

DS #: 5289-1

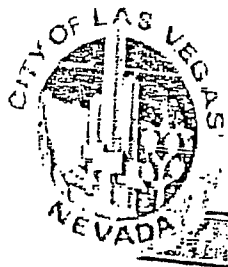
APN: 125-06-110-002

PROJECT: Sunstone Parcel 3 Club-Update #1

SUBMITTAL: 2nd

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS		DATE:	
INTER-OFFICE MEMORANDUM		July 17, 2020	
TO: Land Development Services Department of Building & Safety		FROM: Jennifer Shinn, P.E.  Flood Control, Engr. Associate Department of Public Works	
SUBJECT: Drainage Study for: Sunstone Parcel 3 Club – Update #1		COPIES TO: Westwood Professional Services	
Cross Streets:	NEC of Skye Pointe Drive & Log Cabin Way	Northland, LLC Shea Homes Limited Partnership	
File Number:	F:\Depot\DSMemos\DS5289B.doc	Bart Anderson, P.E., DevCo	
Parcel Number:	125-06-110-002	CCRFCD	
Zoning Action:	TMP-78230		
FEMA Flood Zone	YES	NO	X
Proposed Storm Drain	YES	NO	X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	5/28/2020 (paid 6/17/2020)	6/18/2020	See Comments Below	\$400.00	3885470: \$400
2 nd Submittal	7/29/2020	8/17/2020	Approved	\$100.00	3932499: \$100
TOTAL FEES (LDDRS):				\$500.00	----

REMARKS:

2nd Submittal: Update #1 to remove stem wall, lower overall site to match Parcel 3 Phase 1 & Model Phase Update, revised grading to meet ADA requirements.

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.

1. The study assumes the storm drain infrastructure proposed by the Technical Drainage Study for Sunstone Phase 1 Infrastructure and Parcel 3 at Sunstone Phase 1 & Model Phase are in place and functioning. Substantial completion of the Sunstone Phase 1 Infrastructure facilities is required prior to residential occupancy permits.
2. The substantial completion of the developer's Moccasin facility prior to any residential occupancy permits within the Sunstone development is required.

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

the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

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

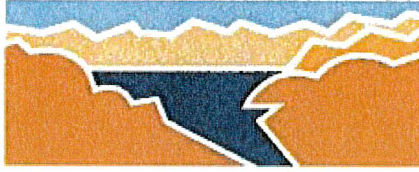
END OF REMARKS

jks

T/R/S: T19S/R60E/06

AREA G-06

REGIONAL FLOOD CONTROL DISTRICT



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

July 22, 2020

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City of North Las Vegas

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City of Boulder City

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

**DISTRICT CONCURRENCE: SUNSTONE PARCEL 3 CLUB
(DS5289A) (RFCD No. 20-13573)**

Dear Mr. Kwon:

Clark County Regional Flood Control District (District) reviewed Technical Drainage Study dated May 28, 2020 for above-mentioned project as submitted by WESTWOOD PROFESSIONAL SERVICES. In addition, District is in receipt of the Conditional Letter of Acceptance from City of Las Vegas Department of Public Works dated June 22, 2020.

District concurs with acceptance of this Technical Drainage Study by City of Las Vegas Department of Public Works.

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

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

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

BY:


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

CCW:dd

c: Stanley Okey Amadi, Westwood Professional Services

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UPDATE TO THE TECHNICAL DRAINAGE STUDY

Sunstone Parcel 3 Club

JULY 2020

PREPARED FOR:

Shea Homes Limited Partnership

Las Vegas, Nevada

PREPARED BY:

Westwood

Sunstone Parcel 3 Club

Update to the Technical Drainage Study

City of Las Vegas, Nevada

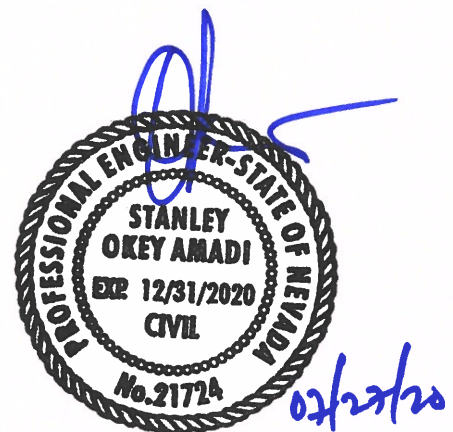
Prepared For:

Shea Homes Limited Partnership
4182 Solace Street
Las Vegas, NV 89135
Phone: (702) 265-9366

Prepared By:

Westwood Professional Services
5740 S. Arville Street, Suite 216
Las Vegas, NV 89118
Phone: (702) 284-5300
Fax: (702) 284-5339

Project Number: SHE2001.000
Date: July 2020



Stanley Okey Amadi, P.E., CFM
NV Professional Engineer No. 21724
Assisted by: Abhusan Achhami

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Sunstone Parcel 3 Club (Update to TDS) Date: July 2020
 Location of Development: a) Descriptive (Cross Streets): North/South: Sky Pointe Drive
East/West: Log Cabin Way
 b) Section: 06 Township: 19 S Range: 60 E
 c) APN: 125-06-110-002

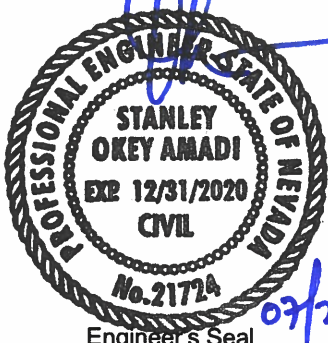
Name of Owner: Northland, LLC/Shea Homes Limited Partnership
 Telephone No.: (702) 265-9366 Fax No.: _____ E-mail Address: Jeremy.Fritz@sheahomes.com
 Address: 4182 Solace Street Las Vegas NV 89135

Contact Person – Name: Stanley Okey Amadi, P.E., CFM Telephone No.: (702) 284-5300
 *E-mail Address: stanley.amadi@westwoodps.com Fax No.: (702) 284-5399
 Firm: Westwood PS
 Address: 5740 S. Arville #216 Las Vegas NV 89118

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: +/- 549 AC Being Developed/Disturbed: +/- 8.21 AC
 2. Is a portion or all of the subject property located in a FEMA Flood Hazard Area? ☐ Yes** ☒ No
 3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☒ Yes** ☐ No
 4. Proposed type of development (Residential, Commercial, Etc.): Commercial
 5. Approximate upstream land area which drains to the subject site: 41.62 acres
 6. Has the site drainage been evaluated in the past? ☒ Yes** ☐ No If yes, please identify documentation: _____
- MDS Sunstone (aka Update #5 to Skye Canyon Master) DS5081
- Sunstone Phase 1 Infrastructure DS5135
- Sunstone Phase 1 Mass Grade DS528 , Parcel 3 at Sunstone Model Phase & Phase 1 (Under Review)
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Southerly toward existing stub to Storm Drain....
....along Log Cabin Way facility
 8. Briefly describe your proposed schedule for the subject project: ASAP



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

*Newly Required Field

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

Revision	Date

REFERENCE:

STANDARD FORM 1

Updated 05/01/2008

SHE2001.000

July 27, 2020

Ms. Jennifer Shinn, P.E.
City of Las Vegas Department of Public Works
333 N. Rancho Drive – 7th Floor
Las Vegas, NV 89106

Subject: Update to the Technical Drainage Study for Sunstone Parcel 3 Club (DS5289)

Dear Ms. Shinn,

This letter is submitted as an update to the subject drainage study. A copy of the City of Las Vegas (CLV) approval letter has been provided in Appendix A. This update addresses minor changes to the grading of the site to ensure that handicap access requirements are satisfied throughout the site. The revisions are discussed further below.

Introduction:

A brief introduction is provided about the project area. It is located northeast of the intersection of Log Cabin Way and Skye Pointe Drive, within the Sunstone master planned community. The Technical Drainage Study has already been approved by the CLV on June 22, 2020 with CCRFCD concurrence issued on July 22, 2020.

Purpose:

The purpose of this update study is to revise the onsite grades due to recent changes in the street profiles of Hematite Place and Heliolite Place as addressed in the Technical Drainage Study Update for Parcel 3 at Sunstone Phase 1 & Model Phase. The revision of the street profiles helped to reduce the grade difference between the streets, which in turn helped to alleviate the onsite grades as necessary to accommodate handicap requirements and eliminate stepped access to Hematite Place. This Update Study also proposes the removal of the stem wall located west of Buildings A and C and east of the parking lot along Hematite Place as the finished grades along the back of sidewalk provides the required flood protection of the buildings against the flows in the street.

As previously stated, the grades and elevations along Hematite Place has been lowered which resulted to change in street slopes. Due to the grade change, the flow from the parking lot and the street is contained within the street and the TC of the parking lot. Thus, the stem wall is no longer necessary and has been removed. The street section analysis has been referenced from the Technical drainage Study Update for Parcel 3 at Sunstone Phase 1 & Model Phase which is under review at CLV. The reference materials have been included in Appendix D. The street criteria are still met in this update. The hydrology of the project site is still the same and has not changed. However, the slopes of drive aisles have changed. The Finished floor elevations have been raised. The street sections have been reanalyzed where necessary and the finished floors have been checked to meet the CCRFCD criteria. The drainage pattern is still the same and the required drainage criteria are still met with the revisions. Refer to Appendix B for the revised drainage exhibit and Appendix C for the revised hydraulic computations.

Conclusion:

The revised grading plan, profile, and detail sheets adopting the revisions addressed in this letter have been included in Appendix E. If you have any questions or require additional information, please do not hesitate to contact our office at (702) 284-5300.

Respectfully Submitted,
WESTWOOD PROFESSIONAL SERVICES

Abhusan Achhami
Graduate Engineer – Flood Control Division

cc: Stanley Okey Amadi, P.E., CFM
Tom Miller, P.E.
Josh Johnson, E.I.
Mark Failla, P.E., CFM
Chelsea Jensen

APPENDIX

Appendix A – CLV & CCRFCD Approval Letters

Appendix B – Revised Drainage Exhibit

- Ultimate Condition Drainage Map

Appendix C – Revised Hydraulic Computations

- Drive Aisle Computations

Appendix D – Reference Material

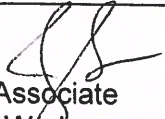
Technical Drainage Study Update for Parcel 3 at Sunstone Phase 1 & Model Phase

- Referenced Drainage Exhibit
- Referenced Street Section

Appendix E – Grading Plan, Profile & Detail Sheets

APPENDIX A

CLV Approval Letter

CITY OF LAS VEGAS			DATE:			
INTER-OFFICE MEMORANDUM			June 22, 2020			
TO: Land Development Services Department of Building & Safety			FROM: Jennifer Shinn, P.E.  Flood Control, Engr. Associate Department of Public Works			
SUBJECT: Drainage Study for: Sunstone Parcel 3 Club			COPIES TO: Westwood Professional Services			
Cross Streets: NEC of Skye Pointe Drive & Log Cabin Way			Northland, LLC Shea Homes Limited Partnership			
File Number: F:\Depot\DSMemos\DS5289A.doc			Bart Anderson, P.E., DevCo			
Parcel Number: 125-06-110-002			CCRFCFCD			
Zoning Action: TMP-78230						
FEMA Flood Zone		YES			NO	X
Proposed Storm Drain		YES			NO	X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	5/28/2020 (paid 6/17/2020)	6/18/2020	See Comments Below	\$400.00	3885470: \$400
			TOTAL FEES (LDDRS):	\$400.00	----

REMARKS:

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

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.

- 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 (CCRFCFCD)* has issued a letter of concurrence. The engineer should contact the CCRFCFCD to confirm that they have begun their review.

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

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

Please note that effective April 6, 2020, only electronic submittals to the CCRFCFCD will be accepted for regional concurrence. Contact cwang@regionalflood.org for direction.

- The study assumes the storm drain infrastructure proposed by the Technical Drainage Study for Sunstone Phase 1 Infrastructure and Parcel 3 at Sunstone Phase 1 & Model Phase are in place and

functioning. Substantial completion of the Sunstone Phase 1 Infrastructure facilities is required prior to residential occupancy permits.

3. The substantial completion of the developer's Moccasin facility prior to any residential occupancy permits within the Sunstone development is required.
4. Private streets must be public drainage easements, including the drive aisle north of Building A. Provide a note on the grading plans "Note: All private streets are P.U.E., Public Sewer Easements, and Public Drainage Easements to be privately maintained by HOA."
5. All drainage easements must be public drainage easements to be privately maintained and common lots to be labeled on the grading plans and to be dedicated as such in the final map.
6. Landscape areas (e.g. lawn areas) are not allowed to drain over the sidewalk. Provide flow lines with grades and sidewalk under drains for all landscape areas draining to the street. Revise all pertinent details accordingly.
7. The previous study provides public drainage easements around proposed storm drop inlets SDDI#3, SDDI#5, and SDDI#9 which appear to be outside of the right-of-way limits and encroach onto private lots. Delineate said easements on the Grading Plans.
8. Label the offsite improvements with the plan numbers and/or label as "future" (e.g. Heliolite Place).

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

END OF REMARKS

jks

T/R/S: T19S/R60E/06
AREA G-06

REGIONAL FLOOD CONTROL DISTRICT



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

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Clark County

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City of Las Vegas

Stavros Anthony
City of Las Vegas

Isaac Barron
City of North Las Vegas

Mayor Kiernan McManus
City of Boulder City

July 22, 2020

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

**DISTRICT CONCURRENCE: SUNSTONE PARCEL 3 CLUB
(DS5289A) (RFCD No. 20-13573)**

Dear Mr. Kwon:

Clark County Regional Flood Control District (District) reviewed Technical Drainage Study dated May 28, 2020 for above-mentioned project as submitted by WESTWOOD PROFESSIONAL SERVICES. In addition, District is in receipt of the Conditional Letter of Acceptance from City of Las Vegas Department of Public Works dated June 22, 2020.

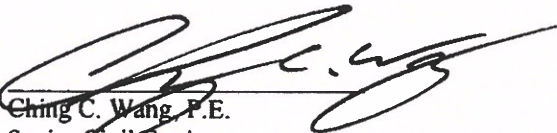
District concurs with acceptance of this Technical Drainage Study by City of Las Vegas Department of Public Works.

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

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

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

BY:


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

CCW:dd

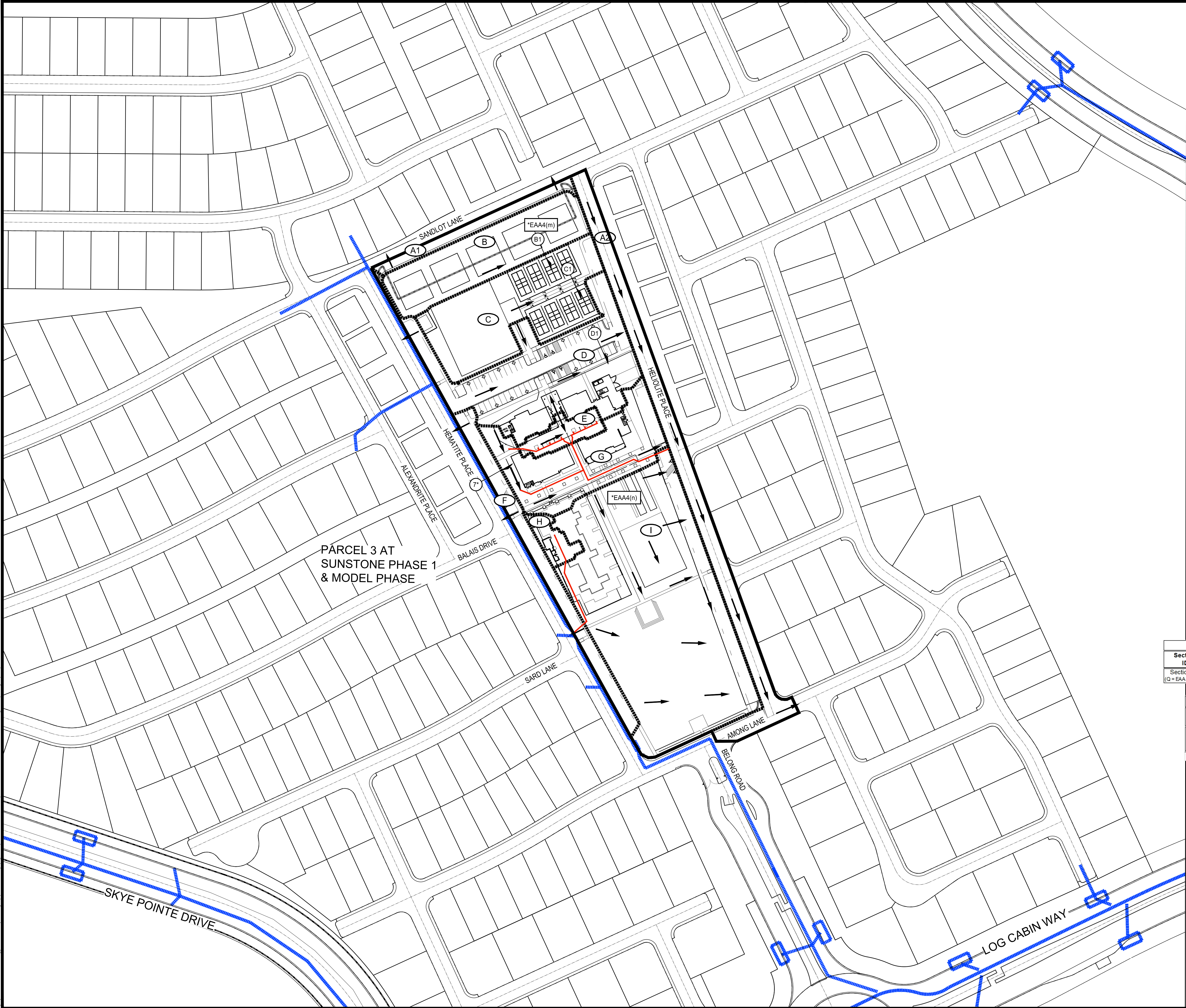
c: Stanley Okey Amadi, Westwood Professional Services

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APPENDIX B

Revised Drainage Exhibit

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LEGEND

BASIN BOUNDARY

PRORATED SUBBASIN BOUNDARY

EXISTING DRAINAGE FACILITY

PROPOSED DRAINAGE FACILITY

ID

BASIN ID

ID

PRORATED SUBBASIN ID

ID

CONCENTRATION POINT ID

FLOW DIRECTION

ID

FLOWMASTER SECTION

Prorated Flow Summary			
Basin ID	Q ₁₀₀ (cfs)	Area (acres)	100-yr Unit Flow (cfs/acre)
*EAA4(m)	3	1.60	2.1
*EAA4(n)	14	6.59	2.1
Subbasin ID			
	Q ₁₀₀ (cfs)	Area (acres)	100-yr Unit Flow (cfs/acre)
*EAA4(m)(A1)	0.4	0.19	2.1
*EAA4(m)(A2)	1.4	0.64	2.1
*EAA4(m)(B)	1.6	0.77	2.1
TOTAL	3	1.60	
*EAA4(n)(C)	2.2	1.03	2.1
*EAA4(n)(D)	2.7	1.26	2.1
*EAA4(n)(E)	0.3	0.15	2.1
*EAA4(n)(F)	1.0	0.45	2.1
*EAA4(n)(G)	1.8	0.85	2.1
*EAA4(n)(H)	0.3	0.14	2.1
*EAA4(n)(I)	5.8	2.71	2.1
TOTAL	14	6.59	

*Note - Project site is portion of basins EAA4(m) and EAA4(n) referenced from Skye Canyon Master Drainage Study Update #5

Ultimate Condition 100-Year Drive Aisle Flow Summary					
Section ID	Q ₁₀₀ (cfs)	Slope (%)	Depth (ft)	Velocity (fps)	DxV
C1 (Q = EAA4(n)(C))	2.2	0.84	0.19	1.89	0.4
D1 (Q = EAA4(n)(D))	2.7	1.09	0.29	1.95	0.6

Ultimate Condition Onsite Hydraulic Section Summary					
Section ID	Q ₁₀₀ (cfs)	Section Description	Slope (%)	Depth (ft)	Velocity (fps)
Section B1 (Q = EAA4(m)(B))	1.6	Swale with 3:1 side slopes	1.37	0.46	2.52

Ultimate Condition 100-Year Street Flow Summary					
Section ID	Q ₁₀₀ (cfs)	Slope (%)	Depth (ft)	Velocity (fps)	DxV
7"	7.20	0.60	0.40	1.93	0.8

Q = Bypass at Section 19+ 1/2 of EAA3(I) + 1/4 of EAA4(cc)

*Note - Referenced from Phase 1 Update Study (Under Review)

NOTES:
* Street Section has been referenced from Phase 1 Update Study

Westwood

5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

DATE: JULY 2020

DRAFTER: AA

DESIGNER: AA

CHECKED: SOA

PROJECT NO.
SHE2001.001

EXHIBIT E

SHEET 1 OF 1

NO.

1

DESCRIPTION

SUNSTONE PARCEL 3 CLUB
ULTIMATE CONDITION DRAINAGE MAP

DATE

DATE

BY

DATE

APP.

DATE

SHLP

APPENDIX C

Revised Hydraulic Computations

Drive Aisle Computations

Project Description

Input Data

Station (ft)	Elevation (ft)
0+00.00	0.42
0+06.00	0.12
0+12.00	0.00
0+18.00	0.30

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.42)	(0+18.00, 0.30)	0.016

Options

Results

Worksheet for Section C1

Results

Velocity	1.89	ft/s
Velocity Head	0.06	ft
Specific Energy	0.24	ft
Froude Number	1.03	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.19	ft
Critical Depth	0.19	ft
Channel Slope	0.84	%
Critical Slope	0.00788	ft/ft

Cross Section for Section C1

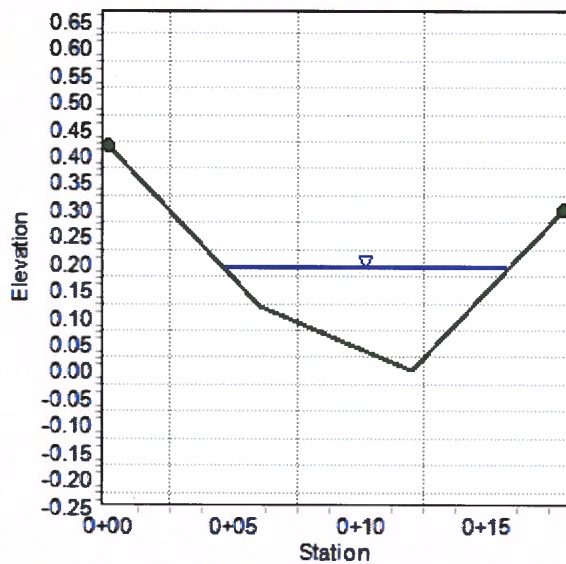
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.84	%
Normal Depth	0.19	ft
Discharge	2.20	ft ³ /s

Cross Section Image



Worksheet for Section D1

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope 1.09 %
Discharge 2.70 ft³/s
Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.98
0+41.50	0.15
0+42.50	0.00
0+43.50	0.15
0+64.50	0.57

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.98)	(0+41.50, 0.15)	0.016
(0+41.50, 0.15)	(0+43.50, 0.15)	0.013
(0+43.50, 0.15)	(0+64.50, 0.57)	0.016

Options

Current Roughness Weighted Method Pavlovskii's Method
Open Channel Weighting Method Pavlovskii's Method
Closed Channel Weighting Method Pavlovskii's Method

Results

Normal Depth 0.29 ft
Elevation Range 0.00 to 0.98 ft
Flow Area 1.38 ft²
Wetted Perimeter 15.86 ft
Hydraulic Radius 0.09 ft
Top Width 15.84 ft

Worksheet for Section D1

Results

Normal Depth	0.29	ft
Critical Depth	0.30	ft
Critical Slope	0.00791	ft/ft
Velocity	1.95	ft/s
Velocity Head	0.06	ft
Specific Energy	0.35	ft
Froude Number	1.16	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

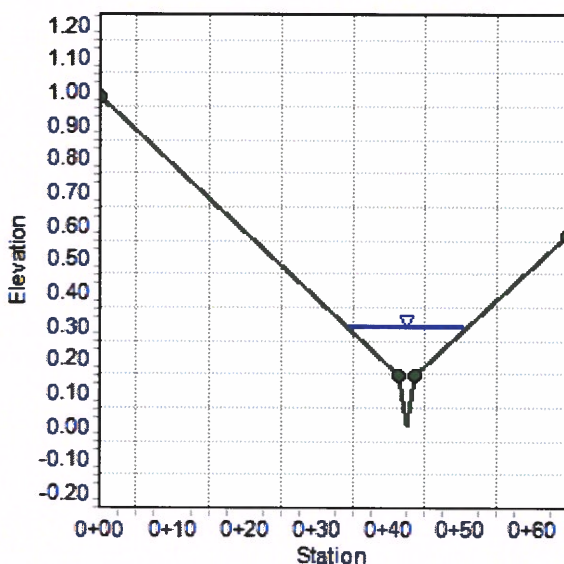
GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.29	ft
Critical Depth	0.30	ft
Channel Slope	1.09	%
Critical Slope	0.00791	ft/ft

Project Description

Manning Formula

Normal Depth

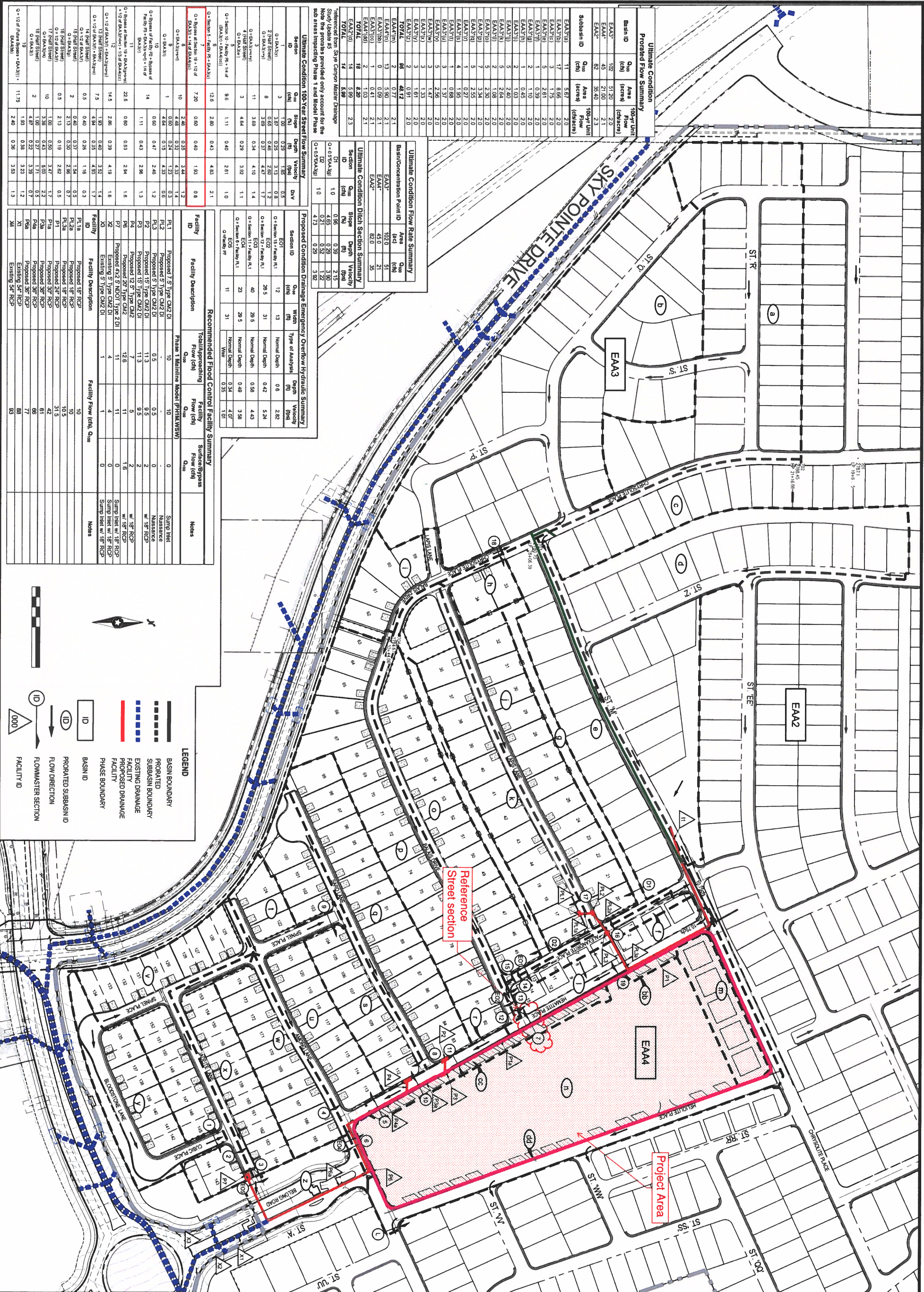
2.70 ft³/s

APPENDIX D

Reference Material

*Technical Drainage Study Update for Parcel 3 at Sunstone
Phase 1 & Model Phase, by Westwood*

Referenced Drainage Exhibit



Referenced Street Section

Worksheet for Section 7 - FULL STREET 100-YR

Results

Normal Depth		0.40	ft
Elevation Range	0.00 to 0.50 ft		
Flow Area		3.74	ft²
Wetted Perimeter		27.86	ft
Hydraulic Radius		0.13	ft
Top Width		26.97	ft
Normal Depth		0.40	ft
Critical Depth		0.39	ft
Critical Slope		0.00726	ft/ft
Velocity		1.93	ft/s
Velocity Head		0.06	ft
Specific Energy		0.46	ft
Froude Number		0.91	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.40	ft
Critical Depth	0.39	ft
Channel Slope	0.60	%
Critical Slope	0.00726	ft/ft

Cross Section for Section 7 - FULL STREET 100-YR

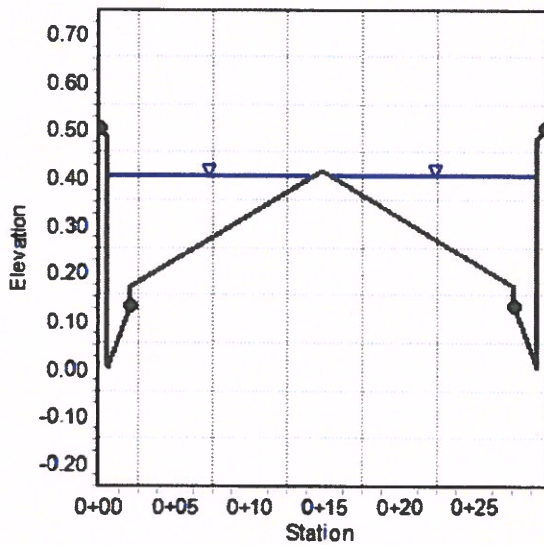
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope 0.60 %
Normal Depth 0.40 ft
Discharge 7.20 ft³/s

Cross Section Image



APPENDIX E

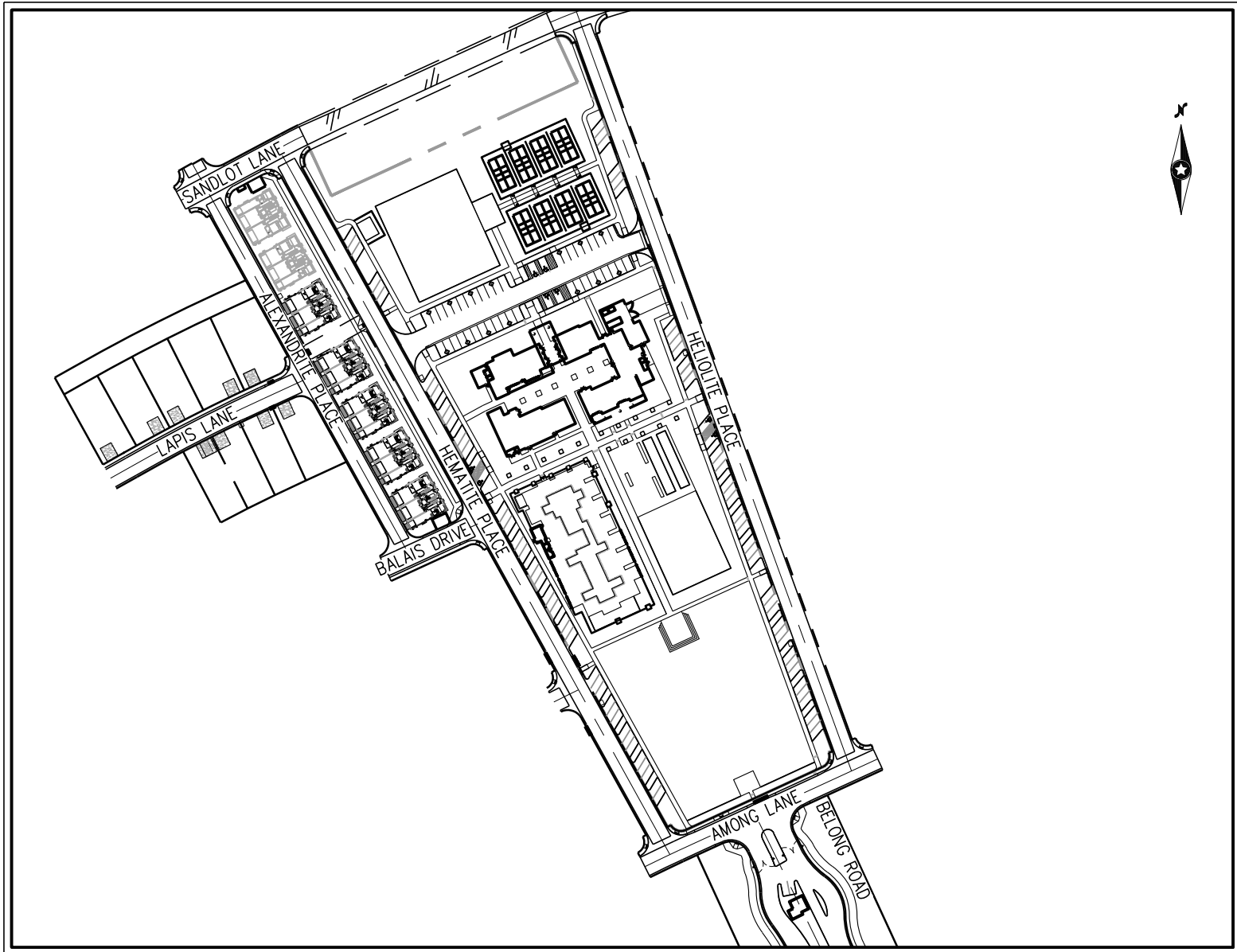
Grading Plan, Profile & Detail Sheets

SHEA HOMES LIMITED PARTNERSHIP

IMPROVEMENT PLANS FOR SUNSTONE PARCEL 3 CLUB

CITY OF LAS VEGAS, NEVADA
RESIDENTIAL SUBDIVISION

APN: 125-06-110-002



SITE MAP
NOT TO SCALE

DEVIATIONS FROM STANDARDS

NONE

SWPPP NOTE

NOTE: ALL LAND SURFACE AREA DISTURBANCES OVER 1 ACRE REQUIRE A STORMWATER DISCHARGE PERMIT ISSUED BY THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP). A PHASED CONSTRUCTION UNIT IN A CONTIGUOUS SUBDIVISION IS CONSIDERED UNDER CONSTRUCTION UNTIL ALL STRIPPED SURFACE AREAS HAVE BEEN COVERED BY PAVING, BUILDING CONSTRUCTION OR PLANTING. A STORMWATER DISCHARGE PERMIT APPLICATION AND ASSOCIATED INFORMATION MAY BE DOWNLOADED FROM THE WEB SITE: [HTTP://WWW.STATE.NV.US/SWPG/STORMWATER.HTML](http://WWW.STATE.NV.US/SWPG/STORMWATER.HTML) PROJECTS THAT DISTURB MORE THAN ONE ACRE OF LAND MUST SUBMIT TO NDEP A "NOTICE OF INTENT" FOR INCLUSION UNDER STORMWATER PERMIT NO. NWR100000 ALONG WITH THE APPROPRIATE FILING FEE.

PROJECT INFORMATION

ACREAGE (GROSS): = 6.80 AC
ACREAGE (NET): = 6.80 AC
ZONING: = T-D, T-D

EARTHWORK SUMMARY (UNADJUSTED)

CUT 4,316 CY
FILL 6,377 CY
NET 2,061 CY FILL

GEOTECHNICAL ENGINEER

PREPARED BY: SOUTHWEST GEOTECHNICAL
ADDRESS: 5275 ARVILLE SR. #108
PHONE: 702-323-6000
PROJECT No. 182167
DATED: 4/25/18

UPDATED
PROJECT No. 205210
DATED: 02/27/20

SHEET INDEX

NO.	SHEET	TITLE
1	C-1	COVER SHEET
2	C-2	NOTES SHEET
3	C-3	LEGEND, ABBREVIATIONS, AND QUANTITIES
4	G-1	GRADING SHEET 1
5	G-2	GRADING SHEET 2
6	D-1	DETAIL SHEET 1
7	D-2	DETAIL SHEET 2
8	D-3	DETAIL SHEET 3

APPROVALS

CITY OF LAS VEGAS ENGINEER APPROVAL

LAS VEGAS FIRE AND RESCUE

DATE

CITY OF LAS VEGAS PLANNING DEPARTMENT

CENTRAL TELEPHONE CO. DBA CENTURYLINK

DATE

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

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 111111
FIRST APPROVED DATE: 11/11/11
LYVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 20 GPM

SHEETS: 111111

NV ENERGY

DATE

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

SOUTHWEST GAS CORPORATION

DATE

COX COMMUNICATIONS LAS VEGAS, INC.

DATE

DEVELOPER

SHEA HOMES LIMITED PARTNERSHIP
4182 SOLACE STREET
LAS VEGAS, NV 89135
PH: 702-265-9366
CONTACT: JEREMY FRITZ

ENGINEER

WESTWOOD PROFESSIONAL SERVICES
5740 S. ARVILLE STREET, SUITE 216
LAS VEGAS, NV 89118
PH: (702) 284-5300
FX: (702) 284-5399
CONTACT: TOM MILLER

LEGAL DESCRIPTION

BEING A PORTION OF PARCEL 3 OF THAT CERTAIN PARENT FINAL MAP ENTITLED "SUNSTONE" ON FILE IN BOOK 161, PAGE 40 OF PLATS, OFFICIAL RECORDS, CLARK COUNTY, NEVADA, LYING WITHIN THE NORTHWEST QUARTER OF SECTION 6, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M. CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

BENCHMARK

MONUMENT ID: USA (1934) 19
U.S. DEPARTMENT OF AGRICULTURE BRASS DISC AT SOUTHWEST CORNER OF U.S. 95 AND KYLE CANYON ROAD
ELEVATION=2817.61 FEET, 858.810 METERS
NAD83 DATUM
PER THE CITY OF LAS VEGAS BENCHMARK BOOK-2008 ADJUSTMENTS (UPDATED 05/24/2010)

BASIS OF BEARINGS

NORTH 00°01'50" WEST, BEING THE BEARING OF THE EAST LINE OF THE NORTHEAST QUARTER (NEQ) OF SECTION 6, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE 151, PAGE 14 OF SURVEYS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

FEMA FLOOD ZONE INFORMATION

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE X, UNSHADED (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER FLOOD INSURANCE RATE MAP (FIRM) PANEL 32003C1735E, UPDATED SEPTEMBER 27, 2002.



SHEA HOMES LIMITED PARTNERSHIP

SUNSTONE PARCEL 3 CLUB

COVER SHEET

DATE: 07/22/2020

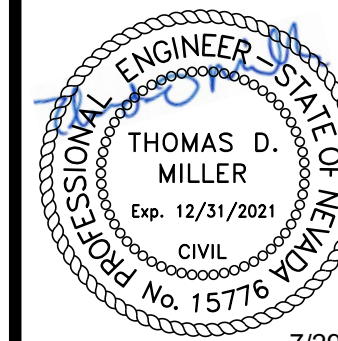
DRAFTER: JSP

DESIGNER: JSP

CHECKED: TM

PROJECT NO.

SHE 2001-001



C-1

SHEET 1 OF 8

ABBREVIATIONS					
AC	ASPHALTIC CONCRETE OR ACRE	FL	FLOWLINE	PW	POINT OF VERTICAL INTERSECTION
AGG	AGGREGATE BASE	FT	FEET OR FOOT	QTY	QUANTITY
APN	ASSESSORS PARCEL NUMBER	FUT	FUTURE	R	RADIUS
APPROX OR ~	APPROXIMATE	GRD	GRADE OR GROUND	RCA	REINFORCED CONCRETE ARCH
AVE	AVENUE	GRD BREAK OR GRADE CHANGE		RCB	REINFORCED CONCRETE BOX
@	AT	GVE	GATE VALVE	RCP	REINFORCED CONCRETE PIPE
BC	BEHIND CURVE OR BACK OF CURB	HD	HIGH DENSITY POLYETHYLENE	RD	ROAD
BCR	BEGINNING OF CURB RETURN	HOE	HOME OWNERS ASSOCIATION	ROWY ESMT	ROADWAY EASEMENT
BOT	BOTTOM OF HEADWALL	HORIZ	HORIZONTAL	RQR	REQUIRED
BUDG	BUDGET	HPC	HIGH POINT	REV	REVISION
BLVD	BOULEVARD	HVL	HIGH WATER LEVEL	RG	ROUGH GRADE
BLVD	BEGIN VERTICAL CURVE	HW	HEADWALL	RG	RIGHT
BW	BOTTOM OF WALL/FINISHED GRADE	HYD	HYDRAULIC OR HYDRANT	R/R OR R	RIGHT OF WAY
BWV	BACK WATER VALVE	ID	INSIDE DIAMETER	S	SLOPE
CC	CLARK COUNTY	IN	INCH	SC	SCHEDULE
CL	CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS	INT	INTERSECTION	SD	STORM DRAIN
CCPW	CLARK COUNTY PUBLIC WORKS	INV	INVERT ELEVATION	SDDI	STORM DRAIN DROP INLET
CCRFCD	CLARK COUNTY REGIONAL FLOOD DISTRICT	IRP	IRON PIPE	SDMH	STORM DRAIN MANHOLE
CL	CLARK COUNTY WATER RECLAMATION DISTRICT	IRR	IRRIGATION	SEC	SECTION
CLC	CEMENT ELEMENT	LF	LINEAR FEET	SEF	SQUARE FEET
CLC/L/C	CEMENT CURB	LF	LANDSCAPE MAINTENANCE CORPORATION	SHT	SHEET
CLR	CLEAR OR CLEARANCE	LT	LEFT	SLC	STREET LIGHT & TRAFFIC CONTROL ESMT
CLSM	CONTROLLED LOW STRENGTH MATERIAL	LT OR L	LEFT	SNW	SOUTHERN NEVADA WATER AUTHORITY
CLV	CITY OF LAS VEGAS	LWVD	LAS VEGAS VALLEY WATER DISTRICT	SPEC	SPECIFICATIONS
CM&C	CEMENT MORTAR LINED AND COATED	LWL	LOW WATER LEVEL	ST	STREET
CMU	CONCRETE MASONRY UNIT	LXM	LAXIMUM	SSMH	SANITARY SEWER MANHOLE
CNV	CITY OF NORTH LAS VEGAS	MECH	MECHANICAL	STA	STATION
CON	CITY OF HENDERSON	MH	MANHOLE	STD	STANDARD
CONC	CONCRETE	MIN	MINIMUM	STL	STEEL
CT	COURT	MIS	MISCELLANEOUS	STLT	STREET LIGHT
CY	CUBIC YARD	MUE	MUNICIPAL UTILITY EASEMENT	SW	SIDEWALK
CWCS	CURB AND CONSTRUCTION FOR WASTEWATER COLLECTION SYSTEMS	NDOT	NEVADA DEPARTMENT OF TRANSPORTATION	SWN	SOUTHWEST GAS
DE	DRAINAGE EASEMENT	NIS	NOT TO SCALE	SWR OR SS	SANITARY SEWER
DET	DETAIL	NUE	NONEXCLUSIVE UTILITY EASEMENT	SY	SQUARE YARD
DI	DUCTILE IRON OR DRAIN INLET	NV	NO ENERGY	TANG	TANGENT
DI, Ø	DIAMETER	OC	ON CENTER	TC	TOP OF CURB
DIP	DUCTILE IRON PIPE	OD	OUTSIDE DIAMETER OR OVERALL DIMENSION	TF	TOP OF FLOOR OR TOP OF FOOTING
DR	DRAWING	OFF	OFFSET	TG	TOP OF GRADE
DWS(S)	DRAINAGE	ORIG	ORIGINAL	THRU	THROUGH
DWY	DRIVEWAY	P&E	PUBLIC OR PEDESTRIAN ACCESS EASEMENT	THW	TOP OF HEADWALL
EAD	END CURB RETURN	PR	PILE BOX	TP	TOP OF PIPE
ECR	EXISTING GROUND	PCC	PORTLAND CEMENT	TPW	TOP OF WALL
ELEV	ELEVATION	POC	POINT OF COMPOUND CURVE	TRW	TOP OF RETAINING WALL
ESMT	EASEMENT	POE	PUBLIC DRAINAGE EASEMENT	TSP	TOP OF SCREEN WALL
EP	EDGE OF PAVEMENT	POF	PROPERTY LINE	TYP	TYPICAL
ERU	EQUIVALENT RESIDENTIAL UNIT	PGB	POINT OF BEGINNING	UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS
EVC	END VERTICAL CURVE	PCE	POINT OF CURVATURE	UE	UTILITY EASEMENT
EX OR EXIST	EXISTING	PCE	POINT OF ENDING	VG	VERTICAL CURVE
FC	FACE OF CURB	PRC	POINT OF REVERSE CURVATURE	VERT	VERTICAL
FF	FINISHED FLOOR	PRELIM	PRELIMINARY	VG	VALLEY GUTTER
FF	FINISHED GRADE	PRV	PRESSURE REDUCING VALVE	WI	WROUGHT IRON
FGH	FINISH GRADE, HIGH SIDE	PUB	PUBLIC UTILITY EASEMENT	WL	WATER LINE
FGL	FINISHED GRADE, LOW SIDE	PT	POINT OF TANGENT OR POINT	WP	WATER PRESSURE ZONE
FH	FIRE HYDRANT	PVC	POLYVINYL CHLORIDE	WTR	WEIGHT
				WTR	WATER LINE

SPECIAL NOTE

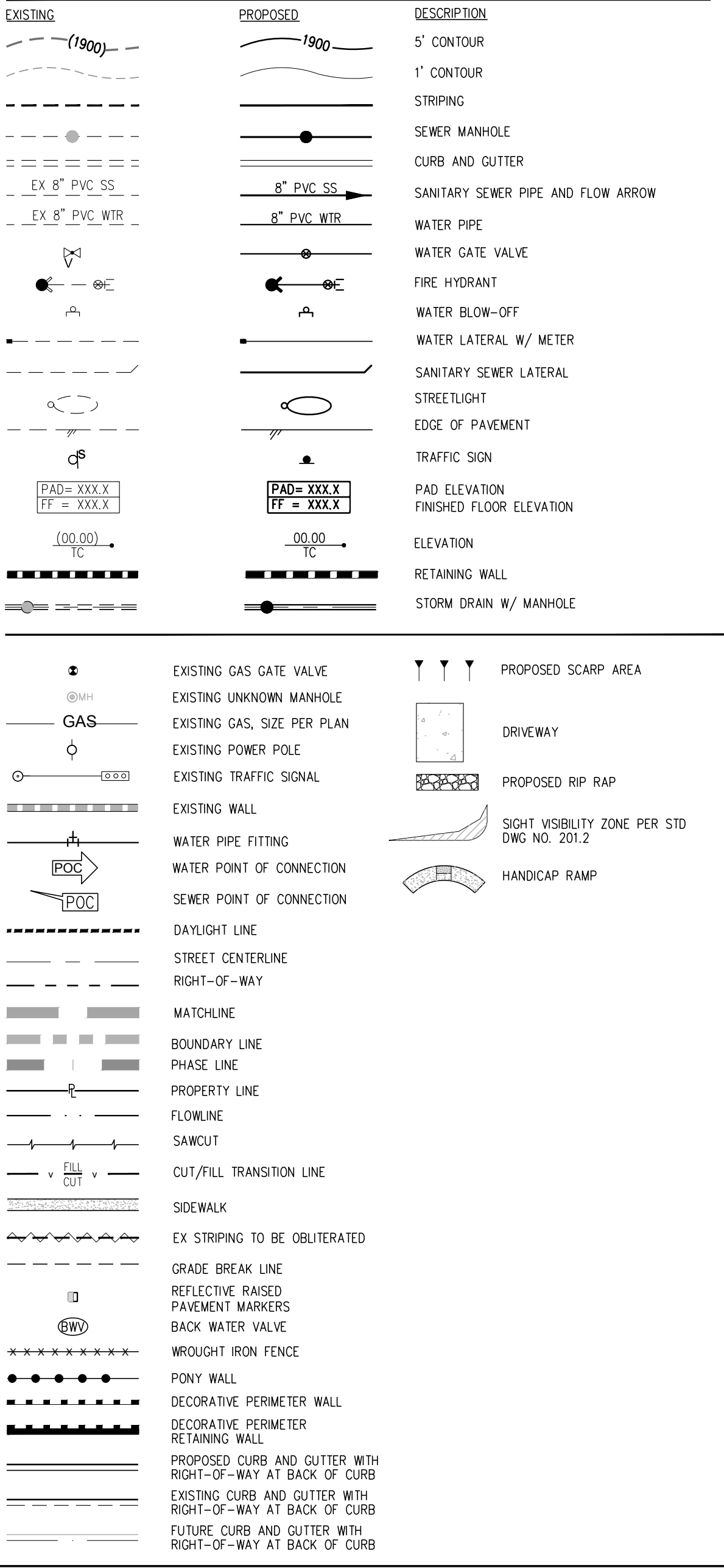
IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED WHICH IS NOT SHOWN ON THESE DRAWINGS, THE OWNER AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF THE CITY OF LAS VEGAS DEPT. OF PUBLIC WORKS. TEMPORARY CONSTRUCTION ITEMS INCLUDE: PAVEMENT TRANSITIONS, PROTECTIVE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

NOTICE TO CONTRACTOR

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

-EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATIONS. CALL BEFORE YOU DIG: (800) 227-2600

LEGEND



QUANTITIES		PRIVATE	PUBLIC	
DRAINAGE				
1.	8" PVC STORM DRAIN	LF	777	-
2.	8" ADS AREA DRAIN WITH STEEL FRAME AND GRATE (OR APPROVED EQUAL)	EA	9	-
3.	6" TRENCH DRAIN	LF	130	-
4.	2" WIDE CONCRETE VALLEY GUTTER W/6" TYPE II AGGREGATE BASE	SF	578	-
5.	SIDEWALK UNDER DRAIN	EA	3	-
SEWER SYSTEM				
1.	4" PVC SEWER LATERAL (PRIVATE)	LF	-	-
2.	8" PVC SEWER PIPE (PUBLIC)	LF	-	-
3.	STANDARD 48" SEWER MANHOLE (PUBLIC)	EA	-	-
4.	8" SEWER PIPE CAP	EA	-	-
5.	BACK WATER VALVE	EA	-	-
6.	8" C-900 WATER QUALITY SEWER PIPE (PUBLIC)	EA	-	-
7.				
WATER SYSTEM				
1.	FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS PLATE NO. 40	EA	-	-
2.	6" PVC WATER PIPE (CLASS 150)	LF	-	-
3.	8" PVC WATER PIPE (CLASS 150)	LF	-	-
4.	8" DIP WATER PIPE (CLASS 53)	LF	-	-
5.	8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	-	-
6.	8" X 6" TEE PER UDACS PLATE NO. 31	EA	-	-
7.	8" X 8" TEE PER UDACS PLATE NO. 31	EA	-	-
8.	8" 5 DEGREE BEND WITH RESTRAINED JOINTS	EA	-	-
9.	8" 11.25 DEGREE BEND PER UDACS PLATE NO. 31	EA	-	-
10.	8" 22.5 DEGREE BEND PER UDACS PLATE NO. 31	EA	-	-
11.	8" 45 DEGREE BEND PER UDACS PLATE NO. 31	EA	-	-
12.	8" 90 DEGREE BEND PER UDACS PLATE NO. 31	EA	-	-
13.	CAP AND 2" BLOW-OFF ASSEMBLY W/CAP PER UDACS PLATE NO. 36	EA	-	-
14.	1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 2	EA	-	-
15.	1" COPPER SERVICE W/ 1" METER PER UDACS PLATE NO. 4	EA	-	-
16.	1" COPPER SERVICE W/ 3/4" METER & 1" RPPA PER UDACS PLATE NO. 4 & 8	EA	-	-
		EA	-	
STREET IMPROVEMENTS				
1.	2" A.C. PAVEMENT W/ 4" TYPE II OVER 6" TYPE I AGGREGATE BASE	SY	-	-
2.	STANDARD 18" TYPE "L" ISLAND CURB & GUTTER W/6" TYPE I AGGREGATE BASE	LF	-	-
3.	STANDARD 8" TYPE "A" ISLAND CURB W/6" TYPE I AGGREGATE BASE	LF	-	-
4.	STANDARD 30" TYPE "ROLL" CURB & GUTTER W/6" TYPE I AGGREGATE BASE	LF	-	-
5.	4" WIDE CONCRETE SIDEWALK W/4" TYPE II AGGREGATE BASE	SF	-	-
6.				-
7.				-
TRAFFIC SIGNALS				
1.	30" STOP SIGN WITH POST (R1-1)	EA	-	-
2.	9" STREET NAME SIGN (D-3, BROWN W/ WHITE LETTERS)(6 POLES X 2 PER POLE=12)	EA	-	-
3.	BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKER	EA	-	-
4.	CROSSWALK MARKINGS	LF	-	-
5.				
6.				
7.				
8.				
DRY UTILITIES				
1.	100W H.P.S. LUMINAIRE STREET LIGHT W/DECORATIVE POLE	EA	-	-
2.	1-1/4" PVC STREET LIGHT CONDUIT WITH (2) #4 AND (1) #8 CONDUCTORS	LF	-	-
3.	NO. 3-1/2" PULL BOX W/METAL COVER	EA	-	-
4.	150 AMP SERVICE PEDESTAL (RRR)	EA	-	-
5.	200 AMP SERVICE PEDESTAL (STLT)	EA	-	-
6.				

STR 6S1960E

DATE: 07/22/2020

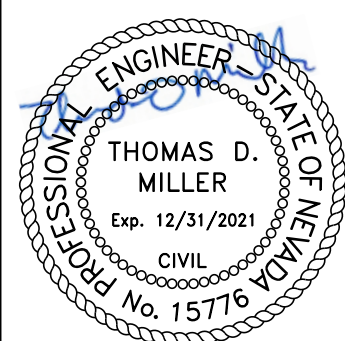
DRAFTER: JSP

DESIGNER: JSP

CHECKED: TM

PROJECT NO.

SHE 2001-001



7/29/20

C-3

SHEET 3 OF 8

AVOID HITTING OVERHEAD
POWER LINES. IT'S
COSTLY.

**CALL BEFORE
YOU DO
OVERHEAD**

1-702-227-2929

FAST
Call before you
UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM
OF TRANSPORTATION (F.A.S.T.)

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

Call

OR
1-800-227-2600

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES

PROJECT NO. ##### FIRST APPROVED DATE: _____



UPDATED
PROJECT No. 205210
DATED: 02/27/20

EARTHWORK QUANTITIES (RAW):
-CUT = 4,316 CY
-FILL = 6,377 CY

- A) THE ABOVE QUANTITIES DO NOT REFLECT LOSSES DUE TO SUBSIDENCE OR SHRINKAGE.
- B) THE ABOVE QUANTITIES DO REFLECT USING NATIVE MATERIAL IN LIEU OF TYPE I GRAVEL BASE MATERIAL FOR STREET SECTIONS.
- C) THE ABOVE QUANTITIES DO NOT REFLECT ANY EARTHWORK WHICH MAY BE REQUIRED BY THE ENGINEER TO CONSTRUCT ADDITIONAL PROTECTIVE DITCHES OR BERMS NOT SHOWN ON THESE DRAWINGS.

THE PROJECT IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER FLOOD INSURANCE RATE MAP (FIRM) PANEL 32003C1735E UPDATED SEPTEMBER 27, 2012



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

Call

OR
1-800-227-2600

NORTH 00°01'50" WEST, BEING THE BEARING OF THE EAST LINE OF THE NORTHEAST QUARTER (NE $\frac{1}{4}$) OF SECTION 6, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE 151, PAGE 14 OF SURVEYS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED
FLOOD STUDY CLV # DS 5289A ON FILE AT THE CITY OF LAS VEGAS FOR THE
SUBJECT PROJECT.

Thomas D. Miller 7/29/20

THOMAS D. MILLER, P.E. 15776 DATE

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

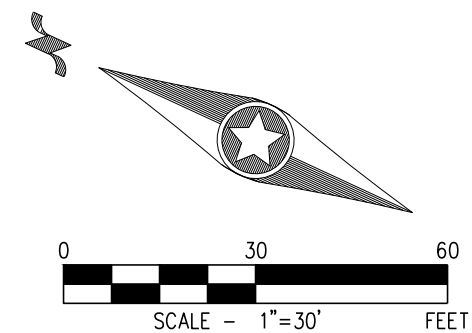
MONUMENT ID:USA (1934) 19
U.S. DEPARTMENT OF AGRICULTURE BRASS DISC AT SOUTHWEST CORNER OF U.S. 95
AND KYLE CANYON ROAD
ELEVATION=2817.61 FEET, 858.810 METERS
NAVD 88 DATUM
PER THE CITY OF LAS VEGAS BENCHMARK BOOK-
2008 ADJUSTMENTS (UPDATED 05/24/2010)

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

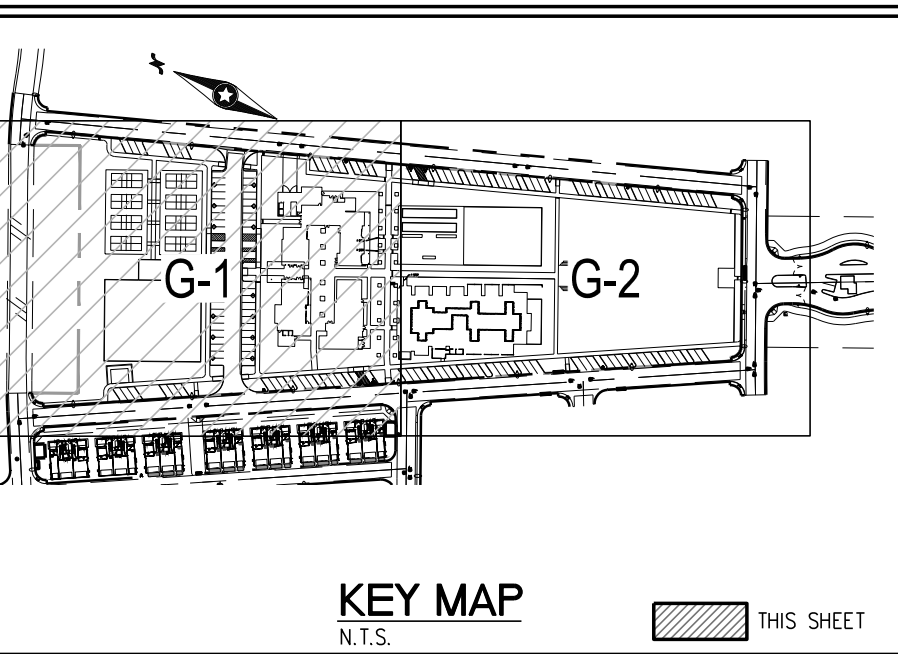
4. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT MUD, CONSTRUCTION MATERIALS AND DEBRIS FROM THE CONSTRUCTION SITE TO PREVENT THE DISCHARGE TO, OR ACCUMULATE IN, THE PUBLIC RIGHTS OF WAY'S AND TO PREVENT THE CONSTRUCTION SITE FROM BEING USED AS A TEMPORARY DISCHARGE OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
5. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES SHALL BE REQUIRED TO PREVENT EROSION PROBLEMS OR IF THE SEDIMENT DOES NOT DISCHARGE TO THE PUBLIC RIGHTS OF WAY AS SPECIFIED IN THE CITY OF LAS VEGAS AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
6. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE REQUIRED FOR ALL EXPOSED EROSION PRONE AREAS AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS COMPLETED. SUCH PRACTICES MAY INCLUDE, BUT NOT BE LIMITED TO, SOME EXCEPTIONS MAY APPLY, REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI000000, SECTION III.A.
7. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL EXPOSED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND AREAS WHERE THERE ARE ANY CHANGES TO THE CONSTRUCTION SITE AND DISTURBED LOCATIONS AND ALL BMP'S WEEKLY, AND WITHIN 24 HOUR AFTER ANY ACTUAL RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR SHALL MAINTAIN RECORDS OF ALL INSPECTIONS AND REPORT STORMWATER POLLUTION PREVENTION PLAN OF ANY NECESSARY CORRECTIVE ACTIONS TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI000000, SECTION III.A. SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI000000, SECTION III.A.

3. SEE HORIZONTAL CONTROL PLANS FOR CENTERLINE AND BACK OF CURB DATA.
4. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
5. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
6. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
7. DETAIL SHEETS FOR SECTIONS AND DETAIL A.D.R. SHALL BE USED.
8. ALL PUBLIC AND PRIVATE DRIVEWAY IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
9. CONSTRUCTION OF WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL.
10. EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. CONTRACTOR TO VERIFY LOCATION, ELEVATION OF EXISTING UTILITY LOCATIONS, AND FACILITY AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION.
11. NO STRUCTURE, GEOTECH, OR OBJECTS OF ANY KIND IS PERMITTED TO EXCEED 12' (24' DIMENSION IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONE.
12. ALL ON-SITE STORM DRAINAGE AND THE ASSOCIATED FACILITIES ARE PRIVATELY OWNED AND TO BE MAINTAINED.
13. CONTRACTOR TO VERIFY ALL HANDICAP ACCESSIBLE ROUTES AND PARKING SPACES TO MEET ADA COMPLIANCE AND A.A.A. ACCESSIBILITY GUIDELINES AND NOT TO EXCEED MAXIMUM SLOPES IN ANY DIRECTION TO MEET STRUCTURAL CODES (ICC 1102) AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
14. CONSTRUCTION A.D.R. ROUTE, HAND RAILS, PARKING, SIGNAGE & RAMP TO BE CONSTRUCTED TO MEET A.A.A. ACCESSIBILITY GUIDELINES.
15. ALL AREAS, AS INDICATED ON THIS SET OF PLANS, SHOWN TO BE LAPPED OR HARDCAPE SHALL REMAIN NATURAL DESERT OR PAVED.
16. FINAL GRDES ADJACENT TO STRUCTURES SHALL BE IN CONFORMANCE WITH IBC 2021, SECTION 2304.11.2.2.
17. EXISTING DRIVEWAYS, SIDEWALKS AND/OR PEDESTRIAN ENTRANCE, SHALL NOT EXCEED 2.0%.

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



- 1) CONSTRUCT 1" TYPE CURB & GUTTER PER CCAUSD DWG NO. 216.
 - 2) CONSTRUCT 6" A" TYPE CURB PER DETAIL 2, SHEET D-2.
 - 3) CONSTRUCT SIDEWALK PER CCAUSD NO. 234. (SIZE PER PLAN).
 - 4) CONSTRUCT SIDEWALK RAMP PER DETAIL 8 SHEET D-2.
 - 5) CONSTRUCT 2" WIDE VALLEY GUTTER PER DETAIL 1 SHEET D-2.
 - 6) SWIMMING POOL BY OTHERS.
 - 7) FOR PICKLEBALL COURTS REFER TO ARCHITECT PLANS.
 - 8) CONSTRUCT DEPRESSIONED CURB PER DETAIL 3, SHEET D-2.
 - 9) FOR BOCCO COURTS REFER TO ARCHITECT PLANS.
 - 10) CONSTRUCT 2" AC PAVEMENT OVER 10" TYPE II AGGREGATE BASE.
 - 11) CONSTRUCT 3" AC PAVEMENT OVER 16" TYPE II AGGREGATE BASE.
 - 12) CONSTRUCT THICKENED CURB PER DETAIL 4 SHEET D-2.
 - 13) CONSTRUCT MOW CURB PER DETAIL 5 SHEET D-2.
 - 14) FOR FENCE DETAILS REFER TO ARCHITECT PLANS.
 - 15) NOT USED
 - 16) INSTALL 6" TRENCH DRAIN PER DETAIL 7 SHEET D-2.
 - 17) INSTALL SIDEWALK UNDERDRAIN PER CCAUSD NO. 236.
 - 18) EXISTING ROP SDI (SIZE PER PLAN) PER CLV# 020-0521
 - 19) EXISTING SDDH PER CLV# L20-00521
 - 20) EXISTING SDDI (SIZE PER PLAN) PER CLV# L20-00521
 - 21) EXISTING COMMERCIAL DRIVEWAY CCAUSD NO. 224
 - 22) EXISTING COMMERCIAL DRIVEWAY CCAUSD NO. 225 WITH CONCRETE CROSS (WHERE SHOWN) PER CCAUSD NO. 228.
 - 23) INSTALL PRIVATE PCV STORM DRAIN PER DETAILS U & V ON SHEET D-2
 - 24) CONSTRUCT 4" MAX RETAINING WALL PER DETAIL B100 ON SHEET D-3
 - 25) INSTALL LANDSCAPE NUISANCE DRAINS FOR LANDSCAPE PLANS BY OTHERS
 - 26) EXISTING 5" PUBLIC DRAINAGE EASEMENT PER CLV L20-00521
- SEE SHEET C-3 FOR LEGEND, ABBREVIATIONS, AND QUANTITIES



SHEA HOMES LIMITED PARTNERSHIP

**STONE PARCEL 3 CLUB
GRADING SHEET 1**

Westwood

Phone	(702) 284-5300
Fax	(702) 284-5399

Westwood Professional Services, Inc.
westwoodps.com

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
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CITY OF LAS VEGAS, NEVADA

DATE: 07/22/2020

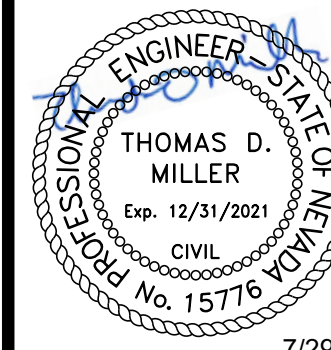
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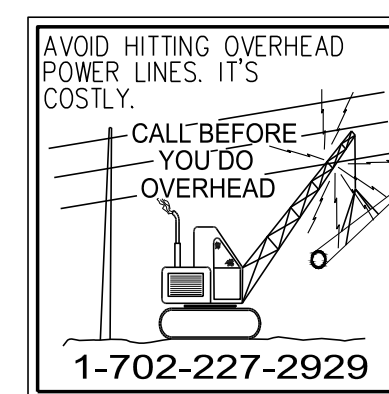
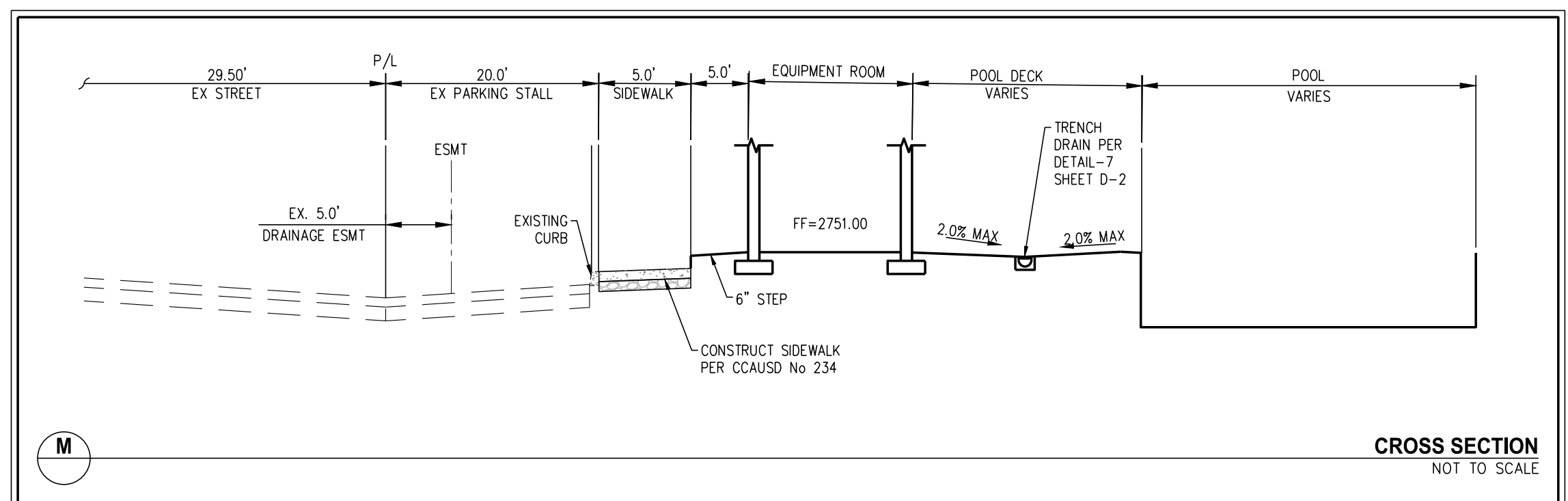
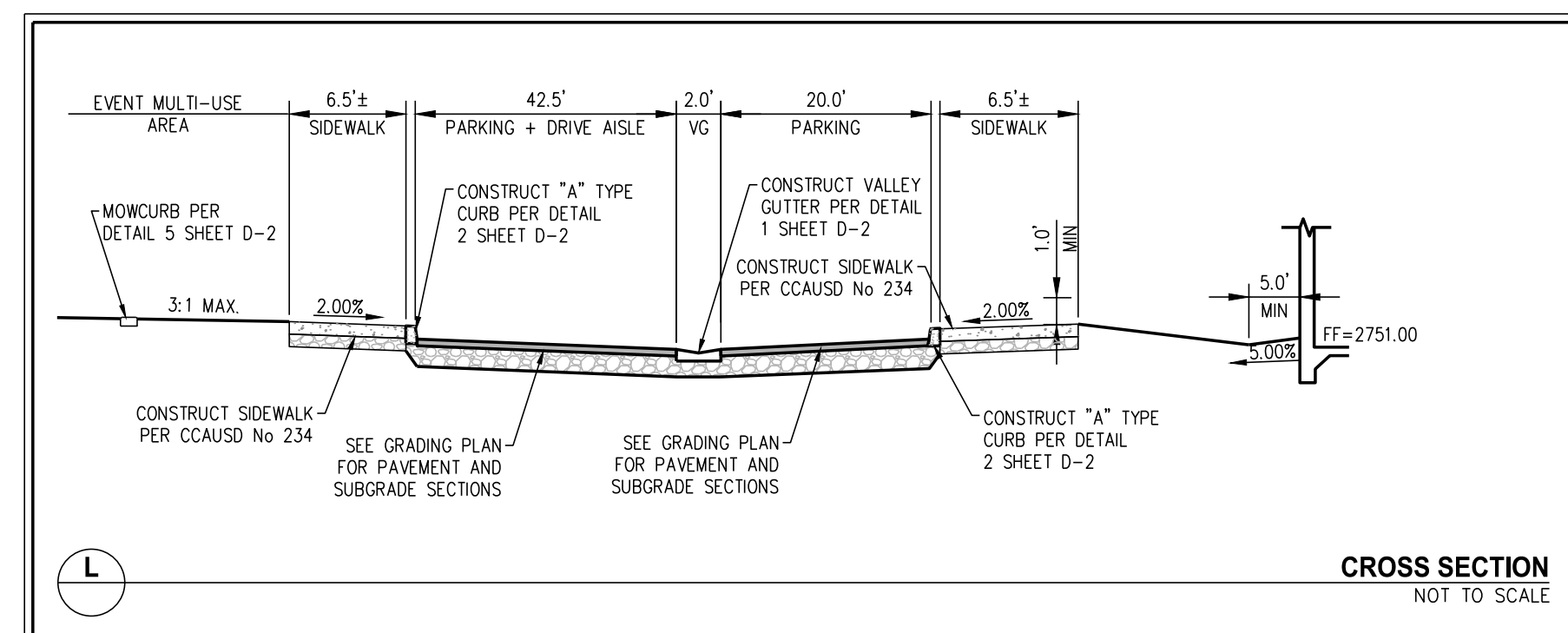
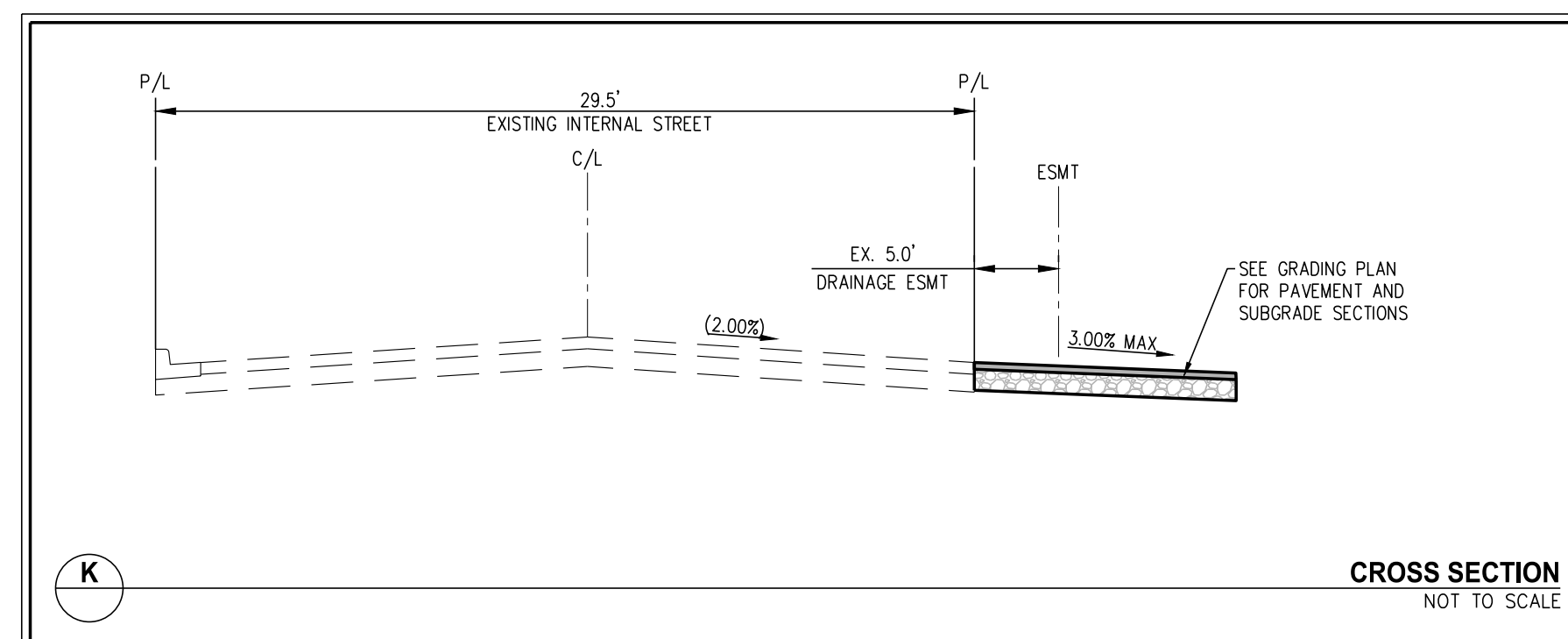
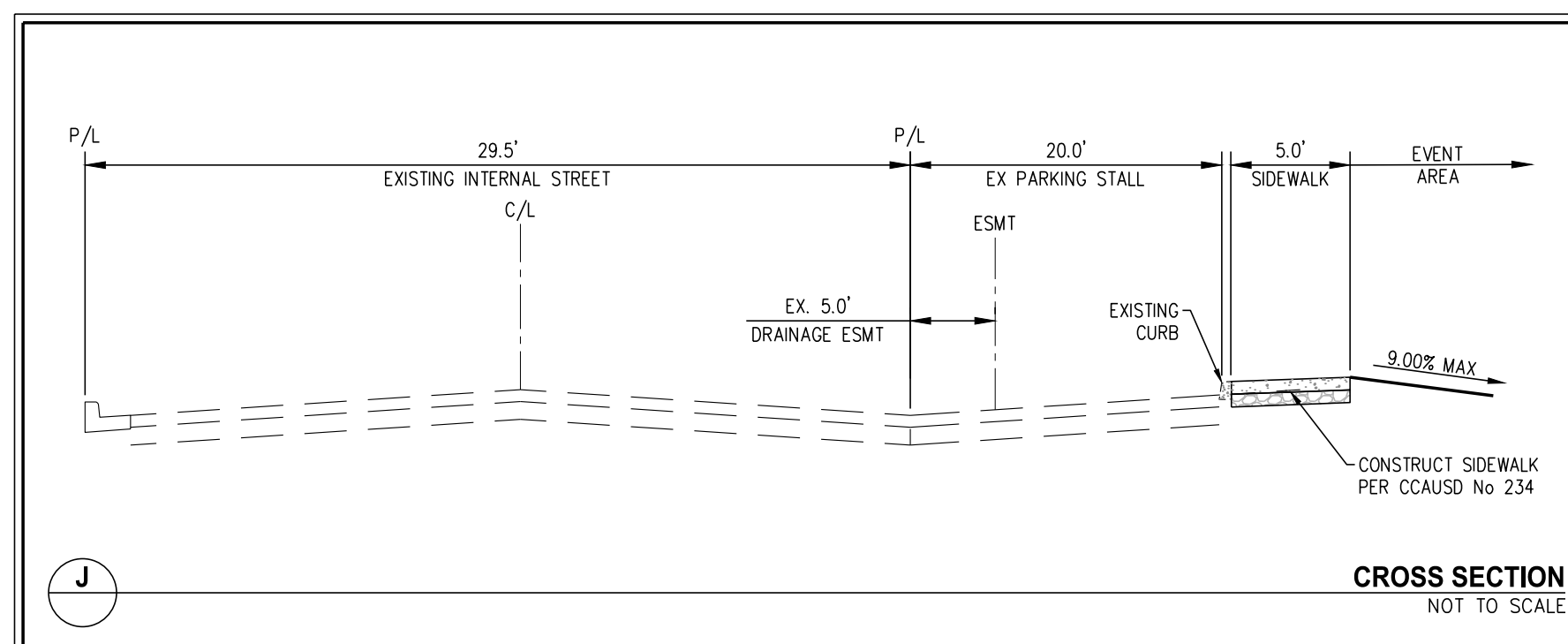
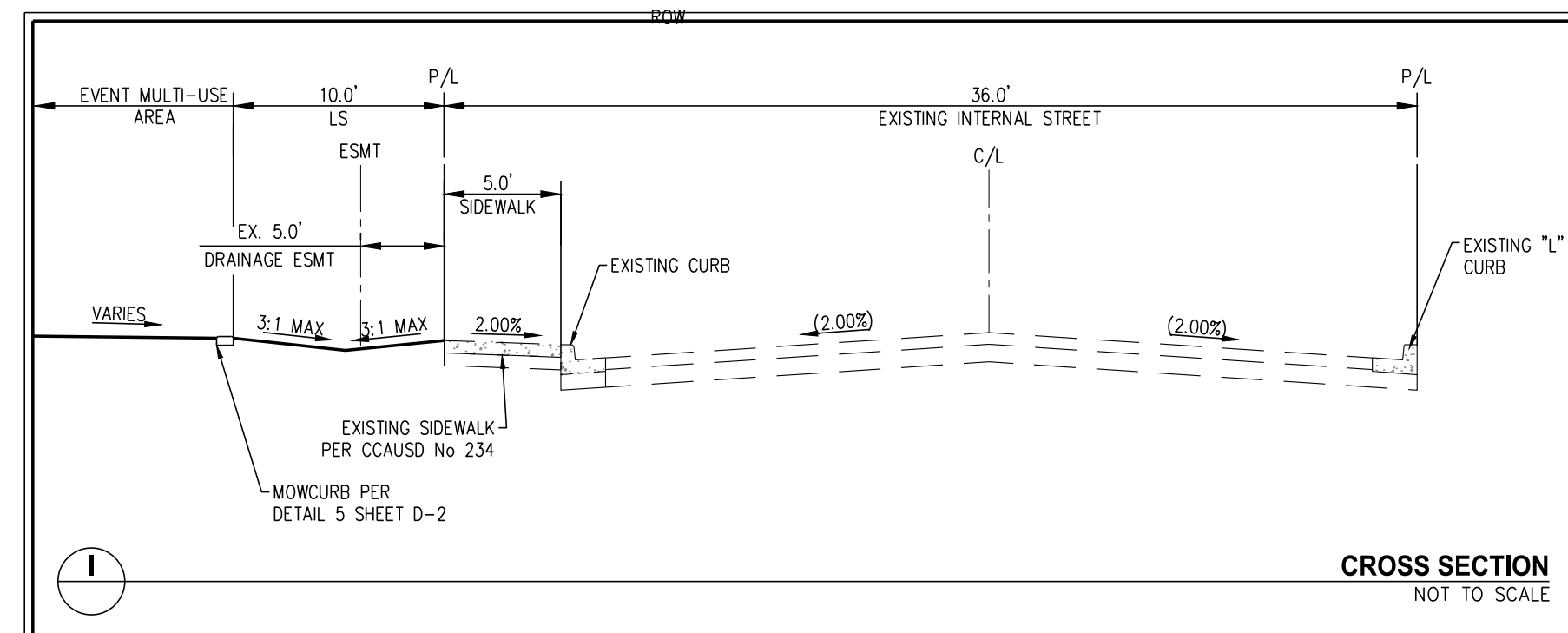
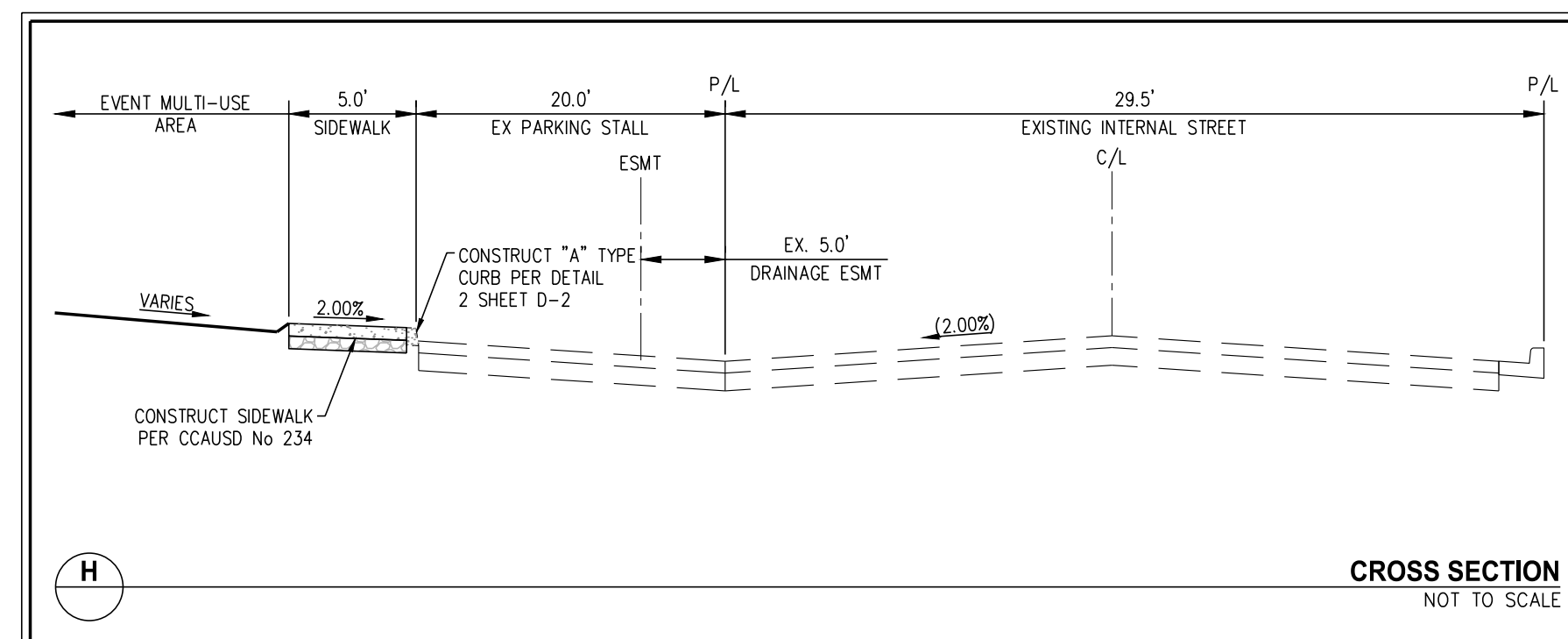
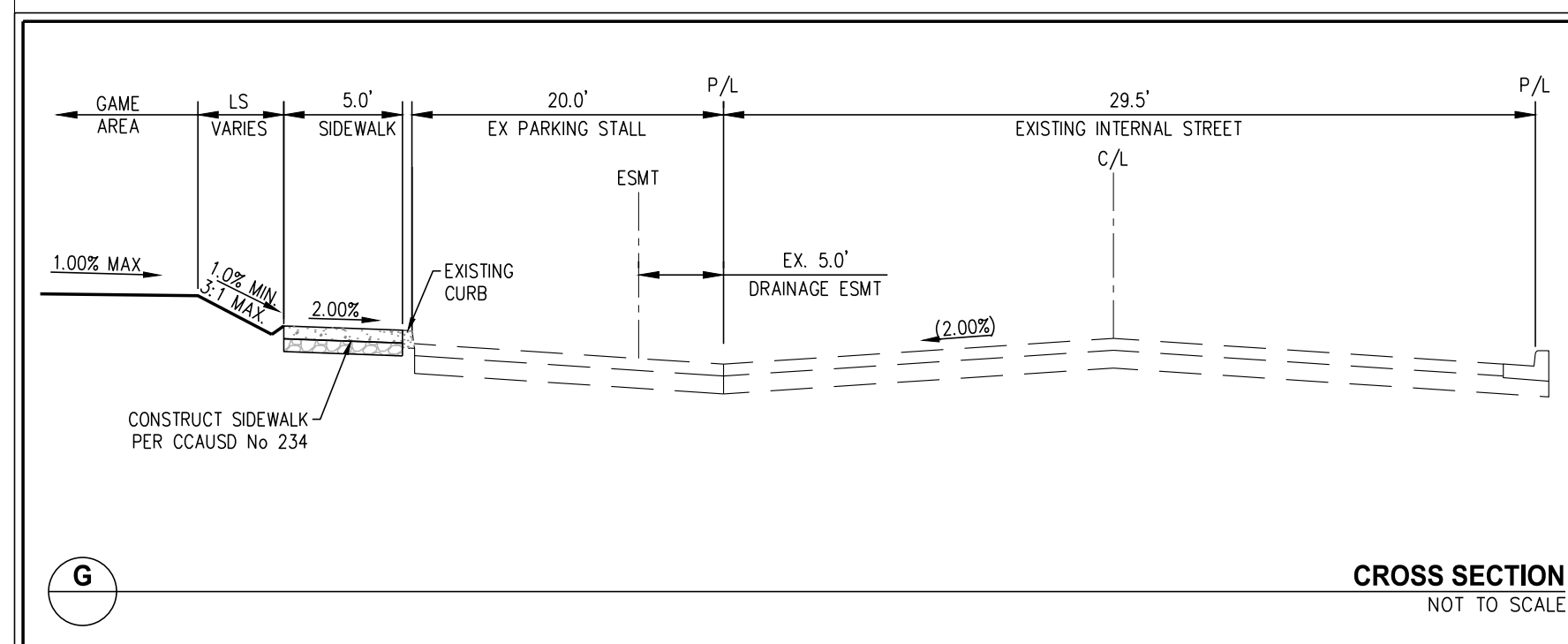
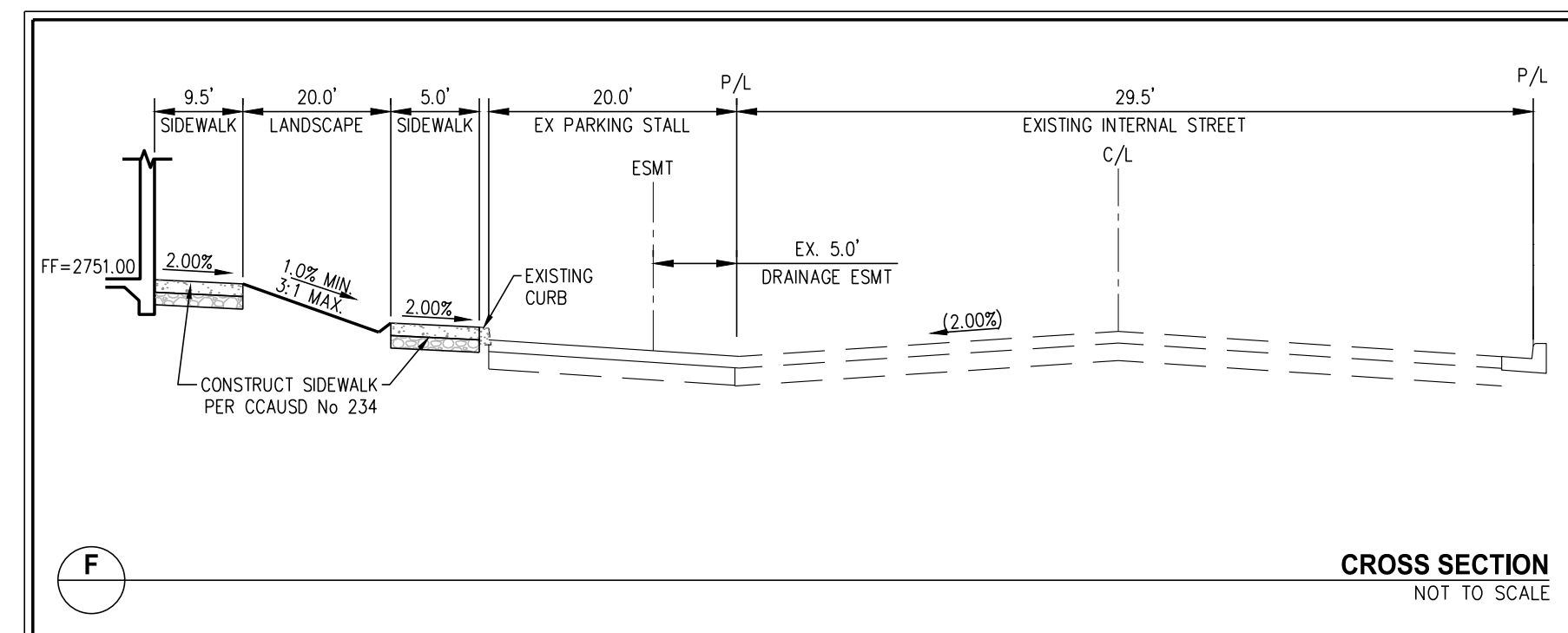
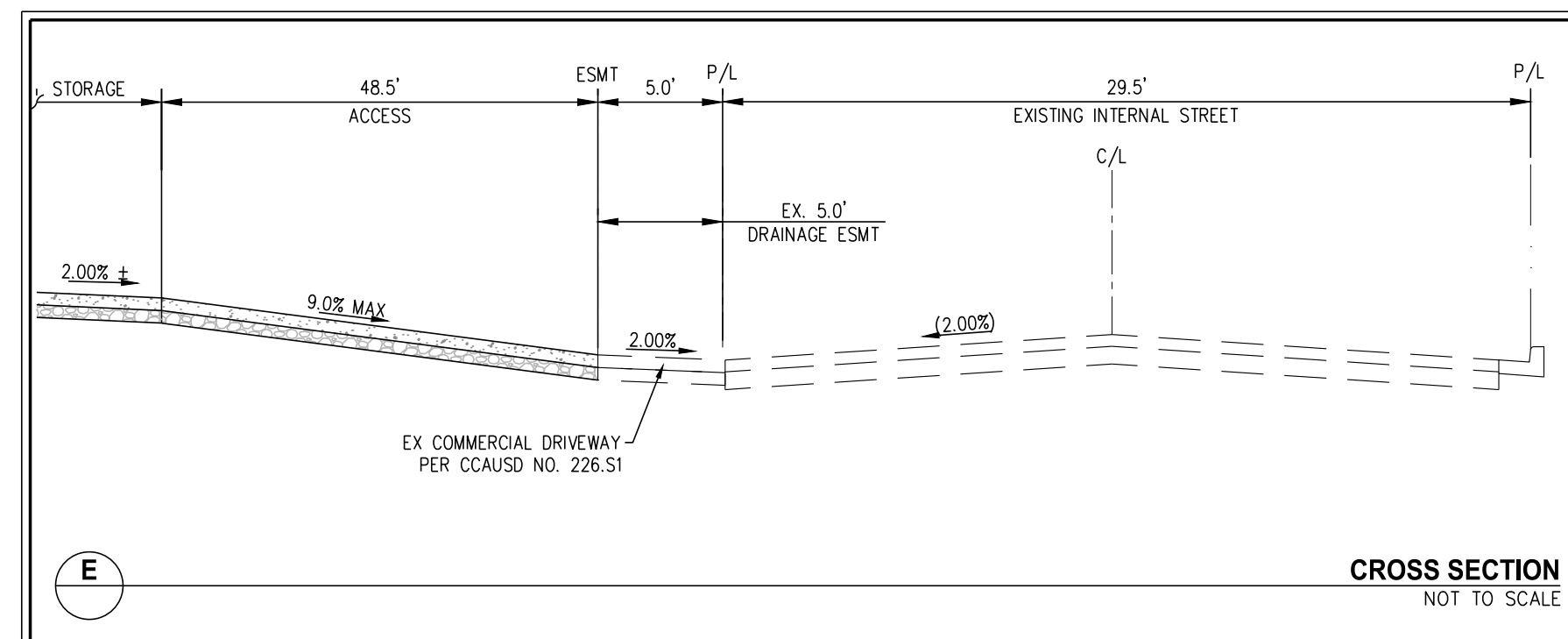
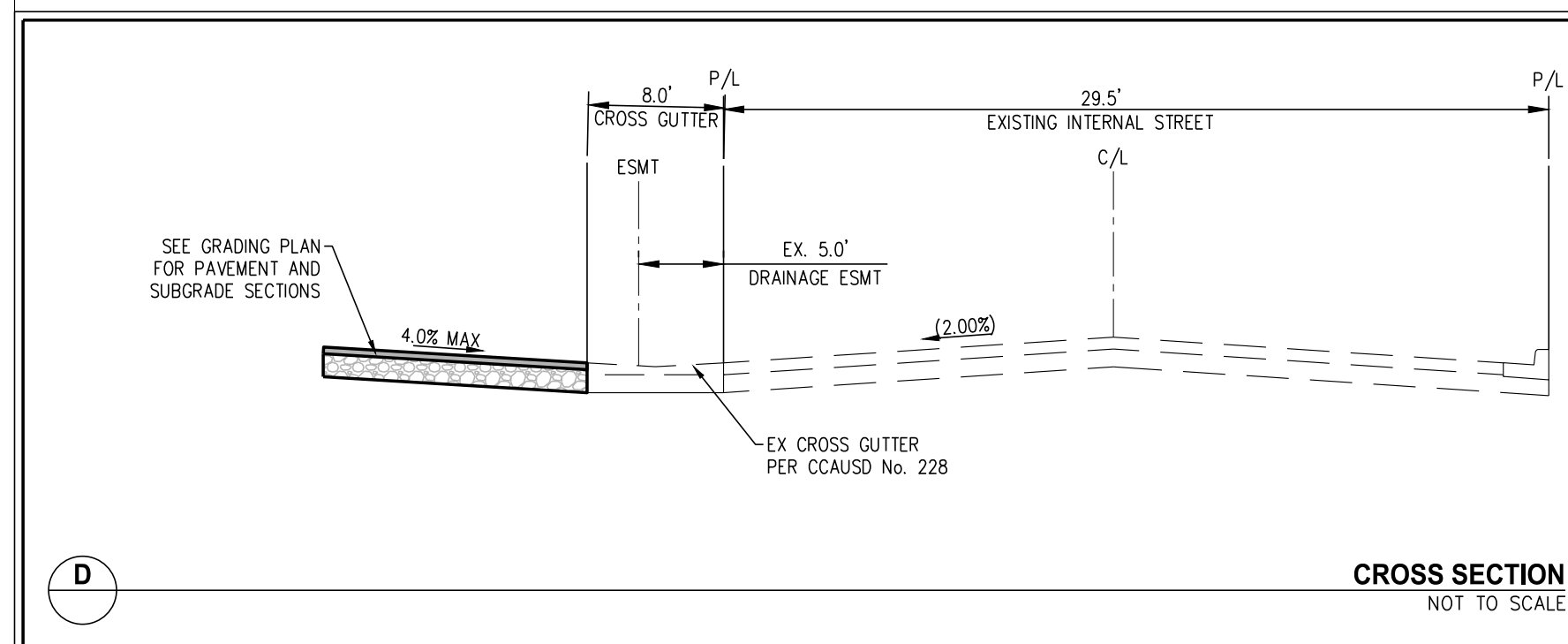
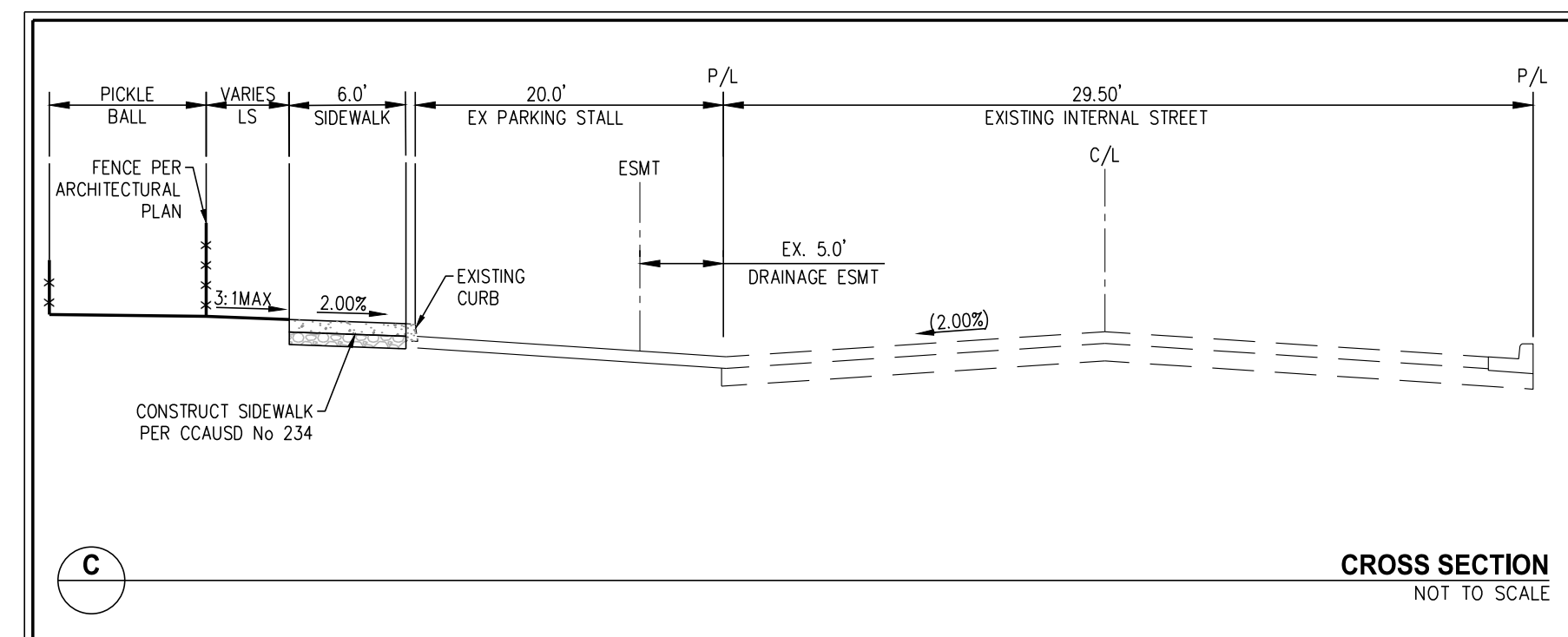
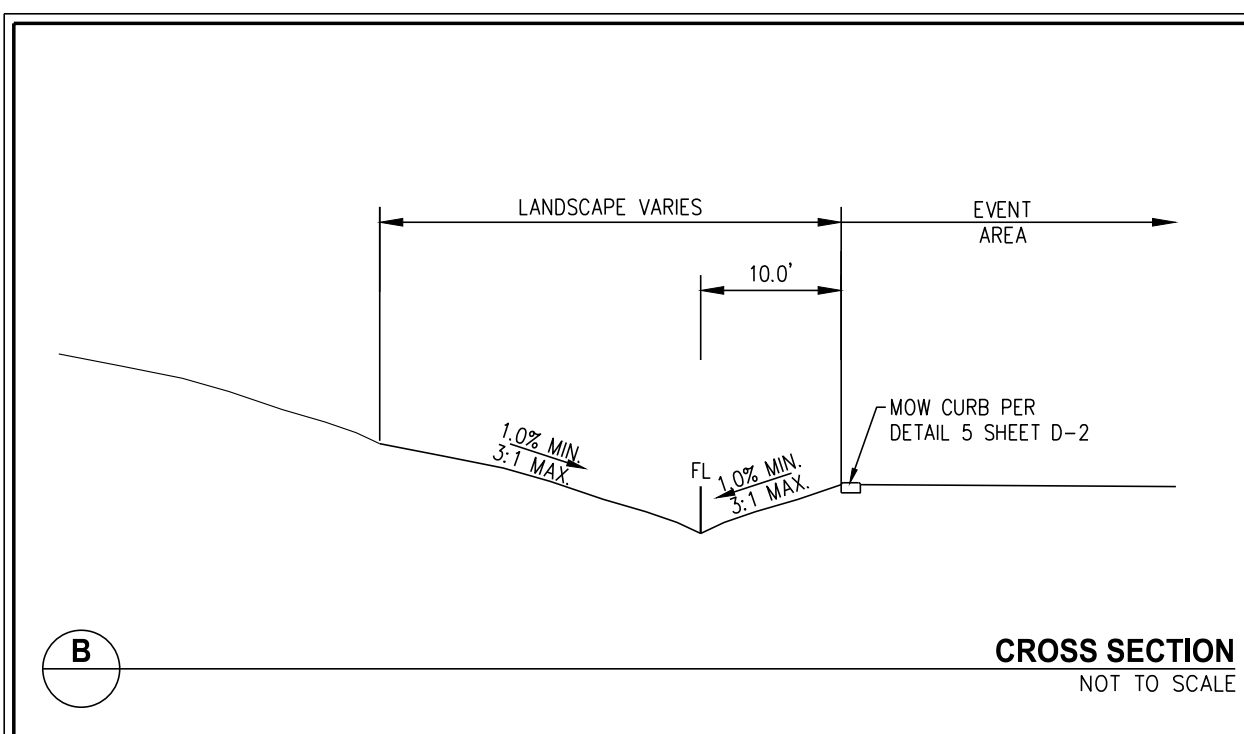
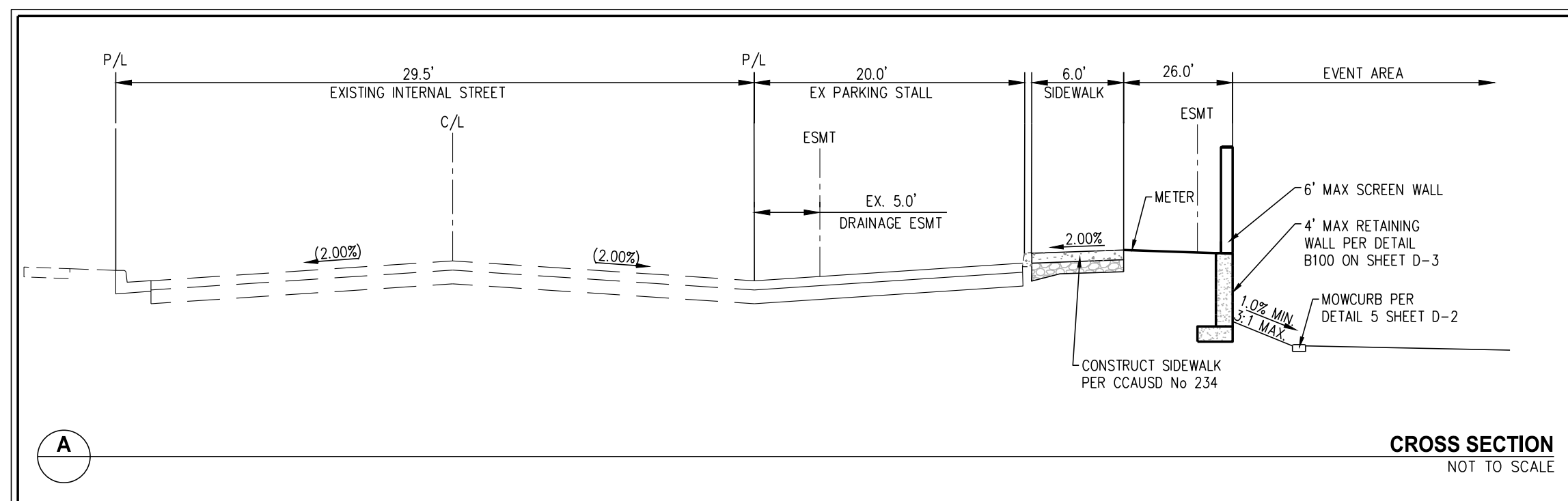
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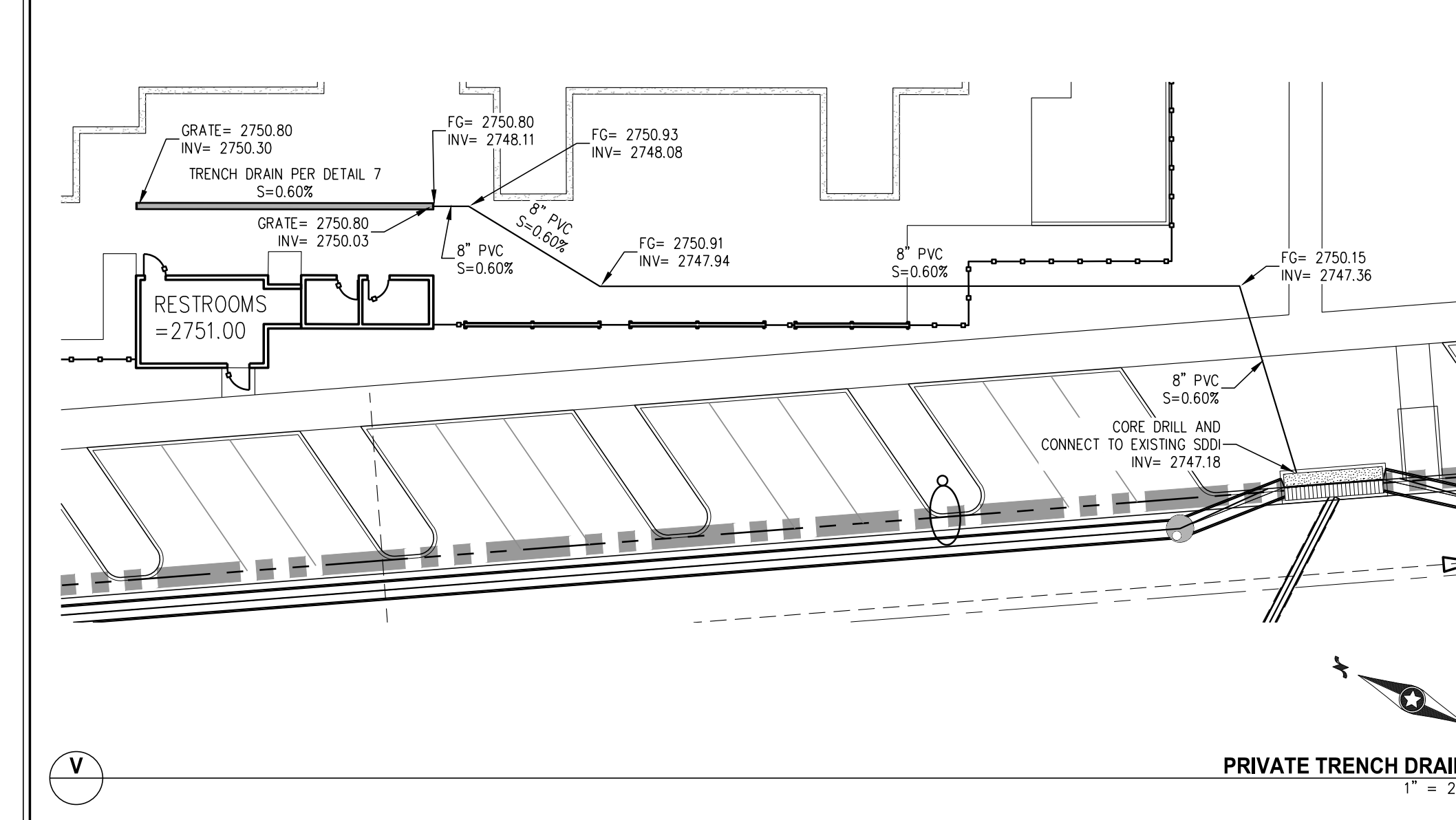
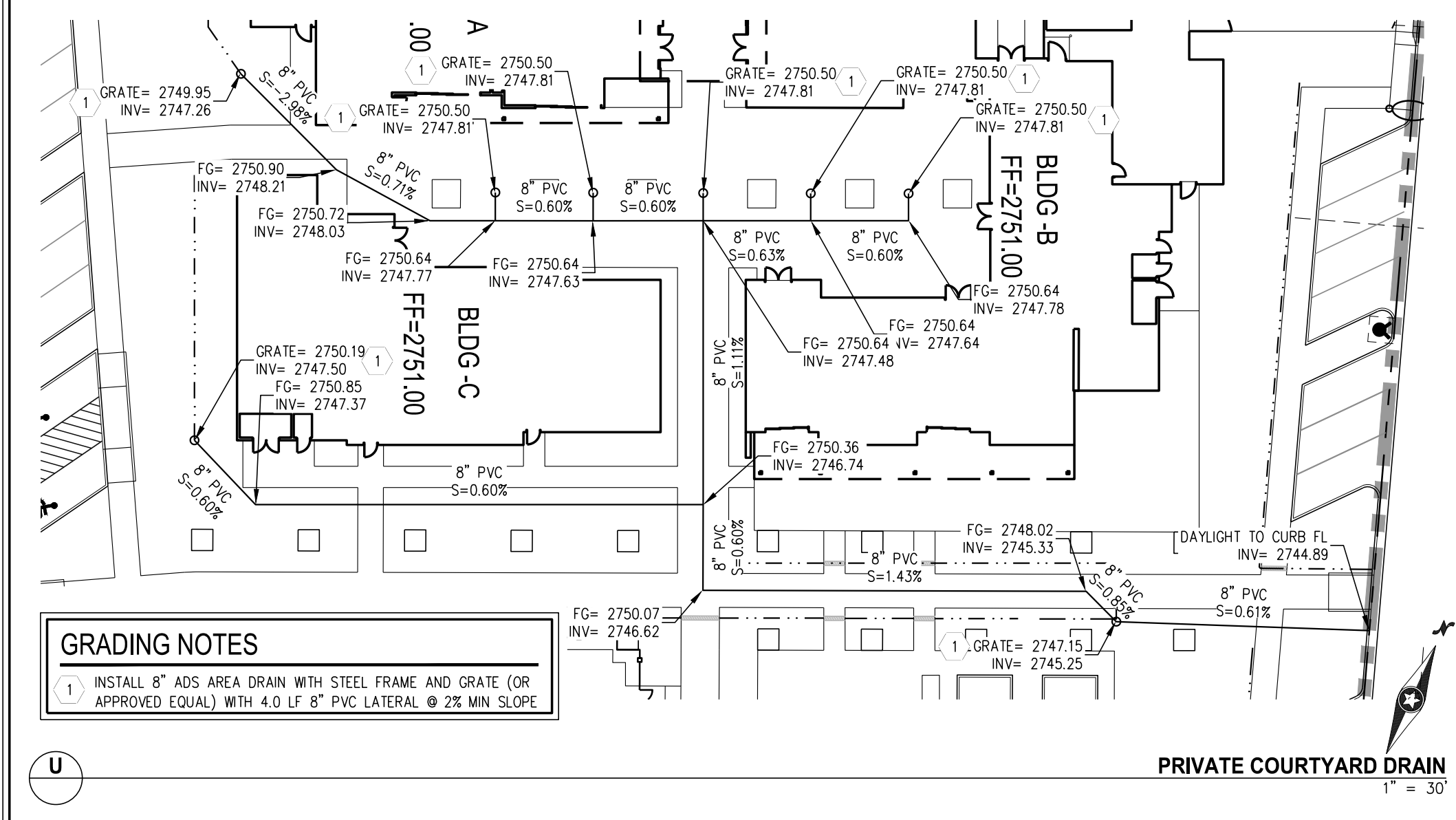
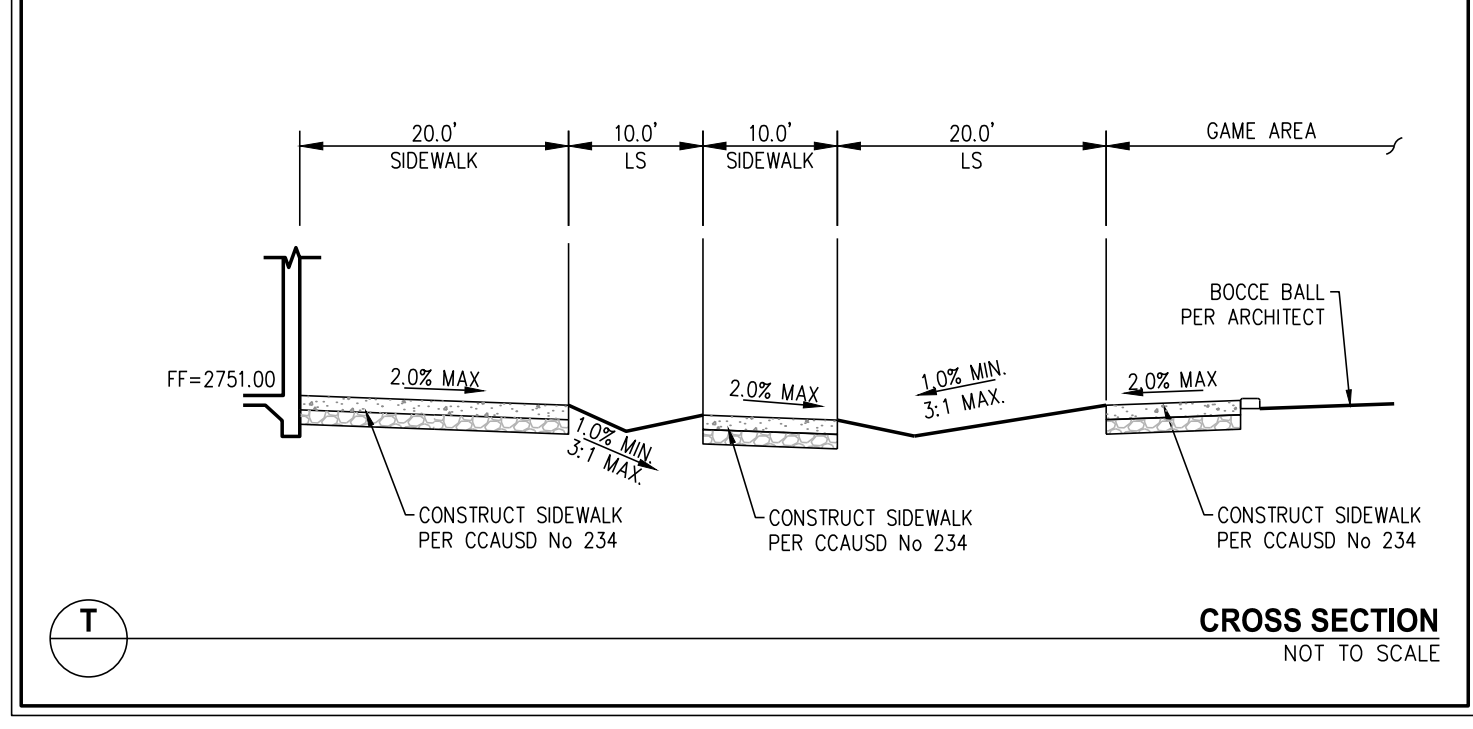
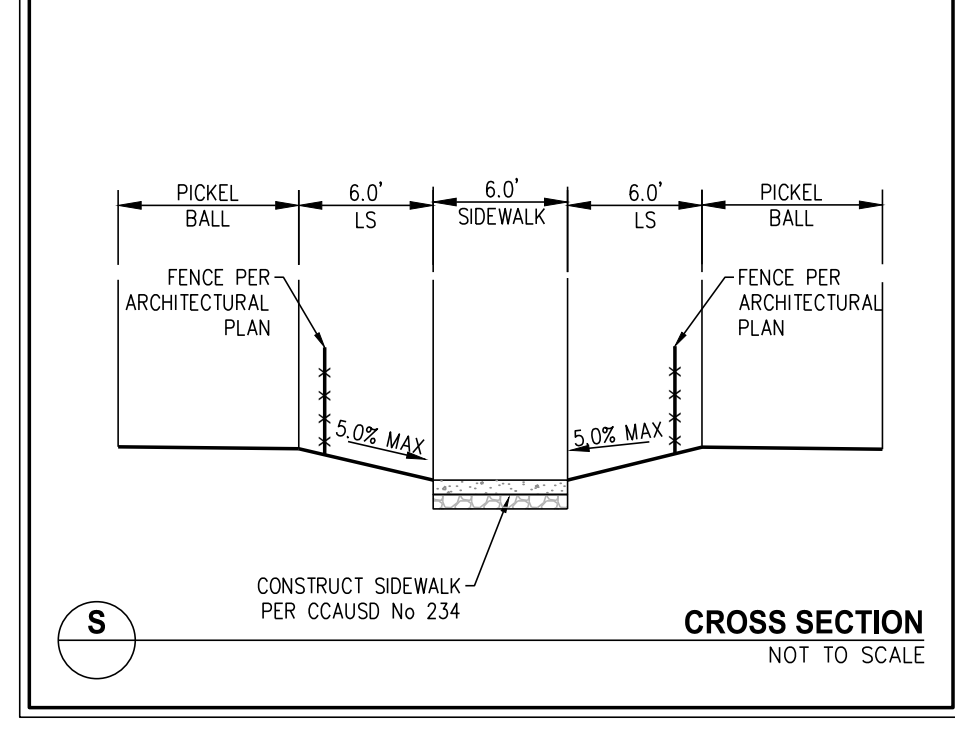
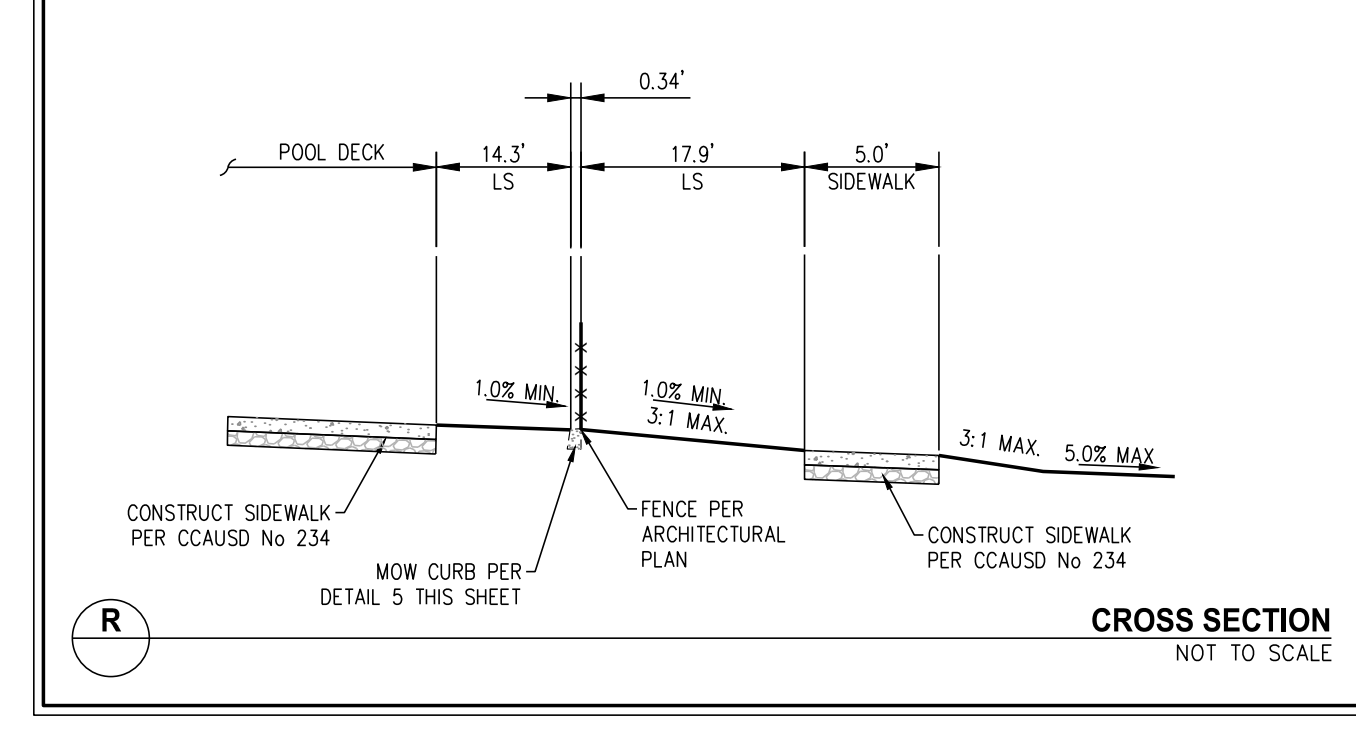
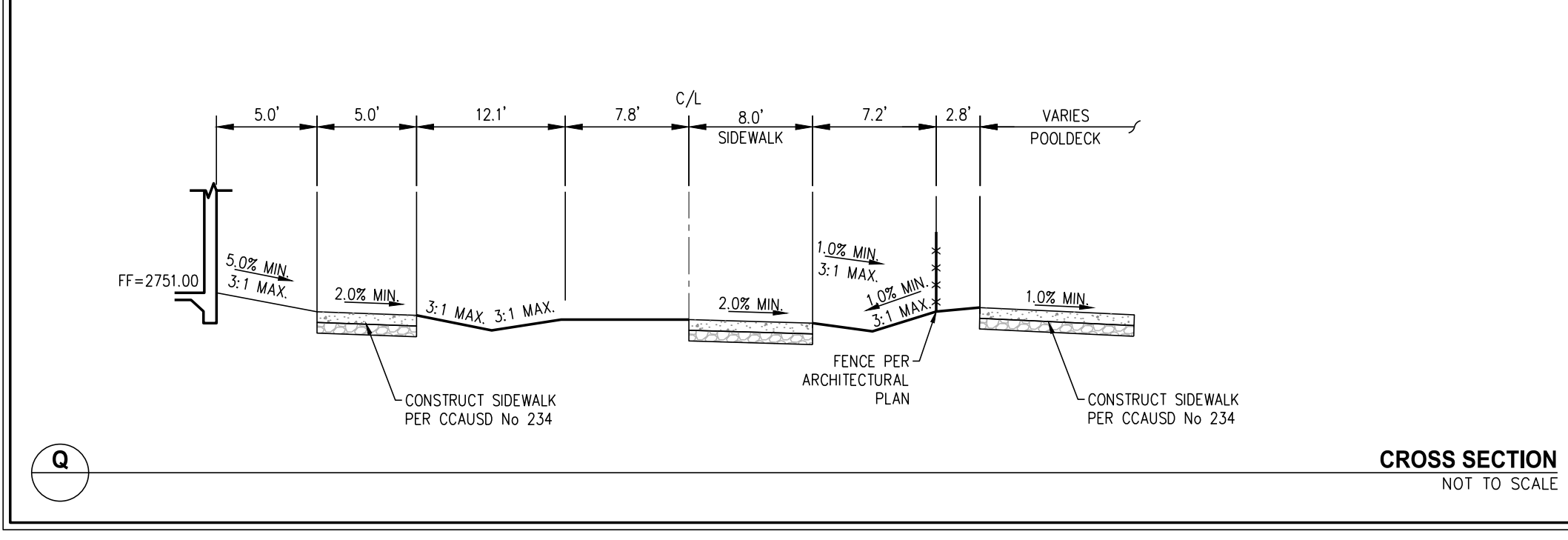
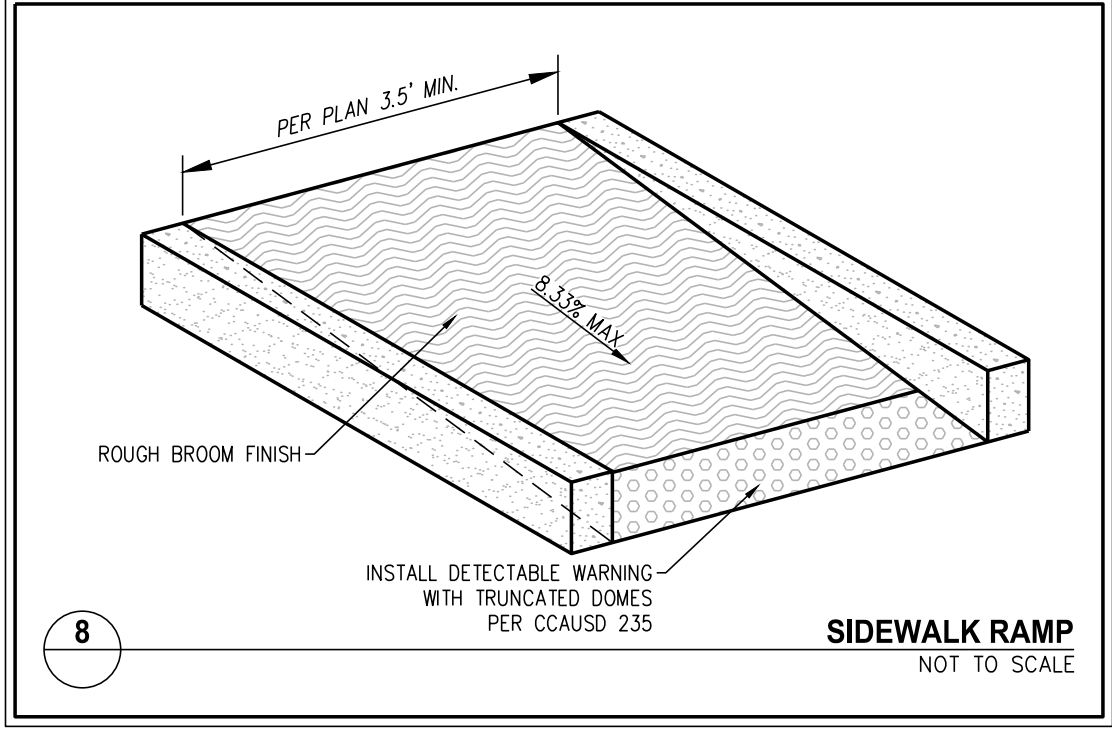
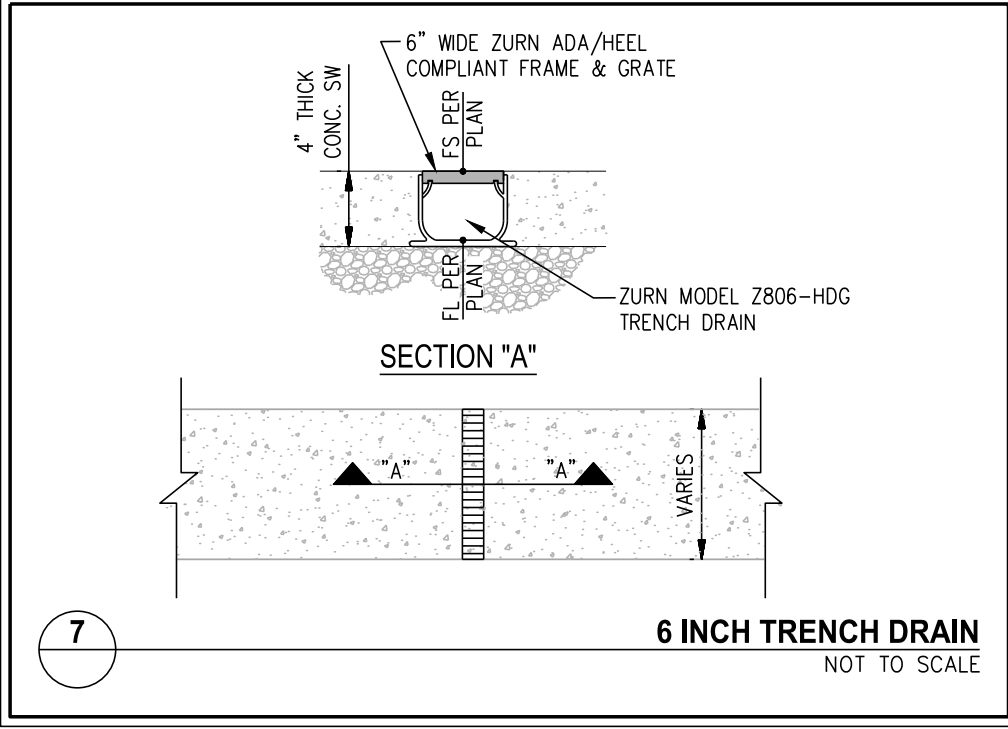
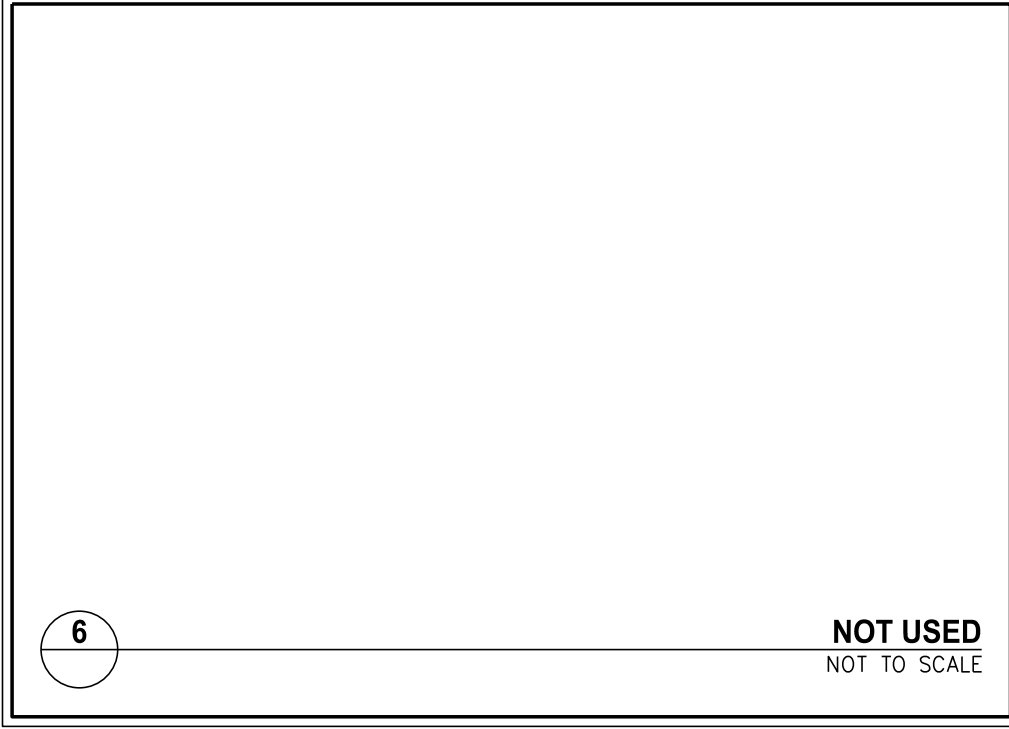
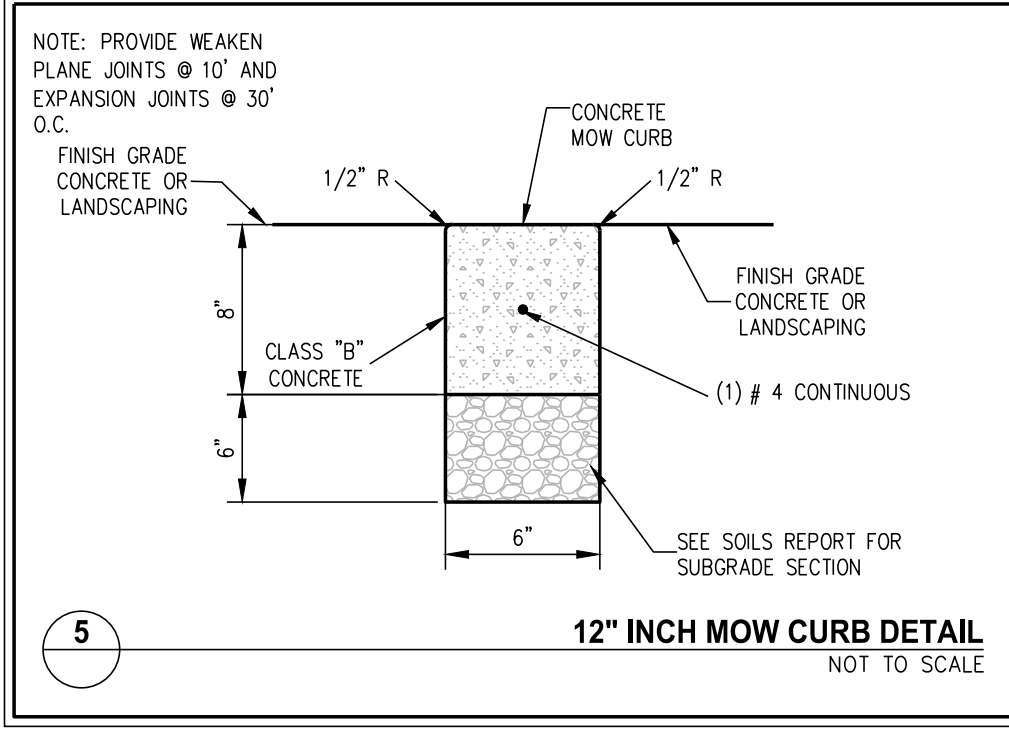
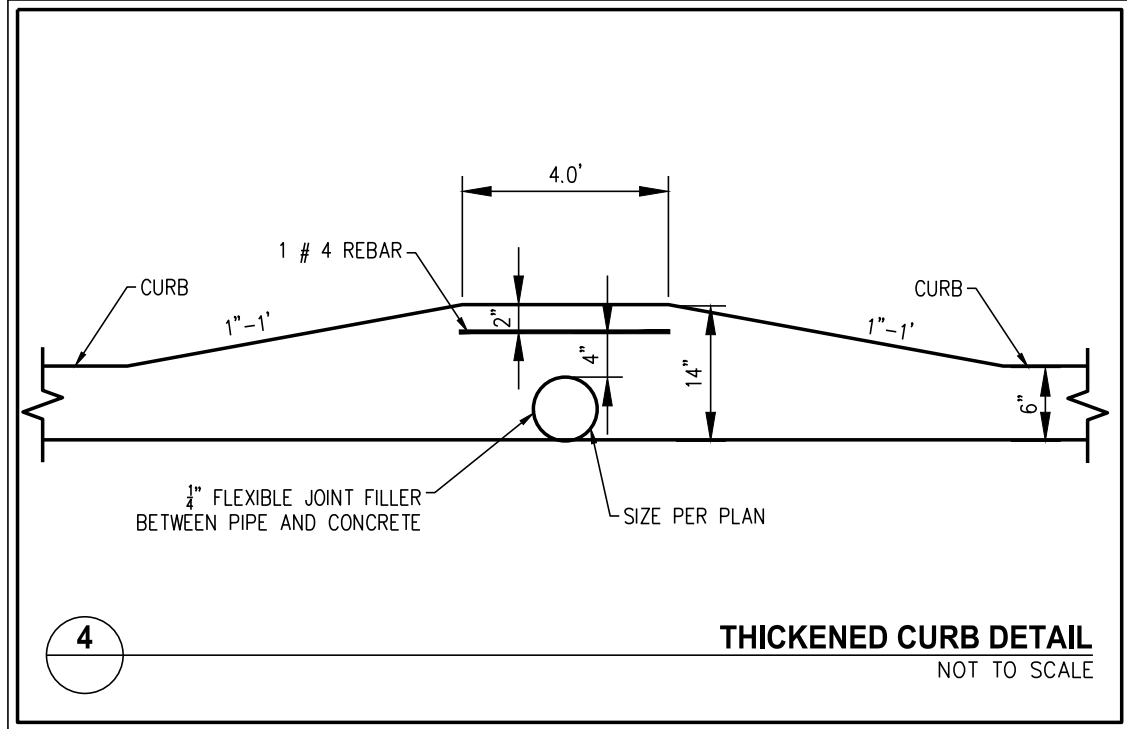
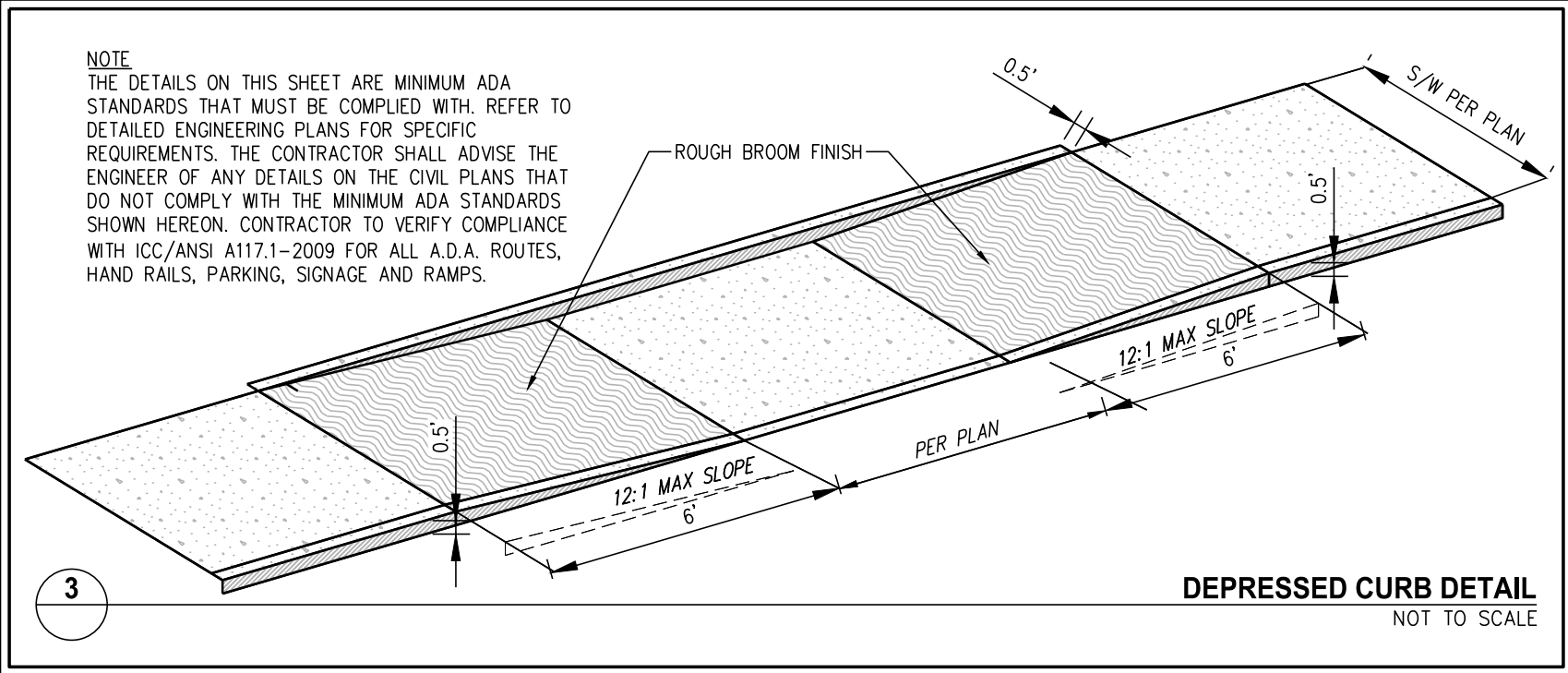
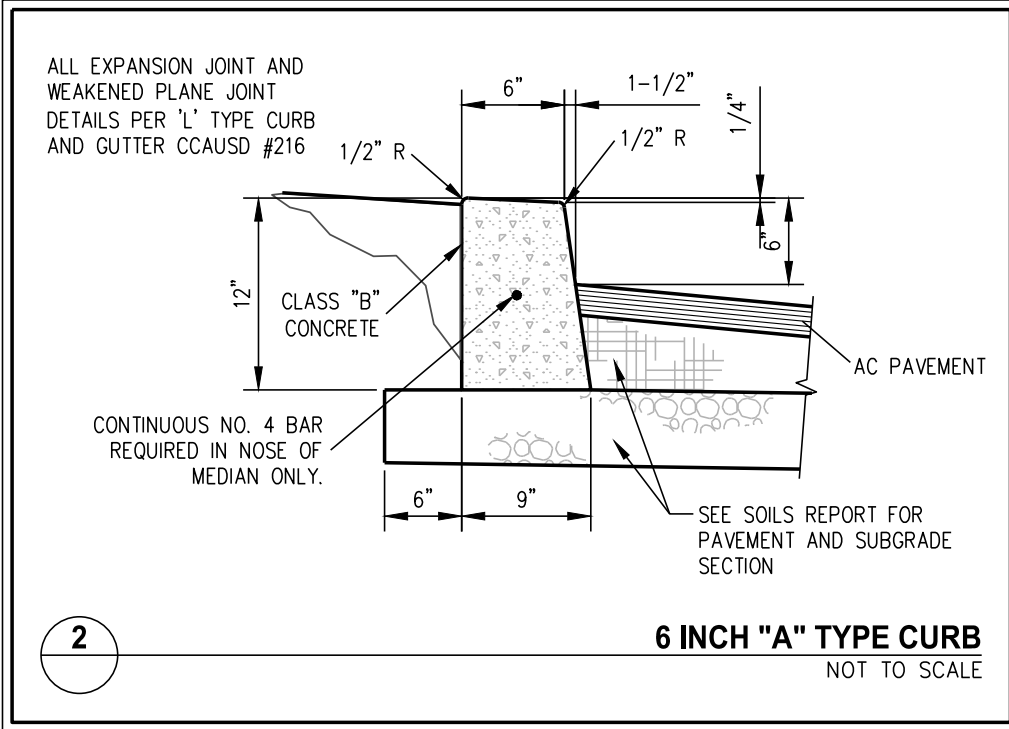
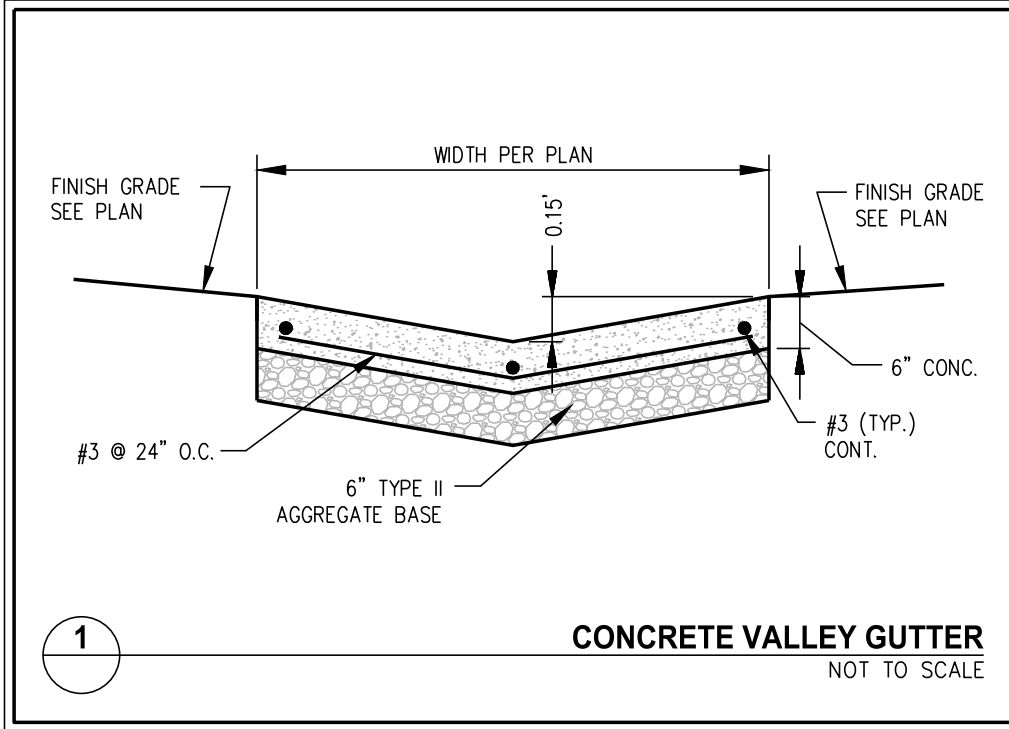
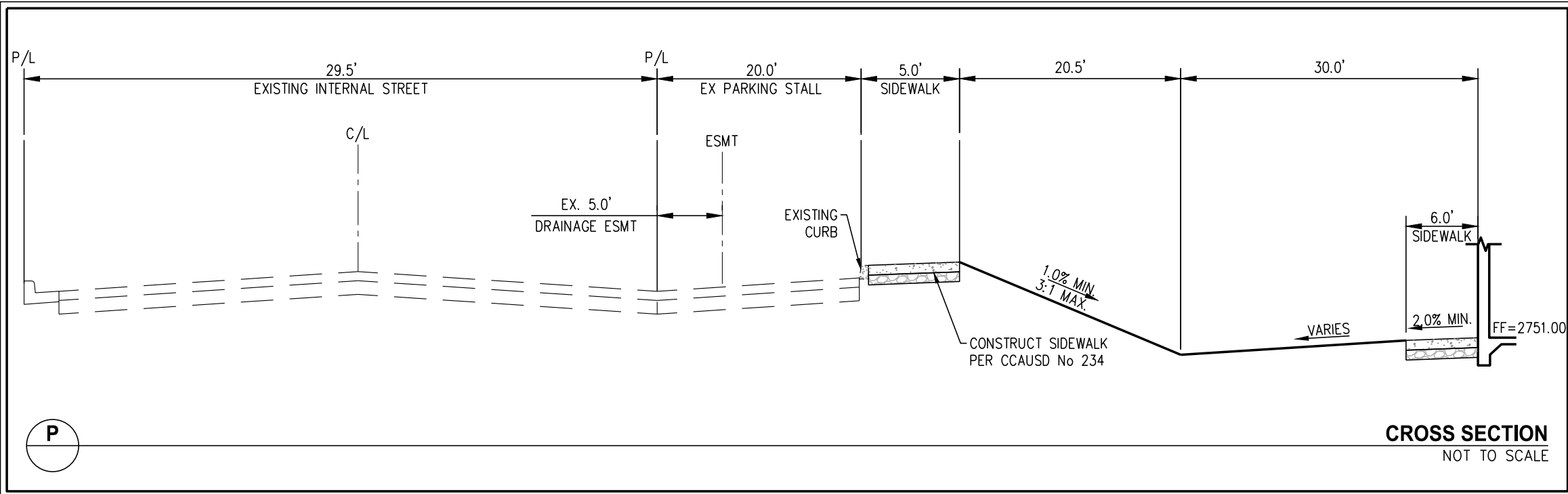
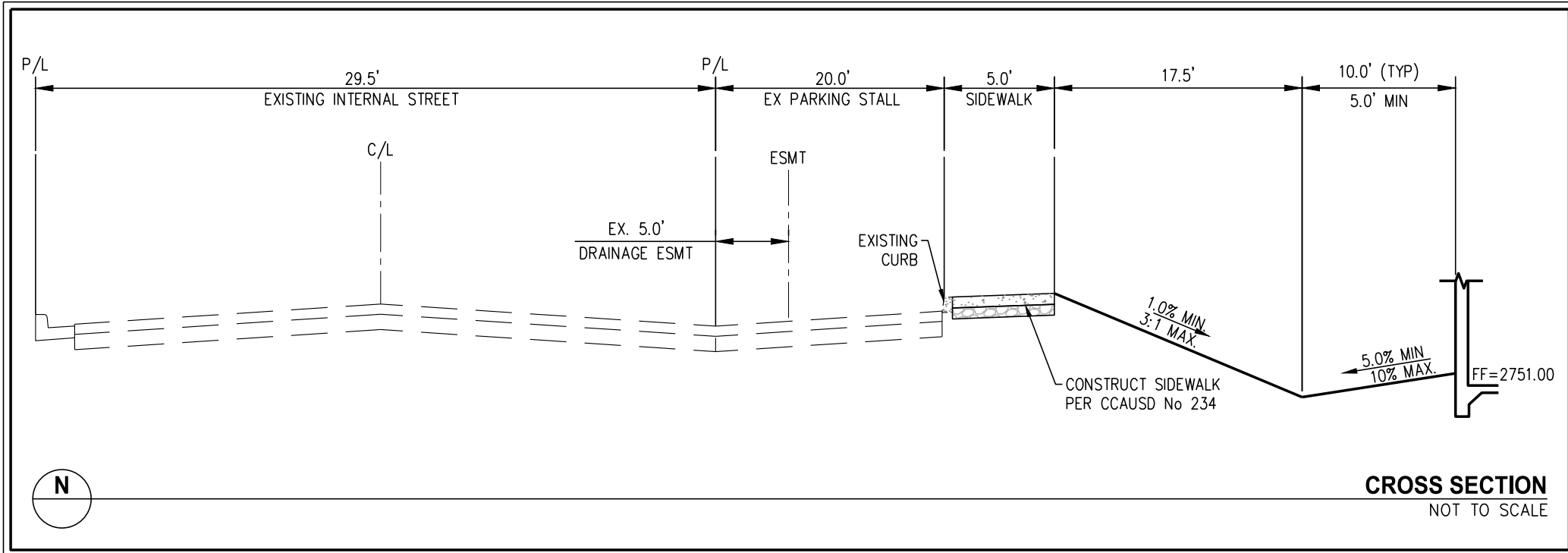
PROJECT NO.

SHE 2001-001



G-1
SHEET 4 OF 8





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BENCHMARK
MONUMENT ID:USA (1934) 19
U.S. DEPARTMENT OF AGRICULTURE BRASS DISC AT SOUTHWEST CORNER OF U.S. 95 AND KYLE CANYON ROAD
ELEVATION=2817.61 FEET, 858.810 METERS
NAVD 88 DATUM
PER THE CITY OF LAS VEGAS BENCHMARK BOOK- 2008 ADJUSTMENTS (UPDATED 05/24/2010)

BASIS OF BEARINGS
NORTH 0°01'50" WEST, BEING THE BEARING OF THE EAST LINE OF THE NORTHEAST QUARTER (NE) OF SECTION 6, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE 151, PAGE 14 OF SURVEYS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

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Las Vegas, NV 89118
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westwoodps.com
Westwood Professional Services, Inc.

CITY OF LAS VEGAS, NEVADA

SHEA HOMES LIMITED PARTNERSHIP
SUNSTONE PARCEL 3 CLUB
DETAIL SHEET 2

DATE: 07/22/2020
DRAFTER: JSP
DESIGNER: JSP
CHECKED: TM
PROJECT NO. SHE 2001-001

PROFESSIONAL ENGINEER - STATE OF NEVADA
THOMAS D. MILLER
Exp. 12/31/2021
CIVIL
No. 15776
7/29/20

D-2
SHEET 7 OF 8

