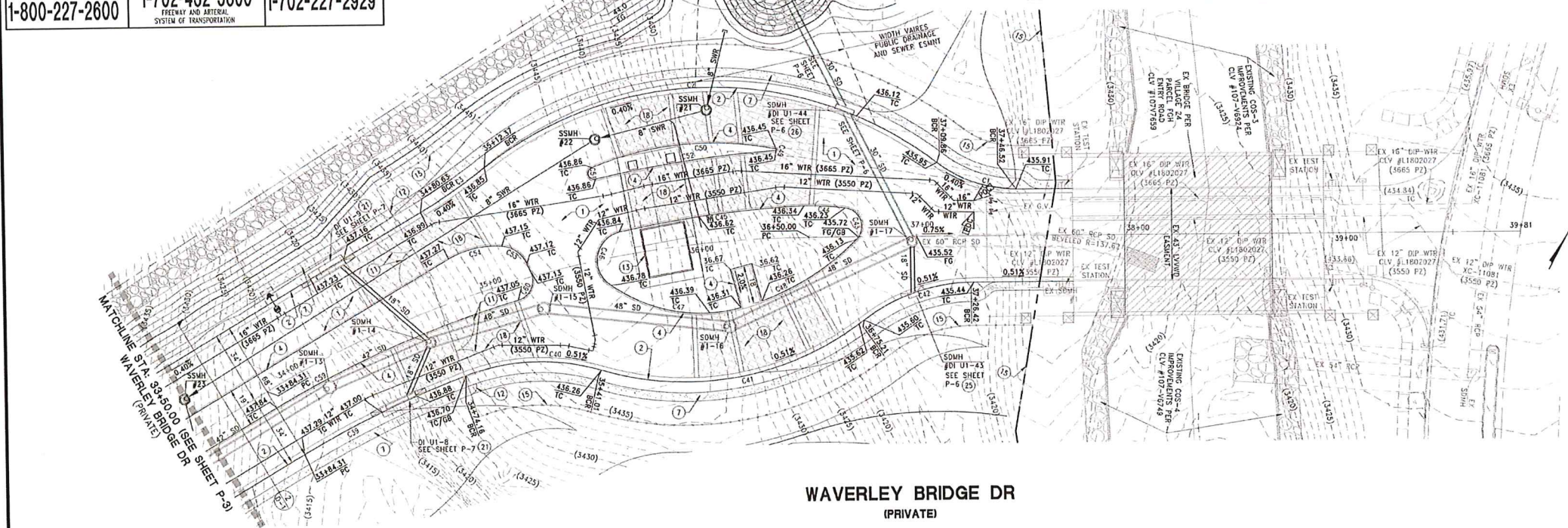
CURVE TABLE					
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A" "B"
C46	13°25'12"	13.57'	31.59'	31.52'	- -
C47	50°07'06"	72.34'	63.28'	33.82'	- -
C48	4°55'32"	120.35'	10.35'	5.18'	- -
C55	61°41'22"	13.83'	14.89'	8.26'	- -
C54	34°55'32"	42.83'	26.11'	13.47'	- -
C59	14°25'41"	491.17'	123.65'	62.17'	- -
C60	97°45'42"	9.33'	15.93'	10.70'	- -



HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

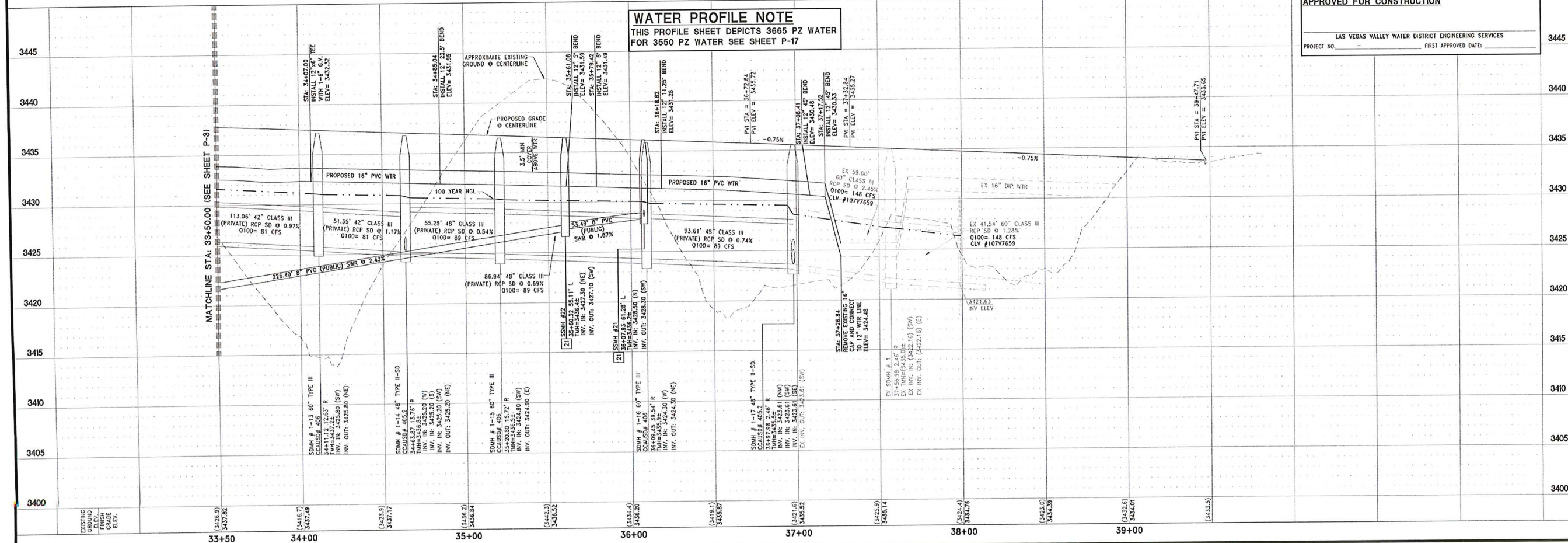
CONSTRUCTION NOTES

- CONSTRUCT AC PAVEMENT PER DETAILS 1 AND 2 ON SHEET D-1
- CONSTRUCT 24" "L" CURB AND GUTTER PER CCAUSD #216
- CONSTRUCT 24" "R" CURB PER CCAUSD #217.3 S1
- CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD #219
- CONSTRUCT 5" CURB TRANSITION FROM 24" "L" TYPE CURB & GUTTER TO 24" "R" TYPE CURB PER DETAIL 42 SHEET D-3
- CONSTRUCT 5" MODIFIED ("B" CURB) CROSS GUTTER PER CCAUSD #217.3 S1
- CONSTRUCT 4" SIDEWALK PER CCAUSD #234
- 5" THICK WHEN ADJACENT TO ROLL CURB
- CONSTRUCT "L" TYPE ISLAND CURB PER CCAUSD #216
- CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOWNS OR EQUIVALENT PER CCAUSD #235 (CASE II) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS
- CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOWNS OR EQUIVALENT PER CCAUSD #235 (CASE III) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS
- CONSTRUCT ELECTRONICALLY CONTROLLED ACCESS GATES
- CONSTRUCT 5" WIDE PEDESTRIAN ACCESS GATES
- GUARD HOUSE
- 3" WIDE X 38" LONG RIPRAP D50=6", THICKNESS=12"
- CONSTRUCT 6" HIGH WROUGHT IRON FENCE AND/OR GATES
- CONSTRUCT COMMERCIAL DRIVEWAY PER CCAUSD #224
- FIRE HYDRANT INSTALLATION DETAIL ON UTILITY SHEETS
- CONSTRUCT CONCRETE PAVERS AND 2" WIDE CONCRETE BAND PER DETAIL 48 ON SHEET D-3
- CONSTRUCT 36"X36" JENSEN PRECAST DROP INLET PER DETAILS 47 AND 48 SHEET D-3 AND CCAUSD #421
- CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
- CONSTRUCT 17.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (6 GRATES)
- CONSTRUCT 32.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (12 GRATES)
- CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (2 GRATES)
- WIDE LANDSCAPE ROCK D50=4", THICKNESS=8" (SEE GRADING SHEETS FOR LENGTH)



WAVERLEY BRIDGE DR (PRIVATE)

WATER PROFILE NOTE THIS PROFILE SHEET DEPICTS 3605 PZ WATER FOR 3550 PZ WATER SEE SHEET P-17



APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. _____ FIRST APPROVED DATE: _____

IMPROVEMENT PLANS FOR
SUMMERLIN VILLAGE 24 PARCEL FGH UNIT 1
A SINGLE FAMILY RESIDENTIAL SUBDIVISION
PLAN AND PROFILE
WAVERLEY BRIDGE DR STA: 33+50.00 -39+00.00
CITY OF LAS VEGAS
NEVADA

DATE: 1-23-20
P-4
SHEET 23 OF 42
CLV DRAWING NUMBER
CLV PROJECT #

Approved w/Original study

DISCLAIMER NOTE:

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND OR OVERHEAD 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 LOCATION. CONTRACTOR TO NOTIFY ENGINEER OF ANY CHANGES OR DISCREPANCIES.

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY UNLESS IT'S CUSTODY.
Call 811
OR
1-800-227-2600

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

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

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 345W6
RIVET AND RIVET PLATE IN THE TOP OF CURB AT THE SOUTHEAST CORNER OF DESERT MOON RD. AND SKY VISTA DR.

ELEVATION = 1011.422 METERS (NAVD '88)
ELEVATION = 3318.31 US SURVEY FEET (NAVD '88)

BASIS OF BEARINGS

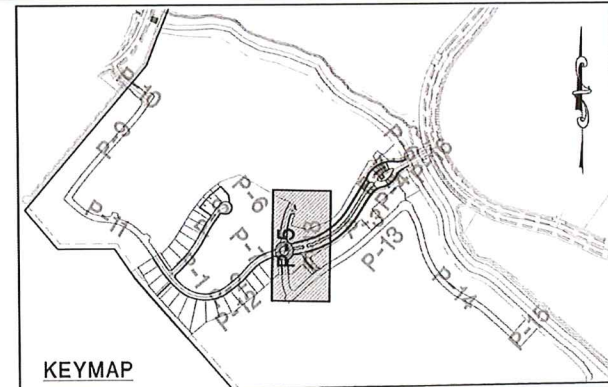
NORTH 05°35'00" WEST, BEING THE BEARING OF THE WEST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 29 EAST, W.D.M., AS SHOWN IN FILE 118, PAGE 100 OF PARCEL MAPS ON FILE AT THE CLARK COUNTY, NEVADA RECORDERS OFFICE

SEWER CONSTRUCTION NOTES

- INSTALL 48" STANDARD MANHOLE (PER DCSWCS STD. No. 50-1A, 50-4, 50-5 & 50-6) WITH SINGLE 24" LID
- INSTALL 4" SEWER LATERAL (PER DCSWCS STD No. 50-17, 50-22 & 50-23) & 1 CU-FT THRUST BLOCK @ CAP
- TYPICAL LOCATION FOR SEWER LATERAL AT WATER MAIN CROSSING. ALL SEWER LATERALS MUST MAINTAIN 18" VERTICAL CLEARANCE BELOW WATER MAIN AT CROSSINGS.
- REMOVE EXISTING CAP WITH THRUST BLOCK AND CONNECT TO EXISTING SEWER STUB
- INSTALL 8" SEWER CAP AND 1 CU-FT THRUST BLOCK @ CAP
- INSTALL 48" STANDARD MANHOLE (PER DCSWCS STD. No. 50-1A, 50-1B, 50-4, 50-5 & 50-6) WITH CORRUGATED PROTECTION AND APPROVED COATING MATERIAL TO ALL BARE CONCRETE SURFACES. PER DCSWCS 3.16.8

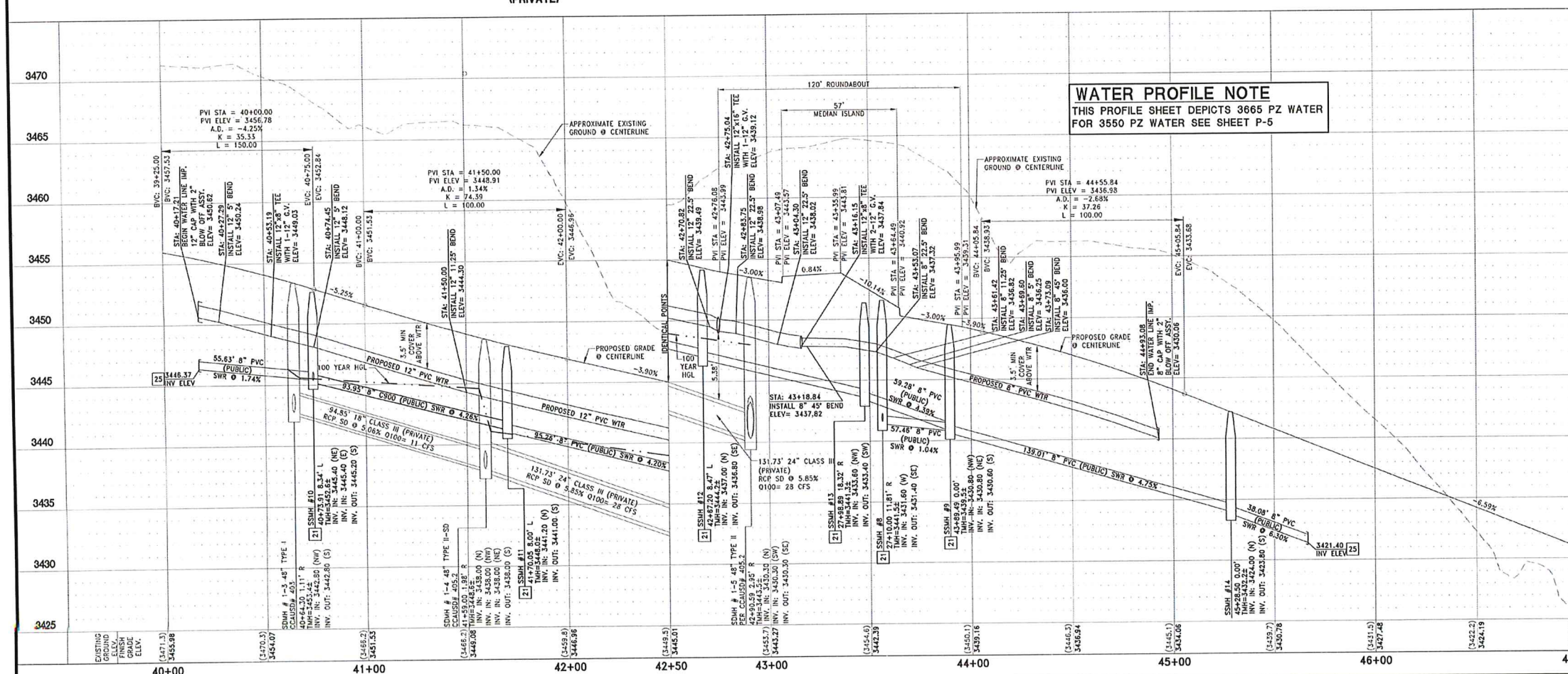
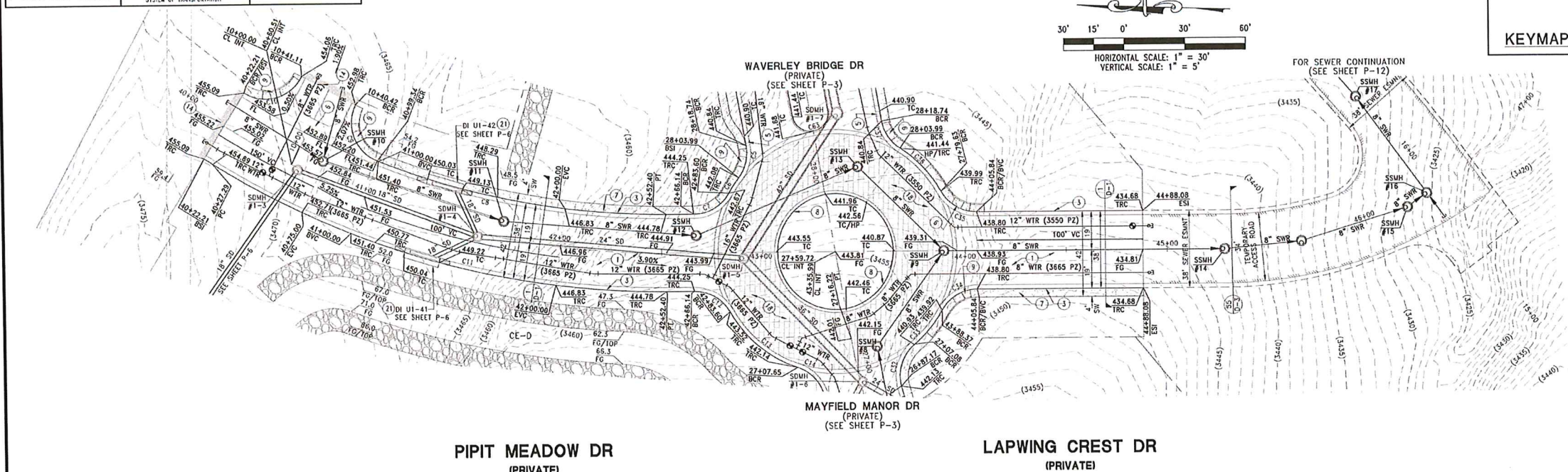
CURVE TABLE						
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"
C5	47°32'45"	20.00'	16.60'	8.81'	21.5'	4.5'
C6	8°34'35"	60.00'	8.98'	4.50'	-	-
C7	60°49'25"	20.00'	21.25'	11.74'	-	-
C8	21°55'27"	381.00'	145.79'	73.80'	-	-
C9	95°06'10"	20.00'	33.20'	21.87'	4.5'	15.0'
C10	95°28'48"	20.00'	33.33'	22.01'	4.5'	12.0'
C11	32°14'40"	419.00'	235.80'	121.11'	-	-
C12	60°49'25"	20.00'	21.25'	11.74'	-	-
C13	42°12'34"	60.00'	44.20'	23.16'	-	-
C14	57°34'49"	20.00'	20.10'	10.99'	-	-
C15	32°58'50"	364.00'	209.53'	107.75'	-	-

CURVE TABLE						
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"
C31	32°10'07"	336.00'	183.03'	94.00'	-	-
C32	64°45'18"	20.00'	22.60'	12.68'	-	-
C33	20°57'39"	60.00'	21.85'	11.10'	-	-
C34	60°49'25"	20.00'	21.25'	11.74'	-	-
C35	60°49'25"	20.00'	21.25'	11.74'	-	-
C36	25°09'45"	60.00'	23.49'	15.05'	-	-
C37	47°32'45"	20.00'	16.60'	8.81'	-	-
C61	97°00'00"	4.33'	6.81'	4.33'	-	-
C62	97°00'00"	4.33'	6.81'	4.33'	-	-
C63	180°00'00"	8.83'	27.75'	INFINITY	-	-



CONSTRUCTION NOTES

- CONSTRUCT AC PAVEMENT PER DETAILS 1 AND 2 ON SHEET P-1
- CONSTRUCT 24" "L" CURB AND GUTTER PER CCAUSD #216
- CONSTRUCT 24" "R" CURB PER CCAUSD #217.3 S1
- CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD #219
- CONSTRUCT 5" CURB TRANSITION FROM 24" "L" TYPE CURB & GUTTER TO 24" "R" TYPE CURB PER DETAIL 42 SHEET P-3
- CONSTRUCT 8" MODIFIED ("R" CURB) CROSS GUTTER PER SUMMERLIN IMPROVEMENT STD DWG #5-64
- CONSTRUCT 4" SIDEWALK PER CCAUSD #234
- 5" THICK WHEN ADJACENT TO ROLL CURB
- CONSTRUCT "L" TYPE ISLAND CURB PER CCAUSD #216
- CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED EDGES OR EQUIVALENT PER CCAUSD #235 (CASE I) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS
- CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED EDGES OR EQUIVALENT PER CCAUSD #235 (CASE III) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS
- CONSTRUCT ELECTRONICALLY CONTROLLED ACCESS GATES
- CONSTRUCT 5" WIDE PEDESTRIAN ACCESS GATE
- GUARD HOUSE
- 5" WIDE X 38" LONG RIPRAP D50=6", THICKNESS=12"
- CONSTRUCT 6" HIGH WROUGHT IRON FENCE AND/OR GATES
- CONSTRUCT COMMERCIAL DRIVEWAY PER CCAUSD #224
- 2% MAX GRADING ADJACENT TO FIRE HYDRANT PER PUBLIC
- FIRE HYDRANT INSTALLATION DETAIL ON UTILITY SHEETS
- CONSTRUCT CONCRETE PAVERS AND 2" WIDE CONCRETE BAND PER DETAIL 46 ON SHEET P-3
- CONSTRUCT 36" 36" JENSEN PRECAST DROP INLET PER DETAILS 47 AND 48 SHEET P-3 AND CCAUSD #421
- CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
- CONSTRUCT 17.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (6 GRATES)
- CONSTRUCT 32.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (12 GRATES)
- CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (2 GRATES)
- WIDE LANDSCAPE ROCK D50=4", THICKNESS=8"
- SEE GRADING SHEETS FOR LENGTH
- CONSTRUCT 4" TYPE A DROP INLET PER CCAUSD #411
- CONSTRUCT 8" TYPE A DROP INLET PER CCAUSD #411



WATER PROFILE NOTE
THIS PROFILE SHEET DEPICTS 3665 PZ WATER FOR 3550 PZ WATER SEE SHEET P-5

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. _____ FIRST APPROVED DATE: _____

IMPROVEMENT PLANS FOR
SUMMERLIN VILLAGE 24 PARCEL FGH UNIT 1
A SINGLE FAMILY RESIDENTIAL SUBDIVISION
PLAN AND PROFILE
PIPIT MEADOW DR AND LAPWING CREST DR

DATE: 1.13.20
DRAWING
P-5
SHT 24 OF 42
CLV DRAWING NUMBER

CLV PROJECT #

CHISTOPHER R. ZRINYI
Exp. 6/30/2020
CIVIL
Professional Seal No. 13976
Nevada State Engineer

CITY OF LAS VEGAS
11/24/20 5:43pm
CLV_3446_LNNR_0057_Summerlin_Village_13_Civil_Laps Unit 1_50007_P-5.dwg glenns

Approved w/original study

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FAST
Call before you UnderGround
1-702-432-5300

Call before you Overhead
1-702-227-2929

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 345W6
RIVET AND ROUND PLATE IN THE TOP OF CURB AT THE SOUTHEAST CORNER OF DESERT MOUNTAIN AND SKY VISTA DR.

ELEVATION = 1011.422 METERS (NAVD '88)
ELEVATION = 3318.31 US SURVEY FEET (NAVD '88)

BASIS OF BEARINGS

NORTH 05°30'00" WEST, BEING THE BEARING OF THE WEST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 50 EAST, M.D.M., AS SHOWN IN FILE 118, PAGE 100 OF PARCEL MAPS ON FILE AT THE CLARK COUNTY, NEVADA RECORDERS OFFICE.

SEWER CONSTRUCTION NOTES

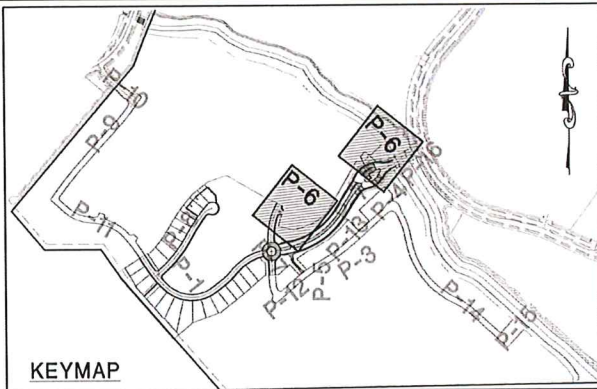
- INSTALL 48" STANDARD MANHOLE (PER DCSWS STD. No. SD-14, SD-4, SD-5 & SD-6) WITH SINGLE 24" LID
- INSTALL 4" SEWER LATERAL (PER DCSWS STD. No. SD-22 & SD-25) & 1 CU-FT THRUST BLOCK @ CAP
- TYPICAL LOCATION FOR SEWER LATERAL AT WATER MAIN CROSSING. ALL SEWER LATERALS MUST MAINTAIN 18" VERTICAL CLEARANCE BELOW WATER MAIN AT CROSSINGS.
- REMOVE EXISTING CAP WITH THRUST BLOCK AND CONNECT TO EXISTING SEWER STUB
- INSTALL 8" SEWER CAP AND 1 CU-FT THRUST BLOCK @ CAP
- INSTALL 48" STANDARD MANHOLE (PER DCSWS STD. No. SD-14, SD-18, SD-4, SD-5 & SD-6) WITH CORROSION PROTECTION AND APPLY A CORROSION RESISTANT COATING MATERIAL TO ALL BARE CONCRETE SURFACES. PER DCSWS 5.16.8

CONSTRUCTION NOTES

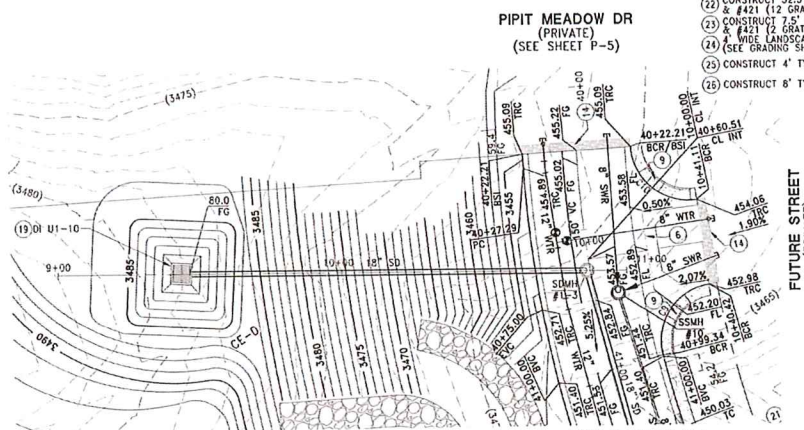
- CONSTRUCT AC PAVEMENT PER DETAILS 1 AND 2 ON SHEET D-1
- CONSTRUCT 24" 'L' CURB AND GUTTER PER CCAUSD #216
- CONSTRUCT 24" 'R' CURB PER CCAUSD #217.3 S1
- CONSTRUCT 'A' TYPE ISLAND CURB PER CCAUSD #219
- CONSTRUCT 'S' CURB TRANSITION FROM 24" 'L' TYPE CURB & GUTTER TO 24" 'R' TYPE CURB PER DETAIL 42 SHEET D-3
- CONSTRUCT 8" WIDENED (S) CURB CROSS GUTTER PER CCAUSD #220
- CONSTRUCT 4" SIDEWALK PER CCAUSD #224 (5" THICK WHEN ADJACENT TO ROLL CURB)
- CONSTRUCT 12" TYPE ISLAND CURB PER CCAUSD #216
- CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOWNS OR EQUIVALENT PER CCAUSD #235 (CASE U) SEE PLAN & PROFILE SHEET CURVE TABLES FOR 'A' & 'B' DIMENSIONS
- CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOWNS OR EQUIVALENT PER CCAUSD #235 (CASE U) SEE PLAN & PROFILE SHEET CURVE TABLES FOR 'A' & 'B' DIMENSIONS
- CONSTRUCT ELECTRONICALLY CONTROLLED ACCESS GATES
- CONSTRUCT 5' WIDE PEDESTRIAN ACCESS GATE
- GUARD HOUSE
- 3' WIDE X 38' LONG RIPRAP D50=6", THICKNESS=12"
- CONSTRUCT 6' HIGH WROUGHT IRON FENCE AND/OR GATES
- CONSTRUCT COMMERCIAL DRIVEWAY PER CCAUSD #224
- 2% MAX GRADING ADJACENT TO FIRE HYDRANT PER PUBLIC FIRE INSTANT INSTALLATION DETAIL ON UTILITY SHEETS
- CONSTRUCT CONCRETE PAVERS AND 2" WIDE CONCRETE BAND PER DETAIL 48 ON SHEET D-3
- CONSTRUCT 36"x36" JENSEN PRECAST DROP INLET PER DETAILS 47 AND 48 SHEET D-3 AND CCAUSD #411
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- CONSTRUCT 17.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (6 GRATES)
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- CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (2 GRATES)
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- CONSTRUCT 6' TYPE A DROP INLET PER CCAUSD #411

CURVE TABLE						
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"
C1	37°39'33"	60.00'	39.44'	20.45'	-	-
C2	75°32'22"	171.89'	226.62'	133.18'	-	-
C3	21°55'27"	381.00'	145.79'	73.80'	-	-
C9	95°06'10"	20.00'	33.20'	21.87'	-	-
C10	95°28'45"	20.00'	33.33'	22.01'	4.5'	12.0'
C11	32°14'40"	419.00'	235.80'	121.11'	4.5'	12.0'
C41	53°45'43"	137.67'	129.18'	69.79'	-	-
C42	37°02'26"	85.00'	54.95'	28.47'	-	-
C43	127°43'04"	8.66'	19.29'	17.64'	-	-
C44	73°42'29"	146.40'	19.35'	9.69'	-	-

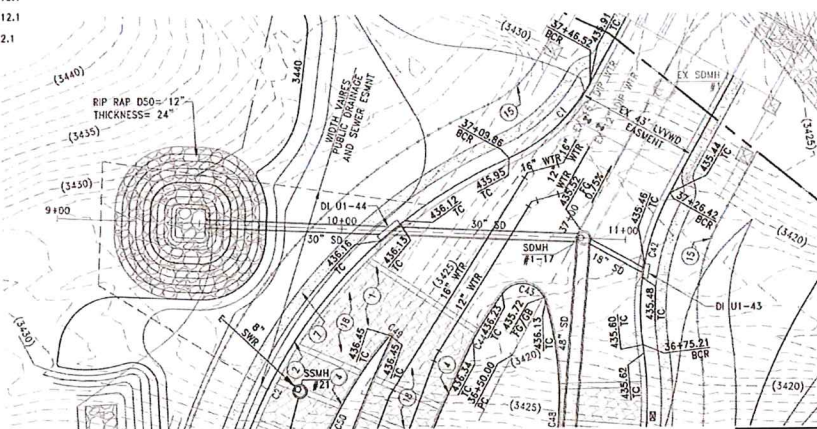
CURVE TABLE						
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"
C45	9°57'49"	500.78'	87.08'	43.65'	-	-
C47	50°07'06"	72.34'	63.28'	33.82'	-	-
C48	4°55'32"	120.35'	10.35'	5.18'	-	-
C49	164°12'08"	0.35'	0.96'	2.40'	-	-
C50	3°41'21"	146.22'	87.51'	45.11'	-	-
C52	9°15'03"	527.11'	85.11'	42.65'	-	-



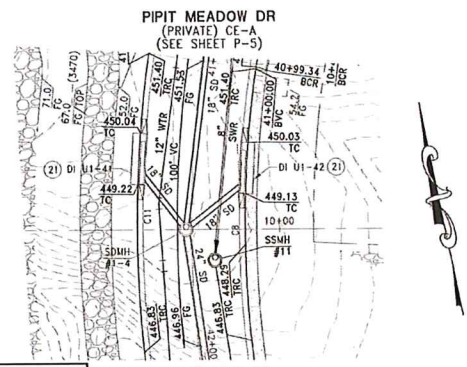
30' 15' 0' 30' 60'
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'



18" STORM DRAIN



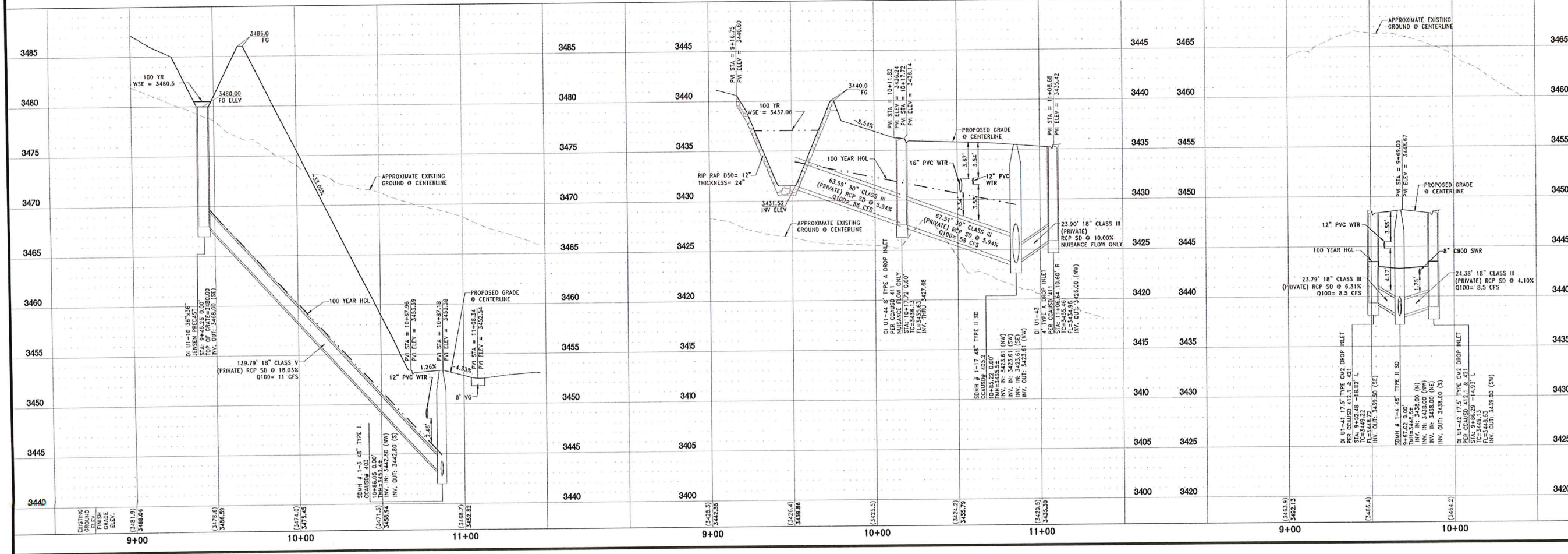
30" STORM DRAIN



INLET #41 & #42

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. _____ FIRST APPROVED DATE: _____



IMPROVEMENT PLANS FOR
SUMMERLIN VILLAGE 24 PARCEL FGH UNIT 1
A SINGLE FAMILY RESIDENTIAL SUBDIVISION
PLAN AND PROFILE
SCOTTISH BLUEBELL CT

DATE: 1-23-20
DRAWING
P-6
SHEET 25 OF 42
CLV PROJECT #

CLV PROJECT #

CITY OF LAS VEGAS
1/22/20 5:43pm

Approved w/Original Study.

DISCLAIMER NOTE:

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

FAST
Call before you dig
UnderGround
1-702-432-5300
PREPARE AND INSTALL
SYSTEM OF TRANSPORTATION

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

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 345W6
RIVET AND ROUND PLATE IN THE TOP OF CURB AT THE SOUTHEAST CORNER OF DESERT MOON RD. AND SKY VISTA DR.
ELEVATION = 1011.422 METERS (NAVD '88)
ELEVATION = 3318.31 US SURVEY FEET (NAVD '88)

BASIS OF BEARINGS

NORTH 05°56'00" WEST, BEING THE BEARING OF THE WEST LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 30 EAST, M.D.M., AS SHOWN IN FILE 118, PAGE 100 OF PARCEL MAPS ON FILE AT THE CLARK COUNTY, NEVADA RECORDERS OFFICE

SEWER CONSTRUCTION NOTES

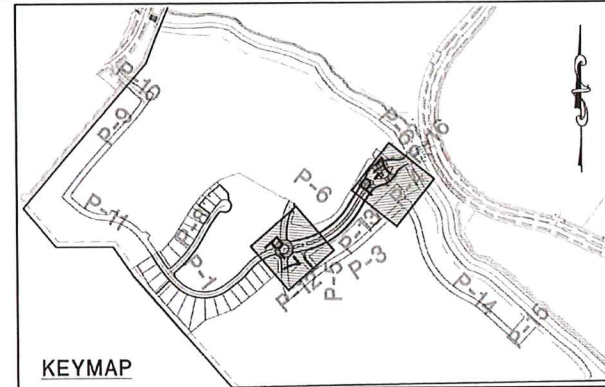
21. INSTALL 48" STANDARD MANHOLE (PER DCSWS STD. NO. SD-1A, SD-4, SD-5 & SD-6) WITH SINGLE 24" LID
22. INSTALL 4" SEWER LATERAL (PER DCSWS STD. NO. SD-17, SD-22 & SD-25) & 1 CU-FT THRUST BLOCK @ CAP
23. TYPICAL LOCATION FOR SEWER LATERAL AT WATER MAIN CROSSING. ALL SEWER LATERALS MUST MAINTAIN 18" VERTICAL CLEARANCE BELOW WATER MAIN AT CROSSINGS.
24. REMOVE EXISTING CAP WITH THRUST BLOCK AND CONNECT TO EXISTING SEWER STUB
25. INSTALL 8" SEWER CAP AND 1 CU-FT THRUST BLOCK @ CAP
26. INSTALL 48" STANDARD MANHOLE (PER DCSWS STD. NO. SD-1A, SD-1B, SD-4, SD-5 & SD-6) & WITH CORROSION PROTECTION AND APPLY A CORROD APPROVED COATING MATERIAL TO ALL BARE CONCRETE SURFACES. PER DCSWS 3.16.8

CURVE TABLE						
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"
C3	7°26'33"	280.19'	36.40'	18.22'	-	-
C4	40°28'43"	466.00'	378.02'	200.11'	-	-
C12	60°49'25"	20.00'	21.25'	11.74'	-	-
C13	42°12'34"	60.00'	44.20'	23.16'	-	-
C14	57°34'49"	20.00'	20.10'	10.99'	-	-
C15	32°58'50"	364.00'	209.53'	107.75'	-	-
C31	52°10'07"	316.00'	183.03'	94.00'	-	-
C32	64°45'18"	20.00'	22.60'	12.68'	-	-
C33	20°57'39"	60.00'	21.95'	11.10'	-	-
C34	60°49'25"	20.00'	21.25'	11.74'	4.5'	21.5'
C35	60°49'25"	20.00'	21.25'	11.74'	-	-

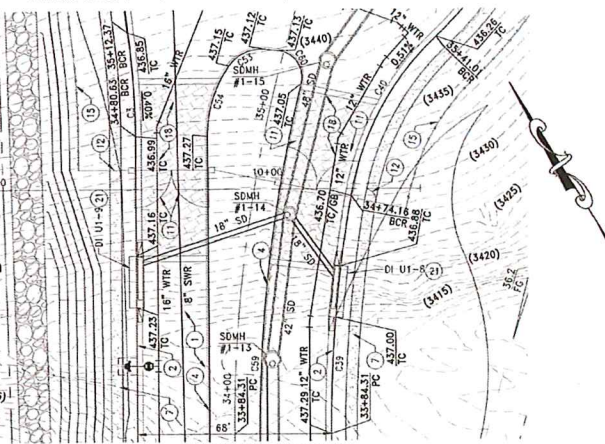
CURVE TABLE						
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"
C38	49°28'43"	534.00'	433.18'	229.31'	-	-
C39	10°17'49"	466.00'	83.74'	41.98'	-	-
C40	30°51'48"	100.00'	64.34'	33.33'	-	-
C46	13°25'12"	13.57'	31.59'	31.52'	-	-
C53	51°41'27"	13.83'	14.89'	8.26'	-	-
C54	34°55'32"	42.83'	26.11'	13.47'	-	-
C55	43°02'17"	491.17'	368.94'	193.66'	-	-
C58	43°02'54"	508.83'	382.31'	200.68'	-	-
C59	14°25'41"	491.17'	123.68'	62.17'	-	-
C60	97°45'42"	9.33'	15.93'	10.70'	-	-

CONSTRUCTION NOTES

1. CONSTRUCT AC PAVEMENT PER DETAILS 1 AND 2 ON SHEET D-1
2. CONSTRUCT 24" 'L' CURB AND GUTTER PER CCAUSD #216
3. CONSTRUCT 24" 'R' CURB PER CCAUSD #217.3 S1
4. CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD #219
5. CONSTRUCT 5" CURB TRANSITION FROM 24" 'L' TYPE CURB & GUTTER TO 24" 'R' TYPE CURB PER DETAIL 42 SHEET D-3
6. CONSTRUCT 8" MODIFIED ("R" CURB) CROSS GUTTER PER CCAUSD #220
7. CONSTRUCT 4" SIDEWALK PER CCAUSD #234
8. CONSTRUCT 1" TYPE ISLAND CURB PER CCAUSD #216
9. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD #235 (CASE I) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS
10. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD #235 (CASE II) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS
11. CONSTRUCT ELECTRONICALLY CONTROLLED ACCESS GATES
12. CONSTRUCT 5' WIDE PEDESTRIAN ACCESS GATE
13. GUARD HOUSE
14. 3' WIDE X 38" LONG RIPRAP D50=6", THICKNESS=12"
15. CONSTRUCT 6" HIGH WROUGHT IRON FENCE AND/OR GATES
16. CONSTRUCT COMMERCIAL DRIVEWAY PER CCAUSD #224
17. 2% MAX GRADING ADJACENT TO FIRE HYDRANT PER PUBUC FIRE HYDRANT INSTALLATION DETAIL ON UTILITY SHEETS
18. CONSTRUCT CONCRETE PAVERS AND 2" WIDE CONCRETE BAND PER DETAIL 48 ON SHEET D-3
19. CONSTRUCT 36" X 36" JENSEN PRECAST DROP INLET PER DETAILS 47 AND 48 SHEET D-3 AND CCAUSD #421
20. CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
21. CONSTRUCT 17.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (2 GRATES)
22. CONSTRUCT 32.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (12 GRATES)
23. CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (2 GRATES)
24. WIDE LANDSCAPE ROCK D50=4", THICKNESS=8"
25. CONSTRUCT 4" TYPE A DROP INLET PER CCAUSD #411
26. CONSTRUCT 8" TYPE A DROP INLET PER CCAUSD #411

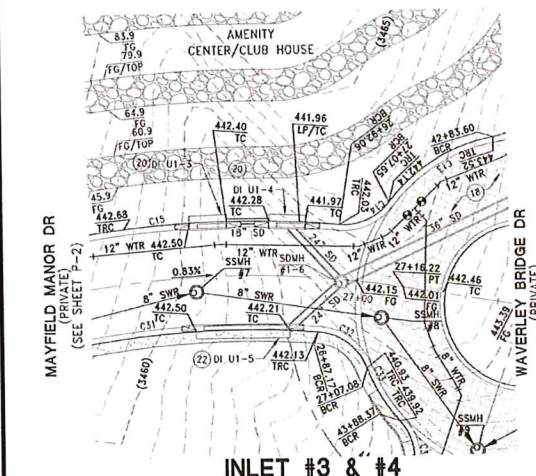


KEYMAP
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'



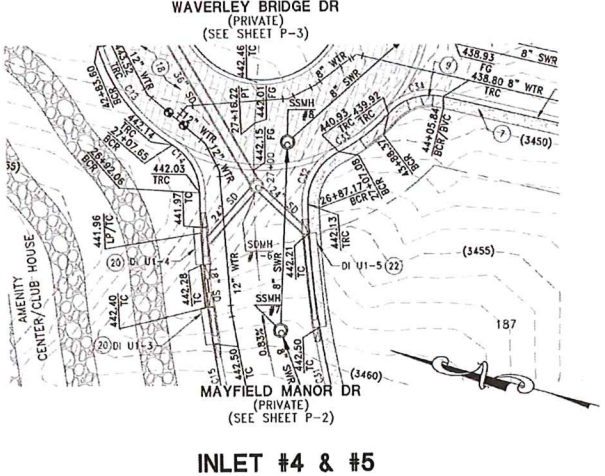
WAVERLEY BRIDGE DR (PRIVATE)
(SEE SHEET P-4)

INLET #8 & #9



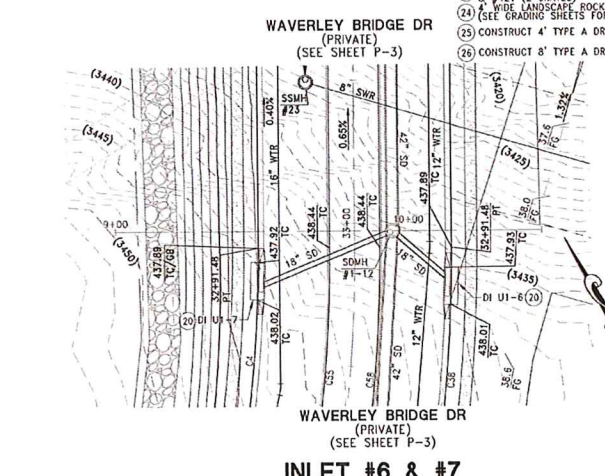
MAYFIELD MANOR DR (PRIVATE)
(SEE SHEET P-2)

INLET #3 & #4



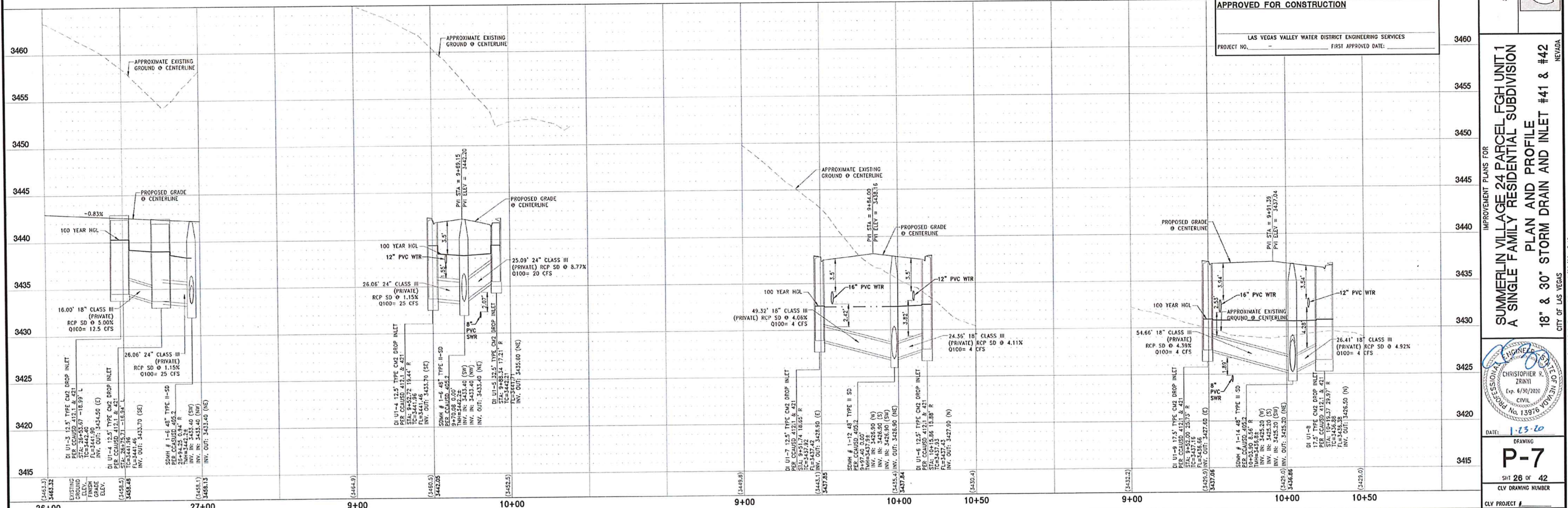
WAVERLEY BRIDGE DR (PRIVATE)
(SEE SHEET P-3)

INLET #4 & #5



WAVERLEY BRIDGE DR (PRIVATE)
(SEE SHEET P-3)

INLET #6 & #7



APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. FIRST APPROVED DATE:

IMPROVEMENT PLANS FOR

SUMMERLIN VILLAGE 24 PARCEL FGH UNIT 1

A SINGLE FAMILY RESIDENTIAL SUBDIVISION

PLAN AND PROFILE

18" & 30" STORM DRAIN AND INLET #41 & #42

CITY OF LAS VEGAS

DATE: 1-23-20

DRAWING

P-7

SHT 26 OF 42

CLV DRAWING NUMBER

CLV PROJECT #

Approved w/Original Study

DISCLAIMER NOTE:

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FAST
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FREIGHTWAY AND INTERIOR
SYSTEM OF TRANSPORTATION

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

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 345W6

RIVET AND ROUND PLATE IN THE TOP OF CURB AT THE
SOUTHEAST CORNER OF DESERT MOON RD. AND SKY
VISTA DR.

ELEVATION = 1011.422 METERS (NAV82 '88)
ELEVATION = 3318.31 US SURVEY FEET (NAV82 '88)

BASIS OF BEARINGS

NORTH 05°59'55" WEST, BEING THE BEARING OF THE
WEST LINE OF SECTION 34, TOWNSHIP 20 SOUTH, RANGE
59 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 BOOK
135, PAGE 71 OF PLATS.

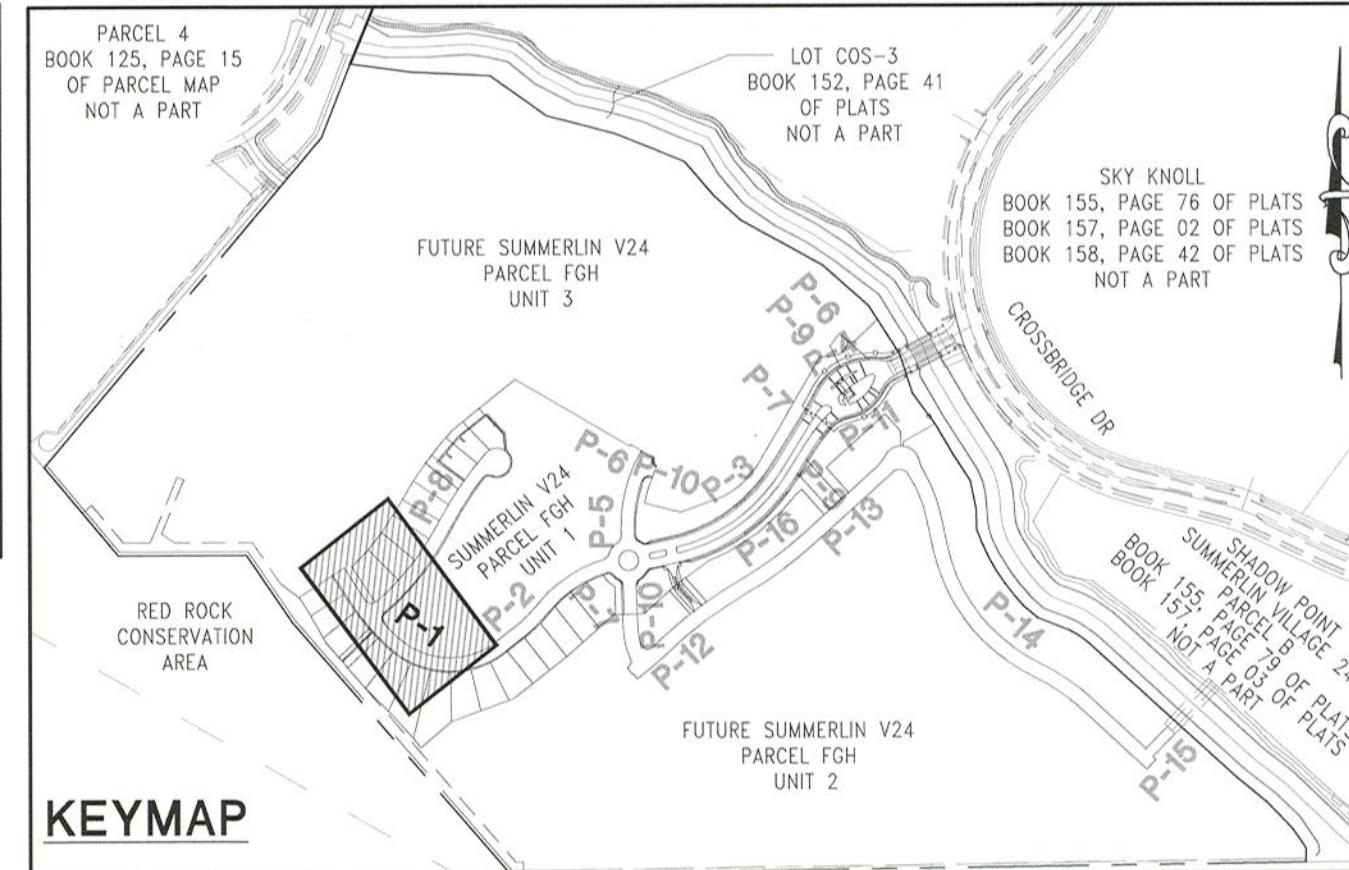
SEWER CONSTRUCTION NOTES

- 1) INSTALL 48" STANDARD MANHOLE WITH WATERTIGHT JOINTS (PER DCSWCS STD. No. SD-1, SD-3, SD-4, SD-5) WITH SINGLE 24" LID
- 2) INSTALL 4" SEWER LATERAL (PER DCSWCS STD. No. SD-17, SD-20 & SD-23)
- 3) TYPICAL LOCATION FOR SEWER LATERAL AT WATER MAIN CROSSING. ALL SEWER LATERALS MUST MAINTAIN 18" VERTICAL CLEARANCE BELOW WATER MAIN AT CROSSINGS.
- 4) INSTALL 60" STANDARD MANHOLE WITH WATERTIGHT JOINTS (PER DCSWCS STD. No. SD-1, SD-3, SD-4, SD-5) & WITH CORROSION PROTECTION PER DCSWCS 3.16.8
- 5) INSTALL 8" SEWER CAP AND 1 CU-FT THRUST BLOCK @ CAP PER DCSWCS SEC. 2.5.10
- 6) INSTALL 48" STANDARD MANHOLE WITH WATERTIGHT JOINTS (PER DCSWCS STD. No. SD-1, SD-3, SD-4, SD-5) & WITH CORROSION PROTECTION PER DCSWCS 3.16.8
- 7) INSTALL 60" STANDARD MANHOLE WITH WATERTIGHT JOINTS (PER DCSWCS STD. No. SD-1, SD-3, SD-4, SD-5) WITH SINGLE 24" LID
- 8) INSTALL 4" SEWER LATERAL (FUTURE USE) (PER DCSWCS STD. No. SD-17, SD-20 & SD-23) AND 1 CU-FT THRUST BLOCK @ CAP
- 9) INSTALL 10" SEWER CAP AND 1.5 CU-FT THRUST BLOCK @ CAP PER 2.5.10
- 10) INSTALL 4" SEWER LATERAL (FUTURE USE) (PER DCSWCS STD. No. SD-17, SD-20 & SD-23) WITH 1 CU-FT THRUST BLOCK @ CAP
- 11) CORE INTO EXISTING MH BASE. CONTRACTOR MAY CORE INTO EXISTING MANHOLE BASE (PER DCSWCS SECTION 2.2.10H) AS DETERMINED BY THE INSPECTOR. INSTALL CORROSION PROTECTION PER DCSWCS SEC. 3.16.8 AND 4.9.9.
- 12) BACKFILL WITH CLSM TO SPRING LINE (PER DCSWCS STD. No. SD-18)

CONSTRUCTION NOTES

- 1) CONSTRUCT AC PAVEMENT PER DETAILS 1 AND 2 ON SHEET D-1
- 2) CONSTRUCT 24" "L" CURB AND GUTTER PER CCAUSD #216
- 3) CONSTRUCT 24" "R" CURB PER CCAUSD #217.3 51
- 4) CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD #219
- 5) CONSTRUCT 8" MODIFIED ("R" CURB) CROSS GUTTER PER CCAUSD #421
- 6) GUTTER TO 24" "R" TYPE CURB PER DETAIL 42 SHEET D-3
- 7) CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
- 8) CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (6 GRATES)
- 9) CONSTRUCT 32.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (12 GRATES)
- 10) CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
- 11) CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (12 GRATES)
- 12) CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
- 13) 4" WIDE / VARIOUS LENGTH LANDSCAPE ROCK D50=6", THICKNESS=12" SEE GRADING SHEETS FOR LIMITS
- 14) CONSTRUCT 4" TYPE A DROP INLET PER CCAUSD #411
- 15) CONSTRUCT 8" TYPE A DROP INLET PER CCAUSD #411
- 16) EXISTING VALVE BOX AND MANHOLE COVERS TO BE PROTECTED
- 17) CONSTRUCT FIRE EMERGENCY CRASH GATE PER DETAIL 50 AND ST ON SHEET D-3
- 18) EXISTING 24" "L" CURB AND GUTTER TO REMAIN
- 19) SAWCUT AND MATCH EXISTING A.C. FINAL LIMITS TO BE DETERMINED BY FIELD INSPECTOR
- 20) CONSTRUCT COMMERCIAL DRIVEWAY PER CCAUSD #224
- 21) 8" MAX GRADING ADJACENT TO FIRE HYDRANT PER PUBLIC FIRE HYDRANT INSTALLATION DETAIL ON UTILITY SHEETS
- 22) CONSTRUCT CONCRETE PAVERS AND 2" WIDE CONCRETE BAND PER DETAIL 46 ON SHEET D-3
- 23) CONSTRUCT 36"x36" JENSEN PRECAST DROP INLET PER DETAILS 47 AND 48 SHEET D-3 AND CCAUSD #421
- 24) CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
- 25) CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (6 GRATES)
- 26) CONSTRUCT 32.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (12 GRATES)
- 27) CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
- 28) 4" WIDE / VARIOUS LENGTH LANDSCAPE ROCK D50=6", THICKNESS=12" SEE GRADING SHEETS FOR LIMITS
- 29) CONSTRUCT 4" TYPE A DROP INLET PER CCAUSD #411
- 30) CONSTRUCT 8" TYPE A DROP INLET PER CCAUSD #411
- 31) EXISTING VALVE BOX AND MANHOLE COVERS TO BE PROTECTED
- 32) CONSTRUCT FIRE EMERGENCY CRASH GATE PER DETAIL 50 AND ST ON SHEET D-3
- 33) EXISTING 24" "L" CURB AND GUTTER TO REMAIN
- 34) SAWCUT AND MATCH EXISTING A.C. FINAL LIMITS TO BE DETERMINED BY FIELD INSPECTOR
- 35) CONSTRUCT 6" HIGH WROUGHT IRON FENCE AND/OR GATES

CURVE TABLE						
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"
C17	80°42'21"	218.08'	307.18'	185.29'	-	-
C18	4°36'30"	646.55'	52.00'	28.01'	-	-
C19	92°04'59"	20.00'	32.14'	20.74'	21.5'	4.5'
C20	21°21'02"	769.00'	286.63'	145.00'	-	-
C25	5°47'08"	731.00'	73.81'	36.94'	-	-
C26	90°54'52"	20.00'	31.74'	20.32'	-	-
C27	1°53'55"	646.55'	21.43'	10.71'	-	-
C28	14°21'01"	684.55'	171.45'	86.18'	4.5'	21.5'
C29	80°42'21"	256.08'	360.71'	217.58'	-	-

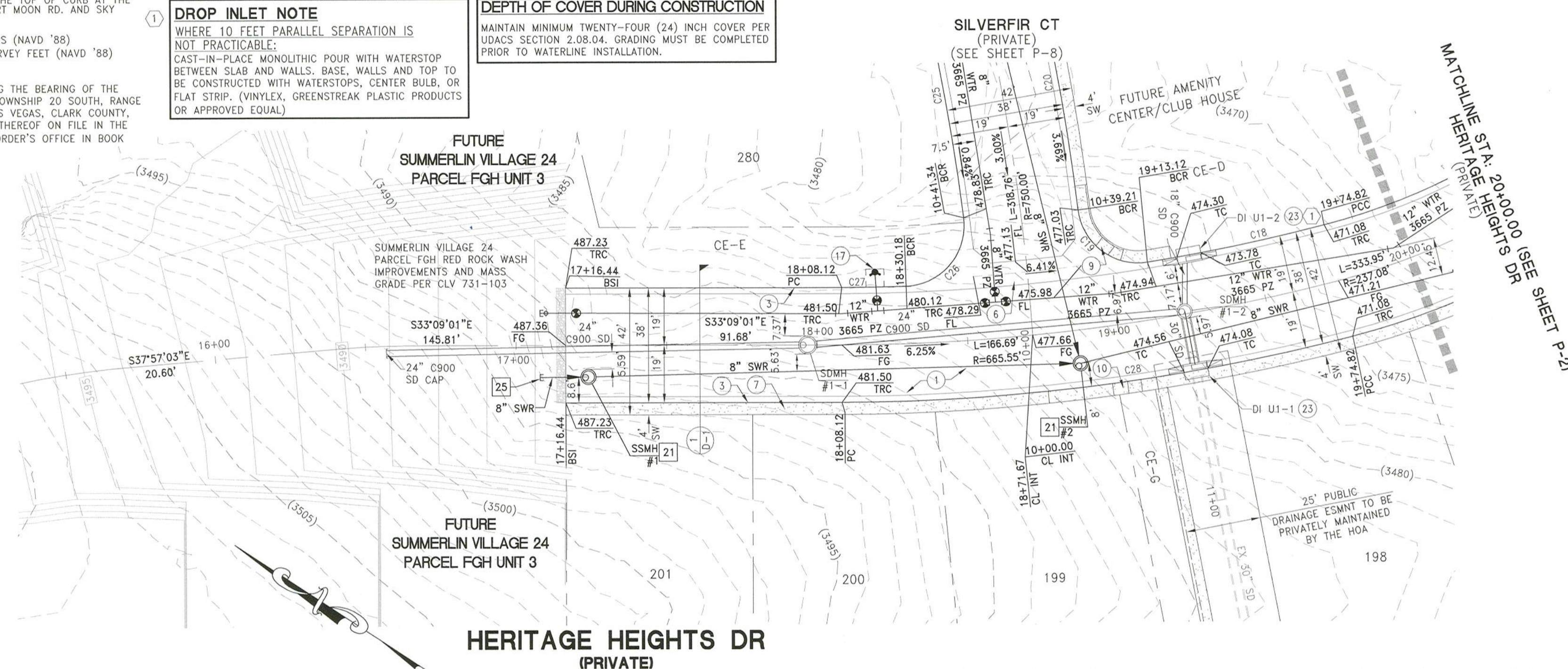


DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:
CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP. (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL)

DEPTH OF COVER DURING CONSTRUCTION

MAINTAIN MINIMUM TWENTY-FOUR (24) INCH COVER PER UDACOS SECTION 2.08.04. GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION.



HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

HERITAGE HEIGHTS DR (PRIVATE)
(SEE THIS SHEET)

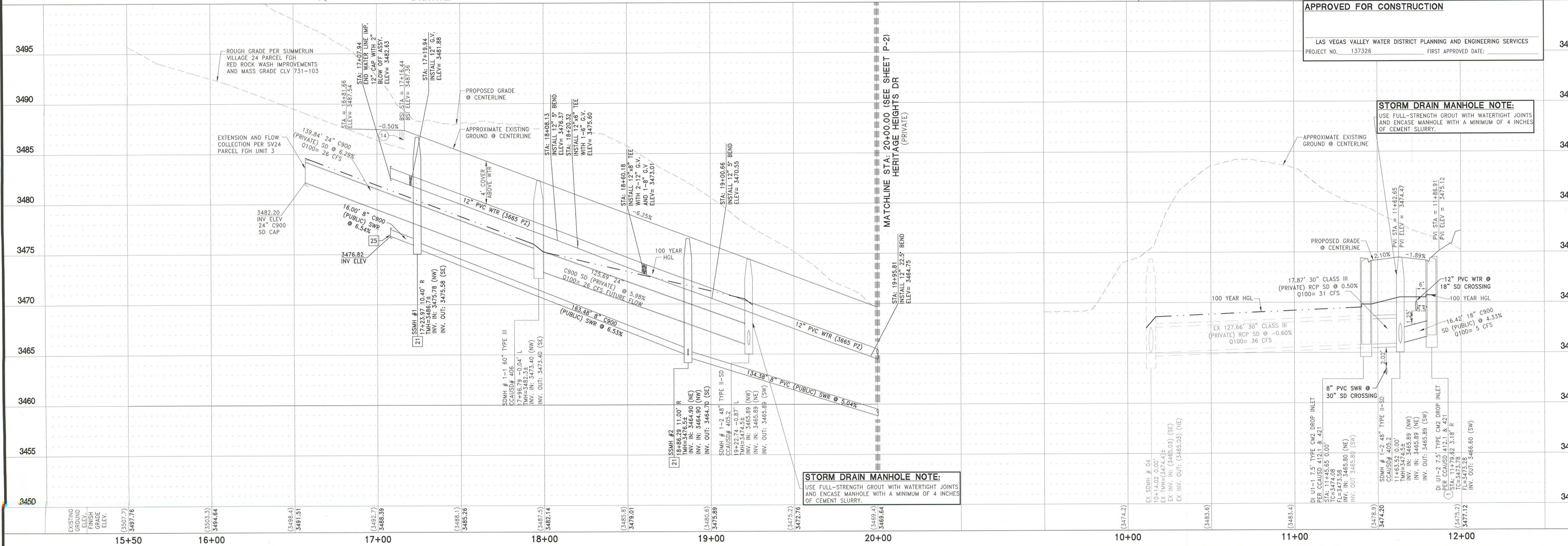
INLET #1 AND #2 (PRIVATE)

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES
PROJECT NO. 137326 FIRST APPROVED DATE:

STORM DRAIN MANHOLE NOTE:

USE FULL-STRENGTH GROUT WITH WATERTIGHT JOINTS AND ENCASE MANHOLE WITH A MINIMUM OF 4 INCHES OF CEMENT SLURRY.



STORM DRAIN MANHOLE NOTE:

USE FULL-STRENGTH GROUT WITH WATERTIGHT JOINTS AND ENCASE MANHOLE WITH A MINIMUM OF 4 INCHES OF CEMENT SLURRY.

REVISIONS

NO.	DATE	DESCRIPTION
1	SEPTEMBER 11, 2020	REVISED

DESIGNED BY

SC

CHECKED BY

CZ

APPROVED BY

CZ

PROJECT #

3040.0057

DATE

SEPTEMBER 11, 2020

HORIZ. SCALE

1"=30'

VERT. SCALE

1"=5'

DRAWN BY

DU

DESIGNED BY

SC

CHECKED BY

CZ

APPROVED BY

CZ

PROJECT #

3040.0057

LENNAR

9275 W. RUSSELL RD SUITE 400, LAS VEGAS, NV 89148
PHONE: (702) 736-9100 FAX: (702) 736-9200

RCI ENGINEERING

500 SOUTH BANCROFT DRIVE, SUITE 103, LAS VEGAS, NV 89106
MAIN: 702.453.0000 FAX: 702.453.0001

IMPROVEMENT PLANS FOR

SUMMERLIN VILLAGE 24 PARCEL FGH UNIT 1
A SINGLE FAMILY RESIDENTIAL SUBDIVISION

PLAN AND PROFILE

HERITAGE HEIGHTS DR STA: 15+50.00-20+00.00 & INLET # 1 & #2

DATE: 9-11-20

DRAWING

P-1

SHT 19 OF 39

CLV DRAWING NUMBER 1075138

CLV PROJECT # L20-00500

PROFESSIONAL ENGINEER

CHRISTOPHER R. ZIMNY

Exp. 6/30/2022

CIVIL

No. 13976

STATE OF NEVADA

DATE: 9-11-20

DRAWING

P-1

SHT 19 OF 39

CLV DRAWING NUMBER 1075138

CLV PROJECT # L20-00500

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OR
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FAST
Call before you Dig
Underground
1-702-432-5300
FREEWAY AND INTERSTATE SYSTEM OF TRANSPORTATION

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

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 345W6
RIVET AND ROUND PLATE IN THE TOP OF CURB AT THE SOUTHEAST CORNER OF DESERT MOON RD. AND SKY VISTA DR.
ELEVATION = 1011.422 METERS (NAVD '88)
ELEVATION = 3318.31 US SURVEY FEET (NAVD '88)

BASIS OF BEARINGS

NORTH 09°59'55" WEST, BEING THE BEARING OF THE WEST LINE OF SECTION 34, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREON ON FILE IN THE CLARK COUNTY, NEVADA, RECORDER'S OFFICE IN BOOK 135, PAGE 71 OF PLATS.

SEWER CONSTRUCTION NOTES

- INSTALL 48" STANDARD MANHOLE WITH WATERTIGHT JOINTS (PER DCSWCS STD. No. SD-1, SD-3, SD-4, SD-5) WITH SINGLE 24" LID
- INSTALL 4" SEWER LATERAL (PER DCSWCS STD. No. SD-17, SD-20 & SD-23)
- TYPICAL LOCATION FOR SEWER LATERAL AT WATER MAIN CROSSING. ALL SEWER LATERALS MUST MAINTAIN 18" VERTICAL CLEARANCE BELOW WATER MAIN AT CROSSINGS.
- INSTALL 60" STANDARD MANHOLE WITH WATERTIGHT JOINTS (PER DCSWCS STD. No. SD-1, SD-3, SD-4, SD-5) & WITH CORROSION PROTECTION PER DCSWCS 3.16.8
- INSTALL 8" SEWER CAP AND 1 CU-FT THRUST BLOCK @ CAP
- PER DCSWCS SEC. 2.5.10
- INSTALL 48" STANDARD MANHOLE WITH WATERTIGHT JOINTS (PER DCSWCS STD. No. SD-1, SD-3, SD-4, SD-5) & WITH CORROSION PROTECTION PER DCSWCS 3.16.8
- INSTALL 4" SEWER LATERAL (FUTURE USE) (PER DCSWCS STD. No. SD-17, SD-20 & SD-23) WITH 1 CU-FT THRUST BLOCK @ CAP
- INSTALL 10" SEWER CAP AND 1.5 CU-FT THRUST BLOCK @ CAP
- PER DCSWCS SEC. 2.5.10
- INSTALL 8" SEWER LATERAL (FUTURE USE) (PER DCSWCS STD. No. SD-17, SD-20 & SD-23) WITH 1 CU-FT THRUST BLOCK @ CAP
- CORE INTO EXISTING MH BASE. CONTRACTOR MAY CORE INTO EXISTING MANHOLE BASE (PER DCSWCS SECTION 2.2.10.10.8). DETERMINED BY THE INSPECTOR. INSTALL CORROSION PROTECTION PER DCSWCS SEC. 3.16.8 AND 4.9.9.
- BACKFILL WITH CLSM TO SPRING LINE (PER DCSWCS STD. No. SD-18)

CURVE TABLE						
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"
C1	38°59'26"	45.00'	30.62'	15.93'	-	-
C2	78°52'14"	171.89'	230.61'	136.41'	-	-
C3	7°26'33"	280.19'	36.40'	18.22'	-	-
C39	10°17'45"	466.00'	83.74'	41.98'	-	-
C40	38°51'48"	100.00'	64.34'	33.33'	-	-
C41	53°45'43"	137.67'	129.18'	69.79'	-	-
C42	37°02'26"	85.00'	54.95'	28.47'	-	-
C43	12°50'51"	8.50'	18.55'	16.35'	-	-
C44	7°15'57"	146.40'	18.57'	9.30'	-	-
C45	9°47'55"	500.78'	85.64'	42.93'	-	-

CURVE TABLE						
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"
C46	145°24'52"	18.00'	45.68'	57.82'	-	-
C47	122°24'43"	1.00'	2.14'	1.82'	-	-
C48	58°20'43"	107.01'	108.97'	59.74'	-	-
C53	61°41'27"	13.83'	14.89'	8.26'	-	-
C54	34°55'32"	42.83'	26.11'	13.47'	-	-
C59	14°25'41"	491.17'	123.68'	62.17'	-	-
C60	97°48'42"	9.33'	15.93'	10.70'	-	-

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

KEYMAP

CONSTRUCTION NOTES

- CONSTRUCT AC PAVEMENT PER DETAILS 1 AND 2 ON SHEET D-1
- CONSTRUCT 24" 'L' CURB AND GUTTER PER CCAUSD #216
- CONSTRUCT 24" 'R' CURB PER CCAUSD #217.3 S1
- CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD #219
- CONSTRUCT 5" CURB TRANSITION FROM 24" 'L' TYPE CURB & GUTTER TO 24" 'R' TYPE CURB PER DETAIL 42 SHEET D-3
- CONSTRUCT 8" MODIFIED (R' CURB) CROSS GUTTER PER SUMMERLIN IMPROVEMENT STD DWG #8-64
- CONSTRUCT 4" SIDEWALK PER CCAUSD #234
- CONSTRUCT "L" TYPE ISLAND CURB PER CCAUSD #216
- CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOWNS OR EQUIVALENT PER CCAUSD #235 (CASE I) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS
- CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOWNS OR EQUIVALENT PER CCAUSD #235 (CASE II) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS
- CONSTRUCT ELECTRONICALLY CONTROLLED ACCESS GATES
- CONSTRUCT 5' WIDE PEDESTRIAN ACCESS GATE
- GUARD HOUSE
- 3' WIDE X 38' LONG RIPRAP D50=6", THICKNESS=12"
- CONSTRUCT 6" HIGH WROUGHT IRON FENCE AND/OR GATES
- CONSTRUCT COMMERCIAL DRIVEWAY PER CCAUSD #224
- 2% MAX GRADING ADJACENT TO FIRE HYDRANT PER PUBLIC FIRE HYDRANT INSTALLATION DETAIL ON UTILITY SHEETS
- CONSTRUCT CONCRETE PAVERS AND 2' WIDE CONCRETE BAND PER DETAIL 46 ON SHEET D-3
- CONSTRUCT 36"x36" JENSEN PRECAST DROP INLET PER DETAILS 47 AND 48 SHEET D-3 AND CCAUSD #421
- CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
- CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (6 GRATES)
- CONSTRUCT 32.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (12 GRATES)
- CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (2 GRATES)
- 4" WIDE / VARIED LENGTH LANDSCAPE ROCK D50=6", THICKNESS=12" SEE GRADING SHEETS FOR LIMITS
- CONSTRUCT 4" TYPE A DROP INLET PER CCAUSD #411
- CONSTRUCT 8" TYPE A DROP INLET PER CCAUSD #411
- EXISTING VALVE BOX AND MANHOLE COVERS TO BE PROTECTED IN PLACE
- CONSTRUCT FIRE EMERGENCY CRASH GATE PER DETAIL 50 AND 51 ON SHEET D-3
- EXISTING 24" 'L' CURB AND GUTTER TO REMAIN
- SAWCUT AND MATCH EXISTING A.C. FINAL LIMITS TO BE DETERMINED BY FIELD INSPECTOR

16" WATERLINE NOTE

16" DUCTILE IRON PIPE TO BE MECHANICALLY RESTRAINED THROUGHOUT. ALL PIPE JOINTS, FITTINGS AND VALVES TO BE BONDED PER DETAIL 10 SHEET U-7

NOTE:
MAINTENANCE WORK ON LVVWD FACILITIES LOCATED WITHIN THE AREA OF THE PROPOSED PAVERS MAY INCLUDE THE PLACEMENT OF AN ASPHALT OR CONCRETE PATCH AS APPLICABLE. NO EFFORT WILL BE MADE TO REPLACE OR MATCH ANY DECORATIVE SURFACE, LANDSCAPE FEATURE, OR ANY OTHER IMPROVEMENTS DISTURBED AS A RESULT OF THE MAINTENANCE ACTIVITIES OF THE LAS VEGAS VALLEY WATER DISTRICT OR THEIR AUTHORIZED REPRESENTATIVES.

HERITAGE HEIGHTS DR

(PRIVATE)

WATER PROFILE NOTE

THIS PROFILE SHEET DEPICTS 3665 PZ WATER FOR 3550 PZ WATER SEE SHEET P-11

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES
PROJECT NO. 137326 FIRST APPROVED DATE:

SOUTHWEST GAS CORPORATION

AMANDA HENDERSON 2020AGH54757 7/13/2020
SOUTHWEST GAS CORPORATION SWG UID DATE

IMPROVEMENT PLANS FOR
SUMMERLIN VILLAGE 24 PARCEL FGH UNIT 1
A SINGLE FAMILY RESIDENTIAL SUBDIVISION
PLAN AND PROFILE
HERITAGE HEIGHTS DR STA: 33+50.00-39+81.00
CITY OF LAS VEGAS

PROFESSIONAL ENGINEER
CHRISTOPHER R. ZIRNIY
Exp. 6/30/2022
No. 13976
DATE: 9-11-20

DRAWING
P-4

SHT 22 OF 39
CLV DRAWING NUMBER
107Y1535
CLV PROJECT # L20-00500

DISCLAIMER NOTE:

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND OR OVERHEAD 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 LOCATION. CONTRACTOR TO NOTIFY ENGINEER OF ANY CHANGES OR DISCREPANCIES.

Call before you Dig

Avoid cutting underground utility lines. It's costly.



OR
1-800-227-2600



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



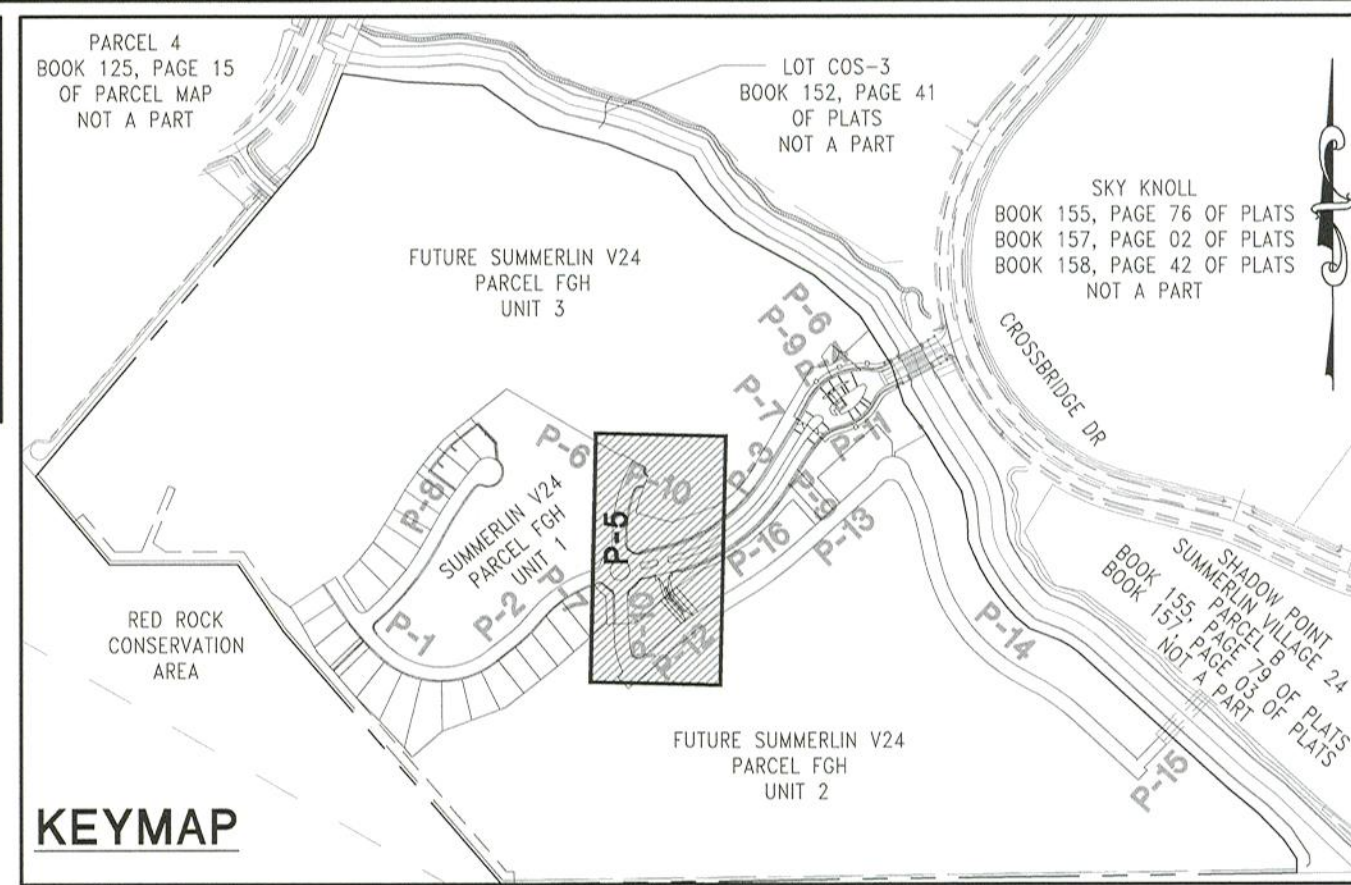
1-702-227-2929

CONSTRUCTION NOTES

- 1) CONSTRUCT AC PAVEMENT PER DETAILS 1 AND 2 ON SHEET D-1
- 2) CONSTRUCT 24" L CURB AND GUTTER PER CCAUSD #216
- 3) CONSTRUCT 24" R CURB PER CCAUSD #217.3 S1
- 4) CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD #219
- 5) CONSTRUCT 5' CURB TRANSITION FROM 24" L TYPE CURB & GUTTER TO 24" R TYPE CURB PER DETAIL D-3
- 6) CONSTRUCT 8' MOUNTED (1" CURB) CROSS GUTTER PER SUMMERLIN IMPROVEMENT STD OWC #5-64
- 7) CONSTRUCT 4" SIDEWALK PER CCAUSD #234
- 8) THICK WHEN ADJACENT TO ROLL CURB
- 9) CONSTRUCT "L" TYPE ISLAND CURB PER CCAUSD #216
- 10) CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD #235 (CASE I) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS
- 11) CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD #235 (CASE III) SEE PLAN & PROFILE SHEET CURVE TABLES FOR "A" & "B" DIMENSIONS
- 12) CONSTRUCT ELECTRONICALLY CONTROLLED ACCESS GATES
- 13) CONSTRUCT 5' WIDE PEDESTRIAN ACCESS GATE
- 14) 3" WIDE X 38" LONG RIPRAP D50=6", THICKNESS=12"
- 15) CONSTRUCT 6" HIGH WROUGHT IRON FENCE AND/OR GATES
- 16) CONSTRUCT COMMERCIAL DRIVEWAY PER CCAUSD #224
- 17) 2% MAX GRADING ADJACENT TO FIRE HYDRANT PER PUBLIC FIRE HYDRANT INSTALLATION DETAIL ON UTILITY SHEETS
- 18) CONSTRUCT CONCRETE PAVERS AND 2" WIDE CONCRETE BAND PER DETAIL 46 ON SHEET D-3
- 19) CONSTRUCT 16"x36" ENHANCED PRECAST DROP INLET PER DETAILS 47 AND 48 SHEET D-3 AND CCAUSD #421
- 20) CONSTRUCT 12.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
- 21) CONSTRUCT 17.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (6 GRATES)
- 22) CONSTRUCT 32.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (12 GRATES)
- 23) CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (2 GRATES)
- 24) 4" WIDE / VARIOUS LENGTH LANDSCAPE ROCK D50=6", THICKNESS=12" SEE GRADING SHEETS FOR LIMITS
- 25) CONSTRUCT 4" TYPE A DROP INLET PER CCAUSD #411
- 26) CONSTRUCT 8" TYPE A DROP INLET PER CCAUSD #411
- 27) EXISTING VALVE BOX AND MANHOLE COVERS TO BE PROTECTED IN PLACE
- 28) CONSTRUCT FIRE EMERGENCY CRASH GATE PER DETAIL 50 AND 51 ON SHEET D-3
- 29) EXISTING 24" L CURB AND GUTTER TO REMAIN
- 30) SAWCUT AND MATCH EXISTING A.C. FINAL LIMITS TO BE DETERMINED BY FIELD INSPECTOR

CURVE TABLE						
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"
C5	47°32'45"	20.00'	16.60'	8.81'	21.5'	4.5'
C6	8°34'35"	60.00'	8.98'	4.50'	-	-
C7	60°49'25"	20.00'	21.23'	11.74'	-	-
C8	21°55'27"	381.00'	145.79'	73.80'	-	-
C9	95°06'10"	20.00'	33.20'	21.87'	4.5'	15.0'
C10	95°28'48"	20.00'	33.33'	22.01'	4.5'	12.0'
C11	32°14'40"	419.00'	235.80'	121.11'	-	-
C12	60°49'25"	20.00'	21.23'	11.74'	-	-
C13	42°12'34"	60.00'	44.20'	23.16'	-	-
C14	57°34'49"	20.00'	20.10'	10.99'	-	-
C32	64°45'18"	20.00'	22.60'	12.68'	-	-

CURVE TABLE						
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A"	"B"
C33	20°57'39"	60.00'	21.95'	11.10'	-	-
C34	60°49'25"	20.00'	21.23'	11.74'	-	-
C35	60°49'25"	20.00'	21.23'	11.74'	-	-
C36	28°09'45"	60.00'	29.49'	15.05'	-	-
C37	47°32'45"	20.00'	16.60'	8.81'	-	-
C63	180°00'00"	8.83'	27.75'	INFINITY'	-	-



CONTROLLED LOWS STRENGTH MATERIAL (CLSM)

PROTECT WATERLINES IN PLACE, WHEREVER A WATERLINE IS ABOVE A STORM DRAIN OR SEWER WHERE COMPACTION REQUIREMENTS UNDER A WATERLINE CANNOT BE MET, BACKFILL TRENCH WITH CLASS II CONTROLLED LOW STRENGTH MATERIAL (CLSM) TO THE SPRINGLINE OF THE WATERLINE. THIS REQUIREMENT IS FOR STRUCTURAL SUPPORT ONLY. ADDITIONAL HEALTH REGULATIONS MAY APPLY PER UDACS 2.22

SEWER CONSTRUCTION NOTES

- 1) INSTALL 48" STANDARD MANHOLE WITH WATER TIGHT JOINTS (PER DCSWCS STD. NO. SD-1, SD-3, SD-4, SD-5) WITH SINGLE 24" LID
- 2) INSTALL 4" SEWER LATERAL (PER DCSWCS STD. NO. SD-17, SD-20 & SD-23)
- 3) TYPICAL LOCATION FOR SEWER LATERAL AT WATER MAIN CROSSING. ALL SEWER LATERALS MUST MAINTAIN 18" VERTICAL CLEARANCE BELOW WATER MAIN AT CROSSINGS.
- 4) INSTALL 60" STANDARD MANHOLE WITH WATER TIGHT JOINTS (PER DCSWCS STD. NO. SD-1, SD-3, SD-4, SD-5) & WITH CORROSION PROTECTION PER DCSWCS 3.16.8
- 5) INSTALL 8" SEWER CAP AND 1 CU-FT THRUST BLOCK @ CAP PER DCSWCS SEC. 2.5.10
- 6) INSTALL 48" STANDARD MANHOLE WITH WATER TIGHT JOINTS (PER DCSWCS STD. NO. SD-1, SD-3, SD-4, SD-5) & WITH CORROSION PROTECTION PER DCSWCS 3.16.8
- 7) INSTALL 60" STANDARD MANHOLE WITH WATER TIGHT JOINTS (PER DCSWCS STD. NO. SD-1, SD-3, SD-4, SD-5) WITH SINGLE 24" LID
- 8) INSTALL 4" SEWER LATERAL (FUTURE USE) (PER DCSWCS STD. NO. SD-17, SD-20 & SD-23) AND 1 CU-FT THRUST BLOCK @ CAP PER DCSWCS SEC. 2.5.10
- 9) INSTALL 10" SEWER CAP AND 1.5 CU-FT THRUST BLOCK @ CAP PER DCSWCS SEC. 2.5.10
- 10) INSTALL 6" SEWER LATERAL (FUTURE USE) (PER DCSWCS STD. NO. SD-17, SD-20 & SD-23) WITH 1 CU-FT THRUST BLOCK @ CAP PER DCSWCS SEC. 2.5.10
- 11) CORE INTO EXISTING MH BASE. CONTRACTOR MAY CORE INTO EXISTING MANHOLE BASE (PER DCSWCS SECTION 2.2.10H) AS DETERMINED BY THE INSPECTOR. INSTALL CORROSION PROTECTION PER DCSWCS SEC.3.16.8 AND 4.9.9.
- 12) BACKFILL WITH CLSM TO SPRING LINE (PER DCSWCS STD. NO. SD-18)

STORM DRAIN NOTE:

- 1) 42" RCP SD TO BE INSTALLED WITH WATER TIGHT JOINTS - INTERNAL ELASTOMERIC JOINT SEALANT OR JOINT GASKETS 10' MIN EITHER SIDE OF WATER MAIN PER UDACS 2.22.02 (D) 2. FOR WATER TIGHT JOINTS LIMITS SEE SHEET P-3

NOTE:

MAINTENANCE WORK ON LVWD FACILITIES LOCATED WITHIN THE AREA OF THE PROPOSED PAVERS MAY INCLUDE THE PLACEMENT OF AN ASPHALT OR CONCRETE PATCH AS APPLICABLE. NO EFFORT WILL BE MADE TO REPLACE OR MATCH ANY DECORATIVE SURFACE, LANDSCAPE FEATURE, OR ANY OTHER IMPROVEMENTS DISTURBED AS A RESULT OF THE MAINTENANCE ACTIVITIES OF THE LAS VEGAS VALLEY WATER DISTRICT OR THEIR AUTHORIZED REPRESENTATIVES.

16" WATERLINE NOTE

16" DUCTILE IRON PIPE TO BE MECHANICALLY RESTRAINED THROUGHOUT. ALL PIPE JOINTS, FITTINGS AND VALVES TO BE BONDED PER DETAIL 10 SHEET U-7

WATER PROFILE NOTE

THIS PROFILE SHEET DEPICTS 3665 PZ WATER FOR 3550 PZ WATER SEE SHEET P-10

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES
PROJECT NO. 137326 FIRST APPROVED DATE:

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 345W6

RIVET AND ROUND PLATE IN THE TOP OF CURB AT THE SOUTHEAST CORNER OF DESERT MOON RD. AND SKY VISTA DR.

ELEVATION = 1011.422 METERS (NAVD '88)
ELEVATION = 3318.11 US SURVEY FEET (NAVD '88)

BASIS OF BEARINGS

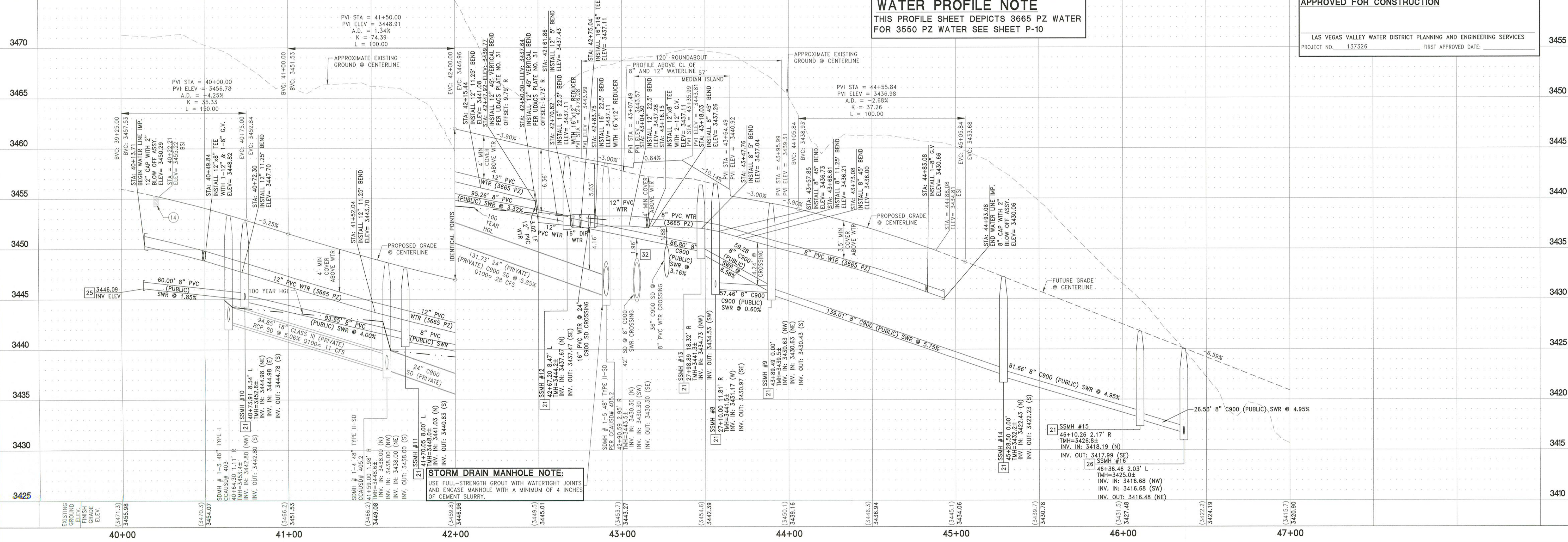
NORTH 05°59'55" WEST, BEING THE BEARING OF THE WEST LINE OF SECTION 34, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF ON FILE IN THE CLARK COUNTY, NEVADA RECORDER'S OFFICE IN BOOK 135, PAGE 71 OF PLATS.

DROP INLET NOTE

WHERE TO FEET PARALLEL SEPARATION IS NOT PRACTICABLE:
CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP. (VINYLX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL)

DEPTH OF COVER DURING CONSTRUCTION

MAINTAIN MINIMUM TWENTY-FOUR (24) INCH COVER PER UDACS SECTION 2.08.04. GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION.



DISCLAIMER NOTE:

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND OR OVERHEAD 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 LOCATION. CONTRACTOR TO NOTIFY ENGINEER OF ANY CHANGES OR DISCREPANCIES.

Call before you Dig

AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.



OR
1-800-227-2600

FAST

Call before you Dig

UnderGround

1-702-432-5300

FREIGHTWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

CALL BEFORE YOU DO OVERHEAD



1-702-227-2929

BENCHMARK

CITY OF LAS VEGAS BENCHMARK 7LV09 34SW6

RIVET AND ROUND PLATE IN THE TOP OF CURB AT THE SOUTHEAST CORNER OF DESERT MOON RD. AND SKY VISTA DR.

ELEVATION = 1011.422 METERS (NAVD '88)

ELEVATION = 3318.31 US SURVEY FEET (NAVD '88)

BASIS OF BEARINGS

NORTH 05°59'55" WEST, BEING THE BEARING OF THE WEST LINE OF SECTION 34, TOWNSHIP 20 SOUTH, RANGE 59 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 BOOK 135, PAGE 71 OF PLATS.

SEWER CONSTRUCTION NOTES

- 21) INSTALL 48" STANDARD MANHOLE WITH WATERTIGHT JOINTS (PER DCSWCS STD. No. SD-1, SD-3, SD-4, SD-5) WITH SINGLE 24" LID
- 22) INSTALL 4" SEWER LATERAL (PER DCSWCS STD. No. SD-17, SD-20 & SD-23)
- 23) TYPICAL LOCATION FOR SEWER LATERAL AT WATER MAIN CROSSING. ALL SEWER LATERALS MUST MAINTAIN 18" VERTICAL CLEARANCE BELOW WATER MAIN AT CROSSINGS.
- 24) INSTALL 60" STANDARD MANHOLE WITH WATERTIGHT JOINTS (PER DCSWCS STD. No. SD-1, SD-3, SD-4, SD-5) & WITH CORROSION PROTECTION PER DCSWCS SEC. 3.16.8
- 25) INSTALL 8" SEWER CAP AND 1 CU-FT THRUST BLOCK @ CAP PER DCSWCS SEC. 2.5.10
- 26) INSTALL 48" STANDARD MANHOLE WITH WATERTIGHT JOINTS (PER DCSWCS STD. No. SD-1, SD-3, SD-4, SD-5) & WITH CORROSION PROTECTION PER DCSWCS SEC. 3.16.8
- 27) INSTALL 60" STANDARD MANHOLE WITH WATERTIGHT JOINTS (PER DCSWCS STD. No. SD-1, SD-3, SD-4, SD-5) WITH SINGLE 24" LID
- 28) INSTALL 4" SEWER LATERAL (FUTURE USE) (PER DCSWCS STD. No. SD-17, SD-20 & SD-23) AND 1 CU-FT THRUST BLOCK @ CAP
- 29) INSTALL 10" SEWER CAP AND 1.5 CU-FT THRUST BLOCK @ CAP PER DCSWCS SEC. 2.5.10
- 30) INSTALL 6" SEWER LATERAL (FUTURE USE) (PER DCSWCS STD. No. SD-17, SD-20 & SD-23) WITH 1 CU-FT THRUST BLOCK @ CAP
- 31) CORE INTO EXISTING MH BASE. CONTRACTOR MAY CORE INTO EXISTING MANHOLE BASE (PER DCSWCS SECTION 2.2.10) AS DETERMINED BY THE INSPECTOR. INSTALL CORROSION PROTECTION PER DCSWCS SEC. 3.16.8 AND 4.9.3.
- 32) BACKFILL WITH CLSM TO SPRING LINE (PER DCSWCS STD. No. SD-18)

CONSTRUCTION NOTES

- 1) CONSTRUCT AC PAVEMENT PER DETAILS 1 AND 2 ON SHEET D-1
- 2) CONSTRUCT 24" 'R' CURB AND GUTTER PER CCAUSD #216
- 3) CONSTRUCT 24" 'R' CURB PER CCAUSD #217.3 S1
- 4) CONSTRUCT 'A' TYPE ISLAND CURB PER CCAUSD #219
- 5) CONSTRUCT 5' CURB TRANSITION FROM 24" 'L' TYPE CURB & GUTTER TO 24" 'R' TYPE CURB PER DETAIL 42 SHEET D-3
- 6) SUMMERLIN IMPROVEMENT STD DWG #S-64
- 7) CONSTRUCT 4" SIDEWALK PER CCAUSD #234
- 8) 5" THICK WHEN ADJACENT TO ROLL CURB
- 9) CONSTRUCT 'L' TYPE ISLAND CURB PER CCAUSD #216
- 10) CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD #235 (CASE I) SEE PLAN & PROFILE SHEET CURVE TABLES FOR 'A' & 'B' DIMENSIONS
- 11) CONSTRUCT SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD #235 (CASE III) SEE PLAN & PROFILE SHEET CURVE TABLES FOR 'A' & 'B' DIMENSIONS
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- 14) GUARD HOUSE
- 15) CONSTRUCT 6' HIGH WROUGHT IRON FENCE AND/OR GATES
- 16) 3' WIDE X 38" LONG RIPRAP D50=6", THICKNESS=12"
- 17) 2% MAX GRADING ADJACENT TO FIRE HYDRANT PER PUBLIC FIRE HYDRANT INSTALLATION DETAIL ON UTILITY SHEETS
- 18) CONSTRUCT CONCRETE PAVERS AND 2" WIDE CONCRETE BAND PER DETAIL 46 ON SHEET D-3
- 19) CONSTRUCT 36"x36" JENSEN PRECAST DROP INLET PER DETAILS 47 AND 48 SHEET D-3 AND CCAUSD #421
- 20) CONSTRUCT 17.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
- 21) CONSTRUCT 17.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (4 GRATES)
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- 23) CONSTRUCT 7.5" TYPE CM2 DROP INLET PER CCAUSD #412.1 & #421 (2 GRATES)

CURVE TABLE					
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A" "B"
C1	38°59'26"	45.00'	30.62'	15.93'	- -
C2	76°52'14"	171.89'	230.61'	136.41'	- -
C8	21°55'27"	381.00'	145.79'	73.80'	- -
C9	95°06'10"	20.00'	33.20'	21.87'	4.5' 15'
C10	95°28'48"	20.00'	33.33'	22.01'	4.5' 12'
C11	32°14'40"	419.00'	235.80'	121.11'	- -
C39	101°17'45"	466.00'	83.74'	41.98'	- -
C42	37°02'26"	85.00'	54.95'	28.47'	- -

CURVE TABLE					
CURVE #	DELTA	RADIUS	LENGTH	TANGENT	"A" "B"
C43	125°03'51"	8.50'	18.55'	16.35'	- -
C49	164°12'08"	0.33'	0.96'	2.40'	- -
C50	34°17'21"	146.22'	87.51'	45.11'	- -

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:
DROPS SHALL BE CONSTRUCTED WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP. (VINYLX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL)

DEPTH OF COVER DURING CONSTRUCTION

MAINTAIN MINIMUM TWENTY-FOUR (24) INCH COVER PER UDACs SECTION 2.08.04. GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION.

