

DS #: 5287

APN: 139-33-305-020

PROJECT: Medical Education Building at Shadow S. Pinto

SUBMITTAL: 3rd S Supplement

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: August 20, 2020
TO: Land Development Services Department of Building & Safety		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT: Drainage Study for: Medical Education Building at Shadow & Pinto		COPIES TO: Poggemeyer Design Group
Cross Streets:	SEC of Shadow Lane & Pinto Lane	Nevada Health & Bioscience Asset
File Number:	F:\Depot\DSMemos\DS5287C.doc	Bart Anderson, P.E., DevCo
Parcel Number:	139-33-305-020	
Zoning Action:	SDR-78840	
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	6/10/2020	Not Approved	\$400.00	3880090: \$400
2 nd Submittal	7/8/2020	7/22/2020	Not Approved	\$400.00	3910048: \$400
3 rd Submittal & Supplement 1	8/17/2020 & 8/20/2020	8/20/2020	See Comments Below	\$400.00	3955944: \$400
TOTAL FEES (LDDRS):				\$1,200.00	----

REMARKS:

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.

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
ays

T/R/S: T20S/R61E/33
AREA M-33

SUPPLEMENT 1 TO TECHNICAL DRAINAGE STUDY
ADDENDUM 2
FOR
MEDICAL EDUCATION BUILDING
(AT SHADOW LN. & PINTO LN.)

(PDG LV20040)

AUGUST 20, 2020



PREPARED FOR:

TATE SNYDER KIMSEY
314 S. WATER STREET
HENDERSON, NV 89015

PREPARED BY:

POGGEMEYER DESIGN GROUP, INC.
6960 SMOKE RANCH ROAD
SUITE 110
LAS VEGAS, NEVADA 89128



August 20, 2020

Albert Sung, P.E.
Flood Control Project Engineer
City of Las Vegas
Department of Public Works
333 N. Rancho Drive 7th Floor
Las Vegas, NV 89106

**RE: Medical Education Building (AT SHADOW LN. & PINTO LN.)
ADDENDUM NO. 2 TO THE TECHNICAL DRAINAGE STUDY
CLV PERMIT NUMBER: DS5287**

Dear Mr. Sung:

Enclosed are one copy and one CD containing a PDF version of the Medical Education Building Supplement 1 to Addendum 2 for your review. All items on the CD match the paper versions bound into the study. The proposed 9.11 +/- acre site is located on the southeast corner of Pinto Lane and Shadow Lane.

If there are any questions or additional information that is necessary, please contact our office at 702.255.8100

Sincerely,

Poggemeyer Design Group, Inc.

Adam Black, P.E.
Project Engineer

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Medical Education Building Date: August 20, 2020

Location of Development: a) Descriptive (Cross Streets) North/South: Shadow Lane
East/West: Pinto Lane

b) Section: 33 Township: 20S Range: 61E

c) APN : 139-33-305-020

Name of Owner: Nevada Health and Bioscience Asset Corp/C.O TSK

Telephone No.: 702.453.3000 Fax No.: _____ E-Mail Address: wkimsey@tska.com

Address: 314 S. Water Street Henderson, NV 89015

Contact Person-Name: Adam Black, P.E. Telephone No.: 702-255-8100

* E-Mail Address: ablack@poggemeyer.com Fax No.: (702) 255-8375

Firm: Poggemeyer Design Group, Inc.

Address: 6960 Smoke Ranch Road, Suite 110, Las Vegas, NV 89128

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: 9.11 +/- Acres Being Developed/Disturbed: 6.66 +/- 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

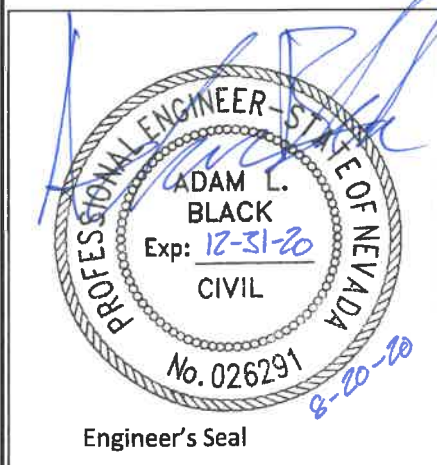
4. Proposed type of development (Residential, Commercial, Etc.): medical building

5. Approximate upstream land area which drains to the subject site: 70 +/- Acres

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: Previously the site evaluated under Las Vegas Central Neighborhood Flood Control MPU

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: The site will drain via surface flow to Shadow Lane and Pinto Lane. A portion of the site will drain to a proposed onsite storm drain system.

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.

***New Required Field**

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

DS5287 Local Entity File No.	Revision	Date

REFERENCE:

STANDARD FORM 1



August 20, 2020

City of Las Vegas
Department of Public Works
333 N. Rancho Drive 7th Floor
Las Vegas, NV 89106

ATTN: Mr. Albert Sung, P.E.
Flood Control Project Engineer

RE: Medical Education Building (AT SHADOW LN. & PINTO LN.)
ADDENDUM NO. 1 TO THE TECHNICAL DRAINAGE STUDY
CLV PERMIT NUMBER: DS5287
PDG PROJECT NUMBER: LV20040

Dear Mr.Sung:

Please see response to comments received via phone call August 20, 2020.

- 1) *Runoff conveyed along the southeast swale is impacting the adjacent property.*

Response: Per discussion via phone call August 20, 2020, a swale along the southeast property line was added to convey flow generated by basin ON4 to its historic path flow. FIG6, Existing Condition Basin Map, shows basin ON3X draining southeast to the adjacent property with a total flow rate of 3- and 6-cfs for the 10- and 100-year storm event, respectively. For the developed condition, the site was graded to convey site runoff to Pinto Lane. However, due to the existing high point along the southeast property line, PDG graded basin ON4 to its historic path flow (see FIG7). The flow impacting the adjacent property was significantly reduced from 6-cfs (existing condition) to 1-cfs (developed condition) for the 100-year storm event. The referenced basins are highlighted in cyan in FIG6 and FIG7. Please refer to Appendix A for review of said figures.

Included are revised plans for your review and approval; please feel free to contact us with any questions at (702) 255-8100.

Respectfully Submitted,

POGGEMEYER DESIGN GROUP, INC.



Adam Black, P.E.
Project Engineer



Karina Barragan
Designer

APPENDIX A

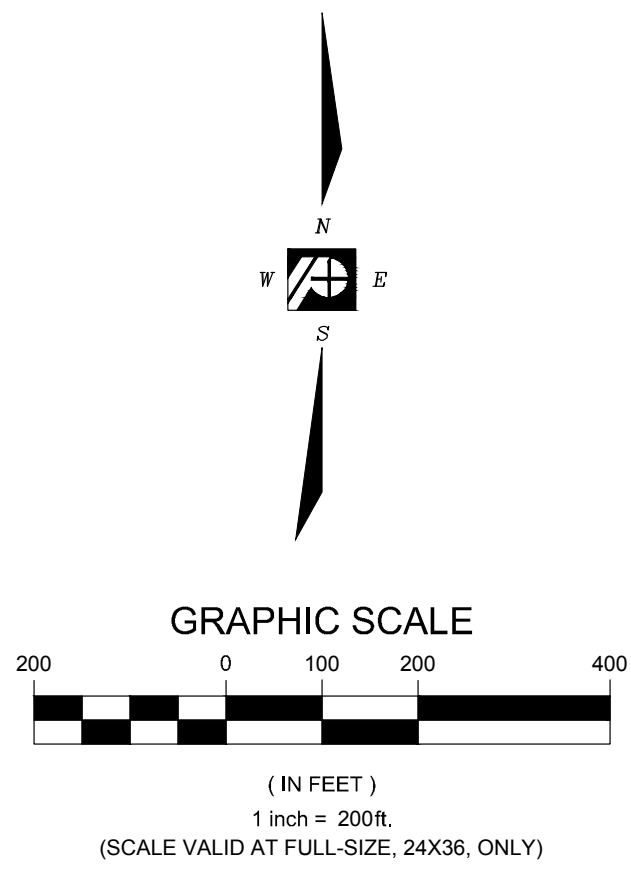
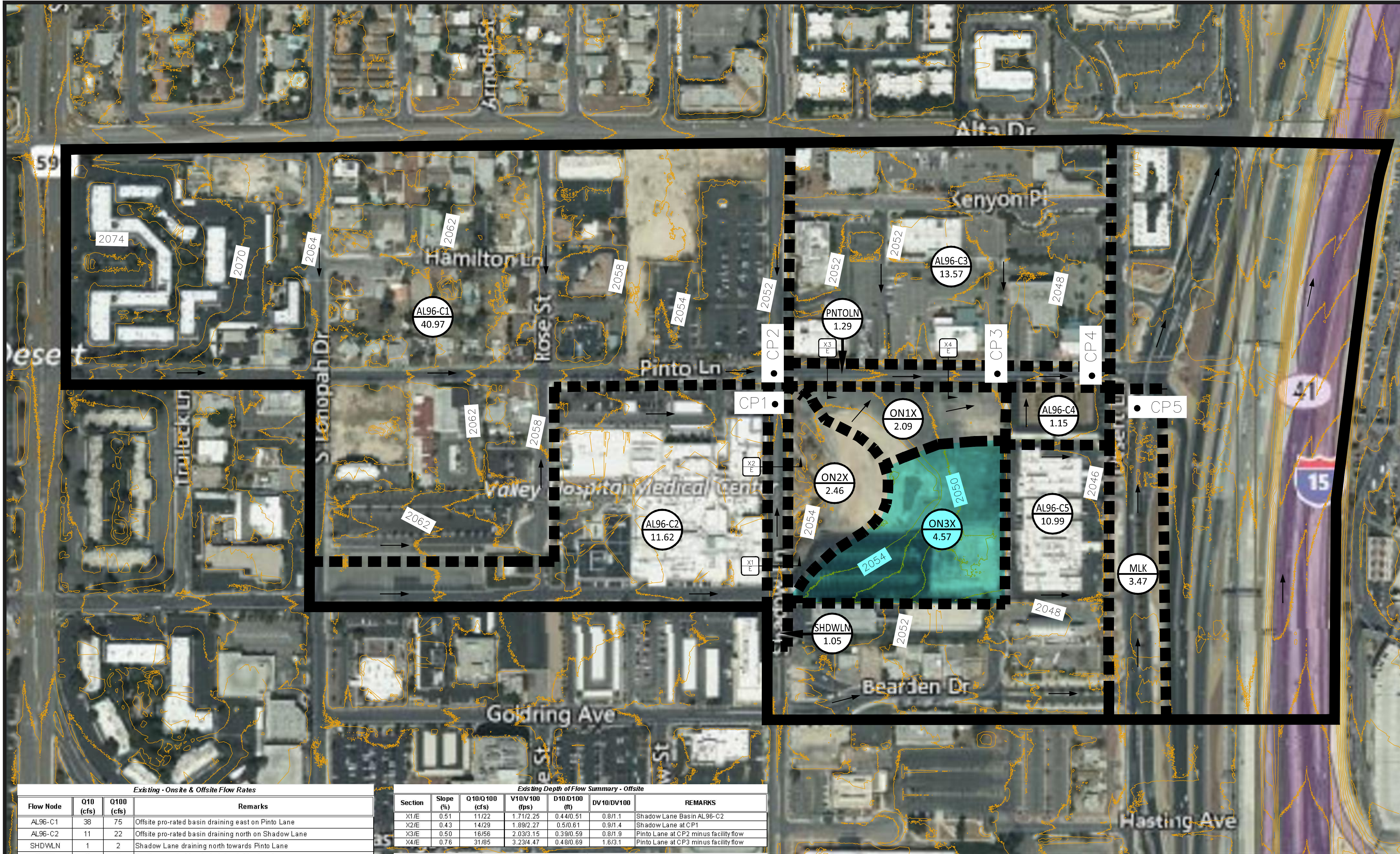
HYDROLOGIC ANALYSES

- FIGURES



FIGURES





LEGEND	
	BASIN ID./AREA (AC)
	CONCENTRATION POINT ID.
	FLOW PATH
	HYDRAULIC SECTION CONDITION
	BASIN BOUNDARY
	PRORATED BASIN BOUNDARY

MEDICAL EDUCATION BUILDING
AT SHADOW LANE & PINTO LANE

FIGURE 6
EXISTING CONDITION
BASIN MAP

POGGEMEYER
DESIGN GROUP

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Las Vegas, Nevada 89128
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f) 702.255.8375
www.poggemeyer.com

Existing - Onsite & Offsite Flow Rates			
Flow Node	Q10 (cfs)	Q100 (cfs)	Remarks
AL96-C1	38	75	Offsite pro-rated basin draining east on Pinto Lane
AL96-C2	11	22	Offsite pro-rated basin draining north on Shadow Lane
SHDWLN	1	2	Shadow Lane draining north towards Pinto Lane
ON2X	2	5	Onsite pro-rated basin draining to Shadow Lane
CP1*	14	29	Combined AL96-C2, SHDWLN, ON2X
CP2*	52	104	Combined AL96-C1 and CP1
ON1X	2	4	Onsite basin draining east on Pinto Lane
AL96-C3	13	25	Offsite basin north of Pinto Lane draining east on Pinto Lane
CP3*	67	133	Combined CP2, ON1X, AL96-C3
AL96-C4	6	11	Offsite basin east of projectsite draining east on Pinto Lane towards MLK
CP4*	73	144	Combined CP3 and AL96-C4 - Total flow at Pinto Lane and MLK
ON3X	3	6	Onsite pro-rated basin draining to Shadow Lane
ON4X	1	3	Onsite basin draining to MLK
AL96-C5	10	21	Offsite pro-rated basin draining to MLK
MLK	3	7	Martin Luther King draining north
CP5*	17	37	Combined ON3X, ON4X, AL96-C5 and MLK

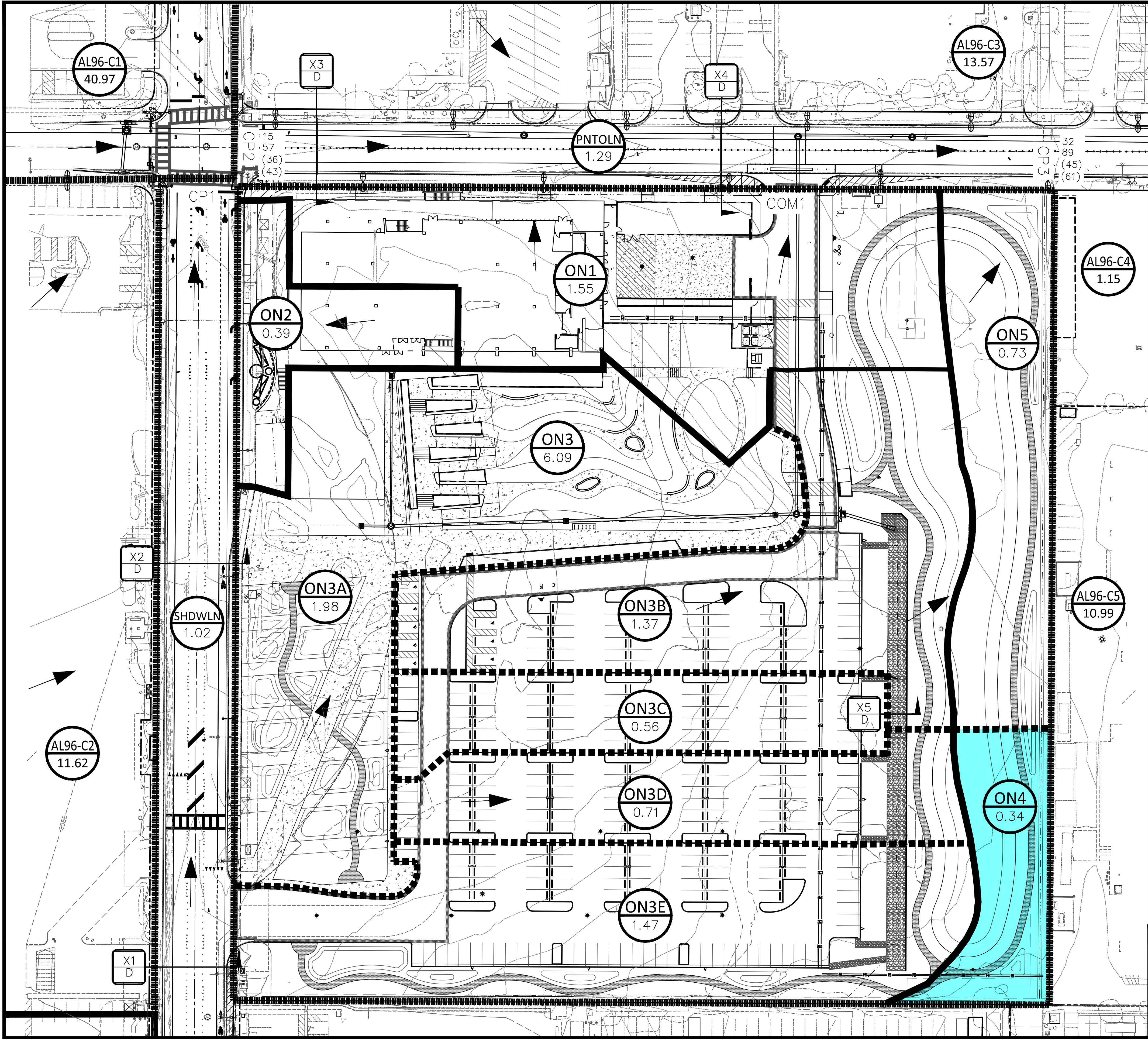
Note: All onsite and offsite basins were pro-rated based upon the Las Vegas Central Neighborhood Flood Control MPU

*Flow algebraically added

Existing Depth of Flow Summary - Offsite							
Section	Slope (%)	Q10/Q100 (cfs)	V10/V100 (fps)	D10/D100 (ft)	DV10/DV100	REMARKS	
X1/E	0.51	11/22	1.71/2.25	0.44/0.51	0.8/1.1	Shadow Lane Basin AL96-C2	
X2/E	0.43	14/29	1.89/2.27	0.5/0.61	0.8/1.4	Shadow Lane at CP1	
X3/E	0.50	16/56	2.03/3.15	0.39/0.58	0.8/1.9	Pinto Lane at CP2 minus facility flow	
X4/E	0.76	31/85	3.23/4.47	0.48/0.68	1.6/3.1	Pinto Lane at CP3 minus facility flow	

Pro-rated Flow Onsite & Offsite Basins									
LV Central Neighbor FC MPU Basin	Q10 (cfs)	Q100 (cfs)	Area (ac)	Q10 Unit Flow (cfs/ac)	Q100 Unit Flow (cfs/ac)	Sub-Basin	Area (ac)	Q10 (cfs)	Q100 (cfs)
AL96-C	109	218	115.84	0.94	1.88	AL96-C1	40.97	39	77
	109	218	115.84	0.94	1.88	AL96-C2	11.62	11	22
	109	218	115.84	0.94	1.88	AL96-C3	13.57	13	26
	109	218	115.84	0.94	1.88	AL96-C4	1.15	1	2
	109	218	115.84	0.94	1.88	AL96-C5	10.99	10	21
	109	218	115.84	0.94	1.88	ON1X	2.09	2	4
	109	218	115.84	0.94	1.88	ON2X	2.46	2	5
	109	218	115.84	0.94	1.88	ON3X	3.20	3	6
	109	218	115.84	0.94	1.88	ON4X	1.37	1	3
	109	218	115.84	0.94	1.88	SHDWLN	1.05	1	2
	109	218	115.84	0.94	1.88	PN TOLN	1.29	1	2
	109	218	115.84	0.94	1.88	MLK	3.47	3	7

Note: All onsite and offsite basins were pro-rated based upon the LV Central Neighborhood MPU

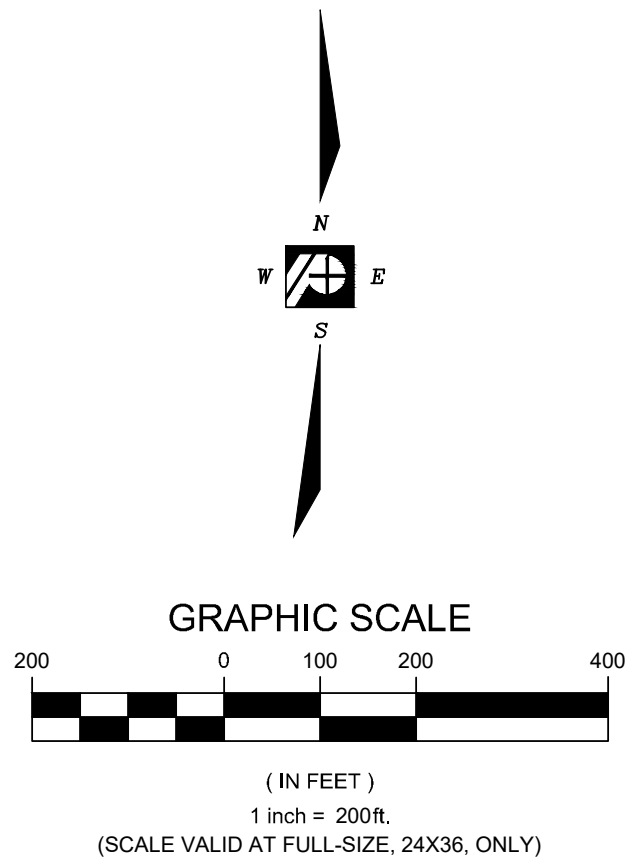


Developed - Onsite & Offsite Flow Rates			
Flow Node	Q10 (cfs)	Q100 (cfs)	Remarks
AL96-C1	38	75	Offsite pro-rated basin draining east on Pinto Lane
AL96-C2	11	22	Offsite pro-rated basin draining north on Shadow Lane
SHDWLN	1	2	Shadow Lane draining north towards Pinto Lane
ON2	1	1	Onsite basin draining to Shadow Lane
CP1*	13	25	Combined AL96-C2, SHDWLN and ON2
CP2*	51	100	Combined AL96-C1 and CP1
ON3	9	18	Onsite basin draining to Shadow Lane
ON1	3	5	Onsite basin draining to Shadow Lane
COM1	12	23	Combined onsite basins ON3 and ON1
ON5	1	2	Onsite basin draining to Shadow Lane
AL96-C3	13	25	Offsite basin north of Pinto Lane draining east on Pinto Lane
CP3*	77	150	Combined CP2, AL96-C1X, AL96-C3
AL96-C4	6	11	Offsite basin east of project site draining east on Pinto Lane towards MLK
CP4*	83	161	Combined CP3 and AL96-C4 - Total flow at Pinto Lane and MLK
AL96-C5	10	19	Offsite pro-rated basin draining to MLK
ON4	<1	1	Onsite basin draining to MLK
MLK	3	7	Martin Luther King draining north
CP5*	13	27	Combined AL96-C5 and MLK

Note: All offsite basins were pro-rated based upon the Las Vegas Central Neighborhood Flood Control MPU
*Flow algebraically added

Developed Depth of Flow Summary - On Site & Off Site						
Section	Slope (%)	Q10/Q100 (cfs)	V10/V100 (fps)	D10/D100 (ft)	DV10/DV100	REMARKS
X1/D	0.60	11/22	2.32/2.3	0.53/0.63	1.2/1.4	Shadow Lane Basin AL96-C2
X2/D	0.43	13/25	1.9/2.14	0.48/0.58	0.9/1.2	Shadow Lane at CP1
X3/D	0.55	15/27	2.18/2.21	0.49/0.7	1.1/2.2	Pinto Lane at CP2 minus facility flow
X4/D	0.94	32/69	3.19/4.55	0.59/0.77	1.9/3.5	Pinto Lane at CP3 minus facility flow
X5/D	2.60	*/11	*/0.27	*/0.02	*/2.7	Parking lot flow rate

Pro-rated Flow Onsite Basin								
Basin	Q10 (cfs)	Q100 (cfs)	Area (ac)	Q10 Unit Flow (cfs/ac)	Q100 Unit Flow (cfs/ac)	Rooft Drains Sub-Basin	Area (ac)	Q10 (cfs)
ON3	9	18	6.09	1.48	2.96	ON3A	1.98	3
	9	18	6.09	1.48	2.96	ON3B	1.37	2
	9	18	6.09	1.48	2.96	ON3C	0.56	1
	9	18	6.09	1.48	2.96	ON3D	0.71	1
	9	18	6.09	1.48	2.96	ON3E	1.47	2



LEGEND	
	BASIN ID./AREA (AC)
	CONCENTRATION POINT ID
	FLOW PATH
	HYDRAULIC SECTION CONDITION
	BASIN BOUNDARY
	PRORATED BASIN BOUNDARY
	10-YEAR STREET FLOW 100-YEAR STREET FLOW 10-YEAR FACILITY FLOW 100-YEAR FACILITY

MEDICAL EDUCATION BUILDING
AT SHADOW LANE & PINTO LANE

FIGURE 7
DEVELOPED CONDITION
BASIN MAP

POGGEMEYER
DESIGN GROUP

6960 Smoke Ranch Suite 110
Las Vegas, Nevada 89128
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f) 702.255.8375
www.poggemeyer.com

REVISED FEE SCHEDULE FOR LVMC TITLE 13 AND CHAPTER 11.50
(ADOPTED PURSUANT TO LVMC 13.40.050)
(Revised April 2004)

FEE DESCRIPTION	FEE AMOUNT
MAP, PLAN & PERMIT-RELATED FEES	PER ITEM AS STATED
Final map processing fee (basic)	\$100 per map
Additional (per lot) final map processing fee	\$10 per lot
Fee for application to deviate from standard (basic)	\$250 per application
Additional fee for deviation from standard	\$50 per deviation
Plan check fee for initial submittal	1.25% of approved bond estimate (with a \$500 minimum for a commercial project or residential subdivision, and a \$100 minimum for a single residence)
Plan check fee for any resubmittal to make required corrections if made later than one year following notification or if plans have been substantially redesigned	1.25% of approved bond estimate (with a \$500 minimum for a commercial project or residential subdivision, and a \$100 minimum for a single residence)
Express civil plan check application fee	\$300 per application
Express civil plan check hourly fee	\$600 per hour (1 hour minimum)
Plan revision fee	\$100 per sheet affected by revisions
Plan replot fee	\$200 per sheet (includes associated plan revision fee)
Minor excavation permit fee (for excavations affecting at most one traffic lane or 20 feet longitudinally)	\$50 per request
Flood zone determination fee	\$20 per determination
INSPECTION FEES	PER ITEM AS STATED
Inspection fee (fee for first \$25,000 of approved estimate)	3% of approved estimate amount for first \$25,000 (with a \$150 minimum for a commercial project or residential subdivision, and a \$50 minimum for a single residence)
Inspection fee (additional fee for approved estimate amount in excess of \$25,000, up to \$100,000)	2.75% of approved estimate amount in excess of \$25,000, up to \$100,000)
Inspection fee (additional fee for approved estimate amount in excess of \$100,000)	1.5% of approved estimate amount in excess
Reinspection fee	\$100 per reinspection
Retest fee	\$100 per retest

SPECIAL DOCUMENT FEES	PER ITEM AS STATED
Improvement agreement fee	\$100 per agreement
Bond assumption fee	\$250 per replacement bond
Bond reduction fee	\$150 per reduction
Covenant running with land fee	\$150 per application
Encroachment fee	\$25 per encroachment
TECHNICAL, STUDIES FEES (INCLUDING WITHOUT LIMITATION DRAINAGE/FLOOD STUDIES, TRAFFIC IMPACT ANALYSIS)	PER SUBMITTAL OR RESUBMITTAL
Master technical study review fee	\$1000 for master traffic impact analysis, \$400 for other
Fee for update/revision/amendment to approved master technical study	\$400
Individual technical study review fee	\$400 for drainage/flood study; \$300 for traffic impact analysis
Fee for update/revision/amendment to approved individual technical study	\$100
TRAFFIC BARRICADE-RELATED FEES	PER ITEM AS STATED
Traffic barricade plan permit fee	\$50 per plan or review
Traffic barricade plan renewal fee	\$100 per renewal
Fee for noncompliance with traffic barricade plan (basic)	\$100 per day per noncompliance
Fee for noncompliance with traffic barricade plan (additional fee, per unit of equipment)	\$10 per unit per day
Fee for placement of traffic barricades by City	Cost as determined by City
RIGHT-OF-WAY CONSTRUCTION-RELATED FEES	PER ITEM AS STATED
Fee for failure to obtain permit for work in right-of-way	\$100 per day per noncompliance, plus double the plan check fees and inspection fees described above
Fee for failure to comply with permit for work in right-of way	\$100 per day per noncompliance
Roadway/sidewalk lane rental (arterial right-of-way)	\$100 per lane per cumulative week (calculated using the formula identified by the asterisk below)
Roadway/sidewalk lane rental fee (collector right-of-way)	\$75 per lane per cumulative week (calculated using the formula identified by the asterisk below)
Roadway/sidewalk lane rental fee (residential right-of-way)	\$50 per lane per cumulative week (calculated using the formula identified by the asterisk below)

*(0.5n(n+1))ab, where n=Number of weeks, a=Land rental fee, b=Number of lanes

**TECHNICAL DRAINAGE STUDY
ADDENDUM 2
FOR
MEDICAL EDUCATION BUILDING
(AT SHADOW LN. & PINTO LN.)**

(PDG LV20040)

AUGUST 6, 2020



PREPARED FOR:

**TATE SNYDER KIMSEY
314 S. WATER STREET
HENDERSON, NV 89015**

PREPARED BY:

**POGGEMEYER DESIGN GROUP, INC.
6960 SMOKE RANCH ROAD
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August 6, 2020

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Flood Control Project Engineer
City of Las Vegas
Department of Public Works
333 N. Rancho Drive 7th Floor
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ADDENDUM NO. 2 TO THE TECHNICAL DRAINAGE STUDY
CLV PERMIT NUMBER: DS5287**

Dear Mr. Sung:

Enclosed are one copy and one CD containing a PDF version of the Medical Education Building Addendum 2 for your review. All items on the CD match the paper versions bound into the study. The proposed 9.11 +/- acre site is located on the southeast corner of Pinto Lane and Shadow Lane.

If there are any questions or additional information that is necessary, please contact our office at 702.255.8100

Sincerely,

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Adam Black, P.E.
Project Engineer

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

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Location of Development: a) Descriptive (Cross Streets) North/South: Shadow Lane

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Contact Person-Name: Adam Black, P.E. Telephone No.: 702-255-8100

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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

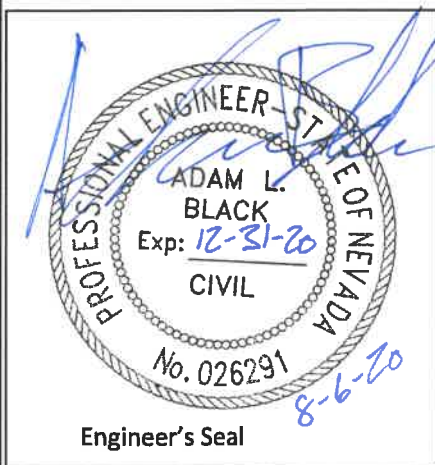
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6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: Previously the site evaluated under Las Vegas Central Neighborhood Flood Control MPU

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: The site will drain via surface flow to Shadow Lane and Pinto Lane. A portion of the site will drain to a proposed onsite storm drain system.

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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

DS5287
Local Entity File No.

REFERENCE:

STANDARD FORM 1

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SUBJECT:	Drainage Study for:	COPIES TO:
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			TOTAL FEES (LDDRS):	\$800.00	----

REMARKS:

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

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

- Second Request:** Provide a copy of the zoning/planning conditions associated with this site (**SDR-XXXXX**) with the next submittal to verify compliance with conditions. Flood Control will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the City Council). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.
- Second Request:** The finished floor elevation of the proposed MEB Building is lower than the corresponding street elevations of Shadow Lane and Pinto Lane. Provide a minimum 2'-high stem/flood wall at the back of sidewalk in both perimeter streets for flood protection. Review and revise accordingly.

Floodproofing is only a secondary measure for protection. The primary protection is either raise the finished floor elevation to meet the criteria or provide a stem/flood wall.
- Second Request:** The subject project proposed to connect an onsite storm drain system to a local storm drain in Pinto Lane under the City Capital Improvement project of Shadow Lane Improvement Plans (W. Charleston Blvd. to Alta Dr.). Coordinate with Mr. Lyle Wilcox, Engineering Project Manager of the capital improvement project for review and comment. Obtain Mr. Wilcox's approval of the connection prior to the final approval of the subject drainage study.

4. In the last submittal, a landscape mound has been added along the east boundary of the proposed development. However, per the grading plan and *Detail Sections D/C6.01* and *E/C6.01*, the eastern half of the mound drains to the adjacent property of the east. Either obtain permission from the adjacent owner or provide a swale along the eastern boundary and convey to the north for discharge. Review and resolve in the next submittal.

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

END OF REMARKS

ays

T/R/S: T20S/R61E/33
AREA M-33



August 6, 2020

City of Las Vegas
Department of Public Works
333 N. Rancho Drive 7th Floor
Las Vegas, NV 89106

ATTN: Mr. Albert Sung, P.E.
Flood Control Project Engineer

RE: Medical Education Building (AT SHADOW LN. & PINTO LN.)
ADDENDUM NO. 1 TO THE TECHNICAL DRAINAGE STUDY
CLV PERMIT NUMBER: DS5287
PDG PROJECT NUMBER: LV20040

Dear Mr.Sung:

We have received and incorporated your comments on our technical drainage study submittal for the above-mentioned project. Below are the comments received and our responses thereto:

- 1) **Second Request:** *Provide a copy of the zoning/planning conditions associated with this site (SDR-XXXXX) with the next submittal to verify compliance with conditions. Flood Control will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the City Council). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.*

Response: **Noted. The zoning/planning conditions associated with this site is 78840-SDR1. A copy of the approved zoning/planning conditions can be found in Appendix C.**

- 2) **Second Request:** *The finished floor elevation of the proposed MEB building is lower than the corresponding street elevations of Shadow Lane and Pinto Lane. Provide a minimum 2'-high stem/flood wall at the back of sidewalk in both perimeter streets for flood protection. Review and revise accordingly.*

Floodproofing is only a secondary measure for protection. The primary protection is either raise the finished floor elevation to meet the criteria or provide a stem/flood wall.

Response: **Noted. Per phone conversation with Mr. Albert Sung (CLV) and Vernon Harkins (PDG) on July 31, 2020, the requirement of a stem/flood wall is no**

longer required due to the following reasons: construction type of the building (reinforced concrete); there are no access doors on the north and west face of the building; and the windows will be constructed at a minimum of three-feet above adjacent finish grade. In addition, Mr. Sung requested that the grading plans be revised to depict the window locations and a keynote stating, "Proposed windows per architectural plans to be constructed a minimum of 3 ft above adjacent finish grade".

- 3) **Second Request:** *The subject project proposed to connect an onsite storm drain system to a local storm drain in Pinto Lane under the City Capital Improvement project of Shadow Lane Improvement Plans (W. Charleston Blvd. to Alta Dr.). Coordinate with Mr. Lyle Wilcox, Engineering Project Manager of the capital improvement project for review and comment. Obtain Mr. Wilcox's approval of the connection prior to the final approval of the subject drainage study.*

Response: Although Mr. Wilcox, CLV, is the project manager for the Pinto Lane improvements, the proposed storm drain improvements is tied to the Shadow Lane improvements. Ms. Lorrie Linnert, CLV, is the project manager of the Shadow Lane improvements. PDG has coordinated the design of Medical Education Building with both project managers and the with their subconsultants. At the request of PDG Ms. Lorrie Linnert has sent you an email stating that coordination has occurred and that the connection to the storm drain is approved. A copy of this email dated August 5, 2020 is enclosed with this response. Please refer to Appendix C for the email correspondence between PDG and CLV.

- 4) In the last submittal, a landscape mound has been added along the east boundary of the proposed development. However, per the grading plan and *Detail Section D/C6.01*, the eastern half of the mound drains to the adjacent property of the east. Either obtain permission from the adjacent owner or provide a swale along the eastern boundary and convey to the north for discharge. Review and resolve in the next submittal.

Response: Due to landscape mound along the east boundary, PDG revised the onsite basins to better delineate the flow patterns. This change affected the curve number calculations, hydrology, and hydraulic analysis. Basin ON1 and ON3 increased in acreage. Basins ON4 and ON5 decreased in acreage. The pertinent HEC-1 model has been included in Appendix A for review.

The offsite drop inlet analysis for the 10-year storm event was affected for drop inlets 3 through 8. The revised hydraulic analysis is included in Appendix B. In addition, the WSPG models MEB and MEBL1 were also revised to incorporate the hydrology changes. Basin ON3 regenerated an

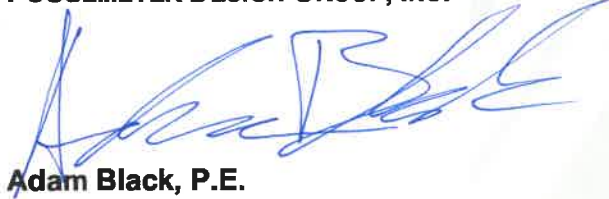
additional 1-cfs for the 100-year storm event for a total of 9- and 18-cfs. The onsite WSPG model (MEBL1) has been revised to reflect said changes and tail water condition based upon the main WSPG model MEB. The total flow in the 42-in RCP in Pinto Lane increased from 82- and 160-cfs to 83- and 161-cfs for the 10- and 100-year storm event, respectively. The WSPG model MEB was revised to reflect the additional 1-cfs in the storm drain system. In addition, the flow rate increased by 1-cfs for the 10-year storm event at hydraulic section X4/D from 31-cfs to 32-cfs. The hydraulic section has been provided in Appendix B. Please refer to updated Figure 7 in Appendix A for review.

A swale along the eastern property line has been added to convey runoff to the north and south. Please refer to civil plans for review.

Included are revised plans for your review and approval; please feel free to contact us with any questions at (702) 255-8100.

Respectfully Submitted,

POGGEMEYER DESIGN GROUP, INC.

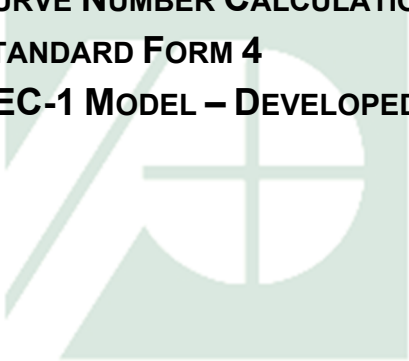


Adam Black, P.E.
Project Engineer

Karina Barragan
Designer

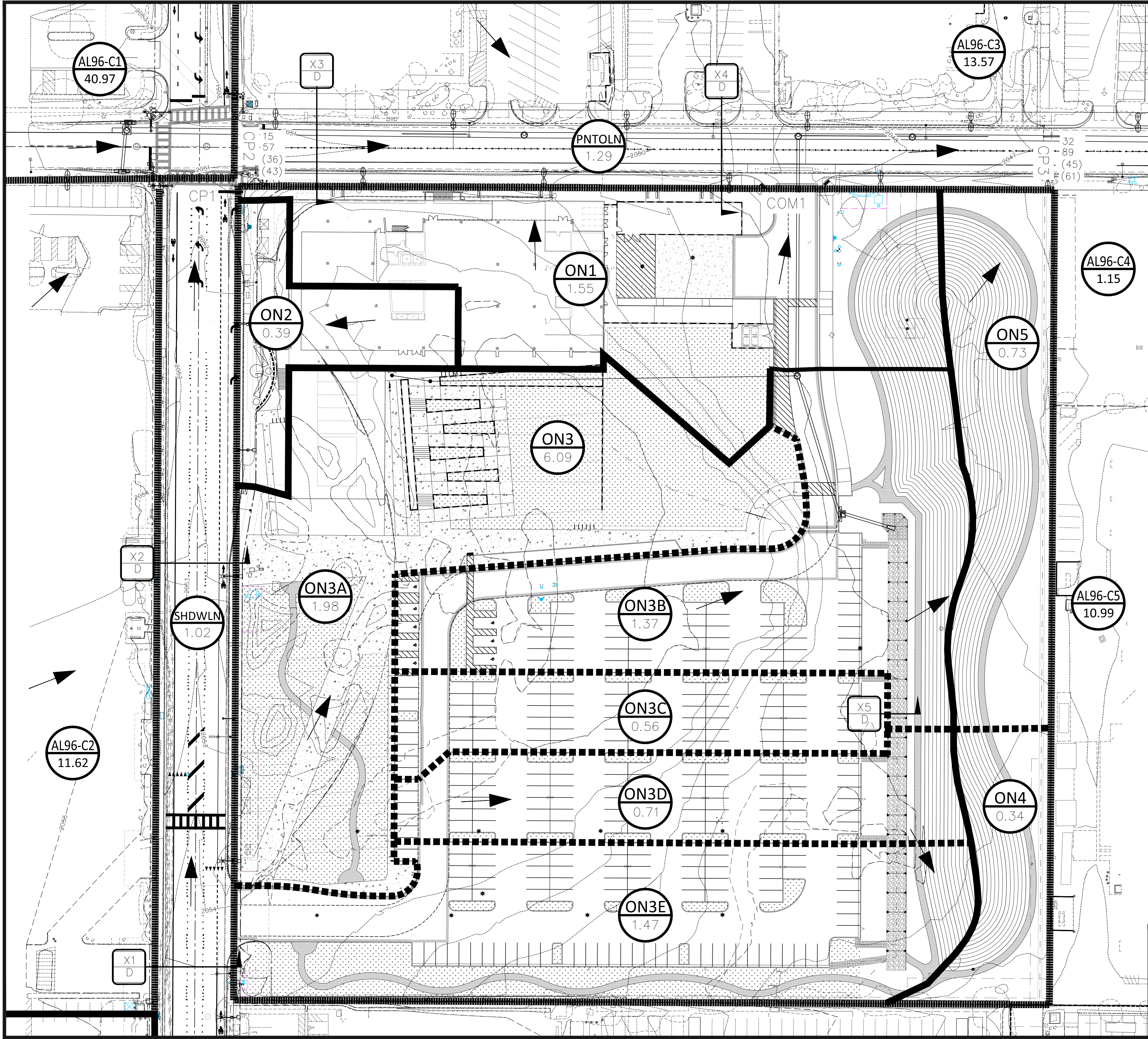
APPENDIX A

HYDROLOGIC ANALYSES

- **FIGURES**
 - **CURVE NUMBER CALCULATIONS**
 - **STANDARD FORM 4**
 - **HEC-1 MODEL – DEVELOPED CONDITION**
- 
- A faint, light green watermark logo is visible in the background. It consists of a stylized 'P' and 'D' intertwined, with a crosshair-like shape in the center.

FIGURES



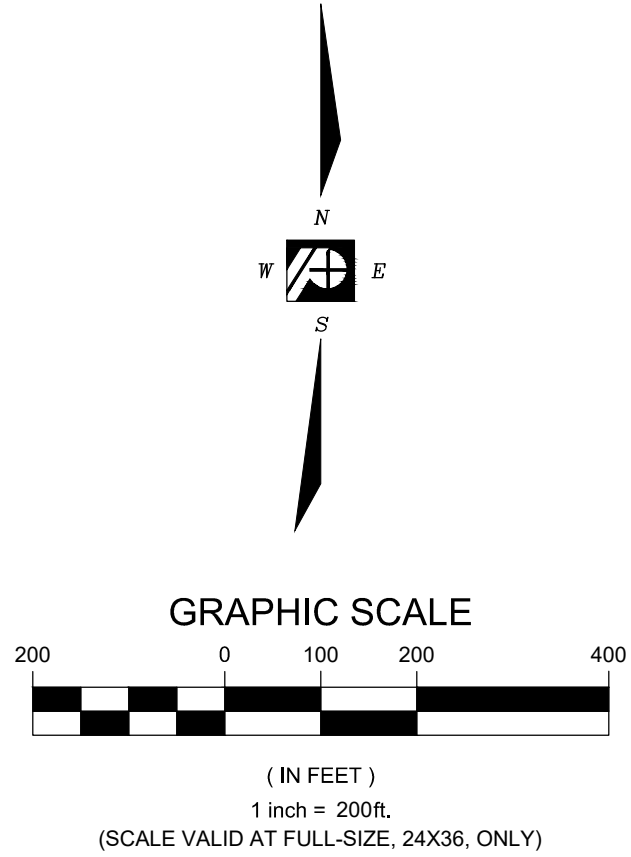


Developed - Onsite & Offsite Flow Rates			
Flow Node	Q10 (cfs)	Q100 (cfs)	Remarks
AL96-C1	38	75	Offsite pro-rated basin draining east on Pinto Lane
AL96-C2	11	22	Offsite pro-rated basin draining north on Shadow Lane
SHDWLN	1	2	Shadow Lane draining north towards Pinto Lane
ON2	1	1	Onsite basin draining to Shadow Lane
CP1*	13	25	Combined AL96-C2, SHDWLN and ON2
CP2*	51	100	Combined AL96-C1 and CP1
ON3	9	18	Onsite basin draining to Shadow Lane
ON1	3	5	Onsite basin draining to Shadow Lane
COM1	12	23	Combined onsite basins ON3 and ON1
ON5	1	2	Onsite basin draining to Shadow Lane
AL96-C3	13	25	Offsite basin north of Pinto Lane draining east on Pinto Lane
CP3*	77	150	Combined CP2, AL96-C1X, AL96-C3
AL96-C4	6	11	Offsite basin east of project site draining east on Pinto Lane towards MLK
CP4*	83	161	Combined CP3 and AL96-C4 - Total flow at Pinto Lane and MLK
AL96-C5	10	19	Offsite pro-rated basin draining to MLK
ON4	<1	1	Onsite basin draining to MLK
MLK	3	7	Martin Luther King draining north
CP5*	13	27	Combined AL96-C5 and MLK

Note: All offsite basins were pro-rated based upon the Las Vegas Central Neighborhood Flood Control MPU
*Flow algebraically added

Developed Depth of Flow Summary - Onsite & Offsite						
Section	Slope (%)	Q10/Q100 (cfs)	V10/V100 (fps)	D10/D100 (ft)	DV10/DV100	REMARKS
X1/D	0.60	11/22	2.32/2.3	0.53/0.53	1.2/1.4	Shadow Lane Basin AL96-C2
X2/D	0.43	13/25	1.9/2.14	0.48/0.58	0.9/1.2	Shadow Lane at CP1
X3/D	0.55	15/57	2.18/3.21	0.49/0.7	1.1/2.2	Pinto Lane at CP2 minus facility flow
X4/D	0.84	32/89	3.19/4.55	0.59/0.77	1.9/3.5	Pinto Lane at CP3 minus facility flow
X5/D	2.00	*/11	*/5.27	*/0.82	*/2.7	Parking lot flow rate

Pro-rated Flow Onsite Basin								
Basin	Q10 (cfs)	Q100 (cfs)	Area (ac)	Q10 Unit Flow (cfs/ac)	Q100 Unit Flow (cfs/ac)	Roof Drains Sub-Basin	Area (ac)	Q10 (cfs)
ON3	9	18	6.09	1.48	2.96	ON3A	1.98	3
	9	18	6.09	1.48	2.96	ON3B	1.37	2
	9	18	6.09	1.48	2.96	ON3C	0.56	1
	9	18	6.09	1.48	2.96	ON3D	0.71	2
	9	18	6.09	1.48	2.96	ON3E	1.47	4



LEGEND	
	BASIN ID./AREA (AC)
	CONCENTRATION POINT ID.
	FLOW PATH
	HYDRAULIC SECTION CONDITION
	BASIN BOUNDARY
	PRORATED BASIN BOUNDARY
	10-YEAR STREET FLOW 100-YEAR STREET FLOW 10-YEAR FACILITY FLOW 100-YEAR FACILITY

MEDICAL EDUCATION BUILDING
AT SHADOW LANE & PINTO LANE

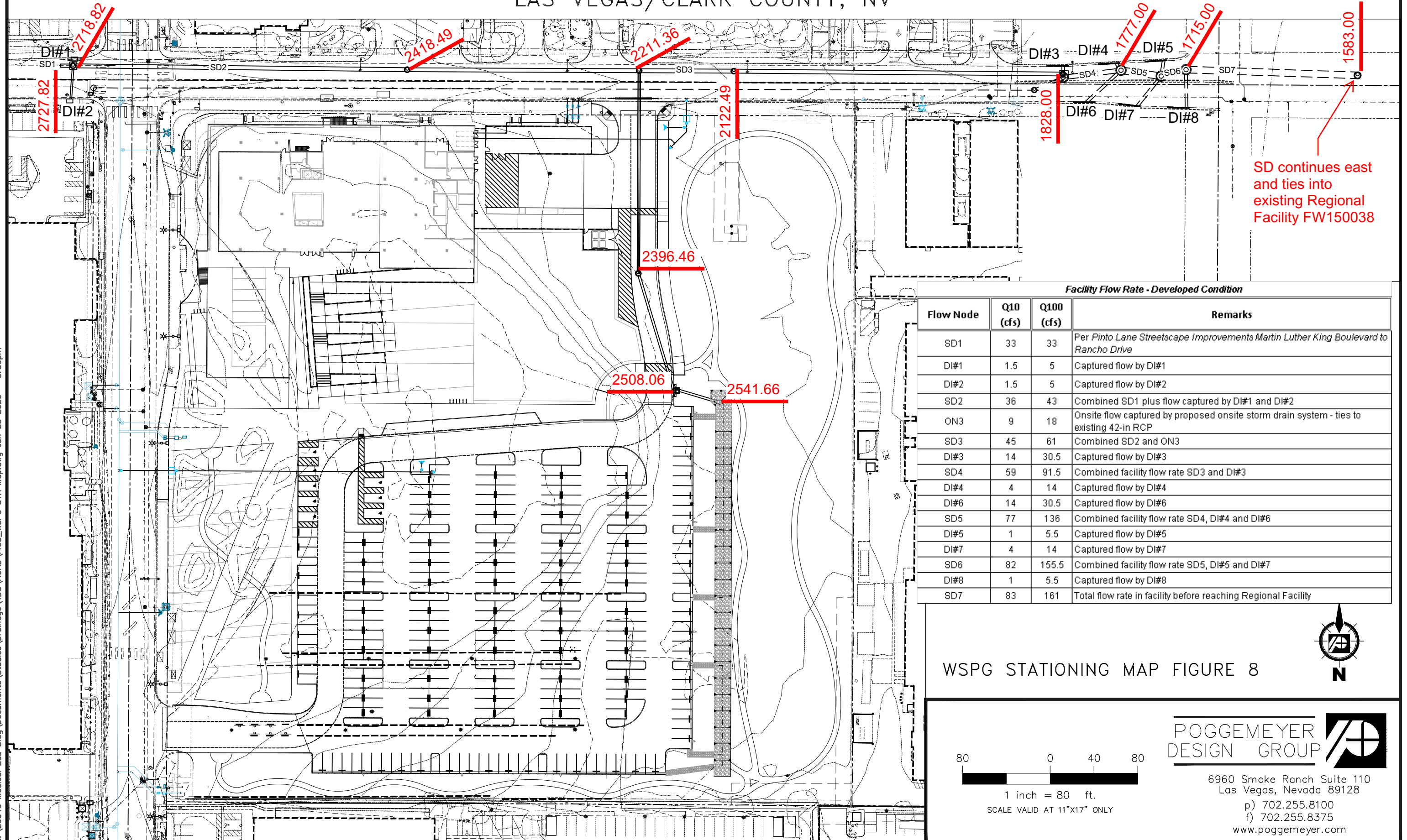


FIGURE 7
DEVELOPED CONDITION
BASIN MAP

6960 Smoke Ranch Suite 110
Las Vegas, Nevada 89128
p) 702.255.8100
f) 702.255.8375
www.poggemeyer.com

MEDICAL EDUCATION BUILDING

LAS VEGAS/CLARK COUNTY, NV



CURVE NUMBER CALCULATIONS



Composite Curve Numbers - Developed Condition

SUB-AREA (%)	SOIL TYPE	COVER TYPE	BASIN NAME	HSG (%)			CN			AREA (ac)	SUB-AREA (ac)	CN	Composite CN
82	390	Impervious	ON1	A	B	C	A	B	C	D			
18		Desert Landscape		0.0	0.0	100.0	98.0	98.0	98.0	98.0	1.28	80.7	95.7
				0.0	0.0	100.0	63.0	77.0	85.0	88.0	0.27	15.0	
			TOTAL								1.55		
SUB-AREA (%)	SOIL TYPE	COVER TYPE	BASIN NAME	HSG (%)			CN			AREA (ac)	SUB-AREA (ac)	CN	Composite CN
100	390	Impervious	ON2	A	B	C	A	B	C	D			
				0.0	0.0	100.0	98.0	98.0	98.0	98.0	0.39	98.0	98.0
			TOTAL								0.39		
SUB-AREA (%)	SOIL TYPE	COVER TYPE	BASIN NAME	HSG (%)			CN			AREA (ac)	SUB-AREA (ac)	CN	Composite CN
80	390	Impervious	ON3	A	B	C	A	B	C	D			
20		Desert Landscape		0.0	0.0	100.0	98.0	98.0	98.0	98.0	4.85	78.1	95.4
				0.0	0.0	100.0	63.0	77.0	85.0	88.0	1.24	17.3	
			TOTAL								6.09		
SUB-AREA (%)	SOIL TYPE	COVER TYPE	BASIN NAME	HSG (%)			CN			AREA (ac)	SUB-AREA (ac)	CN	Composite CN
100	390	Desert Landscape	ON4	A	B	C	A	B	C	D			
				0.0	0.0	100.0	63.0	77.0	85.0	88.0	0.34	85.0	85.0
			TOTAL								0.34		
SUB-AREA (%)	SOIL TYPE	COVER TYPE	BASIN NAME	HSG (%)			CN			AREA (ac)	SUB-AREA (ac)	CN	Composite CN
100	390	Desert Landscape	ON5	A	B	C	A	B	C	D			
				0.0	0.0	100.0	63.0	77.0	85.0	88.0	0.73	85.0	85.0
			TOTAL								0.73		

STANDARD FORM 4



HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

TIME OF CONCENTRATION



Project No. 20-040

Project

Medical Education Building

EXISTING AND DEVELOPED CONDITION

CALCULATED BY : KB

DATE: 7/28/20

SUB-BASIN DATA		INITIAL / OVERLAND TIME (Ti)			TRAVEL TIME (Tt)			URBANIZED BASINS			Tc	Tiag	REMARKS					
		AREA Mi^2 (3)	AREA Feet (4)	SLOPE % (5)	Ti Min (6)	TRAVEL LENGTH Feet (7)	SLOPE % (8)	V1 VELOCITY FPS (9a)	V2 VELOCITY FPS (9b)	Tt Min (10)				TOTAL LENGTH Ft (11)	Tc = (L/180)*10 Min (12)			
DESIG: (1)	DEV./EX. (D or E)	K (2)																
DEVELOPED CONDITION																		
ON1	D	95.7	0.8733	1.55	0.00243	60.0	2.00	2.51	340	0.54	1.48	2.25	3.82	400	12.2	6.3	0.063	1.58/2.77
ON2	D	98.0	0.9036	0.39	0.00061	88.5	2.00	2.64	224	0.50	1.43	2.16	2.61	313	11.7	5.3	0.053	1.58/2.77
ON3	D	95.4	0.8687	6.09	0.00951	40.0	1.00	2.63	646	0.50	1.43	2.16	6.96	686	13.8	9.6	0.096	1.58/2.77
ON4	D	85.0	0.7320	0.34	0.00054	98.5	1.50	5.74	590	0.37	1.23	1.86	7.59	688	13.8	13.3	0.133	1.58/2.77
ON5	D	85.0	0.7320	0.73	0.00115	80.0	1.25	5.50	167	0.90	1.92	2.90	1.45	247	11.4	7.0	0.070	1.58/2.77
REFERENCE :																		
Tc = Ti + Tt		Tiag = 0.6 Tc		MF = Multi-Family		Pave = Pavement		SF = Single-Family		For the travel time (Tt) calculations, V1 applies to the first 500 feet of travel distance; V2 applies to the remaining travel distance.		Existing V1 = 14.8*(S/100)^1/2 Existing V2 = 29.4*(S/100)^1/2		Developed V1 = 20.2*(S/100)^1/2 Developed V2 = 30.6*(S/100)^1/2		V1 = 20.2*(S/100)^1/2 V2 = 30.6*(S/100)^1/2		
STANDARD FORM 4																		

HEC-1 MODEL

DEVELOPED CONDITION



```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
*
* RUN DATE 28JUL20 TIME 11:13:35
*
*****

MEBD

*****
*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
*****

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X X XXXXXX XXXX X
X X X X X XX
X X X X X
XXXXXX XXXX X XXXX X
X X X X X
X X X X X
X X XXXXXX XXXX XXX

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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE. THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
 NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
 DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
 KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
*DIAGRAM
1 ID POGGEMEYER DESIGN GROUP
2 ID
3 ID MEDICAL EDUCATION BUILDING
4 ID
5 ID HEC1 FILE: MEBD.DAT
6 ID OUTPUT FILE: MEBD.OUT
7 ID
8 ID
9 ID DEVELOPED CONDITION ONSITE & OFFSITE 10- AND 100-YEAR
10 ID
11 ID *****
12 ID * DEPTH-DURATION-FREQUENCY VALUE = 2.77 INCHES *
13 ID * DEPTH-AREA REDUCTION VALUE = 0.00 *
14 ID * STORM DISTRIBUTION #3 *
15 ID * ABSTRACTION METHOD: SCS CN *
16 ID * HYDROLOGIC METHOD: SCS UH *
17 ID * ROUTING METHOD: MUSKINGUM CUNGE *
18 ID * RATIO 1 = 10 YEAR EVENT 1.58" *
19 ID * RATIO 2 = 100 YEAR EVENT 2.77" *
20 ID *****
21 ID
22 ID
23 ID
24 IT 5 0 0 300
25 IN 5 0 0
26 IO 5 0 0
27 JR PREC 0.57 1.00

28 KK ON1
29 KM ONSITE BASIN DRAINING TO PINTO LANE
30 PB 2.77
31 PC 0.000 0.020 0.057 0.070 0.087 0.108 0.124 0.130 0.130 0.130
32 PC 0.130 0.130 0.130 0.133 0.140 0.142 0.148 0.158 0.172 0.181
33 PC 0.190 0.197 0.199 0.200 0.201 0.204 0.214 0.229 0.241 0.249
34 PC 0.251 0.256 0.270 0.278 0.281 0.283 0.295 0.322 0.352 0.409
35 PC 0.499 0.590 0.710 0.744 0.781 0.812 0.819 0.835 0.851 0.856
36 PC 0.860 0.868 0.876 0.888 0.910 0.926 0.937 0.950 0.970 0.976
37 PC 0.982 0.985 0.987 0.989 0.990 0.993 0.993 0.994 0.995 0.998
38 PC 0.998 0.999 1.000
39 BA .00243
40 LS 0 95.7
41 UD 0.063
*

42 KK ON2
43 KM ONSITE BASIN DRAINING TO SHADOW LANE
44 BA .00061
45 LS 0 98.0
46 UD 0.053
*

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1 HEC-1 INPUT PAGE 2

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LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

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                                MEBD
47      KK      ON3
48      KM      ONSITE BASIN DRAINING TO PINTO LANE
49      BA      .00951
50      LS      0      95.4
51      UD      0.096
      *

52      KK      ON4
53      KM      ONSITE BASIN DRAINING TO MLK
54      BA      .00054
55      LS      0      85.0
56      UD      0.133
      *

57      KK      ON5
58      KM      ONSITE BASIN DRAINING TO MLK
59      BA      .00115
60      LS      0      85.0
61      UD      0.070
      *
62      ZZ

1
      SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
LINE      (V) ROUTING      (--->) DIVERSION OR PUMP FLOW
NO.      (.) CONNECTOR      (<---) RETURN OF DIVERTED OR PUMPED FLOW

28      ON1
      .
      .
42      .      ON2
      .
      .
47      .      .      ON3
      .      .
      .      .
52      .      .      .      ON4
      .      .
      .      .
57      .      .      .      .      ON5

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
* RUN DATE 28JUL20 TIME 11:13:35
*
*****

*****
*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
*****

      POGGEMEYER DESIGN GROUP

      MEDICAL EDUCATION BUILDING

      HEC1 FILE: MEBD.DAT
      OUTPUT FILE: MEBD.OUT

      DEVELOPED CONDITION ONSITE & OFFSITE 10- AND 100-YEAR

*****
* DEPTH-DURATION-FREQUENCY VALUE = 2.77 INCHES *
* DEPTH-AREA REDUCTION VALUE = 0.00 *
* STORM DISTRIBUTION #3 *
* ABSTRACTION METHOD: SCS CN *
* HYDROLOGIC METHOD: SCS UH *
* ROUTING METHOD: MUSKINGUM CUNGE *
* RATIO 1 = 10 YEAR EVENT 1.58" *
* RATIO 2 = 100 YEAR EVENT 2.77" *
*****

26 IO      OUTPUT CONTROL VARIABLES
      IPRNT      5      PRINT CONTROL
      IPLOT      0      PLOT CONTROL
      QSCAL      0.      HYDROGRAPH PLOT SCALE

IT      HYDROGRAPH TIME DATA
      NMIN      5      MINUTES IN COMPUTATION INTERVAL
      IDATE      1      0      STARTING DATE
      ITIME      0000      STARTING TIME
      NQ      300      NUMBER OF HYDROGRAPH ORDINATES
      NDDATE      2      0      ENDING DATE
      NDTIME      0055      ENDING TIME
      ICENT      19      CENTURY MARK

```

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS

DRAINAGE AREA SQUARE MILES
PRECIPITATION DEPTH INCHES
LENGTH, ELEVATION FEET
FLOW CUBIC FEET PER SECOND
STORAGE VOLUME ACRE-Feet
SURFACE AREA ACRES
TEMPERATURE DEGREES FAHRENHEIT

JP MULTI-PLAN OPTION
NPLAN 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION
RATIOS OF PRECIPITATION
.57 1.00

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION	
				RATIO 1 .57	RATIO 2 1.00
HYDROGRAPH AT +	ON1	.00	1 FLOW TIME	3. 3.50	5. 3.50
HYDROGRAPH AT +	ON2	.00	1 FLOW TIME	1. 3.50	1. 3.50
HYDROGRAPH AT +	ON3	.01	1 FLOW TIME	9. 3.50	18. 3.50
HYDROGRAPH AT +	ON4	.00	1 FLOW TIME	0. 3.58	1. 3.58
HYDROGRAPH AT +	ON5	.00	1 FLOW TIME	1. 3.50	2. 3.50

*** NORMAL END OF HEC-1 ***

APPENDIX B

HYDRAULIC ANALYSES

- **FLOWMASTER OFFSITE DEPTH OF FLOW CALCS – DEVELOPED CONDITION**
- **HYDRAULIC TOOLBOX – OFFSITE DROP INLET CALCULATIONS**
- **WSPG MODELS**
 - **MEB**
 - **MEBL1**

FLOWMASTER OFFSITE DEPTH OF FLOW CALCS – DEVELOPED CONDITION



Cross Section for X4/D Plinto Lane Q10

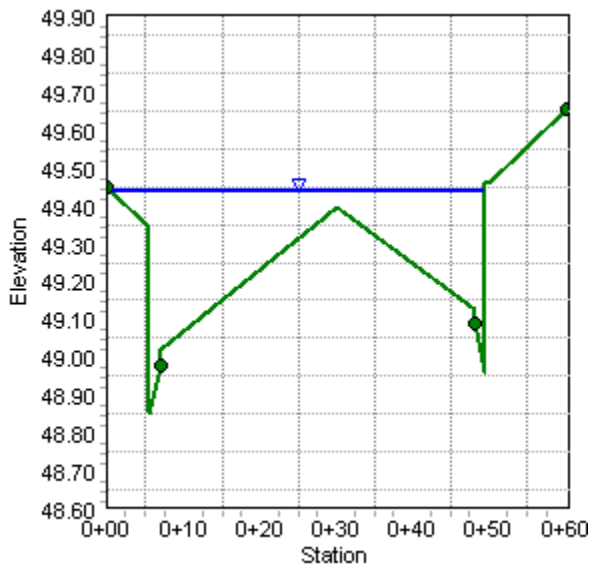
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00940	ft/ft
Normal Depth	0.59	ft
Discharge	32.00	ft ³ /s

Cross Section Image



Worksheet for X4/D Pinto Lane Q10

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope 0.00940 ft/ft
Discharge 32.00 ft³/s
Section Definitions

Station (ft)	Elevation (ft)
0+00.00	49.45
0+05.00	49.35
0+05.50	49.35
0+05.50	48.85
0+07.00	48.98
0+07.00	49.02
0+30.00	49.40
0+48.00	49.13
0+48.00	49.09
0+49.50	48.96
0+49.50	49.46
0+50.00	49.46
0+60.00	49.66

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 49.45)	(0+07.00, 48.98)	0.013
(0+07.00, 48.98)	(0+48.00, 49.09)	0.016
(0+48.00, 49.09)	(0+60.00, 49.66)	0.013

Options

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

Worksheet for X4/D Plinto Lane Q10

Results

Normal Depth		0.59	ft
Elevation Range	48.85 to 49.66 ft		
Flow Area		10.04	ft ²
Wetted Perimeter		50.02	ft
Hydraulic Radius		0.20	ft
Top Width		48.95	ft
Normal Depth		0.59	ft
Critical Depth		0.62	ft
Critical Slope		0.00588	ft/ft
Velocity		3.19	ft/s
Velocity Head		0.16	ft
Specific Energy		0.75	ft
Froude Number		1.24	
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	0.59	ft
Critical Depth	0.62	ft
Channel Slope	0.00940	ft/ft
Critical Slope	0.00588	ft/ft

Messages

Notes

CP3 - FACILITY FLOW RATE

HYDRAULIC TOOLBOX – OFFSITE DROP INLET CALCULATIONS



Hydraulic Analysis Report

Project Data

Project Title: Medical Education Building

Designer:

Project Date: Sunday, May 17, 2020

Project Units: U.S. Customary Units

Notes: Developed Condition

Curb and Gutter Analysis: 20-ft DI DI#3 North Q10

Notes: Flow at CP3 – (flow collected DI#1, DI#2 and onsite basin ON3 tying to 42-in RCP at WSPG station 2211.3 – assumed to divided equally on both sides of the road. To account for 50% clogging factor – the curb opening, and grate was divided in half.

Gutter Input Parameters

Longitudinal Slope of Road: 0.0090 ft/ft

Cross-Slope of Pavement: 0.0200 ft/ft

Depressed Gutter Geometry

Cross-Slope of Gutter: 0.0867 ft/ft

Manning's n: 0.0160

Gutter Width: 1.5000 ft

Design Flow: 19.0000 cfs

Gutter Result Parameters

Width of Spread: 21.8867 ft

Gutter Depression: 1.2006 in

Area of Flow: 4.8653 ft²

Eo (Gutter Flow to Total Flow): 0.2015

Gutter Depth at Curb: 6.4534 in

Inlet Input Parameters

Inlet Location: Inlet on Grade

Inlet Type: Sweeper Combo

Grate Type: P - 1-7/8

Grate Width: 1.5000 ft

Grate Length: 8.7500 ft

Length of Inlet: 10.0000 ft

Local Depression: 2.0000 in

Inlet Result Parameters

Intercepted Flow: 13.8521 cfs

Bypass Flow: 5.1479 cfs

Approach Velocity: 3.8421 ft/s

Splash-over Velocity: 25.0290 ft/s

Efficiency: 0.7291

Curb and Gutter Analysis: 20-ft DI DI#4 North Q10

Notes: DI#3 bypass flow. To account for 50% clogging factor – the curb opening, and grate was divided in half.

Gutter Input Parameters

Longitudinal Slope of Road: 0.0090 ft/ft

Cross-Slope of Pavement: 0.0200 ft/ft

Depressed Gutter Geometry

Cross-Slope of Gutter: 0.0867 ft/ft

Manning's n: 0.0160

Gutter Width: 1.5000 ft

Design Flow: 5.0000 cfs

Gutter Result Parameters

Width of Spread: 12.9488 ft

Gutter Depression: 1.2006 in

Area of Flow: 1.7517 ft²

Eo (Gutter Flow to Total Flow): 0.3489

Gutter Depth at Curb: 4.3083 in

Inlet Input Parameters

Inlet Location: Inlet on Grade

Inlet Type: Sweeper Combo

Grate Type: P - 1-7/8

Grate Width: 1.5000 ft

Grate Length: 8.7500 ft

Length of Inlet: 10.0000 ft

Local Depression: 2.0000 in

Inlet Result Parameters

Intercepted Flow: 4.3500 cfs

Bypass Flow: 0.6500 cfs

Approach Velocity: 2.7585 ft/s

Splash-over Velocity: 25.0290 ft/s

Efficiency: 0.8700

Curb and Gutter Analysis: 20-ft DI DI#5 North Q10

Notes: DI#4 bypass flow. To account for 50% clogging factor – the curb opening, and grate was divided in half.

Gutter Input Parameters

Longitudinal Slope of Road: 0.0090 ft/ft

Cross-Slope of Pavement: 0.0200 ft/ft

Depressed Gutter Geometry

Cross-Slope of Gutter: 0.0867 ft/ft

Manning's n: 0.0160

Gutter Width: 1.5000 ft

Design Flow: 1.0000 cfs

Gutter Result Parameters

Width of Spread: 6.3867 ft

Gutter Depression: 1.2006 in

Area of Flow: 0.4829 ft²

E_o (Gutter Flow to Total Flow): 0.6642

Gutter Depth at Curb: 2.7334 in

Inlet Input Parameters

Inlet Location: Inlet on Grade

Inlet Type: Sweeper Combo

Grate Type: P - 1-7/8

Grate Width: 1.5000 ft

Grate Length: 8.7500 ft

Length of Inlet: 10.0000 ft

Local Depression: 2.0000 in

Inlet Result Parameters

Intercepted Flow: 1.0000 cfs

Bypass Flow: 0.0000 cfs

Approach Velocity: 0.0000 ft/s

Splash-over Velocity: 25.0290 ft/s

Efficiency: 1.0000

Curb and Gutter Analysis: 20-ft DI DI#6 South Q10

Notes: Flow at CP3 – (flow collected DI#1, DI#2 and onsite basin ON3 tying to 42-in RCP at WSPG station 2211.3 – assumed to divided equally on both sides of the road. To account for 50% clogging factor – the curb opening, and grate was divided in half.

Gutter Input Parameters

Longitudinal Slope of Road: 0.0090 ft/ft

Cross-Slope of Pavement: 0.0200 ft/ft

Depressed Gutter Geometry

Cross-Slope of Gutter: 0.0867 ft/ft

Manning's n: 0.0160

Gutter Width: 1.5000 ft

Design Flow: 19.0000 cfs

Gutter Result Parameters

Width of Spread: 21.8867 ft

Gutter Depression: 1.2006 in

Area of Flow: 4.8653 ft²

Eo (Gutter Flow to Total Flow): 0.2015

Gutter Depth at Curb: 6.4534 in

Inlet Input Parameters

Inlet Location: Inlet on Grade

Inlet Type: Sweeper Combo

Grate Type: P - 1-7/8

Grate Width: 1.5000 ft

Grate Length: 8.7500 ft

Length of Inlet: 10.0000 ft

Local Depression: 2.0000 in

Inlet Result Parameters

Intercepted Flow: 13.8521 cfs

Bypass Flow: 5.1479 cfs

Approach Velocity: 3.8421 ft/s

Splash-over Velocity: 25.0290 ft/s

Efficiency: 0.7291

Curb and Gutter Analysis: 20-ft DI DI#7 South Q10

Notes: DI#6 bypass flow. To account for 50% clogging factor – the curb opening, and grate was divided in half.

Gutter Input Parameters

Longitudinal Slope of Road: 0.0090 ft/ft

Cross-Slope of Pavement: 0.0200 ft/ft

Depressed Gutter Geometry

Cross-Slope of Gutter: 0.0867 ft/ft

Manning's n: 0.0160

Gutter Width: 1.5000 ft

Design Flow: 5.0000 cfs

Gutter Result Parameters

Width of Spread: 12.9488 ft

Gutter Depression: 1.2006 in

Area of Flow: 1.7517 ft²

E_o (Gutter Flow to Total Flow): 0.3489

Gutter Depth at Curb: 4.3083 in

Inlet Input Parameters

Inlet Location: Inlet on Grade

Inlet Type: Sweeper Combo

Grate Type: P - 1-7/8

Grate Width: 1.5000 ft

Grate Length: 8.7500 ft

Length of Inlet: 10.0000 ft

Local Depression: 2.0000 in

Inlet Result Parameters

Intercepted Flow: 4.3500 cfs

Bypass Flow: 0.6500 cfs

Approach Velocity: 2.7585 ft/s

Splash-over Velocity: 25.0290 ft/s

Efficiency: 0.8700

Curb and Gutter Analysis: 20-ft DI DI#8 South Q10

Notes: DI#7 bypass flow. To account for 50% clogging factor – the curb opening, and grate was divided in half.

Gutter Input Parameters

Longitudinal Slope of Road: 0.0090 ft/ft

Cross-Slope of Pavement: 0.0200 ft/ft

Depressed Gutter Geometry

Cross-Slope of Gutter: 0.0867 ft/ft

Manning's n: 0.0160

Gutter Width: 1.5000 ft

Design Flow: 1.0000 cfs

Gutter Result Parameters

Width of Spread: 6.3867 ft

Gutter Depression: 1.2006 in

Area of Flow: 0.4829 ft²

E_o (Gutter Flow to Total Flow): 0.6642

Gutter Depth at Curb: 2.7334 in

Inlet Input Parameters

Inlet Location: Inlet on Grade

Inlet Type: Sweeper Combo

Grate Type: P - 1-7/8

Grate Width: 1.5000 ft

Grate Length: 8.7500 ft

Length of Inlet: 10.0000 ft

Local Depression: 2.0000 in

Inlet Result Parameters

Intercepted Flow: 1.0000 cfs

Bypass Flow: 0.0000 cfs

Approach Velocity: 0.0000 ft/s

Splash-over Velocity: 25.0290 ft/s

Efficiency: 1.000

WSPG MODELS



MEB MODEL



T1 MEDICAL EDUCATION BUILDING

T2 DEVELOPED CODNITION 100-YEAR ANALYSIS

T3 TIE TO EXISTING 3: 12-FT BY 10-FT RCB (REGIONAL FACILITY FW150038)

		2034.630									
SO	1000.0002026.000	1									
R	1575.0002031.100	1	.013							.000	.000 1
JX	1583.0002031.160	1	.013								
R	1707.0002031.530	1	.013							.000	15.000 1
JX	1715.0002032.200	1	5	.013	5.500		2032.200			57.0	.000
R	1728.0002032.350	1	.013							.000	.000 1
JX	1736.0002032.550	1	5	5.013	5.500		14.0002032.5502032.550			45.0-45.0	.000
R	1769.0002032.850	1	.013							.000	.000 1
JX	1777.0002034.500	2	5	5.013	14.000		30.5002034.5002034.500			45.0-45.0	.000
R	1820.0002035.000	2	.013							.000	.000 1
JX	1828.0002035.420	3	5	.013	30.500		2035.420			90.0	.000
R	2117.4902036.890	3	.013							.000	.000 1
JX	2122.4902036.990	3	.013							.000	.000 1
R	2206.3602037.420	3	.013							.000	.000 1
JX	2211.3602037.421	3	7	.013	18.000		2038.920			-90.0	.000
R	2413.4902038.470	3	.013							.000	.000 1
JX	2418.4902038.570	3	.013							.000	.000 1
R	2713.8202040.080	3	.013							.000	.000 1
JX	2718.8202040.180	4	6	6.013	5.000		5.0002041.9202041.920			90.0-90.0	.000
R	2727.8202040.220	4	.013							.000	.000 0
SH	2727.8202040.220	4					2040.220				
CD	1	4	1	.000	.000	.000	.000	.000			
CD	2	4	1	.000	.000	.000	.000	.000			
CD	3	4	1	.000	.000	.000	.000	.000			
CD	4	4	1	.000	.000	.000	.000	.000			
CD	5	4	1	.000	.000	.000	.000	.000			

CD	6	4	1	.000	1.500	.000	.000	.000	MEB
CD	7	4	1	.000	2.000	.000	.000	.000	
Q				33.000	.0				

FILE: MEB.WSW

MEB
W S P G W - EDIT LISTING - Version 14.05 Date: 7-28-2020 Time: 2:11:24
WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIER/PIP	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4	1		6.000														
CD	2	4	1		4.000														
CD	3	4	1		3.500														
CD	4	4	1		3.000														
CD	5	4	1		2.500														
CD	6	4	1		1.500														
CD	7	4	1		2.000														

W S P G W

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

HEADING LINE NO 2 IS -

HEADING LINE NO 3 IS -

W S P G W

WATER SURFACE PROFILE - ELEMENT CARD LISTING

W S ELEV

2034.630

1

2

ELEMENT NO	IS	A	SYSTEM OUTLET	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	ANG PT	MAN H
1	IS	A	SYSTEM OUTLET	1000.000	2026.000	1											
2	IS	A	REACH	1575.000	2031.100	1				.013							
3	IS	A	JUNCTION	1583.000	2031.160	1	0	0		.013							
4	IS	A	REACH	1707.000	2031.530	1				.013							
5	IS	A	JUNCTION	1715.000	2032.200	1	5	0		.013							
6	IS	A	REACH	1728.000	2032.350	1				.013							
7	IS	A	JUNCTION	1736.000	2032.550	1	5	5		.013							
8	IS	A	REACH	1769.000	2032.850	1				.013							
9	IS	A	JUNCTION	1777.000	2034.500	2	5	5		.013							
10	IS	A	REACH	1820.000	2035.000	2				.013							
11	IS	A	JUNCTION	1828.000	2035.420	3	5	0		.013							
12	IS	A	REACH	2117.490	2036.890	3				.013							
13	IS	A	JUNCTION	2122.490	2036.990	3	0	0		.013							
14	IS	A	REACH	2206.360	2037.420	3				.013							
15	IS	A	JUNCTION	2211.360	2037.421	3	7	0		.013							
16	IS	A	REACH	2413.490	2038.470	3				.013							
17	IS	A	JUNCTION	2418.490	2038.570	3	0	0		.013							
18	IS	A	REACH														

		U/S DATA	STATION	INVERT	SECT			MEB			RADIUS	ANGLE	ANG PT	MAN H
ELEMENT NO	19	IS A JUNCTION	2713.820	2040.080	3	*	*	N			.000	.000	.000	1
		U/S DATA	2718.820	2040.180	4	6	6	.013	Q3	5.000	Q4	5.000	2041.920	2041.920
											INVERT-3	INVERT-4	PHI 3	PHI 4
											RADIUS	ANGLE	90.000	-90.000
											.000	.000		
ELEMENT NO	20	IS A REACH	*	*	*									
		U/S DATA	2727.820	2040.220	4			N			RADIUS	ANGLE	ANG PT	MAN H
								.013			.000	.000	.000	0
ELEMENT NO	21	IS A SYSTEM HEADWORKS							*					
		U/S DATA	2727.820	2040.220	4						W S ELEV			
											2040.220			

MEDICAL EDUCATION BUILDING
 DEVELOPED CODITION 100-YEAR ANALYSIS
 TIE TO EXISTING 3: 12-FT BY 10-FT RCB (REGIONAL FACILITY FW150038)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT	Base Wt/ I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1000.000	2026.000	8.630	2034.630	161.00	5.69	.50	2035.13	.00	3.45	.00	6.000	.000	.00	1 .0
356.343	.0089					.0014	.51	8.63	.00	2.65	.013	.00	.00	PIPE
1356.343	2029.161	6.000	2035.161	161.00	5.69	.50	2035.66	.00	3.45	.00	6.000	.000	.00	1 .0
67.203	.0089					.0013	.09	6.00	.00	2.65	.013	.00	.00	PIPE
1423.546	2029.757	5.443	2035.200	161.00	5.97	.55	2035.75	.00	3.45	3.48	6.000	.000	.00	1 .0
35.394	.0089					.0013	.05	5.44	.38	2.65	.013	.00	.00	PIPE
1458.940	2030.071	5.120	2035.191	161.00	6.26	.61	2035.80	.00	3.45	4.25	6.000	.000	.00	1 .0
27.516	.0089					.0014	.04	5.12	.45	2.65	.013	.00	.00	PIPE
1486.456	2030.315	4.854	2035.169	161.00	6.57	.67	2035.84	.00	3.45	4.72	6.000	.000	.00	1 .0
22.703	.0089					.0016	.04	4.85	.51	2.65	.013	.00	.00	PIPE
1509.159	2030.516	4.621	2035.137	161.00	6.89	.74	2035.87	.00	3.45	5.05	6.000	.000	.00	1 .0
19.227	.0089					.0017	.03	4.62	.56	2.65	.013	.00	.00	PIPE
1528.386	2030.687	4.410	2035.097	161.00	7.23	.81	2035.91	.00	3.45	5.30	6.000	.000	.00	1 .0
15.983	.0089					.0019	.03	4.41	.62	2.65	.013	.00	.00	PIPE
1544.369	2030.828	4.218	2035.047	161.00	7.58	.89	2035.94	.00	3.45	5.48	6.000	.000	.00	1 .0
13.240	.0089					.0022	.03	4.22	.68	2.65	.013	.00	.00	PIPE
1557.608	2030.946	4.040	2034.986	161.00	7.95	.98	2035.97	.00	3.45	5.63	6.000	.000	.00	1 .0
10.541	.0089					.0024	.03	4.04	.74	2.65	.013	.00	.00	PIPE

MEDICAL EDUCATION BUILDING
 DEVELOPED CODITION 100-YEAR ANALYSIS
 TIE TO EXISTING 3: 12-FT BY 10-FT RCB (REGIONAL FACILITY FW150038)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT	Base Wt/ I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1568.150	2031.039	3.874	2034.913	161.00	8.34	1.08	2035.99	.00	3.45	5.74	6.000	.000	.00	1 .0
1.887	.0089					.0026	.00	3.87	.80	2.65	.013	.00	.00	PIPE
1570.037	2031.056	3.841	2034.897	161.00	8.42	1.10	2036.00	.00	3.45	5.76	6.000	.000	.00	1 .0
HYDRAULIC JUMP														
1570.037	2031.056	3.094	2034.150	161.00	10.95	1.86	2036.01	.00	3.45	6.00	6.000	.000	.00	1 .0
4.963	.0089					.0051	.03	3.09	1.23	2.65	.013	.00	.00	PIPE
1575.000	2031.100	3.131	2034.231	161.00	10.79	1.81	2036.04	.00	3.45	5.99	6.000	.000	.00	1 .0
JUNCT STR	.0075					.0049	.04	3.13	1.21	.013	.00	.00	.00	PIPE
1583.000	2031.160	3.183	2034.343	161.00	10.57	1.73	2036.08	.00	3.45	5.99	6.000	.000	.00	1 .0
10.184	.0030					.0049	.05	3.18	1.17	3.68	.013	.00	.00	PIPE
1593.184	2031.190	3.135	2034.325	161.00	10.77	1.80	2036.13	.00	3.45	5.99	6.000	.000	.00	1 .0
27.441	.0030					.0053	.15	3.14	1.20	3.68	.013	.00	.00	PIPE
1620.625	2031.272	3.019	2034.291	161.00	11.30	1.98	2036.27	.00	3.45	6.00	6.000	.000	.00	1 .0
28.506	.0030					.0060	.17	3.02	1.29	3.68	.013	.00	.00	PIPE
1649.131	2031.357	2.908	2034.265	161.00	11.85	2.18	2036.45	.00	3.45	6.00	6.000	.000	.00	1 .0
28.864	.0030					.0069	.20	2.91	1.39	3.68	.013	.00	.00	PIPE
1677.995	2031.443	2.802	2034.246	161.00	12.43	2.40	2036.64	.00	3.45	5.99	6.000	.000	.00	1 .0

MEB

2206.360	2037.420	3.466	2040.886	61.00	6.35	.63	2041.51	.00	2.45	.68	3.500	.000	.00	1	.0
JUNCT STR	.0002					.0026	.01	3.47	.30	.013	.00	.00	PIPE		

▲ FILE: MEB.WSW W S P G W - CIVILDESIGN Version 14.05 PAGE 5

Program Package Serial Number: 1492
WATER SURFACE PROFILE LISTING Date: 7-28-2020 Time: 2:11:27

MEDICAL EDUCATION BUILDING
DEVELOPED CODITION 100-YEAR ANALYSIS
TIE TO EXISTING 3: 12-FT BY 10-FT RCB (REGIONAL FACILITY FW150038)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2211.360	2037.421	4.109	2041.530	43.00	4.47	.31	2041.84	.00	2.04	.00	3.500	.000	.00	1 .0
185.308	.0052					.0018	.34	4.11	.00	1.94	.013	.00	.00	PIPE
2396.668	2038.383	3.500	2041.883	43.00	4.47	.31	2042.19	.00	2.04	.00	3.500	.000	.00	1 .0
16.822	.0052					.0017	.03	3.50	.00	1.94	.013	.00	.00	PIPE
2413.490	2038.470	3.438	2041.908	43.00	4.49	.31	2042.22	.00	2.04	.92	3.500	.000	.00	1 .0
JUNCT STR	.0200					.0016	.01	3.44	.25		.013	.00	.00	PIPE
2418.490	2038.570	3.338	2041.908	43.00	4.54	.32	2042.23	.00	2.04	1.47	3.500	.000	.00	1 .0
57.904	.0051					.0016	.09	3.34	.32	1.95	.013	.00	.00	PIPE
2476.394	2038.866	3.103	2041.969	43.00	4.77	.35	2042.32	.00	2.04	2.22	3.500	.000	.00	1 .0
40.591	.0051					.0017	.07	3.10	.42	1.95	.013	.00	.00	PIPE
2516.986	2039.073	2.929	2042.003	43.00	5.00	.39	2042.39	.00	2.04	2.59	3.500	.000	.00	1 .0
33.147	.0051					.0018	.06	2.93	.48	1.95	.013	.00	.00	PIPE
2550.132	2039.243	2.782	2042.025	43.00	5.24	.43	2042.45	.00	2.04	2.83	3.500	.000	.00	1 .0
28.755	.0051					.0020	.06	2.78	.54	1.95	.013	.00	.00	PIPE
2578.887	2039.390	2.651	2042.041	43.00	5.50	.47	2042.51	.00	2.04	3.00	3.500	.000	.00	1 .0
25.346	.0051					.0023	.06	2.65	.60	1.95	.013	.00	.00	PIPE
2604.233	2039.520	2.532	2042.052	43.00	5.77	.52	2042.57	.00	2.04	3.13	3.500	.000	.00	1 .0
22.267	.0051					.0025	.06	2.53	.66	1.95	.013	.00	.00	PIPE

▲ FILE: MEB.WSW W S P G W - CIVILDESIGN Version 14.05 PAGE 6

MEDICAL EDUCATION BUILDING
DEVELOPED CODITION 100-YEAR ANALYSIS
TIE TO EXISTING 3: 12-FT BY 10-FT RCB (REGIONAL FACILITY FW150038)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2626.500	2039.633	2.423	2042.057	43.00	6.05	.57	2042.62	.00	2.04	3.23	3.500	.000	.00	1 .0
19.492	.0051					.0028	.06	2.42	.72	1.95	.013	.00	.00	PIPE
2645.992	2039.733	2.322	2042.055	43.00	6.34	.63	2042.68	.00	2.04	3.31	3.500	.000	.00	1 .0
16.996	.0051					.0032	.05	2.32	.78	1.95	.013	.00	.00	PIPE
2662.989	2039.820	2.227	2042.047	43.00	6.65	.69	2042.73	.00	2.04	3.37	3.500	.000	.00	1 .0
12.787	.0051					.0036	.05	2.23	.85	1.95	.013	.00	.00	PIPE
2675.776	2039.885	2.139	2042.024	43.00	6.98	.76	2042.78	.00	2.04	3.41	3.500	.000	.00	1 .0
1.211	.0051					.0041	.00	2.14	.92	1.95	.013	.00	.00	PIPE
2676.987	2039.892	2.055	2041.947	43.00	7.32	.83	2042.78	.00	2.04	3.45	3.500	.000	.00	1 .0
HYDRAULIC JUMP														
2676.987	2039.892	1.949	2041.841	43.00	7.81	.95	2042.79	.00	2.04	3.48	3.500	.000	.00	1 .0
22.922	.0051					.0051	.12	1.95	1.09	1.95	.013	.00	.00	PIPE
2699.910	2040.009	1.962	2041.971	43.00	7.74	.93	2042.90	.00	2.04	3.47	3.500	.000	.00	1 .0
13.910	.0051					.0047	.07	1.96	1.08	1.95	.013	.00	.00	PIPE
2713.820	2040.080	2.042	2042.122	43.00	7.38	.85	2042.97	.00	2.04	3.45	3.500	.000	.00	1 .0

MEBL1 MODEL



T1 MEDICAL EDUCATION BUILDING										MEBL1	0
T2 DEVELOPED CODNITION 100-YEAR ANALYSIS											
T3 TIE AT WSPG STATION 2211.36											
SO	2211.36	02038.920	1							2041.530	
R	2391.460	2039.670	1	.013						.000	-15.000 1
JX	2396.460	2039.870	1	.013							
R	2503.060	2040.310	1	.013						.000	-15.000 1
R	2504.060	2040.311	1	.013						.000	-15.000 0
R	2505.060	2040.312	1	.013						.000	-15.000 0
R	2506.060	2040.313	1	.013						.000	-11.000 0
JX	2508.060	2040.510	1	.013	6.000				2040.510	.000	.000
R	2541.660	2040.650	1	.013						.000	.000 0
SH	2541.660	2040.650	1						2040.650		
CD	1	4	1	.000	2.000	.000	.000	.000	.000	.00	
Q				12.000	.0						

FILE: MEBL1.WSW

W S P G W - EDIT LISTING - Version 14.05

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

Date: 7-28-2020 Time: 2:25: 1

PAGE 1

CARD	SECT	CHN	NO OF	AVE PIER	HEIGHT 1	BASE	ZL	ZR	INV	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CODE	NO	TYPE	PIER/PIP	WIDTH	DIAMETER	WIDTH			DROP										
CD	1	4	1		2.000														

W S P G W

WATER SURFACE PROFILE - TITLE CARD LISTING

PAGE NO 1

HEADING LINE NO 1 IS -

HEADING LINE NO 2 IS -

HEADING LINE NO 3 IS -

TIE AT WSPG STATION 2211.36

W S P G W

WATER SURFACE PROFILE - ELEMENT CARD LISTING

PAGE NO 2

ELEMENT NO	IS	A	SYSTEM OUTLET	STATION	INVERT	SECT													
1	IS	A	SYSTEM OUTLET	2211.360	2038.920	1													
2	IS	A	REACH	2391.460	2039.670	1													
3	IS	A	JUNCTION	2396.460	2039.870	1													
4	IS	A	REACH	2503.060	2040.310	1													
5	IS	A	REACH	2504.060	2040.311	1													
6	IS	A	REACH	2505.060	2040.312	1													
7	IS	A	REACH	2506.060	2040.313	1													
8	IS	A	JUNCTION	2508.060	2040.510	1													
9	IS	A	REACH	2541.660	2040.650	1													
10	IS	A	SYSTEM HEADWORKS	2541.660	2040.650	1													

W S P G W

WATER SURFACE PROFILE - ELEMENT CARD LISTING

PAGE NO 3

MEDICAL EDUCATION BUILDING
DEVELOPED CODITION 100-YEAR ANALYSIS
TIE AT WSPG STATION 2211.36

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT	Base Wt/or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2211.360	2038.920	2.610	2041.530	18.00	5.73	.51	2042.04	.00	1.53	.00	2.000	.000	.00	1 .0
180.100	.0042					.0063	1.14	2.61	.00	2.00	.013	.00	.00	PIPE
2391.460	2039.670	3.051	2042.721	18.00	5.73	.51	2043.23	.00	1.53	.00	2.000	.000	.00	1 .0
JUNCT STR	.0400					.0063	.03	3.05	.00		.013	.00	.00	PIPE
2396.460	2039.870	2.883	2042.753	18.00	5.73	.51	2043.26	.00	1.53	.00	2.000	.000	.00	1 .0
106.600	.0041					.0063	.67	2.88	.00	2.00	.013	.00	.00	PIPE
2503.060	2040.310	3.168	2043.478	18.00	5.73	.51	2043.99	.00	1.53	.00	2.000	.000	.00	1 .0
1.000	.0010					.0063	.01	3.17	.00	2.00	.013	.00	.00	PIPE
2504.060	2040.311	3.199	2043.510	18.00	5.73	.51	2044.02	.00	1.53	.00	2.000	.000	.00	1 .0
1.000	.0010					.0063	.01	3.20	.00	2.00	.013	.00	.00	PIPE
2505.060	2040.312	3.229	2043.541	18.00	5.73	.51	2044.05	.00	1.53	.00	2.000	.000	.00	1 .0
1.000	.0010					.0063	.01	3.23	.00	2.00	.013	.00	.00	PIPE
2506.060	2040.313	3.253	2043.566	18.00	5.73	.51	2044.08	.00	1.53	.00	2.000	.000	.00	1 .0
JUNCT STR	.0985					.0046	.01	3.25	.00		.013	.00	.00	PIPE
2508.060	2040.510	3.518	2044.028	12.00	3.82	.23	2044.26	.00	1.24	.00	2.000	.000	.00	1 .0
33.600	.0042					.0028	.09	3.52	.00	1.38	.013	.00	.00	PIPE
2541.660	2040.650	3.473	2044.123	12.00	3.82	.23	2044.35	.00	1.24	.00	2.000	.000	.00	1 .0

APPENDIX C

- **ZONING/PLANNING CONDITIONS**
- **CLV EMAIL CORRESPONDENCE**



ZONING/PLANNING CONDITIONS





**LAS VEGAS
CITY COUNCIL**

CAROLYN G. GOODMAN
Mayor

MICHELE FIORE
Mayor Pro Tem

STAVROS S. ANTHONY
CEDRIC CREAR
BRIAN KNUDSEN
VICTORIA SEAMAN
OLIVIA DÍAZ

SCOTT D. ADAMS
City Manager

DEPARTMENT OF PLANNING

ROBERT SUMMERFIELD
DIRECTOR

**DEVELOPMENT
SERVICES CENTER**

333 N. RANCHO DRIVE
3RD FLOOR
LAS VEGAS, NV 89106
702.229.6301 | VOICE
702.474.7463 | FAX
711 | TTY



cityoflasvegas
lasvegasnevada.gov

July 15, 2020

Maureen Schafer
Nevada Health and Bioscience Asset Corporation
1930 Village Center Circle, Ste. 3-805
Las Vegas, Nevada 89134

**RE: 78840-SDR1 - SITE DEVELOPMENT PLAN REVIEW
PLANNING COMMISSION MEETING OF JULY 14, 2020**

Dear Applicant:

The Planning Commission at a regular meeting held on July 14, 2020 voted to **APPROVE** a request for a Site Development Plan Review FOR A PROPOSED UNIVERSITY (MEDICAL SCHOOL) WITH WAIVERS OF TITLE 19.09 FORM BASED CODE STANDARDS on 9.11 acres at the southeast corner of Pinto Lane and Shadow Lane (APN 139-33-305-020) T6-UG (T6 Urban General) Zone, Ward 1 (Knudsen)..

This approval is subject to the following conditions:

Planning

1. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
2. All development shall be in conformance with the site plan and landscape plan date stamped 06/30/20, and building elevations, date stamped 06/09/20 except as amended by conditions herein.
3. The following waivers from 19.09 Form Based Code standards are hereby approved:
 - To allow a 350-foot building width along Pinto Lane where 200 feet is the maximum width allowed.
 - To allow a 231-foot building width along Shadow Lane where 200 feet is the maximum width allowed.
 - To allow a 3.6-foot setback along the Pinto Lane frontage where five feet is the minimum allowed.

- To allow a 40-foot setback along the Shadow Lane frontage where 10 feet is the maximum allowed.
 - To allow zero percent of the building façade along Shadow Lane within the Façade Zone.
 - To allow a nine-foot tall finish level above sidewalk for the Terrace frontage type along both Shadow and Pinto Lane where 3.5 feet is the maximum height allowed.
 - To allow over 50 feet between stairways along Shadow and Pinto Lane where 50 feet is the maximum distance allowed.
 - To allow a 243-foot long terrace along Pinto Lane for the Terrace frontage type where 150 feet is the maximum allowed.
 - To allow a 231-foot long terrace along Shadow Lane for the Terrace frontage type where 150 feet is the maximum allowed.
 - To allow the primary building entrance to not face a Primary Street Frontage.
 - To allow utility equipment not to be screened from the street view.
 - To allow a 35-foot wide two-way driveway from Pinto Lane where 34 feet is the maximum allowed.
 - To allow a 43-foot wide two-way driveway from Shadow Lane where 34 feet is the maximum allowed.
 - To allow 300 parking spaces where 59 is the maximum allowed.
 - To allow no streetscape improvements adjacent to Pinto and Shadow Lane where Title 19.09 requires a six to ten-foot sidewalk with a five-foot wide amenity zone planted with street trees 20 feet on-center.
4. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
 5. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
 6. A fully operational fire protection system, including fire apparatus roads, fire hydrants and water supply, shall be installed and shall be functioning prior to construction of any combustible structures.
 7. If a construction trailer or off-site staging is required for construction activities, a Comprehensive Construction Staging Plan shall be submitted to the Department of Planning for review and approval prior to the issuance of any building permits. The Construction Staging Plan shall include the following information: Design and location of construction trailer(s); design and location of construction fencing; all proposed temporary construction signage; location of materials staging area; and the location and design of parking for all construction workers.

8. The applicant shall coordinate with the Post Entitlement Approval Conference (PEAC) team at (702) 229-6853 to coordinate preliminary building and civil plan reviews for this project.
9. All City Code requirements and design standards of all City Departments must be satisfied, except as modified herein.

Public Works

10. Contact the City Engineer's Office at 702-229-6272 to coordinate the development of this project with the "Pinto Lane", "Shadow Lane", and any other public improvement projects adjacent to this site. Comply with the recommendations of the City Engineer
11. Coordinate with the Sanitary Sewer Planning Section of the Department of Public Works to determine an appropriate location for public sewer connection to this site, prior to the issuance of any permits. Abandon all un-used sewer laterals in accordance with City Standards concurrent with development.
12. Unless otherwise allowed by the City Engineer, landscape and maintain all unimproved right-of-way adjacent to this site. All landscaping and private improvements installed with this project shall be situated and maintained so as to not create sight visibility obstructions for vehicular traffic at all development access drives and abutting street intersections.
13. Unless otherwise allowed by the City Engineer, submit a License Agreement for landscaping and private improvements in the Pinto Lane and Shadow Lane public rights-of-way prior to the issuance of permits for these improvements. The applicant must carry an insurance policy for the term of the License Agreement and add the City of Las Vegas as an additionally insured entity on this insurance policy. If requested by the City, the applicant shall remove property within the public right-of-way at the applicant's expense pursuant to the terms of the City's License Agreement. The installation and maintenance of all private improvements in the public right of way shall be the responsibility of the applicant and any successors in interest to the property and assigns pursuant to the terms of the License Agreement. Coordinate all requirements for the License Agreement with the Land Development Section of the Department of Building and Safety (229-4836).
14. Meet with the Fire Protection Engineering Section of the Department of Fire Services to discuss fire requirements for the proposed use of this facility. The design and layout of all onsite private circulation and access drives shall meet the approval of the Department of Fire Services.

15. A Traffic Impact Analysis must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits, submittal of any construction drawings or the recordation of a Map subdividing this site, whichever may occur first. Comply with the recommendations of the approved Traffic Impact Analysis prior to occupancy of the site. The Traffic Impact Analysis shall also include a section addressing Standard Drawings #234.1 #234.2 and #234.3 to determine additional right-of-way requirements for bus turnouts adjacent to this site, if any; dedicate all areas recommended by the approved Traffic Impact Analysis. All additional rights of way required by Standard Drawing #201.1 for exclusive right turn lanes and dual left turn lanes shall be dedicated prior to or concurrent with the commencement of on site development activities unless specifically noted as not required in the approved Traffic Impact Analysis. A Pedestrian Circulation/Access Plan must be submitted as part of the Traffic Impact Analysis to identify nearby pedestrian attractors and recommend measures to accommodate pedestrians, such as but not limited to pedestrian access, crosswalk, pedestrian activated flashers and temporary sidewalks. No recommendation of the approved Traffic Impact Analysis, nor compliance therewith, shall be deemed to modify or eliminate any condition of approval imposed by the Planning Commission or the City Council on the development of this site.
16. A Drainage Plan and Technical Drainage Study must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits or submittal of any construction drawings, whichever may occur first. Provide and improve all drainageways recommended in the approved drainage plan/study. The developer of this site shall be responsible to construct such neighborhood or local drainage facility improvements as are recommended by the City of Las Vegas Neighborhood Drainage Studies and approved Drainage Plan/Study concurrent with development of this site. DS-5287 may be used to satisfy this condition.

This action by the Planning Commission on **July 14, 2020** is final unless a written appeal is filed with the City Clerk within ten days of the date of the Planning Commission's decision as allowed by code or there is a review action filed by the City Council within the same time period. For additional information on appeals or review requests submitted please access <https://www.lasvegasnevada.gov/Business/Permits-Licenses/Building-Permits/Permit-Application-Status>, or contact the Department of Planning and Development at 702.229.6301 after **July 27, 2020**.

No building permits or business licenses related to these items shall be issued prior to the expiration of the required ten day waiting period, or until any filed appeal is resolved pursuant to LVMC Title 19.18.

Sincerely,



Eric McCammond
Sr. Management Analyst
Case Planning Division

EM:nl

cc:

Terry Manley
Nevada Health and Bioscience Asset Corporation
5055 W. Patrick Lane, Ste. 105
Las Vegas, Nevada 89119

Mr. Michael Purtill
TSK
314 S. Water Street
Henderson, Nevada 89015

CLV EMAIL CORRESPONDENCE



Karina Barragan

From: Lyle Wilcox <lwilcox@LasVegasNevada.GOV>
Sent: Monday, July 27, 2020 1:29 PM
To: Vernon Harkins
Cc: Mike Purtill; 'Ben Guida'; Karina Barragan; Michael Patry; Larry Carroll; Lorraine Linnert; Ivan Crisologo
Subject: RE: MEB - SE corner of Pinto and Shadow, SD connection

Follow Up Flag: Follow up
Flag Status: Flagged

I hit the send button prior to adding additional input and CC Lorrie.

I have not comments on the drainage study just the MEB storm drain design needs to accommodate the existing and proposed utility crossings that will be installed with the Pinto project.

From: Lyle Wilcox
Sent: Monday, July 27, 2020 1:23 PM
To: Vernon Harkins <vharkins@poggemeyer.com>
Cc: Mike Purtill <MPurtill@tska.com>; 'Ben Guida' <ben@newwestnv.com>; Karina Barragan <kbarragan@poggemeyer.com>; Michael Patry <mpatry@poggemeyer.com>; Larry Carroll <lcarroll@poggemeyer.com>
Subject: RE: MEB - SE corner of Pinto and Shadow, SD connection

Vern/Albert,

The storm drain design is being completed by Horrocks under the Shadow design project.
Any approval related to the storm drain needs to come from Lorrie Linnet, CLV.

Thanks,

Lyle

From: Vernon Harkins <vharkins@poggemeyer.com>
Sent: Monday, July 27, 2020 12:32 PM
To: Lyle Wilcox <lwilcox@LasVegasNevada.GOV>
Cc: Mike Purtill <MPurtill@tska.com>; 'Ben Guida' <ben@newwestnv.com>; Karina Barragan <kbarragan@poggemeyer.com>; Michael Patry <mpatry@poggemeyer.com>; Larry Carroll <lcarroll@poggemeyer.com>
Subject: MEB - SE corner of Pinto and Shadow, SD connection

CAUTION: This email originated from an **External Source**. Please **use caution** before opening attachments, clicking links, or responding to this email. **Do not sign-in with your City of Las Vegas account credentials.**

Good afternoon Lyle,

As a requirement of the drainage study approval, Albert Sung, CLV, has requested that we obtain a written approval from you that our storm drain connection to your storm drain within the Pinto alignment is acceptable to you. I believe a response to this email would fill this requirement. Attached for your reference is a copy of the Drainage Study comment letter.

If you have any questions or require additional information, please call or send me an email.

Sincerely,

VERNON HARKINS, P.E.

DEPARTMENT MANAGER – CIVIL ENGINEERING

POGGEMEYER DESIGN GROUP, INC.

[OFFICE] (702) 255-8100 ~ [FAX] (702) 255-8375 ~ [MOBILE] (702) 994-4167

VHARKINS@POGGEMEYER.COM ~ WWW.POGGEMEYER.COM



WESTERN REGION HEADQUARTERS

6960 SMOKE RANCH RD – SUITE 110

LAS VEGAS, NEVADA 89128-3204

RENO OFFICE

1575 DELUCCHI LANE – SUITE 111

RENO, NEVADA 89502-6507

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Karina Barragan

From: Vernon Harkins
Sent: Thursday, August 6, 2020 8:00 AM
To: Karina Barragan; Michael Patry
Subject: FW: DS5287B Coordination with Shadow Lane Improvements and Pinto Lane Storm Drain
Attachments: DS5287B.pdf

VERNON HARKINS, P.E.
POGGEMEYER DESIGN GROUP, INC.
[OFFICE] (702) 255-8100 ~ [MOBILE] (702) 994-4167

From: Lorraine Linnert <llinnert@lasvegasnevada.gov>
Sent: Wednesday, August 05, 2020 6:04 PM
To: Albert Sung <YSung@LasVegasNevada.GOV>
Cc: Lyle Wilcox <lwilcox@LasVegasNevada.GOV>; Larry Carroll <lcarroll@poggemeyer.com>; Vernon Harkins <vharkins@poggemeyer.com>; Rosa Cortez <rcortez@LasVegasNevada.GOV>; Jeremy Leavitt <jleavitt@LasVegasNevada.GOV>
Subject: DS5287B Coordination with Shadow Lane Improvements and Pinto Lane Storm Drain

Good afternoon Albert,

As required by Item 3 of the Review Comments dated July 23, 2020 for SD5287B for Medical Education building at Shadow & Pinto, Poggemeyer Design Group has coordinated with Capital Project Management and provided all the details for their onsite storm drain system connection to the local storm drain in Pinto Lane. The manhole and lateral will be incorporated into the plans designed with the Shadow Lane Improvement Project by Horrocks Engineers. The improvements will be constructed with the City's Pinto Lane Streetscape Improvement project immediately following the Shadow Lane construction. Both Lyle Wilcox, the Engineering Project Manager for Pinto Lane (x6574) and I have been meeting regularly with the property owner and their consultants to coordinate all aspects of development between their onsite project and our Capital Improvement Projects to ensure the needs are met for the current and future development so there is no need to cut the road in the future once these CIP projects are complete.

Please let me know if you have any questions.

Lorrie Linnert

Engineering Project Manager
Department of Public Works | City Engineering Division
702-229-6738
495 S Main St, 5th Floor | Las Vegas, NV 89101



lasvegasnevada.gov



Your opinion is important! Click [here](#) to take a short survey.

BY NEVADA HEALTH & BIOSCIENCE ASSET CORPORATION

9.11 ACRES

SHEET # SHEET NAME

SHEET #	SHEET NAME	SHEET TITLE
1	C0.00	COVER SHEET
2	C0.01	GENERAL NOTES
3	C0.02	LEGEND, ABBREVIATIONS, & LEGEND
4	C0.03	DEMOLITION CONTROL PLAN
5	C2.00	OVERALL SITE PLAN
6	C2.01	HORIZONTAL & TRAFFIC CONTROL PLAN (1 OF 2)
7	C2.02	HORIZONTAL & TRAFFIC CONTROL PLAN (2 OF 2)
8	C3.00	OVERALL GRADING PLAN
9	C3.01	GRADING PLAN 1 (1 OF 2)
10	C3.02	GRADING PLAN 2 (2 OF 2)
11	C4.01	STORM DRAIN PLAN & PROFILE
12	C5.00	OVERALL UTILITY PLAN
13	C5.01	UTILITY PLAN 1 (1 OF 2)
14	C5.02	UTILITY PLAN 2 (2 OF 2)
15	C6.01	DETAIL SHEET 1
16	C6.02	DETAIL SHEET 2

The map shows the proposed project location in the northern part of Las Vegas, near the intersection of I-15 and I-215. The area is bounded by Henderson to the south and North Las Vegas to the north. Major highways shown include I-15, I-215, US-95, and SR-169. The map also depicts various city streets and landmarks, such as the McCaskey International Airport. A north arrow and a scale bar (0 to 10 miles) are included for orientation and measurement.

NEVADA HEALTH & BIOSCIENCE
ASSET CORPORATION
HEALTHCARE 1930 VILLAGE
CENTER CIRCLE #3-805
LAS VEGAS, NEVADA 89144

POGGEMEYER DESIGN GROUP, INC.
6960 SMOKE RANCH RD. STE. 110
LAS VEGAS, NV 89128-3204
VERNON HARKINS, PE
PHONE - (702) 255-8100
FAX - (702) 255-8375

LEGAL DESCRIPTION:

PARCEL 1:
BEING A PORTION OF THE SOUTHWEST QUARTER (SW 1/4) OF THE NORTHEAST QUARTER (NE 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 33 TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.B. & M. SAVING AND EXCEPTING THAT PORTION THEREOF AS EL DORADO AVENUE ON THE MAP OF BULL'S ADDITION TO LAS VEGAS AS RECORDED IN BOOK 1 OF PLATS, PAGE 29 AND BULL'S SECOND ADDITION IN BOOK 1 OF PLATS, PAGE 28, CLARK COUNTY NEVADA RECORDS.

AND EXCEPTING THEREFROM THAT PORTION AS CONVEYED TO THE CITY OF LAS VEGAS, A MUNICIPAL CORPORATION BY DEED RECORDED OCTOBER 05, 1944, AS BOOK 36 OF DEEDS PAGE 256, DOCUMENT NO. 187501, OF CLARK COUNTY NEVADA OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION AS CONVEYED TO THE CITY OF LAS VEGAS BY RESOLUTION ACCEPTING DEED RECORDED JANUARY 31, 1951 AS BOOK 63 OF DEEDS PAGE 429, DOCUMENT NO. 362473, OF CLARK COUNTY NEVADA OFFICIAL RECORDS.

ALSO EXCEPTION THEREFROM THAT PORTION AS CONVEYED TO THE CITY OF LAS VEGAS, A MUNICIPAL CORPORATION OF THE COUNTY OF CLARK RECORDED MARCH 01, 1972 IN BOOK 211, DOCUMENT NO. 170291, OF CLARK COUNTY NEVADA OFFICIAL RECORDS.

TOGETHER WITH THAT PORTION AS VACATED BY THAT CERTAIN ORDER OF VACATION, RECORDED JULY 23, 1981, IN BOOK 1437 AS DOCUMENT NO. 1396509, OF OFFICIAL RECORDS, THAT WOULD PASS THROUGH BY OPERATION OF LAW.

BASIS OF BEARINGS:

SOUTH 89°47'20" EAST BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN ON A CERTAIN MAP, FILE 195, PAGE 44 OF SURVEYS, CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

BENCHMARK:
PROJECT DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
CITY OF LAS VEGAS BENCHMARK: 1LV0133SW6 (2008)
NAVD88 ELEVATION: 626.27 METERS (2,054.68 FEET) (2,054.72 FEET PER SURVEY SHOT)
RIVET AND PLATE IN TOP OF CURB EAST SIDE SHADOW LANE 1/4 MILE
NORTH OF CHARLESTON BLVD (OLD SE CORNER OF SHADOW LANE & PALOMINO LANE).

EXISTING UTILITIES NOTE:

EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE 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: 1 (800) 227-2600

SOILS REPORT:

THE SITE SHALL BE GRADED IN ACCORDANCE WITH THE GEOTECHNICAL REPORTS PREPARED BY:
COMPANY NAME
PROJECT NUMBER
DATED MONTH/DAY/YEAR

FEMA STATEMENT:

ACCORDING TO FEMA, THE SUBJECT PROPERTY IS LOCATED IN ZONE X ON FIRM PANEL 32003C 2170F; MAP REVISED NOVEMBER 16, 2011. AS DESCRIBED BY FEMA, ZONE X IS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

PROJECT INFORMATION:	
APN	139-33-305-020
SITE ADDRESS:	625 SHADOW LANE
ACREAGE	9.11
ZONING	76-UG
NO. OF BLDGS.	1
TOTAL BUILDING AREA:	138,000 SF

EARTHWORK QUANTITIES

CUT QUANTITY = 51,590 CY
FILL QUANTITY = 13,390 CY
EXPORT = 38,200 CY

NOTE:
THESE QUANTITIES ARE AN ESTIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR QUANTITIES FOR BIDDING PURPOSES. QUANTITIES FOR CITY USE ONLY. QUANTITIES DO NOT REFLECT ENTIRE PROJECT SCOPE AND SHOULD NOT BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.

DATE _____

APPROVAL OF THESE PLANS IS LIMITED TO THOSE IMPROVEMENTS CONSTRUCTED IN THE DEDICATED RIGHT-OF-WAY AND/OR DEDICATED EASEMENTS. THIS APPROVAL DOES NOT AUTHORIZE THE CONSTRUCTION OF ANY IMPROVEMENTS THAT DEViate FROM ADOPTED STANDARDS AND/OR SPECIFICATIONS, EXCEPT THOSE SPECIFICALLY LISTED UNDER DEVIATIONS FROM STANDARD. THE ENGINEER SHALL RESOLVE ANY DEVIATION OTHER THAN THOSE LISTED IN DEVIATIONS FROM STANDARD IN FAVOR OF THE UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS CLARK COUNTY AREA NEVADA.

DATE _____

THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE PLANNING DEPARTMENT

DATE _____

THE AFFIXED CENTURY LINK 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.

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.

DATE _____

COX COMMUNICATIONS LAS VEGAS, INC. _____ DATE _____

DATE _____

GUID

DATE _____

THE DATA CONTAINED HEREIN IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. SOUTHWEST GAS CORPORATION MAKES NO WARRANTIES AND DOES NOT GUARANTEE THE CORRECTNESS, COMPLETENESS, OR USEFULNESS FOR ANY LOSS OR DAMAGE HOWEVER ARISING FROM THE USE OF OR RELIANCE ON THE DATA PROVIDED. THE FIELD LOCATION AND DEPTH OF ALL SOUTHWEST GAS FACILITIES SHOULD BE VERIFIED.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. XXXXXX FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW: TOTAL 2625 GPM/ONSITE 2625 GPM
SHEETS C0.00, C0.01, C0.02, C0.03, C5.00-C5.04

FIRE APPROVED

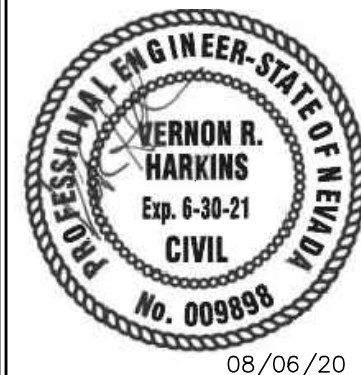
TOTAL FIRE FLOW: 2625 GPM @ 20 P.S.I. RESIDUAL
CONCURRENT REVIEW BY LOCAL FIRE DEPARTMENT:

SIGNATURE	AGENCY	DATE
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DATE	REVISION	BY

ANY INFORMATION OR DATA ON THIS DRAWING IS NOT INTENDED TO BE SUITABLE FOR REUSE BY ANY PERSON, FIRM OR ANY OTHERS ON EXTENSIONS OF THIS PROJECT OR FOR ANY USE ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION AND ADAPTATION BY THE ENGINEER'S FIRM SHALL BE AT THE USER'S SOLE RISK. THE ENGINEER'S FIRM SHALL NOT BE RESPONSIBLE AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO THE ENGINEER.



08/06/20

LAS VEGAS, NEVADA 89144

DATE 08/2020

1 of 16

CITY OF LAS VEGAS GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".
2. THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED FROM A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCE WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.
3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.
4. ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.
5. TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGNS TO BE APPROVED BY THE QUALITY CONTROL DIVISION, PRIOR TO THE USE ON THE PROJECT.
6. PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
7. EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED-TYPE CURB.
8. AC PAVEMENT TO BE 1/2" ABOVE UL OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.
9. CURB AND GUTTER FLOW TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.
10. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWING 235, CASE I. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY INSPECTOR.
11. CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF TRANSITIONS TO BE AS SHOWN ON PLANS.
12. ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY GEOTECHNICAL & ENVIRONMENTAL SERVICES PROJECT #2015364721, JUNE 5, 2015 & ADDENDUM, MARCH 22, 2016 APPROVED BY THE CITY ENGINEER, AS SHOWN ON THESE PLANS.
13. EXACT LOCATION OF ALL SAWCUT LINES MAY BE ADJUSTED OR DETERMINED IN THE FIELD BY A CITY OF LAS VEGAS ENGINEER IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.
14. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER AVAILABLE RECORDS IN ACCORDANCE WITH N.R.S. STATUTE 625.380 & CITY OF LAS VEGAS TITLE 18, APPENDIX D.
15. UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY APRONS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE AFFECTED UTILITY COMPANY AND THE CITY ENGINEER.

WALL NOTES:

16. ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF REVIEWING GRADING RELATIONSHIPS; FLOOD CONTROL, AND SIGHT DISTANCE AT INTERSECTIONS. NEW WALLS REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE BUILDING DEPARTMENT.
17. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.
18. CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, AND SEWER CLEANOUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
19. MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF MDOT AND CLARK COUNTY SPECIFICATIONS AND APPLICATIONS, AND THE PLANS AND DETAILS SHOWN HEREON.
20. WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC., THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO OFFSITE INSPECTION AND TESTING CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND ARE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.
21. AFTER HAUNCHING AND PRIOR TO BACKFILL OPERATIONS WHICH WOULD COVER SANITARY SEWER AND STORM DRAIN FACILITIES, CONTRACTOR IS REQUIRED TO SCHEDULE CLV OPEN-TRENCH UTILITY SURVEY INSPECTION FOR DETERMINATION OF FINAL LOCATION COORDINATES. FACILITIES TO BE LOCATED BY CLV SHALL INCLUDE AT A MINIMUM THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY, SEWER AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS, OR (MAY BE USED ONLY ON PROJECTS ASSOCIATED WITH A TENTATIVE MAP CONTAINING 5 LOTS OR MORE) SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S) SHALL BE PROVIDED TO THE CITY AND APPROVED PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION. THE MAP(S) SHALL INCLUDE THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY, SEWER AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS. THE LOCATION SHALL BE DESCRIBED BY COORDINATES WHICH SHALL BE BASED ON THE OFFICIAL HORIZONTAL AND VERTICAL CONTROL NETWORKS OF THE CITY OF LAS VEGAS. FINAL LOCATION MAPS MUST BE SEALED AND CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR. D HAVE POSITIONAL CERTAINITIES OF ± 0.09 METERS (± 0.3 FEET) HORIZONTALLY AND VERTICALLY. A SEPARATE ELECTRONIC COMMA DELIMITED FILE FOR THE SANITARY SEWER AND STORM DRAIN COORDINATES SHALL ALSO ACCOMPANY THE SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S).
22. CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTIONS NEED TO BE PERFORMED PER THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST EDITION.
23. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

CITY OF LAS VEGAS SEWER NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CITY ENGINEER.
3. CHISEL "S" OR "C" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
4. POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II AGGREGATE BASE.
5. ALL MANHOLES PAVED IN STREETS EIGHTY (80') FOOT R/W AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80') FOOT R/W WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.
6. SEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12") DIAMETER. CONNECTIONS TO FIFTEEN INCH (15") OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES. IN LINE "Y" S SHALL BE USED ON LINES TWELVE INCHES (12") OR ABOVE.
7. WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVVWD STANDARDS WHENEVER A SEWER MAIN CROSSES OVER A WATERMAN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18") UNDER A WATER MAIN.
8. ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CITY OF LAS VEGAS MUST BE STATE OF NEVADA CLASS "A" CONTRACTORS.
9. THE CITY OF LAS VEGAS WILL NOT ACCEPT ANY SEWER MAINS WHICH HAVE A VERTICAL DEFLECTION OF MORE THAN ONE TENTH (0.1) OF A FOOT FROM THE APPROVED CONSTRUCTION PLANS AT ANY LOCATION. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE, WILL HAVE TO BE REPAIRED OR REMOVED OR REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY OF LAS VEGAS.
10. INSTALLATION OF CURVED SEWERS REQUIRES THE USE OF C-900 PVC PIPE WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

CITY OF LAS VEGAS STREETLIGHT NOTES

1. ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION (USS), AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA" (USD), LATEST REVISION.
2. DESIGN PROFESSIONAL AND CONTRACTOR SHALL VERIFY CITY'S LATEST LED FIXTURE SPECIFICATIONS AND APPROVED FIXTURES PER CLV WEBSITE, UNDER BUILDING AND SAFETY FORMS, PRIOR TO ORDERING MATERIALS.
3. NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS (ETC.), LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE TRAFFIC AND CITY ENGINEER. ANY DEVIATION FROM THE PLAN LOCATION WILL REQUIRE COMPLIANCE WITH SECTION 623 OF THE USS.
4. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 623 G.03.01 OF THE USS.
5. ALL EMPTY CONDUIT SHALL HAVE AT LEAST ONE GREEN NO. #8 AWG WIRE INSTALLED AS TRACER WIRE IN ACCORDANCE WITH SECTION 623 G.02.01 OF THE USS PRIOR TO BACKFILLING AND FINAL INSPECTION.
6. ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN COMPLIANCE WITH USD NO. 320A. WHEN POLE IS INSTALLED BEHIND SIDEWALK, AND SHALL AT NO TIME COMPLETELY ENCLOSE THE STREET LIGHTING POLY.
7. AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TRAFFIC ENGINEERING DIVISION PRIOR TO ANY PRE-FINAL INSPECTION. THE AS-BUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.
8. SERVICE POINTS SHALL BE COORDINATED WITH NV ENERGY, AND WHENEVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE CIVIL PLANS.
9. WHEREVER THERE IS AN OVERHEAD UTILITY THAT MAY CONFLICT WITH THE INSTALLATION OF STREETLIGHTING CIRCUITS AND/OR POLES, THESE CONFLICTS MUST BE RESOLVED BETWEEN THE DEVELOPER AND THE UTILITIES INVOLVED BEFORE STREETLIGHT BASES ARE INSTALLED AT NO EXPENSE TO THE CITY OF LAS VEGAS.
10. THE CONTRACTOR SHALL FURNISH COMPLETE CONDUIT, WIRE, ETC. FROM SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON THE PLANS.

REV. DATE: JUNE 4, 2018 (LD VERSION)

CITY OF LAS VEGAS TRAFFIC NOTES

1. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
2. THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
3. BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
4. WHEN A DESIGNATED "SUGGESTED ROUTE TO SCHOOL" IS ENCROACHED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS QUALIFIED A NEED FOR STUDENTS TO BE ASSURED IN TRAFFIC SAFE CROSSING THROUGH THAT WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A QUALIFIED "CROSSING GUARD". THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.
5. IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. ALL NEW TRAFFIC SIGNS SHALL UTILIZE TYPE XI RETROREFLECTIVE SHEETING IN ACCORDANCE WITH CCAUSS 627 AND 716 AND SHALL HAVE AN ANTI-GRAFFITI PROTECTIVE OVERLAY FILM THAT IS A MATCHING COMPONENT TO, AND OF THE SAME MANUFACTURER AS THE REFLECTIVE SHEETING TO WHICH IT IS APPLIED. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.
7. WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5') FEET OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.
8. ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HERE UNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
9. STREET SIGNS AND STOP SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.
10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO INSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR IMSA WORK ZONE SAFETY SPECIALIST SET UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS RIGHT OF WAY.
11. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING REGIONAL TRANSPORTATION COMMISSION OF SOUTHERN NEVADA (RTC) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.
13. HAZARD SIGNS BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL SERVICES UNIT (PHONE # 828-3442) WHO WILL PROVIDE OFFICERS PROPERLY TRAINED IN TRAFFIC CONTROL. FEES FOR THE USE OF THESE OFFICERS SHALL BE SET BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.
14. ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
15. THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) THROUGH THE PROJECT'S OFFSITE INSPECTOR PRIOR TO INITIATING PAVING TO RECEIVE DIRECTION FOR ANY PERMANENT OR TEMPORARY MODIFICATIONS TO THE APPROVED DRAWINGS REGARDING FINAL PAVEMENT TRANSITIONS, MARKINGS AND SIGNING THAT ARE REQUIRED TO MATCH ADJACENT ROADWAY SEGMENTS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DEPICTING ANY ADJUSTMENTS TO THE FINAL PAVEMENT MARKINGS AND SIGNAGE, WHICH MAY INCLUDE OMITTING, ADDING OR MODIFYING PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

REVISED 06/04/2018

CITY OF LAS VEGAS GRADING NOTES

1. IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER/ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.
 2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.
 3. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.
 4. THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR EXCESS MATERIAL REMOVED DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 5. THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT.
 6. CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED.
- | | HORIZONTAL | VERTICAL | COMPACTION |
|---------------------------|------------|----------------|-----------------|
| A. PAVEMENT AREA SUBGRADE | 0.1'± | +0.0' TO -0.1' | SEE SOLS REPORT |
| B. ENGINEERED FILL | 0.5'± | +0.1' TO -0.1' | SEE SOLS REPORT |
- COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE.
7. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
 8. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.
 9. THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, LUBRICANTS OR OTHER MATERIALS SHALL BE CLEANED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.
 10. IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT 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 ENGINEER. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

REV. DATE 04/15/2010

LAS VEGAS VALLEY WATER DISTRICT (LVVWD) STANDARD NOTES

- LVVWD PROJECT # _____ (Revised 08/01/2017)
1. NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, NOTICE SHALL BE GIVEN TO THE LVVWD COMMUNICATION SUPPORT CENTER (258-7171) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. FOR FUTURE INSPECTIONS, NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO THE REQUESTED LVVWD INSPECTION. WHEN REQUESTING INSPECTIONS, PLEASE REFER TO THE PROJECT # IDENTIFIED ABOVE.
 2. ALL WORK SHALL CONFORM TO LVVWD STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS, AND TO THE 2010 EDITION OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS). THE LATEST EDITION OF UDACS SHALL SUPERSEDE ANY CONFLICTS CONTAINED IN THE APPROVED DRAWINGS AND/OR SPECIFICATIONS.
 3. ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2 ABOVE, SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
 4. A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVWD.
 5. ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING WITH LVVWD APPROVED SERVICE SADDLES.
 6. ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
 7. ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, VALLEY AND CURB GUTTERS.
 8. ALL WATER AND STORM DRAIN OR SANITARY SEWER CROSSINGS SHALL CONFORM TO SECTION 2.22 OF THE 2010 EDITION OF THE UDACS.
 9. ALL WATER FACILITIES AND APPURTENANCES SHALL BE DISINFECTED, PRESSURE TESTED, AND HAVE AN ACCEPTABLE PASSING HEALTH WATER SAMPLE OBTAINED, PRIOR TO OPERATION AND USE.
 10. THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 OR 258-3802, TWO (2) WORKING DAYS PRIOR TO METER PICKUP.
 11. ANY INTERRUPTION OF SERVICE MUST BE PERFORMED IN ACCORDANCE WITH UDACS SECTION 3.14.01, AND APPROVED BY THE LVVWD INSPECTION DIVISION PRIOR TO SHUTDOWN. PROPER WRITTEN NOTIFICATION MUST BE GIVEN TO ALL AFFECTED CUSTOMERS.
 12. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD APPROVED PRODUCT'S LIST FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS BY SUBMITTING SHOP DRAWINGS.
 13. TELEPHONE CALL BEFORE YOU DIG AT "811" OR 1-800-227-2600.
 14. THE INSTALLATION OF LVVWD MUNICIPAL WATER FACILITIES WITHIN ALL STREETS IS ASSUMED TO BE IN COMPLIANCE WITH THE UNIFORM STANDARDS, INCLUDING THE PLACEMENT OF ASPHALT PAVING STREET SURFACES. ANY REPAIR WORK DONE BY THE LVVWD TO THE MUNICIPAL WATER FACILITIES WILL INCLUDE THE PLACEMENT OF AN APPROPRIATELY SIZED ASPHALT REPAIR PATCH ON THE STREET SURFACE.

ANY DECORATIVE PAVING SURFACE WITHIN THE STREET IS THE RESPONSIBILITY OF THE OWNER'S ASSOCIATION, OR THE INDIVIDUAL PROPERTY OWNERS IF NO OWNER'S ASSOCIATION IS IN EXISTENCE, OR THE AGENCY HAVING JURISDICTION. DECORATIVE SURFACE MATERIALS PLACED WITHIN THE TEN FOOT EASEMENT ABUTTING A PUBLIC OR PRIVATE STREET, IF DISTURBED BY THE LVVWD DURING THE REPAIR OR OPERATION OF ITS FACILITIES, WILL BE REPLACED BY LVVWD WITH AN APPROPRIATELY SIZED PLAIN FINISH CONCRETE PATCH. THE LVVWD WILL NOT RESTORE, AND WILL NOT BE RESPONSIBLE FOR THE RESTORATION OF, ANY DECORATIVE PAVING SURFACE WITHIN THE STREET. THE LVVWD WILL NOT ATTEMPT TO MATCH COLOR OR FINISH OF ANY ADJACENT MATERIALS.

15. **NO LEAD COMPLIANCE NOTE:** TO COMPLY WITH THE FEDERAL SAFE DRINKING WATER ACT, ALL WATER WORKS BRASS PRODUCTS PROPOSED TO BE RELOCATED, OR INSTALLED AS NEW MUST BE INSTALLED WITH THE LEAD FREE APPROVED PRODUCT. THE OLD LEADED PRODUCT MAY NOT BE REUSED.

CITY OF LAS VEGAS HYDRANTS AND ACCESS GENERAL NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE CODE ORDINANCE #6831 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.
2. ONLY FIRE HYDRANTS THAT ARE ON THE LAS VEGAS VALLEY WATER DISTRICT'S - APPROVED PRODUCTS LIST ARE ALLOWED TO BE INSTALLED.
3. A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK. IFC § 105.6.15
4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED BEFORE COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW. IFC § 3510, § 3512
5. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF THE STREET ADJACENT TO THE FIRE HYDRANTS. IFC § 507.5.7.3
6. ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED BEFORE COVERING THE LINES. CENTER LOADING IS ACCEPTABLE FOR THE HYDRO TESTS WITH PRIOR FIRE PREVENTION APPROVAL. IFC § 106.3
7. ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE. IFC § 507.2.1, NFPA 24
8. PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE COMPLETED BEFORE APPROVAL BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION. IFC § 507
9. PRIVATE HYDRANTS SHALL BE PAINTED RED. IFC § 507.5.7.1
10. PRIOR TO THE FINAL OCCUPANCY, A FIRE FLOW TEST SHALL BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW. IFC § 507
11. FIRE HYDRANT SPACING SHALL BE AS FOLLOWS: IFC § C102
 - RESIDENTIAL - 500 FT UNSPRINKLERED; 600 FT SPRINKLER.
 - COMMERCIAL - 300 FT UNSPRINKLERED; 400 FT SPRINKLERED.
12. WHERE THE WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT A MAXIMUM OF 1000 FT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR (4) OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT 500 FT ON AN ALTERNATING BASIS. IFC § C102.8
13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF A CUL-DE-SAC OR WITHIN 20 FT OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.
14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FT OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. IFC § C102.10
15. A MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FT, AS MEASURED BY AN APPROVED ROUTE. IFC § C102.4
16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FT, AS MEASURED BY AN APPROVED ROUTE. IFC § C102.7
17. THE MAXIMUM DISTANCE FROM A HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. IFC § C102.6
18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. FOR SYSTEMS REQUIRED TO HAVE TWO (2) SOURCES OF WATER SUPPLY, SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS AND/OR FIRE SPRINKLER LEAD-INS CAN BE OUT OF SERVICE DUE TO A SERVICE INTERRUPTION. FOR SYSTEMS PERMITTED TO HAVE ONE SOURCE OF WATER SUPPLY, SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 3 FIRE HYDRANTS AND/OR FIRE SPRINKLER LEAD-INS CAN BE OUT OF SERVICE DUE TO A SERVICE INTERRUPTION. IFC § C104
19. ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS. IFC § 503.2.3
20. THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FT PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6%. IFC § 503.2.7, § 503.2.8
21. THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FT OUTSIDE AND 28 FT INSIDE TURNING RADIUS. IFC § 503.2.4
22. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13FT 6 INS. IFC § 503.2.1
23. FIRE DEPARTMENT ACCESS ROADS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 33 FT WITH PARKING ON BOTH SIDES MEASURED TO FACE OF CURB, NOT LESS THAN 28 FT WIDE WITH PARKING RESTRICTED TO ONE SIDE MEASURED TO FACE OF CURB, NOT LESS THAN 24 FT WIDE WITH NO PARKING ON EITHER SIDE MEASURED TO FACE OF CURB. FIRE LANES THROUGH PARKING LOTS SHALL BE NOT LESS THAN 24 FT. IFC § 503.2.1.1
24. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FT FROM A FIRE DEPARTMENT VEHICLE ACCESS. IFC § 503.1.1
25. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 200 OR MORE DWELLING UNITS, ROAD(S) WITH DEAD-ENDS OR A SINGLE POINT OF ACCESS IN EXCESS OF 600 FT. CLV REGULATION AND MOU
26. ALL DEAD-END FIRE APPARATUS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FT IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT. CLV REGULATION
27. ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE, ONE SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS OF 100 FT ALONG THE DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FT OR LESS THAN 6 FT FROM THE ROADWAY LEVEL. THE CURB ALONG OR ON THE PAVEMENT OR CEMENT (IF NO CURB IS PROVIDED) SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS. IFC § 503.3
28. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. IFC § 503.6
29. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS, OR HAVING FOUR OR MORE TRAVEL LANES AND A TRAFFIC COUNT OF MORE THAN 30,000 VEHICLES PER DAY, ALL HYDRANTS BEING UTILIZED TO DELIVER WATER TO THE PROPOSED LOCATION SHALL BE LOCATED ON THE SAME SIDE OF THE STREET AS THE PROPOSED DEVELOPMENT. CLV REGULATION

DEVIATION FROM STANDARDS

NONE		
CITY OF LAS VEGAS FIRE DEPARTMENT	DATE	
SOUTHWEST GAS CORPORATION	SWG UID	DATE

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. XXXXXX FIRST APPROVED DATE:
LVVWD APPROVED FIRE FLOW: TOTAL 2625 GPM/ONSITE 2625 GPM
SHEETS C0.00, C0.01, C0.02, C0.03, C5.00--C5.04



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BY	
REVISION	
DATE	



08/06/20

GENERAL NOTES
MEDICAL EDUCATION BUILDING
BY NEVADA HEALTH & BIOSCIENCE ASSET CORPORATION
HEALTHCARE 1930 VILLAGE CENTER CIRCLE #3-805
LAS VEGAS, NEVADA 89144

JOB NUMBER LV-20040
DESIGNED BY MP
DRAWN BY MP
CHECKED BY MP
DATE 08/2020

SHEET NUMBER
C0.01
2 of 16

ABAN	ABANDON	MH	MANHOLE
ACN	ASPHALT CONCRETE	MIN	MINIMUM
ACP	ASPHALT CONCRETE PAVEMENT	NDOT	NEVADA DEPARTMENT OF TRANSPORTATION
ADA	AMERICAN WITH DISABILITIES ACT		
AGA	AGGREGATE	NTS	NOT TO SCALE
AIF	ABANDON IN PLACE	NVE	NORTHVEA ENERGY
APPROX	APPROXIMATE	OC	ON CENTER
ASS'Y	ASSEMBLY	OH/OVHD	OVERHEAD
AV/AR	COMBINATION AIR VALVE ASSEMBLY	R	PROPERTY LINE
AVE	AVENUE	P	POWER
BC	BACK OF CURB	PC	POINT OF CURVATURE
BCR	BACK OF CURB RETURN	PE	POLYETHYLENE
BDF	BELOW FINISH FLOOR (ELEVATION)	PGL	POLYTHYLENE
BLDG	BUILDING	PI	POINT OF INTERSECTION
BM	BENCHMARK	PL	PROPERTY LINE
BO	BLOW-OFF	POC	POINT OF CONNECTION
BSW	BACK OF SIDEWALK	PMP	PAVEMENT MARKING FILM
BTW	BETWEEN	PP	PROPOSED
BVC	BEGINNING OF VERTICAL CURVE	PT	POINT OF TANGENCY
C	CENTERLINE	PVC	POLYVINYL CHLORIDE
C&G	CURB AND GUTTER	PVMT	PAVEMENT
CATV	CABLE TELEVISION	PW	PUBLIC WORKS
CC	CLARK COUNTY	PZ	PRESSURE ZONE
CF	CUBIC FEET	R/L	RIGHT & LEFT (OFFSET)
CFS	CUBIC FEET PER SECOND	R/W	RIGHT-OF-WAY
CIP	CAST IN PLACE (CONCRETE)	R	RADIUS
CL	CHAIN LINKED	RC	REINFORCED CONCRETE
CL	CENTERLINE	RCB	REINFORCED CONCRETE BOX
CLR	CLEAR	RCP	REINFORCED CONCRETE PIPE
CLV	CITY OF LAS VEGAS	RD	ROAD
CMP	CORRUGATED METAL PIPE	RDWY	ROADWAY
CMT	CONCRETE MASONRY UNIT	REF	REFERENCE
CNVL	CITY OF NORTH LAS VEGAS	RELOC	RELOCATED
CONY	COUNTY	REINF	REINFORCED/REINFORCING STEEL
CNTY	CLEANING (SANITARY)	RIM	RIM ELEVATION
COL	COLUMN	RP	RADIUS POINT
CONC	CONCRETE	RPMT	RAISED PAVEMENT MARKER
CONST	CONSTRUCTION/CONSTRUCT	RT	RIGHT
COR	CONTINUOUS	S	SLOPE
CSAP	CORNER	SD	STORM DRAIN
CU	CORRUGATED STEEL ARCH PIPE	SE	SEWER
CY	CUBIC/COPPER	SHDR	SHOULDER
CY	CUBIC YARD	SL	STREETLIGHT
DCDA	DOUBLE CHECK DETECTOR	SLV	SLEEVE
DEPT	DEPARTMENT	SNWA	SOUTHERN NEVADA WATER AUTHORITY
DG	DECOMPOSED GRANITE	SP	SPECIAL PROVISIONS
DI	DROP INLET	SPRK	SPRINKLER (HEAD)
DIA	DIAMETER	SS	SANITARY SEWER
DIAG	DIAGONAL	STA	STATION
DOM	DOMESTIC (WATER)	STD	STANDARD
DW	DRIVEWAY	STL	STEEL
E	ELECTRICAL	STLT	STREETLIGHT
EAC	EDGE OF ASPHALT	STR	STRUCTURAL
EG	EXISTING GRADE	SURV	SURVEY
EL/ELEV	ELEVATION	SVC	SERVICE
EQ	ELECTRIC METER	SW	SIDEWALK
EQ	EQUAL	SWG	SOUTHWEST GAS CORPORATION
ESMT	EASEMENT	SW	SQUARE YARD
EXIST	EDGE OF PAVEMENT	T	TELEPHONE
EXIST	EXISTING	t	THICKNESS
EXCL	EXCLUDING	TBC	TOP BACK OF CURB
EXT	EXTENSION	TC	TOP OF CURB
FFC	FACE OF CURB	TEMP	TEMPORARY
FFD	FIRE DEPT CONNECTION	TRFM	TRANSFORMER
FF	FINISH FLOOR	THW	TOP OF HEADWALL
FFI	FINISH FLUTER ELEVATION	TOF	TOP OF FOOTING
FG	FINISH GRADE	TOS	TOP OF SLAB
FH	FIRE HYDRANT	TOF	TOP OF FLOW
FL	FLOWLINE	TP	TOP OF PIPE
FND	FOUNDATION	TRANS	TRANSITION
FT	FEET/FOOT	TS	TRAFFIC SIGNAL
FW	FACE OF WALL	TSI	TRAFFIC SIGNAL INTERCONNECT
GALV	GALVANIZED	TW	TOP OF WALL
GB	GRADE BREAK	TYP	TYPE
GL	GASLINE	UG	UNDERGROUND
GM	GAS METER	UCL	(CLARK COUNTY AREA) UNIFORM STANDARD DRAWINGS
GV	GATE VALVE	USS	(UNITED STATES AREA) UNIFORM STANDARD SPECIFICATIONS
HGL	HYDRAULIC/GRADE LINE	VAR	VARIABLES
HORIZONTAL	HORIZONTAL	VC	VERTICAL CURVE
HPZ	HIGH POINT/HIGH PRESSURE	VCP	VITRIFIED CLAY PIPE
INCL	INCLUDING	VERT	VERTICAL
INT	INTERSECTION	VG	VALLEY GUTTER
INV	INVERT	W	WITH
LF	LINEAR FEET	W	WATER
LOC	LOCATION	WL	WATERLINE
LP	LOW POINT	WM	WATER METER
L	LEFT	X-SEC	CROSS SECTION
LVVWD	LAS VEGAS VALLEY WATER DISTRICT	YD	YARD
MAX	MAXIMUM		
ME	MATCH EXISTING		
MCH	MECHANICAL(LY)		

1. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES, SURFACES, AND STRUCTURES DURING CONSTRUCTION. ANY EXISTING FEATURES DAMAGED DURING CONSTRUCTION MUST BE REPAIRED IMMEDIATELY (COORDINATING WITH THE UTILITY AGENCY) AND TO THE OWNERS SATISFACTION AT THE CONTRACTORS EXPENSE.
2. THE ENGINEER DOES NOT WARRANT THE ACCURACY OF THE DIMENSIONS AND ELEVATIONS OF THE EXISTING UTILITIES AND STRUCTURES. THE MEASUREMENTS OF EXISTING UTILITIES AND STRUCTURES SHALL BE MADE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. BIDDERS ARE REQUIRED TO VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS.
3. EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. NO REPRESENTATION IS MADE THAT THE INFORMATION SHOWN HEREIN IS COMPLETELY ACCURATE. HOWEVER, THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.
4. IN THE CASE OF A CONFLICT ON THE CONTRACT DOCUMENTS OR DRAWINGS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ENGINEER WHEN A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS OR DRAWINGS IMMEDIATELY UPON DISCOVERY.
5. UNLESS NOTED OTHERWISE, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO OBTAIN ALL PERMITS REQUIRED BY THE IMPROVEMENTS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS TO BECOME FAMILIAR WITH AND COMPLY WITH ALL STATE, FEDERAL, AND LOCAL AGENCIES HAVING JURISDICTION.
6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO OBTAIN AND COMPLY WITH THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE RECOMMENDATION SET FORTH IN THE GEOTECHNICAL REPORT. ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS OR DRAWINGS AND THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
7. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS (CSD) AND UNIFORM STANDARD SPECIFICATIONS (SS). IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS OR DEVIATIONS ENCOUNTERED.
8. THE CONTRACTOR IS TO MAINTAIN AND KEEP OPERATIONAL ALL EXISTING ITS INFRASTRUCTURE WITHIN THE PROJECT LIMITS. IF THE INFRASTRUCTURE IS DAMAGED DUE TO CONSTRUCTION WITHIN THE CONSTRUCTION LIMITS, THE CONTRACTOR SHALL IMMEDIATELY CONTACT MR. JESUS "CHUY" MAROQUELO (RTC/FAC MANAGER TRAFFIC SYSTEMS MAINTENANCE) AT (702) 604-7078.

EXISTING		PROPOSED		EXISTING		PROPOSED	
	CENTERLINE				AREA LIGHT		STORM DRAIN INLET
	RIGHT OF WAY LINE				BENCHMARK		STORM DRAIN MH
	PROPERTY LINE				ELEC. VAULT/CABINET		STREET LIGHT
	PARCEL LINE				ELECTRIC MANHOLE		STREET LIGHT PB
	AUTHORIZATION TO ENTER PROPERTY (AEP)				FIBER OPTIC PULLBOX		TELEPHONE MH
	ALIGNMENT TIE LINE				FIRE HYDRANT		TELEPHONE PB
	SAWCUT LINE AND NEW PAVEMENT				FOUND MONUMENT		TRAFFIC SIGNAL POLE
	BUILDING FOOTPRINT				GAS METER		TRAFFIC SIGNAL PB
	WALL				GAS VALVE		TV PULLBOX
	CHAIN LINK FENCE				IRR. BOX		UTILITY POLE
	WROUGHT IRON FENCE				IRR. VALVE		UTILITY POLE GUY WIRE
	COMBO WALL WITH FENCE				LANDSCAPING/SHRUBS		UTILITY CABINET
	WOOD FENCE				LOOP DETECTOR		WATER VAULT/CABINET
	GUARDRAIL				METER		WATER MANHOLE
	EDGE OF ASPHALT				MONITORING WELL		WATER METER & BACKFLOW
	GRADE BREAK (TOE/TOP OF SLOPE)				NEWSRACK		WATER VALVE
	CURB, GUTTER AND SIDEWALK				SANITARY SEWER MH		POST/BOLLARD
	MAJOR CONTOUR				SANITARY SEWER CLEANOUT		SIDEWALK DRAIN
	MINOR CONTOUR				SET MONUMENT		
	TOP OF SLOPE				SIGN		
	4:1 MAX SLOPE						

1. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY BE OBSERVED DISCHARGING FROM THE SITE IN THE UPSTREAM RIGHT-OF-WAYS OF THE CITY OF LAS VEGAS AS A RESULT OF CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE DISTURBED AREAS ARE LOCATED IN THE URBAN RIGHT-OF-WAYS OF THE CITY OF LAS VEGAS AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI000000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT AREA EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE, EXIT LOCATIONS AND DRAIN BMPs WEEKLY, AND WITHIN 24 HOURS AFTER ANY ACTIVITY OCCURS, EVEN IF NO RAINFALL OCCURRED. THE CONTRACTOR SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO THE 24 HOUR REQUIREMENTS MAY APPLY, SUCH AS SUSPENDED OR INTERRUPTED CONSTRUCTION ACTIVITIES. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI000000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPs SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

ROADWAY		
DESCRIPTION	PRIVATE	PUBLIC
LIGHT DUTY PAVEMENT	4,550 SY	0 SY
HEAVY DUTY PAVEMENT	6,600 SY	0 SY
6" "A" CURB	3,600 LF	0 LF
8" CONCRETE VALLEY GUTTER	0 SF	575 SF
TYPE II GRAVEL BASE	0 CY	0 CY
EXCAVATION AND EMBANKMENT	0 CY	0 CY
24" "L" TYPE CURB AND GUTTER	1,050 LF	0 LF
4" CONCRETE SIDEWALK	0 SF	0 SF
ADA RAMP'S W/TRUNCATED DOMES PER CCAUSD NO. 235.	0 EA	0 EA
2' VALLEY GUTTER	26 LF	0 LF
DRAINAGE ITEMS		
DESCRIPTION	PRIVATE	PUBLIC
24" RCP STORM DRAIN	335 LF	0 LF
48" TYPE I SDMH	1 EA	1 EA
48" TYPE "A" DROP INLET	1 EA	0 EA
RCP FLARED END	1 EA	0 EA
JENSEN PRECAST 200 DROP INLET	2 EA	0 EA
18" C-900 STORM DRAIN PIPE	284 LF	0 LF
6" C-900 STORM DRAIN PIPE	30 LF	0 LF
WATER		
DESCRIPTION	PRIVATE	PUBLIC
8" C-900 PVC	294 LF	52 LF
6" C-900 PVC	208 LF	0 LF
4" SCH. 40 PVC WL	230 LF	9 LF
3" SCH. 40 PVC WL	0 LF	6 LF
2" COPPER WL	10 LF	0 LF
FIRE HYDRANT ASSEMBLY W/ 6" GATE VALVE	2 EA	0 EA
3" METER	0 EA	1 EA
4" RPPA	0 EA	1 EA
8" RPDA	0 EA	2 EA
SEWER		
DESCRIPTION	PRIVATE	PUBLIC
48" DIA SEWER MANHOLE	2 EA	1 EA
4" C-900 PVC SANITARY SEWER	110 LF	0 LF
8" C-900 PVC SANITARY SEWER	300 LF	0 LF
1,000 GALLON SAND/OIL SEPARATOR	1 EA	0 EA
TRENCH DRAIN	20 LF	0 LF
TRAFFIC & STREET LIGHT		
DESCRIPTION	PRIVATE	PUBLIC
STREET SIGNS	15 EA	0 EA
PAVEMENT STRIPING	40 SF	0 SF
BLUE REFLECTIVE PAVEMENT MARKER	2 EA	0 EA
GREEN REFLECTIVE PAVEMENT MARKER	1 EA	0 EA

NOTE: THESE QUANTITIES ARE AN ESTIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR QUANTITIES FOR THESE QUANTITIES. QUANTITIES FOR CITY USE ONLY. QUANTITIES DO NOT REFLECT ENTIRE PROJECT SCOPE AND SHOULD NOT BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.

1. IN THE EVENT OF NATURAL GAS EMERGENCIES CALL 911 AND 1-877-860-6020
2. MINIMUM HORIZONTAL AND VERTICAL CLEARANCES BETWEEN NATURAL GAS FACILITIES AND ANY UNDERGROUND UTILITIES AND/OR STRUCTURES, INCLUDING BUT NOT LIMITED TO WATER, SEWER, TELEPHONE, CABLE, AND POWER LINES, SHALL BE AT LEAST 12-INCHES OR GREATER AS DICTATED BY LOCAL CODES AND STANDARDS.
 - a) ANY DEVIATION FROM SPECIFIED MINIMUM CLEARANCES MUST BE APPROVED BY ALL AFFECTED UTILITIES AND/OR MUNICIPALITIES
3. FOR VALVE ADJUSTMENT CONTACT 702-668-6107 48 HOURS PRIOR TO CONSTRUCTION.
4. IN THE EVENT OF A NATURAL GAS CONFLICT WITH PROPOSED UTILITIES AND STRUCTURES CONTACT 702-365-2099.

CITY OF LAS VEGAS FIRE DEPARTMENT		DATE
SOUTHWEST GAS CORPORATION		SWG UID
		DATE

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM CONDUITS. IT'S COSTLY Call before you Underground 1-800-455-7511 CLARK COUNTY PUBLIC WORKS 1-702-432-5300 TRAFFIC AND AERIAL SYSTEMS STREET LIGHTING (CL) 2-1	AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY Call before you Overhead 1-800-227-2629 NEVADA POWER ENVIRONMENT AND SAFETY SERVICES DEPARTMENT
Call before you Dig Avoid cutting underground utility lines. It's costly.  1-800-227-2680 CLARK COUNTY UTILITIES 1-702-455-7544	



**POGEMEYER
DESIGN GROUP**

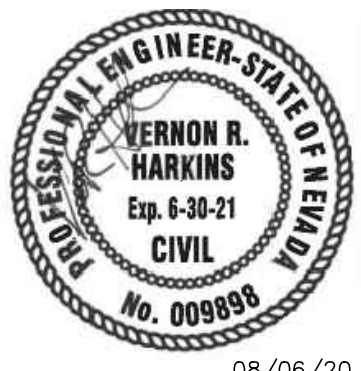
6960 Smoke Ranch Suite 110
Las Vegas, Nevada 89128

p) 702.255.8100
f) 702.255.8375

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DATE	REVISION	BY

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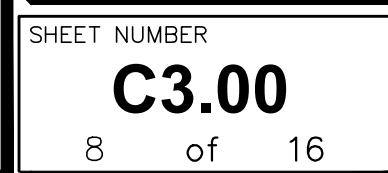
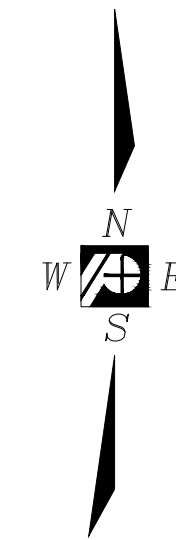
08/06/20

LEGEND, ABBREVIATIONS, & LEGEND
MEDICAL EDUCATION BUILDING
BY NEVADA HEALTH & BIOSCIENCE ASSET CORPORATION
HEALTHCARE 1930 VILLAGE CENTER CIRCLE #3-800
LAS VEGAS, NEVADA 89144

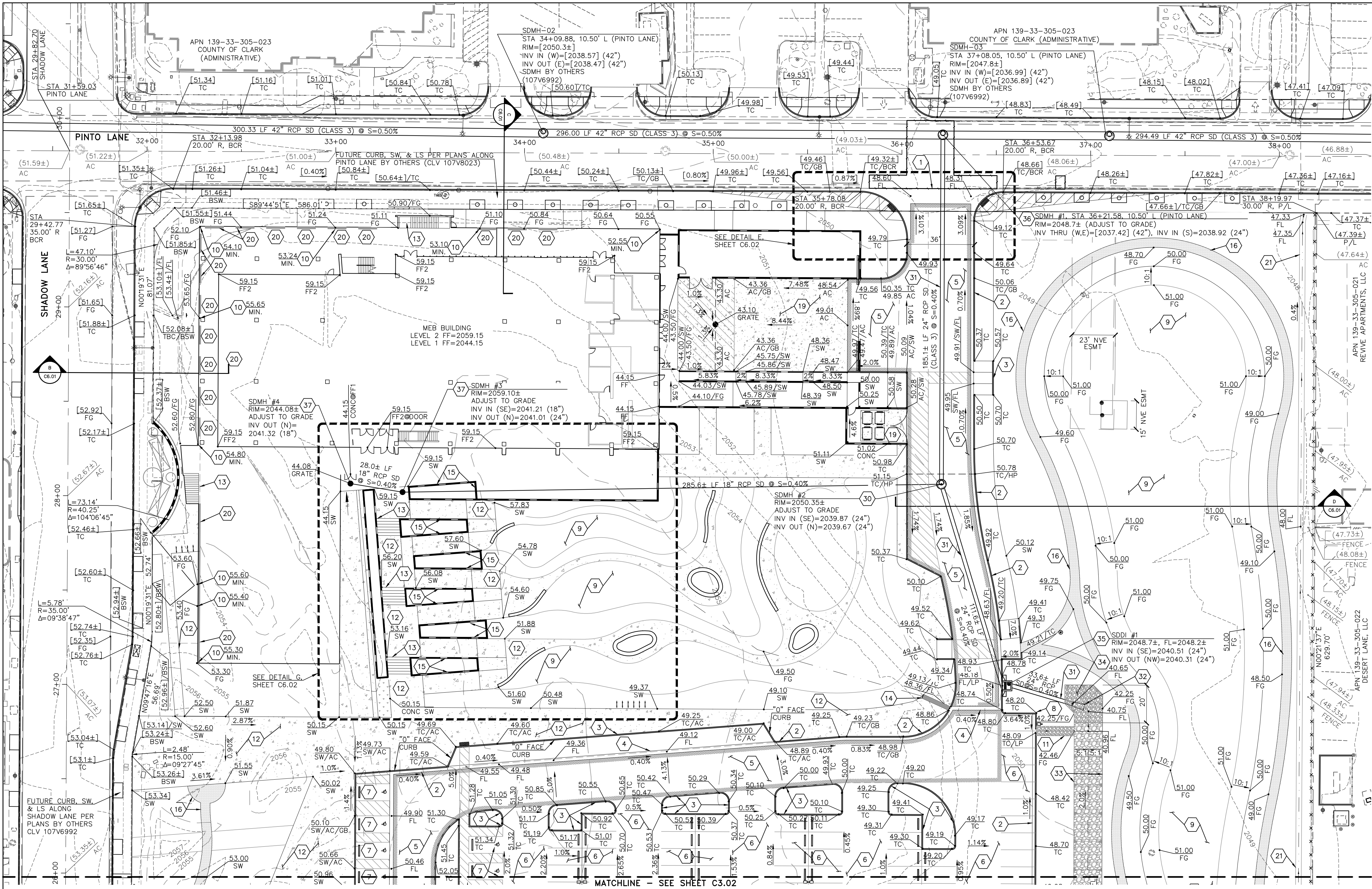
JOB NUMBER	LV-20040
DESIGNED BY	MP
DRAWN BY	MP
CHECKED BY	MP
DATE	08/2020

SHEET NUMBER

C0.02



G:\20040 Medical Edu Bldg\Civil\20040-53.07.dwg Aug 08 2020 - 11:35am



DRAINAGE NOTE:
ALL ONSITE STORM DRAINS AND THE ASSOCIATED FACILITIES ARE PRIVATELY OWNED AND TO BE PRIVATELY MAINTAINED BY THE PROPERTY OWNER.

BASIS OF BEARINGS:
SOUTH 89°47'20" EAST BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN ON A CERTAIN MAP, FILE 195, PAGE 44 OF SURVEYS, CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

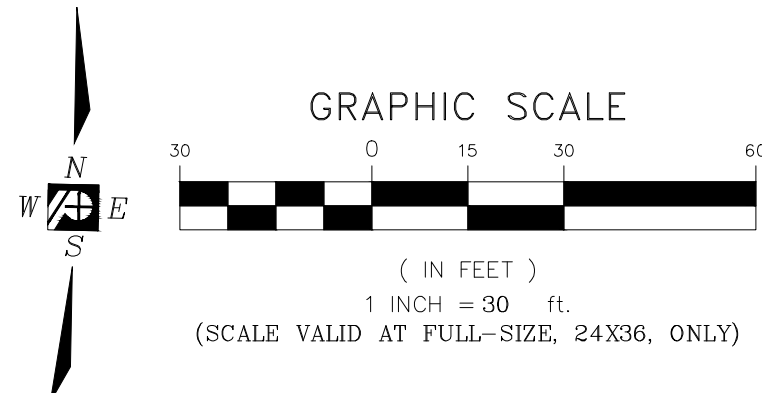
BENCHMARKS:
PROJECT DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
CITY OF LAS VEGAS BENCHMARK: 1LV0133SW6 (2008)
NAVD88 ELEVATION: 626.27 METERS (2,054.68 FEET) (2,054.72 FEET PER SURVEY SHOT)
RIVET AND PLATE IN TOP OF CURB EAST SIDE SHADOW LANE 1/4 MILE NORTH OF CHARLESTON BLVD (OLD SE CORNER OF SHADOW LANE & PALOMINO LANE).

SOILS REPORT:
THE SITE SHALL BE GRADED IN ACCORDANCE WITH THE GEOTECHNICAL REPORTS PREPARED BY GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC., PROJECT #XXXXX DATED XX X, 2020 AND UPDATED XX X, 2020.

FEMA STATEMENT:
ACCORDING TO FEMA, THE SUBJECT PROPERTY IS LOCATED IN ZONE X, ON FIRM PANEL XXXXXX; EFFECTIVE DATE XXX XX, 2020, BASED UPON LATEST LOMR.

- ### CONSTRUCTION NOTES
1. CONSTRUCT COMMERCIAL DRIVEWAY PER CCAUSD DWG. NO. 222.1 & 8' VALLEY GUTTER PER CCAUSD NO. 225
 2. CONSTRUCT "L" CURB & GUTTER PER CCAUSD DWG. NO. 216 OVER 6" MIN. TYPE II BASE COMPACTED TO 95% MIN.
 3. CONSTRUCT "A" TYPE CURB PER DETAIL NO. 2 SHEET C6.01 OVER 6" MIN. TYPE II BASE COMPACTED TO 95% MIN.
 4. INSTALL 2' VALLEY GUTTER PER DETAILS NO. 1 ON SHEET C6.01
 5. INSTALL HIGH IMPACT A.C. PAVEMENT PER DTL 2, SHT C6.01
 6. INSTALL LOW IMPACT A.C. PAVEMENT PER DTL 2, SHT C6.01
 7. INSTALL ACCESSIBLE PARKING STALLS PER DTL # 3, SHT C6.01
 8. CONSTRUCT CURB OPENING PER DETAIL NO. 4 SHEET C6.01
 9. LANDSCAPE AREA REF. TO ARCH. AND LANDSCAPE PLANS
 10. INSTALL WATERPROOFING IN CONCRETE WALL TO AT LEAST 2' ABOVE FINISH GRADE. SEE ARCH. PLANS.
 11. INSTALL RIP-RAP, D50=6", T=12", APPROX. 10' WIDE, LENGTH=35'. REFER TO LS PLANS.
 12. CONSTRUCT 4" THICK CONCRETE SW. USE 4000 PSI MINIMUM CONC. OVER 6" TYPE 2 AGG. BASE. SEE ARCH PLANS FOR SURFACE TREATMENT AND LAYOUT
 13. INSTALL STAIRS. SEE ARCH. PLANS.
 14. CONSTRUCT SW UNDERDRAIN PER CCAUSD NO. 236
 15. INSTALL WALLS AS PER ARCH PLANS FOR SWITCHBACK RAMPS.
 16. INSTALL DECOMPOSED GRANITE IN TRAILWAY. REFER TO LS PLANS BY OTHERS FOR FURTHER INFORMATION.
 17. SAWCUT EXISTING UNLV PARKING LOT AT SAWCUT LINE.
 18. PROTECT IN PLACE EXISTING UNLV PARKING LOT ASPHALT.
 19. CONSTRUCT 5" CONCRETE PAVING OVER 6" TYPE 2 AGG. BASE
 20. PROPOSED WINDOWS PER ARCH. PLANS TO BE CONSTRUCTED A MINIMUM OF 3 FT ABOVE ADJACENT FINISH GRADE
 21. CONSTRUCT 3' WIDE SWALE WITH 10:1 SIDE SLOPES

- ### STORM NOTES
30. INSTALL 48" TYPE I SDMH PER CCAUSD NO. 403
 31. INSTALL 24" RCP STORM DRAIN PIPE
 32. INSTALL RCP FLARED END FOR 24" RCP SD PIPE
 33. CONSTRUCT "V" DITCH FOR DRAINAGE. MINIMUM DEPTH=1.5', SIDE SLOPES=5:1, LONGITUDINAL SLOPE=2.0%. INSTALL RIP-RAP ALONG ENTIRE WIDTH AND LENGTH. D50=6", THICKNESS=12".
 34. CONSTRUCT GROUTED RIP-RAP AROUND FLARED END AT END OF CHANNEL. RIP-RAP D50=6", THICKNESS=12". COORDINATE ROCK SELECTION (COLOR) WITH LANDSCAPE ARCH.
 35. INSTALL 4' WIDE TYPE "A" DROP INLET PER CCAUSD NO. 411 & ADD CONC. STAMP PER CCAUSD NO. 421. CONNECT 24" RCP PIPE TO THE BACK SIDE OF DI & 24" RCP PIPE TO THE OUTLET SIDE FOR DI.
 36. CONSTRUCT TYPE III SDMH PER CCAUSD NO. 406.1
 37. INSTALL JENSEN PRECAST #200 DROP INLET OR EQUIV. W/ ADA PED. GRATE (1/4" SLOTS-HEEL PROOF GRATE). ADD CONC. STAMP PER CCAUSD DWG. NO. 421 & DTL F, C6.02.
- NOTE:**
OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION



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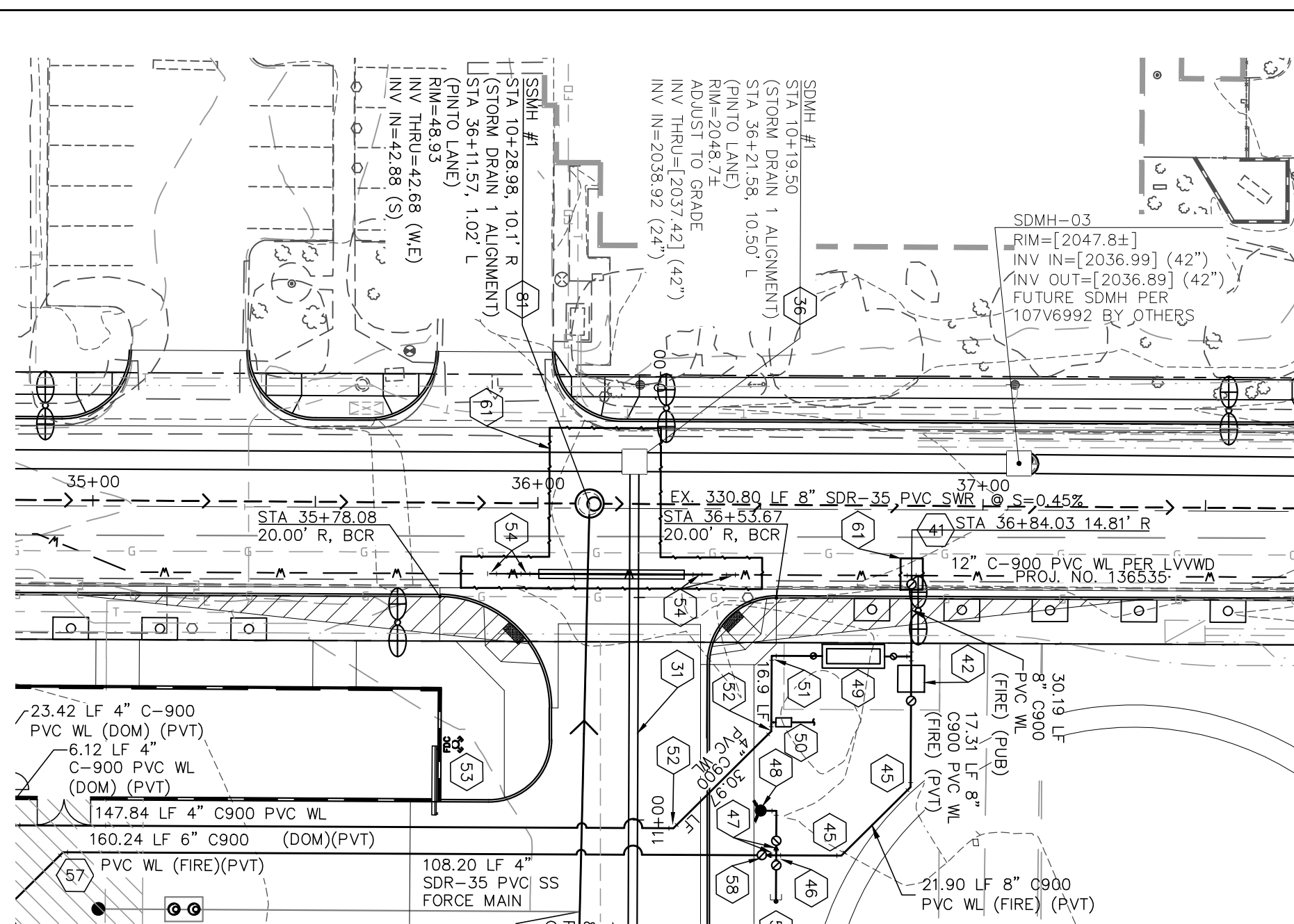
DATE	BY	REVISION

PROFESSIONAL ENGINEER-SITE OF RECORD
VERNON R. HARKINS
Exp. 6-30-21
CIVIL
No. 009898
8/06/20

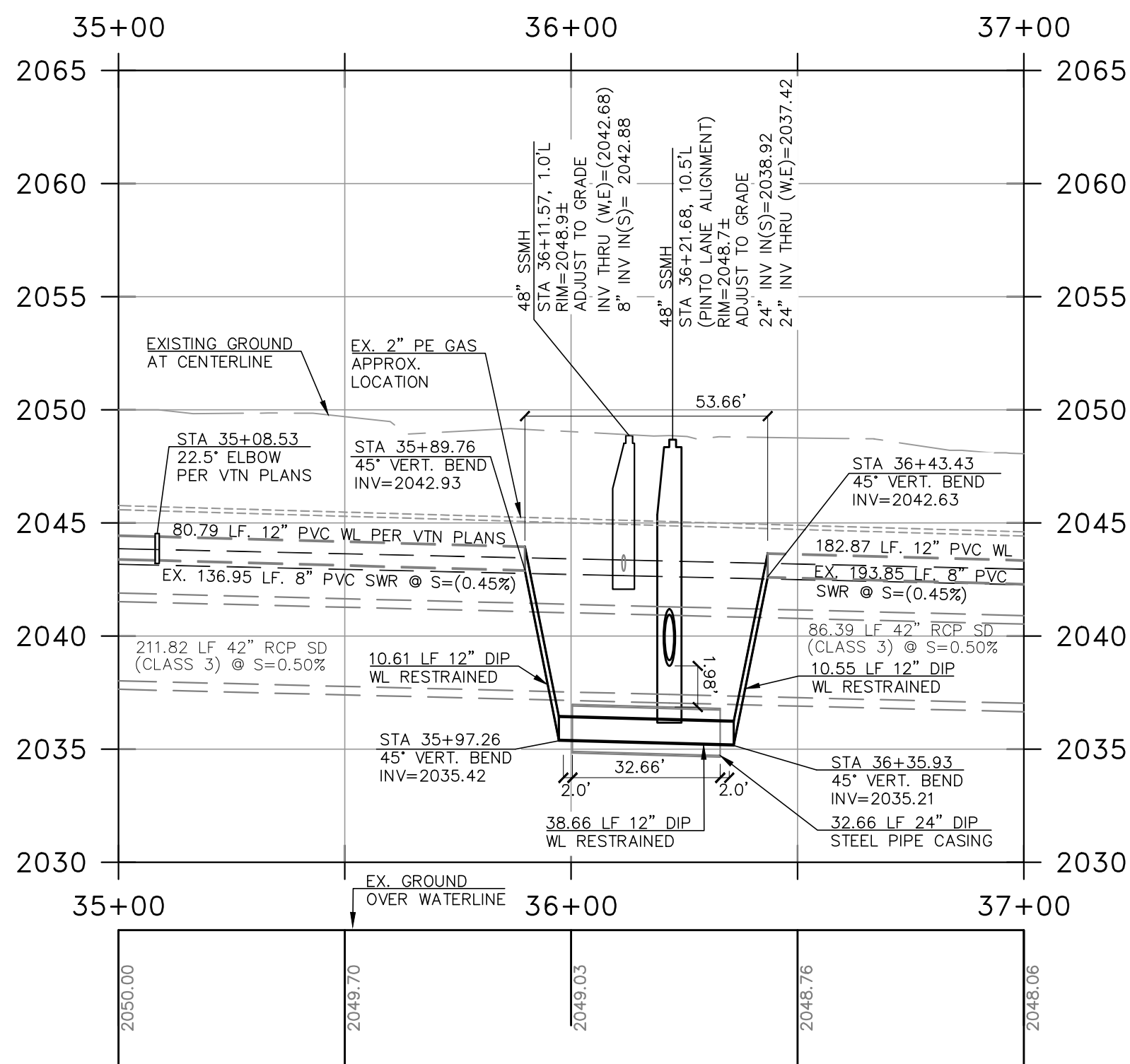
GRADING PLAN 1 (1 OF 2)
MEDICAL EDUCATION BUILDING
HEALTHCARE 1930 VILLAGE CENTER CIRCLE #3-805
LAS VEGAS, NEVADA 89144

JOB NUMBER	LV-20040
DESIGNED BY	MP
DRAWN BY	MP
CHECKED BY	MP
DATE	08/2020
SHEET NUMBER	C3.01

9 of 16



WATERLINE CROSSING PLAN VIEW
STA 35+00 TO 37+00



WATERLINE CROSSING
PROFILE VIEW
STA 35+00 TO 37+00

41	INSTALL 8" TAPPING TEE & TAPPING VALVE PER UDACS PLATE NO. 34
42	INSTALL 8" RPPA IN ABOVE GROUND INSULATED ENCLOSURE PER UDACS PLATE NO. 56
43	INSTALL 8" x 6" TEE PER UDACS PLATE NO. 31
44	INSTALL 8" GATE VALVE PER UDACS PLATE NO. 30
45	INSTALL 8" 45° HORIZ. BEND PER UDACS PLT NO. 31
46	INSTALL 8" CROSS PER UDACS PLT NO. 31
47	INSTALL 8" x 6" REDUCER PER UDACS PLT NO. 30
48	INSTALL FIRE HYDRANT ASSEMBLY W/ 6" GATE VALVE PER UDACS PLATE NO. 40
49	INSTALL 3" OCTAVE W/ 4" RPPA PER DTL ON SHT C5.01
50	INSTALL 4"x2" TEE PER UDACS PLT. NO. 31 & 2" RPPA (PVT) IN ABOVE GROUND INSULATED ENCLOSURE PER UDACS PLT #8
51	INSTALL 4" 90° HORIZ. ELBOW PER UDACS PLT NO. 31
52	INSTALL 4" HORIZ. 45° ELBOW PER UDACS PLT NO. 31
53	FIRE DEPT CONNECTION—REFER TO MECHANICAL/FIRE SPRINKLER PLANS FOR CONNECTION (PRIVATE)
54	INSTALL 8" 45° VERT. BEND PER UDACS PLT NO. 31
55	INSTALL 24" STEEL CASING PER UDACS PLT. #22, #23
56	INSTALL CAP & 2" B.O. VALVE PER UDACS PLT #36
57	INSTALL 6" 45° HORIZ. BEND PER UDACS PLT NO. 31
58	INSTALL 6" GATE VALVE PER UDACS PLATE NO. 30
59	ABANDON 4" WATER LATERAL PER UDACS SEC. 2.17.04.B. SEE NOTE THIS SHEET.
60	TRENCH & BACKFILL PER UDACS PLT 17. SAWCUT PER CCAUSD NO. 500.5.
61	INSTALL 6" 90° HORIZ. ELBOW PER UDACS PLT NO. 31

81	INSTALL STANDARD ECCENTRIC MANHOLE (48" DIA.) PER DCSWCS DWG. NO. SD-1A & SD-1B
82	INSTALL JENSEN PRECAST 1000 GALLON SAND/OIL SEPARATOR
83	INSTALL JENSEN PRECAST NO. 200 DROP INLET OR EQUIV. WITH SOLID LID UNLESS NOTED OTHERWISE. ADD CONC. STAMP PER CCAUSD DWG. NO. 421.
84	BLDG POC TO SWR LAT. SEE ARCH. PLANS. FOR SWR PUMP STATION & CONT.

30	INSTALL 48" TYPE I SDMH PER CCAUSD NO. 403
31	INSTALL 24" RCP STORM DRAIN PIPE
32	INSTALL RCP DRAIN END FOR 24" RCP SD PIPE
33	CONSTRUCT "V" DITCH FOR DRAINAGE. MINIMUM DEPTH=1.5', SIDE SLOPES=5:1, LONGITUDINAL SLOPE=2.0%
34	CONSTRUCT GROUTED RIP AROUND FLRAIN END AT END OF CHANNEL.
35	INSTALL 4" WIDE TYPE "A" DROP INLET PER CCAUSD NO. 401. CONCRETE STAMP PER CCAUSD NO. 421. CONNECT 24" RCP PIPE TO THE BACK SIDE OF DI & 24" RCP PIPE TO THE OUTLET SIDE FOR DI.
36	CONSTRUCT TYPE III SDMH PER CCAUSD NO. 406.1
37	INSTALL JENSEN PRECAST #200 DROP INLET OR EQUIV. W/ ADA PED. GRATE (1/4") SLOTS-HEEL PROOF FINISH. CONCRETE STAMP PER CCAUSD DWG. NO. 421 & DTL F. C6.02.

SOUTHWEST GAS CORPORATION	SWG UID	DATE
CITY OF LAS VEGAS FIRE DEPARTMENT		DATE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES		
PROJECT NO. <u>XXXXXX</u> FIRST APPROVED DATE: <u>12/01/12 08:05 PM</u>		

ALL EXISTING UTILITIES DEPICTED ARE APPROXIMATE
AND CONTRACTOR SHALL VERIFY EXACT LOCATION IN
FIELD

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEMS. IT'S COSTLY. Call before you Underground 1-702-455-7511 CLARK COUNTY PUBLIC WORKS 1-702-432-5300 FREEMARKET AND AIRTEL SYSTEMS	AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY. Call before you Overhead 1-702-227-2929 NEVADA POWER ENVIRONMENT AND SAFETY SERVICES DEPARTMENT	Call before you Dig Avoid cutting underground utility lines. It's costly. Call 811 1-800-227-2600 AND CLARK COUNTY TRAFFIC VARIATION 1-702-455-7544
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Las Vegas, Nevada 89128
p) 702.255.8100
f) 702.255.8375
www.poggemeyer.com

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8/06/20

STORM DRAIN PLAN & PROFILE

**MEDICAL EDUCATION BUILDING
HEALTH & BIOSCIENCE ASSET CORPORATION**

**HEALTHCARE 1930 VILLAGE CENTER CIRCLE #3-805
LAS VEGAS, NEVADA 89144**

JOB NUMBER LV-30040

DESIGNED BY MP

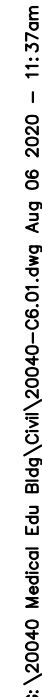
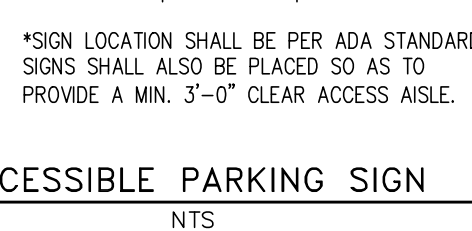
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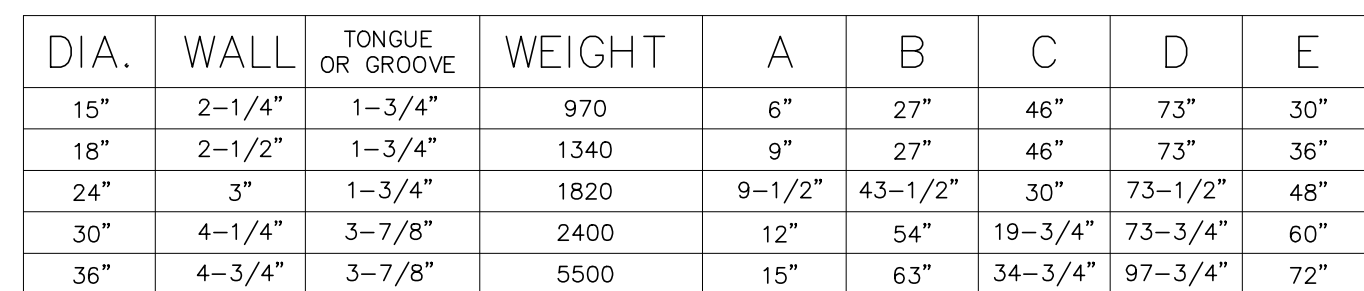
MP

SHEET NUMBER

C4.01

11 of 16





SECTION C
C6.02 SCALE: NOT TO SCALE

