DS #: 4953.2

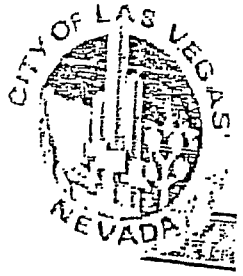
APN: 126-12-101-002

PROJECT: Skye Canyon - Phases 3B & 3C Infrastructure - Update #2

SUBMITTAL: 5th

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM				DATE: April 9, 2020
TO: **Land Development Services** Department of Building & Safety				FROM: Jennifer Shinn, P.E. Flood Control, Engr. Associate Department of Public Works
SUBJECT:	Drainage Study for: **Skye Canyon – Phases 3B & 3C Infrastructure – Update #2**			**COPIES TO:** Westwood Professional Services
Cross Streets:	NWC of Skye Village Road & Skye Canyon Park Drive			M F Land LLC / Ninety-Five Management LLC
File Number:	F:\Depot\DSMemos\DS4953E.doc			Bart Anderson, P.E., DevCo
Parcel Number:	126-12-101-002			CCRFCD
Zoning Action:				
FEMA Flood Zone	YES	NO **X**		
Proposed Storm Drain	YES **X**	NO		

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	2/8/2017	3/9/2018 & 5/15/2018	Not Approved	$400.00	493315: $400
2nd Submittal	9/11/2018	10/10/2018	Conditional Approval	$400.00	498970: $400
3rd Submittal	5/30/2019	6/13/2019 & Revised 9/26/2019	See Comments Below	$100.00	3151006: $100
4th Submittal	2/20/2020	2/20/2020	Approved	N/C	N/C
5th Submittal	3/11/2020	4/9/2020	Conditional Approval	$100.00	$100
			TOTAL FEES (LDDRS):	**$1000.00**	**----**

REMARKS:

5th Submittal: Update #2 to address Land Use changes, upsize facilities accordingly, and shifts in SD alignment due to utility conflicts

4th Submittal: CCRFCD Concurrence

3rd Submittal: Update #1 to shift the storm drain alignment in Iron Mountain Road 1-ft to the north from Station "IMR" 107+46.33 to Station "IMR" 83+26.07

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

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

The following conditions are repeated until they are complete:

1. **This drainage study is acceptable in concept**; however, City of Las Vegas will not formally accept the study until the Clark County Regional Flood Control District (CCRFCD) has issued a letter of concurrence. The engineer should contact the CCRFCD to confirm that they have begun their review.

2. *Skye Canyon Phases 3B & 3C* onsite developments are to be flood protected by *Detention Basin 2* and the *Skye Canyon Phase 3A Infrastructure*. No occupancy permits within onsite *Phases 3B & 3C* will be issued prior to the substantial completion of *Detention Basin 2 with the outfall facility (from Detention Basin 2 in Iron Mountain Road to Skye Village Road)* and the substantial completion of the *Skye Canyon Phase 3A Infrastructure*.

3. The future MPU facility within Skye Village Road north of the Skye Village/Grand Canyon/Iron Mountain intersection to the proposed MPU facility at the Kyle Canyon interchange area shall be substantially complete before occupancy of residential Units beyond Phases 3A, 3B and 3C. This includes residential development within Phases 4 & 6 and the development of Phase 5 as shown on the *Development Phasing Exhibit* dated 12/4/2017.

4. The implementation of the CCRFCD Master Plan for the Skye Canyon Master Development is being progressed with the recent 90% design submittal of the *Moccasin Rd. CCRFCD Flood Control Facility – US95/Kyle Canyon Rd Interchange to Moccasin Rd. (Skye Canyon Developer Funded)* and the *Moccasin Rd. CCRFCD Flood Control Facility – Moccasin Rd to CCRFCD Facility LVUP 1076/1077(CCRFCD Funded)*. Once building permits are released for 75% of the Skye Canyon Development west of US-95 these critical facilities shall be substantially complete in accordance with the provisions of Title 19.02.130 D.

5. The implementation of the CCRFCD Master Plan is being progressed with the recent bid opening of the NDOT US-95 facilities from the CC-215 interchange north to the Kyle Canyon interchange. Construction of the associated CCRFCD MPU facilities allows for the utilization of the existing MPU facilities constructed with the Horse Interchange. The development of Phases 3A, 3B and 3C west of US-95 shall maximize the flow collection into this facility prior to allowing flows to cross US-95 using the existing culvert system.

6. *Flood Control* acknowledges that the new *Skye Canyon Master Plan Amendment* (MPA) was included as a part of the 2018 MPU process. Any changes not incorporated in the 2018 MPU must be approved by *City of Las Vegas* and *Clark County Regional Flood Control District* (CCRFCD) and shall be adopted by the *City of Las Vegas City Council* prior to the final approval of the subject improvement plans.

7. The subject *Phases 3B and 3C Infrastructure Drainage Study* addresses the included street improvements of *Iron Mountain Road, Skye Canyon Park Drive, Shaumber Road*, culvert crossings and storm drain systems with the streets. Technical drainage studies will be required for the future onsite parcels as they develop.

8. Phase 3A, 3B, and 3C include storm drain improvements that will be abandoned in the future. These abandoned facilities will impact the adjoining Phase 3B and 3C development parcels. The individual parcel development shall address the impact and removal of these improvements as well as include the removal of these items in the associated improvements and Bond.

9. The project proposed to build temporary drainage facilities including drainage berms/swales over the *Phases 3B, 3C* site and along the west side of *Shaumber Road*. Prior to the final plans approval the developer must complete a ***Maintenance and Liability Agreement*** for the interim drainage improvements and post a minimum maintenance bond of $50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for construction the facility and an exhibit that adequately shows the location and limits of the drainage facilities to *City Flood Control* for approval. Once the drainage study is conditionally approved, the engineer/developer should contact the *City's Land Development Section* (702-229-6371) to begin the agreement process.

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

10. The interim channels adjacent to the infrastructure roadways are the Maintenance responsibility of the Master Developer.

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/pbj/jks

T/R/S: T19S/R59E/12
AREA: F-12

REGIONAL FLOOD CONTROL DISTRICT

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

BOARD OF DIRECTORS

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February 20, 2020

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

DISTRICT CONCURRENCE: SKYE CANYON - PHASES 3B & 3C INFRASTRUCTURE (DS4953C) (RFCD No. 20-11430)

Dear Mr. Kwon:

Clark County Regional Flood Control District (District) reviewed Technical Drainage Study dated February 8, 2017, Addendum No. 1 dated September 11, 2018, and Supplement No. 1 dated May 30, 2019 for above-mentioned project as submitted by SLATER HANIFAN GROUP. In addition, District is in receipt of the Conditional Letter of Acceptance from City of Las Vegas Department of Public Works dated September 26, 2019.

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

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

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

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

600 S. Grand Central Parkway, Suite 300 • Las Vegas, Nevada 89106-4511
(702) 685-0000 • FAX: (702) 685-0001
Website: http://www.regionalflood.org

REGIONAL FLOOD
CONTROL DISTRICT

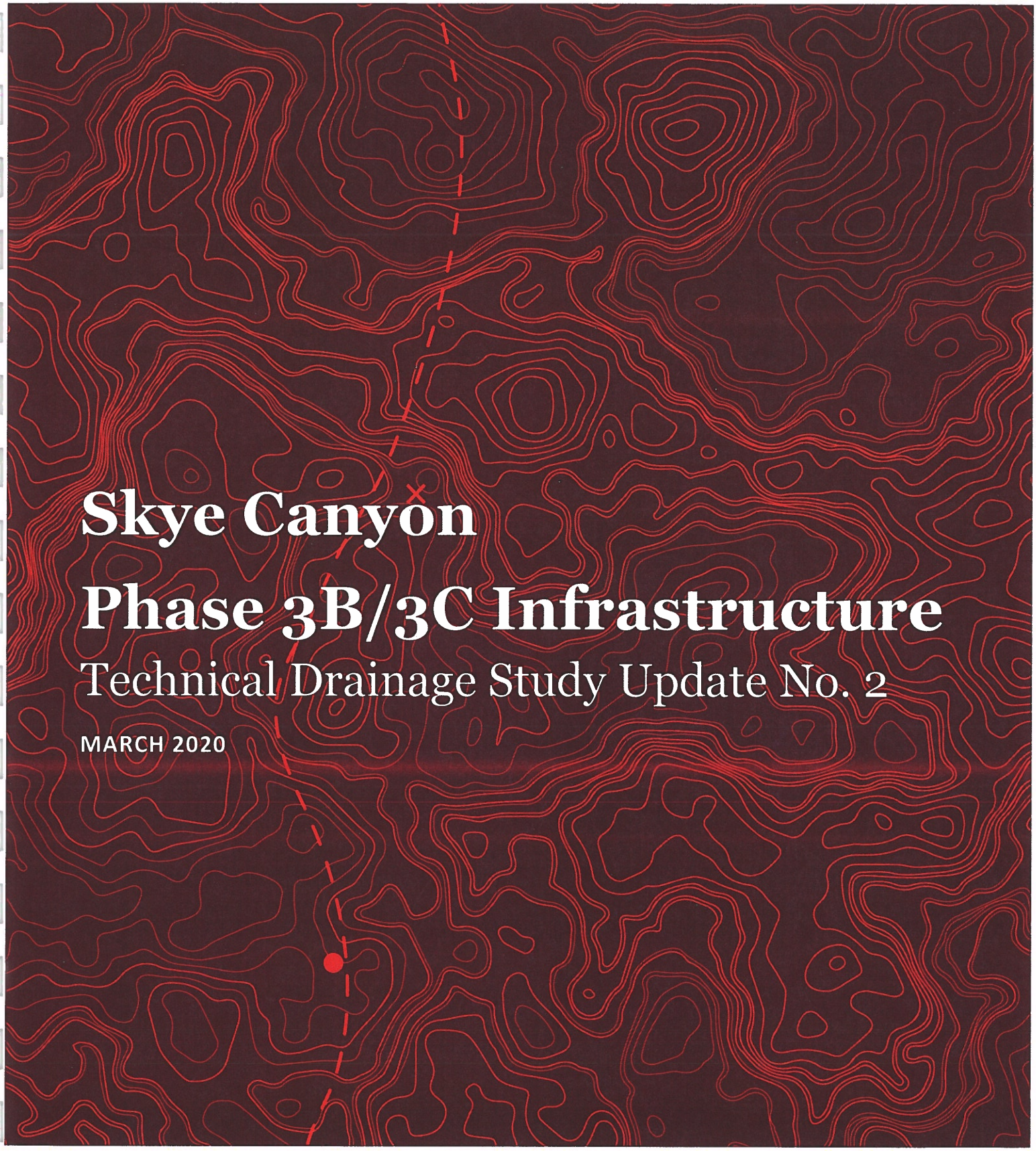
STEVEN C. PARRISH, P.E.
General Manager/Chief Engineer

BY: _____
Ching C. Wang, P.E.
Senior Civil Engineer

CCW:dd

c: Lant K. Leavitt, P.E., Slater Hanifan Group

P:\Letters and Memos\Local Drainage\Land Development & Drainage\2020\L-20-11430as_built.doc



Skye Canyon
Phase 3B/3C Infrastructure
Technical Drainage Study Update No. 2

MARCH 2020

PREPARED FOR:

Century Communities of Nevada, LLC.
6345 South Jones Boulevard
Las Vegas, NV 89118
Phone: 702-873-5338

PREPARED BY: Westwood

Westwood

Skye Canyon
Phase 3B/3C Infrastructure

Technical Drainage Study Update No. 2

City of Las Vegas, Nevada

Prepared For:

Century Communities of Nevada, LLC.
6345 South Jones Boulevard
Las Vegas, NV 89118
Phone: 702-873-5338

Prepared By:

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



Project Number: R0024287.06
Date: March 2020

Lant Leavitt, P.E.
NV Professional Engineer No. 18287
Assisted by: Abhusan Achhami

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Skye Canyon – Phase 3B/3C Infrastructure (Update #2) Date: March 2020

Location of Development: a) Descriptive (Cross Streets): North/South: Skye Village Road

East/West: Grand Canyon Drive

b) Section: 7 Township: 19 South Range: 60 East

c) APN: 125-07-201-007 and a portion of 125-07-101-009

Name of Owner/Developer: Century Communities of Nevada, LLC

Telephone No.: 702-873-5338 Fax No.: 702-220-6566 E-mail Address: Todd.Winner@centurycommunities.com

Address: 6345 S. Jones Boulevard, Las Vegas, NV 89118

Contact Person – Name: Lant Leavitt, P.E. Telephone No.: 702-284-5300

*E-mail Address: Lant.Leavitt@westwoodps.com Fax No.: 702-284-5399

Firm: Westwood Professional Services, Inc.

Address: 5740 S. Arville Street, Suite 216; Las Vegas, NV 89118

Type of Land Development/Land Disturbance Process:

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

1. Total Owned Land Area: At Site: 665 Acres Being Developed/Disturbed: 20 Acres +/-

2. Is a portion or all of the subject property located in a FEMA Flood Hazard Area? ☐ Yes** ☒ No

3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☒ Yes** ☐ No

4. Proposed type of development (Residential, Commercial, Etc.): Roadway & Storm Drain Infrastructure

5. Approximate upstream land area which drains to the subject site: 1800 acre +/-

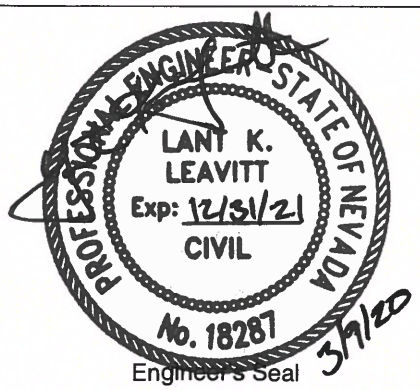
6. Has the site drainage been evaluated in the past? ☒ Yes** ☐ No If yes, please identify documentation:

Master Drainage Study for Skye Canyon Update #4 (SHG, DS4420)

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Skye Village Road thru MOHU 0036.

8. Briefly describe your proposed schedule for the subject project: ASAP Upon Substantial Completion of Detention Basin 2 Facilities.

Phase 3B/3C – Roadway Infrastructure per this TDS; Future Phase 3B/3C Residential Subdivisions to follow by separate TDS.



Engineer's Seal

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

*Newly Required Field

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

Revision	Date

Local Entity File No.

REFERENCE: ***SHG Job No. OLY1609.000***

STANDARD FORM 1

Updated 05/01/2008

CEN1904.000

March 9, 2020

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

Subject: Technical Drainage Study Update No. 2 for Skye Canyon Phase 3B/3C Infrastructure (DS 4953)

Mr. Sung:

Submitted for your review is this *Technical Drainage Study Update No. 2 for Skye Canyon Phase 3B/3C Infrastructure* (hereinafter referred to as the Update Study No. 2). The original *Technical Drainage Study for Skye Canyon Phase 3B/3C Infrastructure* (hereinafter referred to as the Original Study) prepared by Slater Hanifan Group (SHG) was conditionally approved by the City of Las Vegas (City) on October 10, 2018. The conditional approval letter for the Original Study is provided in Appendix B. The Original Study addressed the development of roadway and infrastructure improvements intended to support the development of approximately 160 acres in the Skye Canyon master planned development, labeled as Phase 3B/3C, see Master Land Use Exhibit provided in Appendix D. Since the approval of the Original Study, Update Study No. 1 was conditionally approved on September, 26, 2019. The conditional approval letter for the Update No. 1 Study is provided in Appendix B. The purpose of Update Study No. 1 was to move the proposed storm drain alignment in Iron Mountain Road 1-ft to the north to provide horizontal clearance for a proposed water line. The subject study, Update No. 2, proposes revisions to proposed storm drain infrastructure in the Iron Mountain Road, Shaumber Road and Skye Canyon Park Drive improvement plans

Purpose: The purpose of this Update Study is to provide hydraulic analysis of revisions to the proposed storm drain facilities in the Iron Mountain Road, Shaumber Road and Skye Canyon Park Drive infrastructure improvement plans. The following revisions to the storm drain infrastructure are proposed with this update:

<u>Shaumber Road</u>

- SHEET PP-02: Reach of 54-inch C900 SD pipe revised to 54-inch RCP with elastomeric joint sealant at water line crossing.
- SHEET PP-04: Previous plans included an interim reach of storm drain pipe east from SDMH #20 to discharge flow downstream at this location. However, due to the removal of interim discharge pipes from the Skye Village Road plans with Skye Canyon Phase 3A improvements downstream, there is no longer a benefit to this interim discharge pipe and it is being removed from the proposed improvements.
- SHEET PP-07, PP-08: The most recent land use plan, provided in Appendix D, divides the previous large high school parcel up into a smaller middle school parcel and an additional residential parcel. The proposed storm drain facility in Shaumber Road is proposed to be upsized with this update study to convey flow from the residential parcel. The facility is sized per the ultimate condition flow rate from Skye Canyon Master Drainage Study #6, excerpt provided in Appendix D. Additionally, the connection point of the

Shaumber Road storm drain into Iron Mountain Road is proposed to be moved west to provide horizontal clearance with the re-designed water line crossing to the east. Due to the alignment change, and the increase in flow from the south, the first two reaches of storm drain pipe south of Iron Mountain Road are proposed to be increased in size from 42-inch to 48-inch to maintain the required HGL depth below finished grade. WSPG hydraulic modeling of the revised storm drain facility is included in Appendix C.

- SHEET LAT-01: Storm drain profile #1 on previous improvement plans was missing downstream-most reach of pipe. This reach is added to the profile and includes 1-inch sacrificial concrete to mitigate high velocities due to the slope of the pipe. The structural detail for the sacrificial concrete is planned to match the previously approved 54-inch RCP design from Iron Mountain Road that also included 1-inch sacrificial concrete to mitigate high velocities.

Iron Mountain Road

- SHEET PP-03, PP-04: The proposed storm drain alignment shift in Shaumber Road is revised to provide horizontal clearance for the revised water line alignment. That storm drain revision results in the tie-in location in Iron Mountain Road being moved to the west. SDMH #59 is proposed to be revised from "IMR" Station 106+42.59 to Station 106+52.92. The invert out elevation at the manhole is also revised, from 2922.56-ft to 2020.88-ft. The change in elevation affects the first reach of storm drain pipe downstream of SDMH #59 in Iron Mountain Road. The next manhole, SDMH #58 holds the same invert as the previously approved plans. WSPG hydraulic modeling of the revised storm drain facility is included in Appendix C.

Skye Canyon Park Drive

- Sheet PP-01: As described in Shaumber Road Sheet PP-04 discussion above, the interim reach of storm drain pipe crossing the east half of Shaumber Road from SDMH #20 is no longer proposed. The pipe and downstream grading is removed from the Skye Canyon Park Drive improvement plans as well.
- Sheet PP-03: The nuisance inlets at the Skye Canyon Park Drive / Egan Crest Drive intersection were previously proposed to discharge down Egan Crest Drive and into the existing wash to the east. This alignment is revised to discharge down Skye Canyon Park Drive and connect to the proposed SDMH #39 to the east. WSPG hydraulic modeling of the revised storm drain facility is included in Appendix C.
- Sheet PP-04, PP-05, PP-07: The existing wash south of Skye Canyon Park Drive was previously intercepted by a proposed storm drain facility that conveyed flow north to SDMH #38 in Skye Canyon Park Drive. The proposed storm drain alignment to the north is revised with this update to convey flow along a different alignment to the northeast along the existing wash alignment and connect to the Skye Canyon Park Drive storm drain at SDMH #37. WSPG hydraulic modeling of the revised storm drain facility is included in Appendix C.
- Sheet PP-08, GR-01: The discharge location of the culvert crossing Egan Crest Drive is revised with this update to be further to the south. The intention of this alignment shift is to encumber less of the parcel. To protect the section downstream of the culvert from erosion, partially grouted riprap is proposed. WSPG hydraulic modeling of the revised culvert crossing and partially grouted riprap calculations are included in Appendix C.

Conclusion

This Update Study provides hydraulic analysis of changes to the approved storm drain facilities in the Shaumber Road, Iron Mountain Road, and Skye Canyon Park Drive infrastructure improvement plans. This Update Study and the proposed improvements are in conformance with the following:

- This project is in compliance with all the applicable drainage laws as recognized by the state of Nevada as well as all the applicable design standards stipulated in the CCRFCD "*Hydrologic Criteria and Drainage Design Manual*".
- This project is in compliance with the 2018 CCRFCD "Master Plan Update."
- The entire project site is located outside of the FEMA designated Special Flood Hazard Area (SFHA). The site and the proposed improvements are located within a FEMA flood Zone "X" (unshaded). Therefore, notification and/or coordination with FEMA are not required for this project.

The revised improvement plans are included with this submittal to support the conclusions detailed in this study. If you have any questions or require additional information, please contact us at (702) 284-5300.

Respectfully Submitted,

WESTWOOD PROFESSIONAL SERVICES



Lant Leavitt, P.E.
Project Manager II
Water Resources Department

pc: Mark Failla, P.E., CFM – SHG
Jerry Slater, P.E. – SHG
Rhonda Miller – SHG

LIST OF APPENDICES

Appendix A **Drainage Exhibits**
- Exhibit H – Facilities Map

Appendix B **Approval Letters**

Appendix C **Hydraulic Analyses**
- Shaumber Road
- Iron Mountain Road
- Skye Canyon Park Drive

Appendix D **Reference Material**
- Master Land Use Plan
- Master Drainage Study Excerpt

Appendix E **CD of Electronic Files**

APPENDIX A

Drainage Exhibits

- Exhibit H – Facilities Map

LEGEND

- BASIN BOUNDARY
- PRORATE BOUNDARY
- 000 — PRORATE ID
- ID — BASIN ID
- ID — CONCENTRATION POINT ID
- FLOW DIRECTION
- ID — FACILITY ID
- EXISTING SD FACILITIES
- PROPOSED SD FACILITIES
- FUTURE SD FACILITIES
- PROPOSED BERMS/DITCHES

N

0 200 400

SCALE – 1"=200' FEET

Recommended Flood Control Facility Summary

Facility ID	Facility Description	$Q_{INTERIM}$ (cfs)	$Q_{ULTIMATE}$ (cfs)	Notes
X1	Existing 36" RCP	108	**108**	Flow referenced from the Ph.2 Infrastructure Study
X2	Existing 60" RCP	113	**113**	Flow referenced from the DB1 Study
X3	Existing 36" RCP	46	**46**	Flow referenced from the Parcel 2.16 Study
X4	Existing 36" RCP	46	**50**	
X5	Existing 60" RCP	362	**341**	
X6	Existing 60" RCP	375	**354**	
X7	Existing 30" RCP	30	**30**	
X8	Existing 30" RCP	30	**30**	
X9	Existing 42" RCP	**70**	**-**	Temporary Culvert Crossing to be Removed with the Construction of the Moccasin Facility
X10	Existing 8'x4' RCB	247	**369**	
X11	Existing 42" RCP	141	141	
X12	Existing 36" RCP	-	**-**	Stub Provided by the Phase 3A Study
X13	Existing 7'x5' RCB	350	**426**	Concentration Point CP2b
P1	Proposed 42" RCP	108	**108**	Ties into Facility X1
P2a	Proposed 60" RCP	113	**113**	Ties into DB1 Outfall
P2b	Proposed 42" RCP	113	**113**	
P3a	Proposed 54" RCP	221	**221**	
P3b	Proposed 54" RCP	230	**240**	
P4	Proposed 24" RCP	9	**19**	Capped for Future Connection
P6	Proposed 30" RCP	0	**43**	Provided for the Ultimate Condition Alignment
P7	Proposed 20.0' Type CM2 D.I.	7.5	**15**	7.5 cfs/ Inlet w/ 18" Laterals **(Temporary Beehive Provided for the Interim Condition)**
P8a	Proposed 30" RCP	7.5	**58**	
P8b	Proposed 36" RCP	7.5	**58**	
P9	Proposed 17.5' Type CM2 D.I.	0	**5**	w/ 30" Lateral
P10	Proposed 17.5' Type CM2 D.I.	5	**5**	w/ 18" Lateral
P11	Proposed 42" RCP	63	**120**	
P12	Proposed 54" RCP	176	**256**	
P13	Proposed 42" RCP	101.5	**106**	
P14	Proposed 17.5' Type CM2 D.I.	8	**8**	4 cfs/ Inlet w/ 18" Laterals **(Temporary Beehive Provided for the Interim Condition on Street West Half)**
P15	Proposed 42" RCP	108	**127**	
P16	Proposed 42" RCP	157	**157**	Conservatively Assumed Worst Case Flow for both Conditions
P17	Proposed 17.5' Type CM2 D.I.	8	**16**	8 cfs/ Inlet w/ 18" Laterals **(Temporary Beehive Provided for the Interim Condition)**
P18	Proposed 42" RCP	165	**173**	
P19	Proposed 54" RCP	217	**300**	Concentration Point CP1
P20	Proposed 17.5' Type CM2 D.I.	6	**12**	6 cfs/ Inlet w/ 36" Lateral
P21a	Proposed 60" RCP	271	**360**	Concentration Point CP2a
P21b	Proposed 66" RCP	271	**360**	Concentration Point CP2a
P22	Proposed 7'x5' RCB	342	**410**	
P23	Proposed 20.0' Type CM2 D.I.	8	**16**	8 cfs/ Inlet w/ 18" Laterals
P24	Proposed 54" RCP	275	**-**	Temporary Interim Facility
P25	Proposed 36" RCP	46	**50**	Ties into Existing Facility X4
P26	Proposed 54" RCP	321	**-**	Temporary Interim Facility
P27	Proposed 10.0' Type CM2 D.I.	3.5	**7**	3.5 cfs/ Inlet w/ 18" Laterals
P28	Proposed 18" RCP	3.5	**7**	
P29	Proposed 72" RCP	348	**326**	
P30	(2) Proposed 10.0' Type CM2 D.I.	8	**8**	4 cfs/ Inlet w/ 18" Laterals
P31	Proposed 18" RCP	15	**15**	
P32	Proposed 17.5' Type CM2 D.I.	13	**13**	6.5 cfs/ Inlet w/ 18" Laterals
P33	Proposed 18" RCP	15	**15**	
F1	(2) Future 5.0' Type CM2 D.I.	4	**4**	2 cfs/ Inlet w/ 18" Laterals
F2	Future 54" RCP	-	**247**	
F3	Future 60" RCP	-	**343**	
F4	Future 60" RCP	-	**350**	Concentration Point CP7/ Ult-WC23
F5	Future 18" RCP	-	**7**	
S0	Proposed 24" RCP	9	**19**	
S1	Proposed 24" RCP	**44**	43	
S2	Proposed 30" RCP	51	**52**	
S3	Proposed 42" RCP	**136**	120	
S4	Proposed 42" RCP	101.5	**106**	
S5	Proposed 36" RCP	64	**64**	Designed for **70cfs** (Proposed Condition)
S6	Proposed 30" RCP	51	**62**	
S7	Proposed 54" RCP	275	**247**	
S8	Proposed 72" RCP	348	**369**	Temporary Improved Inlet
S9	Proposed 24" RCP	6	6	

- Storm drain facilities have been designed per the most conservative flow rate generated either in the interim or ultimate condition.
- Note that HEC-1 concentration points have been utilized to quantify flow at proposed facilities.

'X' - Depicts an "Existing" Facility
'P' - Depicts a "Proposed" Facility
'F' - Depicts a "Future" Facility
'S' - Depicts an "Interim Sump" Location

Interim Ditch Section Summary

Section ID	Section Description	Q_{100} (cfs)	Slope (%)	Depth (ft)	Velocity (fps)
D1a (Q = EX3b-H)	Earthen V-Ditch w/ 3:1 Side Slopes and Min 2.0-ft Deep	9.0	2.50	0.79	4.87
D1b (Q = EX3b-G)	EarthenTrapezoidal-Ditch w/ 3:1 Side Slopes; 3-ft base and Min 2.5-ft Deep	10.0	3.00	0.46	5.00
D1c (Q = EX3b-F)	EarthenTrapezoidal-Ditch w/ 3:1 Side Slopes; 3-ft base and Min 2.5-ft Deep	11.0	1.46	0.58	3.98
D2 (Q = EX2-D)	Earthen V-Ditch w/ 3:1 Side Slopes and Min 2.0-ft Deep	38.0	1.01	1.60	4.96
D3 (Q = EX1-B)	EarthenTrapezoidal-Ditch w/ 3:1 Side Slopes; 12-ft base and Min 1.0-ft Deep	61.0	1.00	0.87	4.80
D4a (Q = EX4-Z1)	EarthenTrapezoidal-Ditch w/ 3:1 Side Slopes; 5-ft base and Min 1.6-ft Deep	26.0	1.60	0.72	5.00
D4b (Q = EX4-Z2)	EarthenTrapezoidal-Ditch w/ 3:1 Side Slopes; 5-ft base and Min 1.6-ft Deep	70.0	0.65	1.53	4.79
D5 (Q = EX3b(E+F) + EX7)	Earthen V-Ditch w/ 3:1 Side Slopes and Min 2.5-ft Deep	71.0	0.55	2.26	4.62

- Note that all ditches/berms have been designed utilizing the proposed condition layout.

SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5399 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

NINETY-FIVE MANAGEMENT, LLC.

SKYE CANYON PHASE 3B, 3C INFRASTUCTURE

FACILITIES MAP

DATE: MARCH 2020
DRAFTER: ETM/AA
DESIGNER: ETM/AA
CHECKED: LL
PROJECT NO. OLY1609.000

EXHIBIT H
SHEET 1 OF 1

J:\oly1609_000 skye canyon phase 3c 3b 3c\drainage\update study\3c\figures\oly1609 fcfs update study exhibit h facilities mxd.dwg 3/6/2020 3:59 PM Absusin Ashtiani

APPENDIX B

Approval Letters

- TDS Conditional Approval
- TDS Update #1 Conditional Approval

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: October 10, 2018
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: **Skye Canyon – Phases 3B & 3C Infrastructure**		**COPIES TO:** Slater Hanifan Group
Cross Streets:	NWC of Skye Village Road & Skye Canyon Park Drive		M F Land LLC / Ninety-Five Management LLC
File Number:	F:\Depot\DSMemos\DS4953B.doc		Bart Anderson, P.E., DevCo
Parcel Number:	126-12-101-002		CCRFCD
Zoning Action:			
FEMA Flood Zone	YES	NO **X**	
Proposed Storm Drain	YES **X**	NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	2/8/2017	3/9/2018 & 5/15/2018	Not Approved	$400.00	493315: $400
2nd Submittal	9/11/2018	10/10/2018	See Comments Below	$400.00	498970: $400
			TOTAL FEES (LDDRS):	**$800.00**	----

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

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

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

2. *Skye Canyon Phases 3B & 3C* onsite developments are to be flood protected by *Detention Basin 2* and the *Skye Canyon Phase 3A Infrastructure*. No occupancy permits within onsite *Phases 3B & 3C* will be issued prior to the substantial completion of *Detention Basin 2 with the outfall facility (from Detention Basin 2 in Iron Mountain Road to Skye Village Road)* and the substantial completion of the *Skye Canyon Phase 3A Infrastructure*.

3. The future MPU facility within Skye Village Road north of the Skye Village/Grand Canyon/Iron Mountain intersection to the proposed MPU facility at the Kyle Canyon interchange area shall be substantially complete before occupancy of residential Units beyond Phases 3A, 3B and 3C. This includes residential development within Phases 4 & 6 and the development of Phase 5 as shown on the *Development Phasing Exhibit* dated 12/4/2017.

4. The implementation of the CCRFCD Master Plan for the Skye Canyon Master Development is being progressed with the recent 90% design submittal of the *Moccasin Rd. CCRFCD Flood Control Facility – US95/Kyle Canyon Rd Interchange to Moccasin Rd. (Skye Canyon Developer Funded)* and

the *Moccasin Rd. CCRFCD Flood Control Facility – Moccasin Rd to CCRFCD Facility LVUP 1076/1077(CCRFCD Funded)*. Once building permits are released for 75% of the Skye Canyon Development west of US-95 these critical facilities shall be substantially complete in accordance with the provisions of Title 19.02.130 D.

5. The implementation of the CCRFCD Master Plan is being progressed with the recent bid opening of the NDOT US-95 facilities from the CC-215 interchange north to the Kyle Canyon interchange. Construction of the associated CCRFCD MPU facilities allows for the utilization of the existing MPU facilities constructed with the Horse Interchange. The development of Phases 3A, 3B and 3C west of US-95 shall maximize the flow collection into this facility prior to allowing flows to cross US-95 using the existing culvert system.

6. *Flood Control* acknowledges that the new *Skye Canyon Master Plan Amendment* (MPA) is being included as a part of the 2018 MPU process. Any changes not incorporated in the 2018 MPU must be approved by *City of Las Vegas* and *Clark County Regional Flood Control District* (CCRFCD) and shall be adopted by the *City of Las Vegas City Council* prior to the final approval of the subject improvement plans.

7. The subject *Phases 3B and 3C Infrastructure Drainage Study* addresses the included street improvements of *Iron Mountain Road, Skye Canyon Park Drive, Shaumber Road*, culvert crossings and storm drain systems with the streets. Technical drainage studies will be required for the future onsite parcels as they develop.

8. Since the streets network and the associated storm drain facilities will eventually be accepted by the ***City of Las Vegas***, the engineer/developer must coordinate with *City of Las Vegas Streets & Sanitation Department* for their review and approval prior to the final approval of the improvement plans.

9. Structural plans for the storm drain improvements must be submitted for review by *Flood Control* and the *Building Department*. Provide a soil report, structural calculations and specifications, wet stamped structural sets and a grading plan to the *City of Las Vegas Building Department* for processing (call *Building Department* to confirm their submittal requirements). The engineer must provide a copy of *Building Department* approval of the structures to *City Flood Control Section* prior to the final acceptance of the improvement plans.

10. Phase 3A, 3B, and 3C include storm drain improvements that will be abandoned in the future. These abandoned facilities will impact the adjoining Phase 3B and 3C development parcels. The individual parcel development shall address the impact and removal of these improvements as well as include the removal of these items in the associated improvements and Bond.

11. The project proposed to build temporary drainage facilities including drainage berms/swales over the *Phases 3B, 3C* site and along the west side of *Shaumber Road*. Prior to the final plans approval the developer must complete a ***Maintenance and Liability Agreement*** for the interim drainage improvements and post a minimum maintenance bond of $50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for construction the facility and an exhibit that adequately shows the location and limits of the drainage facilities to *City Flood Control* for approval. Once the drainage study is conditionally approved, the engineer/developer should contact the *City's Land Development Section* (702-229-6371) to begin the agreement process.

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

12. Revise the typical access road sections on Sheet DTL-01 of each plan set to clearly show 1% minimum cross slope.

13. Provide nominal inlets along the arterial streets that do not exceed 660' maximum spacing.

14. Provide off-site grading permission for areas outside of the Skye Canyon Development impacted by these infrastructure improvements. Provide the notarized letter of off-site grading permission prior to final approval of the improvement plans.

15. Provide drop inlets upstream of the roadway cross fall transitions to collect flow before it spills across the intersections.

16. The interim channels adjacent to the infrastructure roadways are the Maintenance responsibility of the Master Developer.

17. **Iron Mountain Road Improvement Plans**:

    Provide ½ street roadway improvements in Iron Mountain between the Sheep Mountain Parkway and Shaumber Road. Revise the plans and sections accordingly.

    Sheet PP-04 to Sheet PP-07: Offsite grading is proposed in the adjacent parcels to the north of *Iron Mountain Road*. The land parcels are owned by various private owners and the BLM. Obtain notarized letter of permission for grading from all the impacted owners and BLM prior to the final acceptance of the improvement plans.

    Sheet PP-04: Explain why the drop inlet is in a "sump" condition.

    Sheet PP-05: Label the length of the proposed drop inlet at Sta. 94+36.89 (**second request**).

18. **Skye Canyon Park Drive Improvement Plans:**

    Sheet PP-02 and Sheet PP-03: The City requires nominal drop inlet at a maximum spacing of 600' in public right of ways. The distance between a proposed drop inlet in *Skye Canyon Park Drive* (see Sheet PP-03) and the *Shaumber Road* intersection is more than 1,200 feet. Extend the proposed 18" storm drain to approximately Sta. 46+00 with a nominal inlet on the north side and a stub to the south (**second request**).

19. **Shaumber Road Improvement Plans:**

    Sheet PP-03 and Sheet PP-04: Extend the storm drain at SDMH #20 to the south with an 18" pipe to approximately Sta. 36+00. Provide two stubs at the end of the 18"-storm drain (**second request**).

    Sheets PP-06 to PP-08: Extend the storm drain at SDMH #65 (in Sheet PP-08) to the south with an 18" pipe to approximately Sta. 56+00. Provide two stubs at the end of the 18" storm drain (Sheet PP-06) and another two stubs at approximately Sta. 62+00 (Sheet PP-07) (**second request**).

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/pbj

T/R/S: T19S/R59E/12
AREA: F-12

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: June 13, 2019 REVISED September 26, 2019
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: Skye Canyon – Phases 3B & 3C Infrastructure – Update #1		COPIES TO: Slater Hanifan Group
Cross Streets:	NWC of Skye Village Road & Skye Canyon Park Drive		M F Land LLC / Ninety-Five Management LLC
File Number:	F:\Depot\DSMemos\DS4953Crev.doc		Bart Anderson, P.E., DevCo
Parcel Number:	126-12-101-002		CCRFCD
Zoning Action:			
FEMA Flood Zone	YES	NO X	
Proposed Storm Drain	YES X	NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	2/8/2017	3/9/2018 & 5/15/2018	Not Approved	$400.00	493315: $400
2nd Submittal	9/11/2018	10/10/2018	Conditional Approval	$400.00	498970: $400
3rd Submittal	5/30/2019	6/13/2019 & Revised 9/26/2019	See Comments Below	$100.00	3151006: $100
			TOTAL FEES (LDDRS):	**$900.00**	----

REMARKS: Revised 9/26/2019 to reflect improvement plans.

3rd Submittal: Update #1 to shift the storm drain alignment in Iron Mountain Road 1-ft to the north from Station "IMR" 107+46.33 to Station "IMR" 83+26.07

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

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

Flood Control understands that there is a Land Use change along the west side of Shaumber Road. A Drainage Study Update will be required to verify flow impacts and storm drain size for Shaumber Road prior to development.

The following conditions are repeated until they are complete:

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

2. *Skye Canyon Phases 3B & 3C* onsite developments are to be flood protected by *Detention Basin 2* and the *Skye Canyon Phase 3A Infrastructure.* No occupancy permits within onsite *Phases 3B & 3C* will be issued prior to the substantial completion of *Detention Basin 2 with the outfall facility (from Detention Basin 2 in Iron Mountain Road to Skye Village Road)* and the substantial completion of the *Skye Canyon Phase 3A Infrastructure.*

3. The future MPU facility within Skye Village Road north of the Skye Village/Grand Canyon/Iron Mountain intersection to the proposed MPU facility at the Kyle Canyon interchange area shall be substantially complete before occupancy of residential Units beyond Phases 3A, 3B and 3C. This includes residential development within Phases 4 & 6 and the development of Phase 5 as shown on the *Development Phasing Exhibit* dated 12/4/2017.

4. The implementation of the CCRFCD Master Plan for the Skye Canyon Master Development is being progressed with the recent 90% design submittal of the *Moccasin Rd. CCRFCD Flood Control Facility – US95/Kyle Canyon Rd Interchange to Moccasin Rd. (Skye Canyon Developer Funded)* and the *Moccasin Rd. CCRFCD Flood Control Facility – Moccasin Rd to CCRFCD Facility LVUP 1076/1077(CCRFCD Funded).* Once building permits are released for 75% of the Skye Canyon Development west of US-95 these critical facilities shall be substantially complete in accordance with the provisions of Title 19.02.130 D.

5. The implementation of the CCRFCD Master Plan is being progressed with the recent bid opening of the NDOT US-95 facilities from the CC-215 interchange north to the Kyle Canyon interchange. Construction of the associated CCRFCD MPU facilities allows for the utilization of the existing MPU facilities constructed with the Horse Interchange. The development of Phases 3A, 3B and 3C west of US-95 shall maximize the flow collection into this facility prior to allowing flows to cross US-95 using the existing culvert system.

6. *Flood Control* acknowledges that the new *Skye Canyon Master Plan Amendment* (MPA) was included as a part of the 2018 MPU process. Any changes not incorporated in the 2018 MPU must be approved by *City of Las Vegas* and *Clark County Regional Flood Control District* (CCRFCD) and shall be adopted by the *City of Las Vegas City Council* prior to the final approval of the subject improvement plans.

7. The subject *Phases 3B and 3C Infrastructure Drainage Study* addresses the included street improvements of *Iron Mountain Road, Skye Canyon Park Drive, Shaumber Road*, culvert crossings and storm drain systems with the streets. Technical drainage studies will be required for the future onsite parcels as they develop.

8. Structural plans for the storm drain improvements must be submitted for review by *Flood Control* and the *Building Department.* Provide a soil report, structural calculations and specifications, wet stamped structural sets and a grading plan to the *City of Las Vegas Building Department* for processing (call *Building Department* to confirm their submittal requirements). The engineer must provide a copy of *Building Department* approval of the structures to *City Flood Control Section* prior to the final acceptance of the improvement plans.

9. Phase 3A, 3B, and 3C include storm drain improvements that will be abandoned in the future. These abandoned facilities will impact the adjoining Phase 3B and 3C development parcels. The individual parcel development shall address the impact and removal of these improvements as well as include the removal of these items in the associated improvements and Bond.

10. The project proposed to build temporary drainage facilities including drainage berms/swales over the *Phases 3B, 3C* site and along the west side of *Shaumber Road.* Prior to the final plans approval the developer must complete a ***Maintenance and Liability Agreement*** for the interim drainage improvements and post a minimum maintenance bond of $50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for construction the facility and an exhibit that adequately shows the location and limits of

the drainage facilities to *City Flood Control* for approval. Once the drainage study is conditionally approved, the engineer/developer should contact the *City's Land Development Section* (702-229-6371) to begin the agreement process.

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

11. Provide off-site grading permission for areas outside of the Skye Canyon Development impacted by these infrastructure improvements. Provide the notarized letter of off-site grading permission prior to final approval of the improvement plans.

12. Provide drop inlets upstream of the roadway cross fall transitions to collect flow before it spills across the intersections.

13. The interim channels adjacent to the infrastructure roadways are the Maintenance responsibility of the Master Developer.

14. **Iron Mountain Road Improvement Plans**:

    Sheet PP-05: Label the length of the proposed drop inlet at Sta. 94+36.89.

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/pbj

T/R/S: T19S/R59E/12
AREA: F-12

APPENDIX C

Hydraulic Analysis

- Shaumber Road
- Iron Mountain Road
- Skye Canyon Park Drive

Shaumber Road

Hydraulic Analysis

Ultimate Condition WSPG Summary
South Mainline in Shaumber Road along the West Boundary of Project Site

WSPG Station	Equivalent Roadway Station	Improvement Plan Sheet	Storm Drain Dimension	Invert Elevation (ft)	Q_{100} (cfs)	WSE (ft)	Velocity (ft/s)	FG Elevation	HGL Check[1]
810.03	N/A	PP-02	54" RCP	2965.00	240.00	2967.16	31.77	N/A	N/A
1000.00	30+91.	PP-02	54" RCP	2983.25	240.00	2987.04	16.81	2997.67	OK
1179.97	30+91.	PP-02	54" RCP	2985.92	240.00	2990.00	15.85	2997.67	OK
1179.98	30+91.	PP-02	54" RCP	2985.93	240.00	2990.04	15.77	2997.67	OK
1179.99	30+91.	PP-02	54" RCP	2985.94	240.00	2990.09	15.66	2997.67	OK
1180.00	30+91.	PP-02	54" RCP	2985.95	240.00	2990.19	15.45	2997.67	OK
1180.00	30+91.	PP-02	54" RCP	2985.95	221.00	2991.29	13.90	2997.67	OK
1342.91	29+32.88	PP-02	54" RCP	2987.58	221.00	2993.60	13.90	3002.50	OK
1510.28	27+70.39	PP-01	54" RCP	2989.25	221.00	2996.00	13.90	3006.25	OK
1510.28	27+70.39	PP-01	42" RCP	2990.25	108.00	3000.52	11.23	3006.25	OK
1733.24	25+53.65	PP-01	42" RCP	2992.47	108.00	3003.28	11.23	3008.00	OK
1733.25	25+35.56	PP-01	42" RCP	2992.48	108.00	3003.30	11.23	3008.00	OK
1733.25	25+53.65	PP-01	36" RCP	2992.98	76.00	3004.77	10.75	3008.00	OK
1854.73	24+35.57	PP-01	36" RCP	2996.48	76.00	3006.44	10.75	3008.25	OK
1854.73	24+35.57	PP-01	36" RCP	2996.48	76.00	3006.44	10.75	3008.25	OK

```
T1 SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
T2 BY OLYMPIA COMPANIES
T3 SHAUMBER SOUTH MAIN STORM DRAIN ALIGNMENT MODEL "USHA1" (ULTIMATE CONDITION)
SO   0810.0302965.000 54      .013               2966.960

R    1000.0002983.250 54      .013                                    15.00 1
R    1179.9702985.920 54      .013                                    15.00 1
R    1179.9802985.930 54      .013                                    15.00
R    1179.9902985.940 54      .013                                    15.00
R    1180.0002985.950 54      .013                                     3.00
JX   1180.0002985.950 54 24   .013   19.00          2988.450         45.0
R    1342.9102987.580 54      .013                                    11.00 1
R    1510.2802989.250 54      .013                                    13.00 1
JX   1510.2802990.250 42 42   .013  113.00          2990.250         90.0
R    1733.2402992.470 42      .013                                    15.00 1
R    1733.2502992.480 42      .013                                     3.00
JX   1733.2502992.980 36 30   .013   32.00          2993.480         90.0
R    1854.7302996.480 36      .013                                         1
SH   1854.7302996.480 36      .013
CD  18  4   1    .000   1.500     .000  .000  .000   .00
CD  24  4   1    .000   2.000     .000  .000  .000   .00
CD  30  4   1    .000   2.500     .000  .000  .000   .00
CD  36  4   1    .000   3.000     .000  .000  .000   .00
CD  42  4   1    .000   3.500     .000  .000  .000   .00
CD  48  4   1    .000   4.000     .000  .000  .000   .00
CD  54  4   1    .000   4.500     .000  .000  .000   .00
Q           76.000   .0
```

FILE: USHA1.WSW W S P G W - EDIT LISTING - Version 14.10 Date: 2-25-2020 Time: 1:30:57

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

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	18	4	1		1.500														
CD	24	4	1		2.000														
CD	30	4	1		2.500														
CD	36	4	1		3.000														
CD	42	4	1		3.500														
CD	48	4	1		4.000														
CD	54	4	1		4.500														

W S P G W PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

HEADING LINE NO 2 IS -

BY OLYMPIA COMPANIES

HEADING LINE NO 3 IS -

SHAUMBER SOUTH MAIN STORM DRAIN ALIGNMENT MODEL "USHA1" (ULTIMATE CONDITIO

W S P G W PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	810.030	2965.000	54	2966.960

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1000.000	2983.250	54	.013	.000	.000	15.000	1

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1179.970	2985.920	54	.013	.000	.000	15.000	1

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1179.980	2985.930	54	.013	.000	.000	15.000	0

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1179.990	2985.940	54	.013	.000	.000	15.000	0

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1180.000	2985.950	54	.013	.000	.000	3.000	0

ELEMENT NO 7 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1180.000	2985.950	54	24	0	.013	19.000	.000	2988.450	.000	45.000	.000

RADIUS	ANGLE
.000	.000

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 8 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1342.910	2987.580	54	.013	.000	.000	11.000	1

ELEMENT NO 9 IS A REACH * * *

	U/S DATA	STATION	INVERT	SECT		N			RADIUS	ANGLE	ANG PT	MAN H
		1510.280	2989.250	54		.013			.000	.000	13.000	1
ELEMENT NO 10 IS A JUNCTION		*	*	*	*		*		*		*	
	U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3 PHI 4
		1510.280	2990.250	42	42	0	.013	113.000	.000	2990.250	.000	90.000 .000
										RADIUS	ANGLE	
										.000	.000	

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 11 IS A REACH		*	*	*								
	U/S DATA	STATION	INVERT	SECT		N			RADIUS	ANGLE	ANG PT	MAN H
		1733.240	2992.470	42		.013			.000	.000	15.000	1
ELEMENT NO 12 IS A REACH		*	*	*								
	U/S DATA	STATION	INVERT	SECT		N			RADIUS	ANGLE	ANG PT	MAN H
		1733.250	2992.480	42		.013			.000	.000	3.000	0
ELEMENT NO 13 IS A JUNCTION		*	*	*	*		*		*		*	
	U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3 PHI 4
		1733.250	2992.980	36	30	0	.013	32.000	.000	2993.480	.000	90.000 .000
										RADIUS	ANGLE	
										.000	.000	
ELEMENT NO 14 IS A REACH		*	*	*								
	U/S DATA	STATION	INVERT	SECT		N			RADIUS	ANGLE	ANG PT	MAN H
		1854.730	2996.480	36		.013			.000	.000	.000	1
ELEMENT NO 15 IS A SYSTEM HEADWORKS				*			*					
	U/S DATA	STATION	INVERT	SECT					W S ELEV			
		1854.730	2996.480	36					.000			

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
SHAUMBER SOUTH MAIN STORM DRAIN ALIGNMENT MODEL "USHA1" (ULTIMATE COND

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
810.030	2965.000	2.162	2967.161	240.00	31.77	15.67	2982.83	.00	4.24	4.50	4.500	.000	.00	1 .0
16.957	.0961					.0668	1.13	2.16	4.32	1.96	.013	.00	.00	PIPE
826.987	2966.629	2.190	2968.819	240.00	31.23	15.15	2983.97	.00	4.24	4.50	4.500	.000	.00	1 .0
37.318	.0961					.0614	2.29	2.19	4.21	1.96	.013	.00	.00	PIPE
864.306	2970.214	2.274	2972.488	240.00	29.78	13.77	2986.26	.00	4.24	4.50	4.500	.000	.00	1 .0
27.738	.0961					.0541	1.50	2.27	3.92	1.96	.013	.00	.00	PIPE
892.044	2972.879	2.361	2975.240	240.00	28.39	12.52	2987.76	.00	4.24	4.49	4.500	.000	.00	1 .0
21.621	.0961					.0477	1.03	2.36	3.65	1.96	.013	.00	.00	PIPE
913.665	2974.956	2.453	2977.409	240.00	27.07	11.38	2988.79	.00	4.24	4.48	4.500	.000	.00	1 .0
17.370	.0961					.0421	.73	2.45	3.39	1.96	.013	.00	.00	PIPE
931.035	2976.625	2.550	2979.174	240.00	25.81	10.35	2989.52	.00	4.24	4.46	4.500	.000	.00	1 .0
14.236	.0961					.0372	.53	2.55	3.15	1.96	.013	.00	.00	PIPE
945.271	2977.992	2.652	2980.644	240.00	24.61	9.41	2990.05	.00	4.24	4.43	4.500	.000	.00	1 .0
11.822	.0961					.0329	.39	2.65	2.92	1.96	.013	.00	.00	PIPE
957.093	2979.128	2.760	2981.888	240.00	23.47	8.55	2990.44	.00	4.24	4.38	4.500	.000	.00	1 .0
9.898	.0961					.0291	.29	2.76	2.71	1.96	.013	.00	.00	PIPE
966.991	2980.079	2.875	2982.953	240.00	22.37	7.77	2990.73	.00	4.24	4.32	4.500	.000	.00	1 .0
8.324	.0961					.0258	.22	2.87	2.50	1.96	.013	.00	.00	PIPE

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
SHAUMBER SOUTH MAIN STORM DRAIN ALIGNMENT MODEL "USHA1" (ULTIMATE COND

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
975.315	2980.879	2.997	2983.875	240.00	21.33	7.07	2990.94	.00	4.24	4.24	4.500	.000	.00	1 .0
6.999	.0961					.0230	.16	3.00	2.31	1.96	.013	.00	.00	PIPE
982.315	2981.551	3.128	2984.679	240.00	20.34	6.42	2991.10	.00	4.24	4.14	4.500	.000	.00	1 .0
5.860	.0961					.0205	.12	3.13	2.12	1.96	.013	.00	.00	PIPE
988.174	2982.114	3.269	2985.383	240.00	19.39	5.84	2991.22	.00	4.24	4.01	4.500	.000	.00	1 .0
4.854	.0961					.0183	.09	3.27	1.95	1.96	.013	.00	.00	PIPE
993.028	2982.580	3.423	2986.003	240.00	18.49	5.31	2991.31	.00	4.24	3.84	4.500	.000	.00	1 .0
3.932	.0961					.0165	.06	3.42	1.77	1.96	.013	.00	.00	PIPE
996.961	2982.958	3.592	2986.550	240.00	17.63	4.83	2991.38	.00	4.24	3.61	4.500	.000	.00	1 .0
3.039	.0961					.0150	.05	3.59	1.60	1.96	.013	.00	.00	PIPE
1000.000	2983.250	3.785	2987.035	240.00	16.81	4.39	2991.42	.00	4.24	3.29	4.500	.000	.00	1 .0
67.098	.0148					.0141	.95	3.78	1.42	3.70	.013	.00	.00	PIPE
1067.098	2984.245	3.835	2988.080	240.00	16.62	4.29	2992.37	.00	4.24	3.19	4.500	.000	.00	1 .0
112.872	.0148					.0135	1.53	3.83	1.38	3.70	.013	.00	.00	PIPE
1179.970	2985.920	4.075	2989.995	240.00	15.85	3.90	2993.90	.00	4.24	2.63	4.500	.000	.00	1 .0
.010	1.0000					.0130	.00	4.08	1.16	1.06	.013	.00	.00	PIPE
1179.980	2985.930	4.106	2990.036	240.00	15.77	3.86	2993.90	.00	4.24	2.54	4.500	.000	.00	1 .0
.010	1.0000					.0130	.00	4.11	1.14	1.06	.013	.00	.00	PIPE

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1179.990	2985.940	4.146	2990.085	240.00	15.66	3.81	2993.90	.00	4.24	2.42	4.500	.000	.00	1 .0
.010	1.0000					.0129	.00	4.15	1.10	1.06	.013	.00	.00	PIPE
1180.000	2985.950	4.241	2990.191	240.00	15.45	3.70	2993.90	.00	4.24	2.10	4.500	.000	.00	1 .0
JUNCT STR	.0000					.0128	.00	4.24	1.00		.013	.00	.00	PIPE
1180.000	2985.950	5.337	2991.287	221.00	13.90	3.00	2994.29	.00	4.16	.00	4.500	.000	.00	1 .0
162.910	.0100					.0126	2.06	5.34	.00	4.50	.013	.00	.00	PIPE
1342.910	2987.580	6.023	2993.604	221.00	13.90	3.00	2996.60	.00	4.16	.00	4.500	.000	.00	1 .0
167.370	.0100					.0126	2.11	6.02	.00	4.50	.013	.00	.00	PIPE
1510.280	2989.250	6.746	2995.996	221.00	13.90	3.00	2998.99	.00	4.16	.00	4.500	.000	.00	1 .0
JUNCT STR	.0000					.0121	.00	6.75	.00		.013	.00	.00	PIPE
1510.280	2990.250	10.268	3000.519	108.00	11.23	1.96	3002.48	.00	3.15	.00	3.500	.000	.00	1 .0
222.960	.0100					.0115	2.57	10.27	.00	3.50	.013	.00	.00	PIPE
1733.240	2992.470	10.812	3003.282	108.00	11.23	1.96	3005.24	.00	3.15	.00	3.500	.000	.00	1 .0
.010	1.0000					.0115	.00	10.81	.00	.77	.013	.00	.00	PIPE
1733.250	2992.480	10.822	3003.302	108.00	11.23	1.96	3005.26	.00	3.15	.00	3.500	.000	.00	1 .0
JUNCT STR	.0000					.0123	.00	10.82	.00		.013	.00	.00	PIPE
1733.250	2992.980	11.793	3004.773	76.00	10.75	1.80	3006.57	.00	2.73	.00	3.000	.000	.00	1 .0
121.480	.0288					.0130	1.58	11.79	.00	1.80	.013	.00	.00	PIPE

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 2-25-2020 Time: 1:31: 0

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

BY OLYMPIA COMPANIES

SHAUMBER SOUTH MAIN STORM DRAIN ALIGNMENT MODEL "USHA1" (ULTIMATE COND

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	
1854.730	2996.480	9.960	3006.440	76.00	10.75	1.80	3008.23	.00	2.73	.00	3.000	.000	.00	1 .0

Interim Condition WSPG Summary
North Mainline in Shaumber Road along the West Boundary of Project Site

WSPG Station	Equivalent Roadway Station	Improvement Plan Sheet	Storm Drain Dimension	Invert Elevation (ft)	Q_{100} (cfs)	WSE (ft)	Velocity (ft/s)	FG Elevation	HGL Check[1]
1000.00	106+52.92	PP-08	42" RCP	2921.88	127.00	2928.64	10.11	2935.88	OK
1040.39	67+87.67	PP-08	42" RCP	2923.59	127.00	2929.11	10.11	2935.88	OK
1042.89	67+87.67	PP-08	42" RCP	2923.60	127.00	2929.21	10.11	2935.88	OK
1045.39	67+87.67	PP-08	42" RCP	2923.61	127.00	2929.30	10.11	2935.88	OK
1141.31	66+86.75	PP-08	42" RCP	2925.53	127.00	2930.05	10.11	2935.00	OK
1146.31	66+86.75	PP-08	36" RCP	2925.54	63.00	2932.38	8.91	2935.00	OK
1191.02	66+36.7	PP-08	36" RCP	2926.03	63.00	2932.77	8.91	2935.00	OK
1196.02	66+36.7	PP-08	36" RCP	2926.04	59.00	2933.12	8.35	2935.00	OK
1293.52	65+36.1	PP-08	36" RCP	2927.04	59.00	2933.96	8.35	2936.00	OK
1553.52	62+75.72	PP-07	36" RCP	2929.64	59.00	2936.06	8.35	2940.50	OK
1693.52	61+36.55	PP-07	36" RCP	2931.04	59.00	2937.22	8.35	2942.50	OK
1794.11	60+36.56	PP-07	36" RCP	2932.04	59.00	2938.07	8.35	2943.50	OK
1871.59	59+57.05	PP-07	36" RCP	2932.82	59.00	2938.79	8.35	2944.50	OK
1873.29	59+57.05	PP-07	36" RCP	2932.83	59.00	2938.85	8.35	2944.50	OK
1874.89	59+57.05	PP-07	36" RCP	2932.84	59.00	2938.87	8.35	2944.50	OK
1876.59	59+57.05	PP-07	36" RCP	2932.85	59.00	2938.93	8.35	2944.50	OK
1936.70	59+10.22	PP-07	36" RCP	2939.35	59.00	2941.31	12.09	2949.00	OK
1938.40	59+10.22	PP-07	36" RCP	2939.73	59.00	2942.21	9.43	2949.00	OK
1940.00	59+10.22	PP-07	36" RCP	2939.74	59.00	2942.27	9.27	2949.00	OK
1941.70	59+10.22	PP-07	36" RCP	2939.75	59.00	2942.31	9.20	2949.00	OK
1984.20	59+10.22	PP-07	36" RCP	2939.80	59.00	2942.84	8.35	2949.00	OK
1984.20	59+10.22	PP-07	36" RCP	2939.80	59.00	2942.84	8.35	2949.00	OK

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T1 SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
T2 BY OLYMPIA COMPANIES
T3 SHAUMBER STORM DRAIN ALIGNMENT MODEL CONNECTING TO IRM "SHA1" (ULTIMATE CONDITION)
SO   1000.0002921.880 48                          2928.640
R    1040.3902923.590 48      .013                                      15.0   1
R    1042.8902923.600 48      .013                                      15.0
R    1045.3902923.610 48      .013                                      13.0
R    1141.3102925.530 48      .013                                               1
JX   1146.3102925.540 36 24 42.013    4.0     60.0  2925.5402925.540 90.0-90.0
R    1191.0202926.030 36      .013                                               1
JX   1196.0202926.040 36 24   .013    4.0           2926.040         90.0
R    1293.5202927.040 36      .013                                       6.0   1
R    1553.5202929.640 36      .013                                       3.0   1
R    1693.5202931.040 36      .013                                       4.0   1
R    1794.1102932.040 36      .013                                       2.0   1
R    1871.5902932.820 36      .013                                      16.0   1
R    1873.2902932.830 36      .013                                      15.0
JX   1874.8902932.840 36      .013
R    1876.5902932.850 36      .013                                      15.0
R    1936.7002939.350 36      .013                                      15.0   1
R    1938.4002939.730 36      .013                                      15.0
JX   1940.0002939.740 36      .013
R    1941.7002939.750 36      .013                                      11.0
R    1984.2002939.800 36      .013                                             1
SH   1984.2002939.800 36
CD  36  4   1   0.000   3.000    0.000 0.000 0.000  0.0000.00  0.00
CD  48  4   1   0.000   4.000    0.000 0.000 0.000  0.0000.00  0.00
CD  24  4   1   0.000   2.000    0.000 0.000 0.000  0.0000.00  0.00
CD  42  4   1   0.000   3.500    0.000 0.000 0.000  0.0000.00  0.00
Q           59.000
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FILE: SHA1.WSW W S P G W - EDIT LISTING - Version 14.10 Date: 3- 5-2020 Time: 2:50:59

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

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	36	4	1		3.000														
CD	48	4	1		4.000														
CD	24	4	1		2.000														
CD	42	4	1		3.500														

W S P G W PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

HEADING LINE NO 2 IS -

BY OLYMPIA COMPANIES

HEADING LINE NO 3 IS -

SHAUMBER STORM DRAIN ALIGNMENT MODEL CONNECTING TO IRM "SHA1" (ULTIMATE CO

W S P G W PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1000.000	2921.880	48	2928.640

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1040.390	2923.590	48	.013	.000	.000	15.000	1

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1042.890	2923.600	48	.013	.000	.000	15.000	0

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1045.390	2923.610	48	.013	.000	.000	13.000	0

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1141.310	2925.530	48	.013	.000	.000	.000	0

ELEMENT NO 6 IS A JUNCTION * * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1146.310	2925.540	36	24	42	.013	4.000	60.000	2925.540	2925.540	90.000	-90.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1191.020	2926.030	36	.013	.000	.000	.000	0

ELEMENT NO 8 IS A JUNCTION * * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1196.020	2926.040	36	24	0	.013	4.000	.000	2926.040	.000	90.000	.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 9 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1293.520	2927.040	36	.013	.000	.000	6.000	1

ELEMENT NO 10 IS A REACH * * *

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                U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                           1553.520 2929.640   36             .013                           .000     .000     3.000     1
                                                W S P G W                                                      PAGE NO   3
                                WATER SURFACE PROFILE - ELEMENT CARD LISTING
ELEMENT NO  11 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                           1693.520 2931.040   36             .013                           .000     .000     4.000     1
ELEMENT NO  12 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                           1794.110 2932.040   36             .013                           .000     .000     2.000     1
ELEMENT NO  13 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                           1871.590 2932.820   36             .013                           .000     .000    16.000     1
ELEMENT NO  14 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                           1873.290 2932.830   36             .013                           .000     .000    15.000     0
ELEMENT NO  15 IS A JUNCTION          *         *     *     *               *                 *                  *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           1874.890 2932.840   36     0     0   .013      .000      .000      .000      .000    .000     .000
                                                                                           RADIUS    ANGLE
                                                                                            .000     .000
ELEMENT NO  16 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                           1876.590 2932.850   36             .013                           .000     .000    15.000     0
ELEMENT NO  17 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                           1936.700 2939.350   36             .013                           .000     .000    15.000     1
ELEMENT NO  18 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                           1938.400 2939.730   36             .013                           .000     .000    15.000     0
ELEMENT NO  19 IS A JUNCTION          *         *     *     *               *                 *                  *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           1940.000 2939.740   36     0     0   .013      .000      .000      .000      .000    .000     .000
                                                                                           RADIUS    ANGLE
                                                                                            .000     .000
ELEMENT NO  20 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                           1941.700 2939.750   36             .013                           .000     .000    11.000     0
                                                W S P G W                                                      PAGE NO   4
                                WATER SURFACE PROFILE - ELEMENT CARD LISTING
ELEMENT NO  21 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                           1984.200 2939.800   36             .013                           .000     .000      .000     0
ELEMENT NO  22 IS A SYSTEM HEADWORKS                *                   *
                U/S DATA   STATION    INVERT  SECT                                  W S ELEV
                           1984.200 2939.800   36                                     .000
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SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
SHAUMBER STORM DRAIN ALIGNMENT MODEL CONNECTING TO IRM "SHA1" (ULTIMAT

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1000.000	2921.880	6.760	2928.640	127.00	10.11	1.59	2930.23	.00	3.38	.00	4.000	.000	.00	1 .0
40.390	.0423					.0078	.32	6.76	.00	1.83	.013	.00	.00	PIPE
1040.390	2923.590	5.523	2929.114	127.00	10.11	1.59	2930.70	.00	3.38	.00	4.000	.000	.00	1 .0
2.500	.0040					.0078	.02	5.52	.00	4.00	.013	.00	.00	PIPE
1042.890	2923.600	5.611	2929.212	127.00	10.11	1.59	2930.80	.00	3.38	.00	4.000	.000	.00	1 .0
2.500	.0040					.0078	.02	5.61	.00	4.00	.013	.00	.00	PIPE
1045.390	2923.610	5.689	2929.299	127.00	10.11	1.59	2930.89	.00	3.38	.00	4.000	.000	.00	1 .0
95.920	.0200					.0078	.75	5.69	.00	2.29	.013	.00	.00	PIPE
1141.310	2925.530	4.519	2930.049	127.00	10.11	1.59	2931.64	.00	3.38	.00	4.000	.000	.00	1 .0
JUNCT STR	.0020					.0084	.04	4.52	.00		.013	.00	.00	PIPE
1146.310	2925.540	6.835	2932.375	63.00	8.91	1.23	2933.61	.00	2.55	.00	3.000	.000	.00	1 .0
44.710	.0110					.0089	.40	6.83	.00	2.23	.013	.00	.00	PIPE
1191.020	2926.030	6.744	2932.774	63.00	8.91	1.23	2934.01	.00	2.55	.00	3.000	.000	.00	1 .0
JUNCT STR	.0020					.0084	.04	6.74	.00		.013	.00	.00	PIPE
1196.020	2926.040	7.079	2933.119	59.00	8.35	1.08	2934.20	.00	2.48	.00	3.000	.000	.00	1 .0
97.500	.0103					.0078	.76	7.08	.00	2.17	.013	.00	.00	PIPE
1293.520	2927.040	6.918	2933.958	59.00	8.35	1.08	2935.04	.00	2.48	.00	3.000	.000	.00	1 .0
260.000	.0100					.0078	2.03	6.92	.00	2.19	.013	.00	.00	PIPE

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
SHAUMBER STORM DRAIN ALIGNMENT MODEL CONNECTING TO IRM "SHA1" (ULTIMAT

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1553.520	2929.640	6.417	2936.057	59.00	8.35	1.08	2937.14	.00	2.48	.00	3.000	.000	.00	1 .0
140.000	.0100					.0078	1.10	6.42	.00	2.19	.013	.00	.00	PIPE
1693.520	2931.040	6.181	2937.221	59.00	8.35	1.08	2938.30	.00	2.48	.00	3.000	.000	.00	1 .0
100.590	.0099					.0078	.79	6.18	.00	2.20	.013	.00	.00	PIPE
1794.110	2932.040	6.029	2938.069	59.00	8.35	1.08	2939.15	.00	2.48	.00	3.000	.000	.00	1 .0
77.480	.0101					.0078	.61	6.03	.00	2.19	.013	.00	.00	PIPE
1871.590	2932.820	5.966	2938.787	59.00	8.35	1.08	2939.87	.00	2.48	.00	3.000	.000	.00	1 .0
1.700	.0059					.0078	.01	5.97	.00	3.00	.013	.00	.00	PIPE
1873.290	2932.830	6.023	2938.854	59.00	8.35	1.08	2939.94	.00	2.48	.00	3.000	.000	.00	1 .0
JUNCT STR	.0063					.0078	.01	6.02	.00		.013	.00	.00	PIPE
1874.890	2932.840	6.026	2938.866	59.00	8.35	1.08	2939.95	.00	2.48	.00	3.000	.000	.00	1 .0
1.700	.0059					.0078	.01	6.03	.00	3.00	.013	.00	.00	PIPE
1876.590	2932.850	6.083	2938.933	59.00	8.35	1.08	2940.01	.00	2.48	.00	3.000	.000	.00	1 .0
12.926	.1081					.0078	.10	6.08	.00	1.06	.013	.00	.00	PIPE
1889.516	2934.248	4.819	2939.067	59.00	8.35	1.08	2940.15	.00	2.48	.00	3.000	.000	.00	1 .0
HYDRAULIC JUMP														
1889.516	2934.248	1.290	2935.537	59.00	20.31	6.41	2941.94	.00	2.48	2.97	3.000	.000	.00	1 .0
8.159	.1081					.0502	.41	1.29	3.62	1.06	.013	.00	.00	PIPE

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1897.675	2935.130	1.332	2936.462	59.00	19.47	5.89	2942.35	.00	2.48	2.98	3.000	.000	.00	1 .0
7.627	.1081					.0445	.34	1.33	3.40	1.06	.013	.00	.00	PIPE
1905.302	2935.955	1.381	2937.336	59.00	18.56	5.35	2942.69	.00	2.48	2.99	3.000	.000	.00	1 .0
6.296	.1081					.0391	.25	1.38	3.17	1.06	.013	.00	.00	PIPE
1911.598	2936.635	1.433	2938.069	59.00	17.70	4.86	2942.93	.00	2.48	3.00	3.000	.000	.00	1 .0
5.261	.1081					.0344	.18	1.43	2.96	1.06	.013	.00	.00	PIPE
1916.859	2937.204	1.487	2938.692	59.00	16.88	4.42	2943.11	.00	2.48	3.00	3.000	.000	.00	1 .0
4.433	.1081					.0303	.13	1.49	2.75	1.06	.013	.00	.00	PIPE
1921.292	2937.684	1.544	2939.228	59.00	16.09	4.02	2943.25	.00	2.48	3.00	3.000	.000	.00	1 .0
3.754	.1081					.0267	.10	1.54	2.56	1.06	.013	.00	.00	PIPE
1925.047	2938.090	1.604	2939.694	59.00	15.34	3.65	2943.35	.00	2.48	2.99	3.000	.000	.00	1 .0
3.185	.1081					.0235	.07	1.60	2.38	1.06	.013	.00	.00	PIPE
1928.232	2938.434	1.667	2940.101	59.00	14.63	3.32	2943.42	.00	2.48	2.98	3.000	.000	.00	1 .0
2.699	.1081					.0208	.06	1.67	2.22	1.06	.013	.00	.00	PIPE
1930.930	2938.726	1.733	2940.459	59.00	13.95	3.02	2943.48	.00	2.48	2.96	3.000	.000	.00	1 .0
2.280	.1081					.0184	.04	1.73	2.06	1.06	.013	.00	.00	PIPE
1933.210	2938.973	1.803	2940.776	59.00	13.30	2.75	2943.52	.00	2.48	2.94	3.000	.000	.00	1 .0
1.910	.1081					.0163	.03	1.80	1.91	1.06	.013	.00	.00	PIPE

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 3- 5-2020 Time: 2:51: 3

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

BY OLYMPIA COMPANIES

SHAUMBER STORM DRAIN ALIGNMENT MODEL CONNECTING TO IRM "SHA1" (ULTIMAT

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
1935.121	2939.179	1.877	2941.056	59.00	12.68	2.50	2943.55	.00	2.48	2.90	3.000	.000	.00	1 .0
1.579	.1081					.0144	.02	1.88	1.76	1.06	.013	.00	.00	PIPE
1936.700	2939.350	1.956	2941.306	59.00	12.09	2.27	2943.57	.00	2.48	2.86	3.000	.000	.00	1 .0
.127	.2235					.0134	.00	1.96	1.63	.88	.013	.00	.00	PIPE
1936.827	2939.378	1.972	2941.351	59.00	11.97	2.23	2943.58	.00	2.48	2.85	3.000	.000	.00	1 .0
.555	.2235					.0125	.01	1.97	1.60	.88	.013	.00	.00	PIPE
1937.381	2939.502	2.058	2941.560	59.00	11.42	2.02	2943.58	.00	2.48	2.78	3.000	.000	.00	1 .0
.434	.2235					.0111	.00	2.06	1.48	.88	.013	.00	.00	PIPE
1937.815	2939.599	2.150	2941.749	59.00	10.88	1.84	2943.59	.00	2.48	2.70	3.000	.000	.00	1 .0
.316	.2235					.0100	.00	2.15	1.35	.88	.013	.00	.00	PIPE
1938.131	2939.670	2.249	2941.919	59.00	10.38	1.67	2943.59	.00	2.48	2.60	3.000	.000	.00	1 .0
.198	.2235					.0089	.00	2.25	1.24	.88	.013	.00	.00	PIPE
1938.329	2939.714	2.359	2942.073	59.00	9.90	1.52	2943.59	.00	2.48	2.46	3.000	.000	.00	1 .0
.071	.2235					.0081	.00	2.36	1.12	.88	.013	.00	.00	PIPE
1938.400	2939.730	2.483	2942.213	59.00	9.43	1.38	2943.59	.00	2.48	2.27	3.000	.000	.00	1 .0
JUNCT STR	.0063					.0076	.01	2.48	1.00		.013	.00	.00	PIPE
1940.000	2939.740	2.531	2942.271	59.00	9.27	1.34	2943.61	.00	2.48	2.18	3.000	.000	.00	1 .0
1.700	.0059					.0074	.01	2.53	.96	3.00	.013	.00	.00	PIPE

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 3- 5-2020 Time: 2:51: 3

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
SHAUMBER STORM DRAIN ALIGNMENT MODEL CONNECTING TO IRM "SHA1" (ULTIMAT

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

1941.700	2939.750	2.555	2942.305	59.00	9.20	1.31	2943.62	.00	2.48	2.13	3.000	.000	.00	1	.0
6.874	.0012					.0071	.05	2.56	.93	3.00	.013	.00	.00	PIPE	
1948.574	2939.758	2.716	2942.474	59.00	8.77	1.19	2943.67	.00	2.48	1.76	3.000	.000	.00	1	.0
24.958	.0012					.0070	.18	2.72	.79	3.00	.013	.00	.00	PIPE	
1973.532	2939.787	2.970	2942.758	59.00	8.36	1.09	2943.84	.00	2.48	.59	3.000	.000	.00	1	.0
4.254	.0012					.0073	.03	2.97	.43	3.00	.013	.00	.00	PIPE	
1977.786	2939.792	3.000	2942.792	59.00	8.35	1.08	2943.87	.00	2.48	.00	3.000	.000	.00	1	.0
6.414	.0012					.0076	.05	3.00	.00	3.00	.013	.00	.00	PIPE	
1984.200	2939.800	3.043	2942.843	59.00	8.35	1.08	2943.92	.00	2.48	.00	3.000	.000	.00	1	.0

Ultimate Condition WSPG Summary

Center Mainline in Shaumber Road along the West Boundary of Project Site

WSPG Station	Equivalent Roadway Station	Improvement Plan Sheet	Storm Drain Dimension	Invert Elevation (ft)	Q_{100} (cfs)	WSE (ft)	Velocity (ft/s)	FG Elevation	HGL Check[1]
1000.00	N/A	PP-05	54" RCP	2933.00	256.00	2936.23	20.93	N/A	#VALUE!
1108.43	52+26.62	PP-05	54" RCP	2936.61	256.00	2940.73	16.78	2953.00	OK
1108.44	52+26.62	PP-05	54" RCP	2936.62	256.00	2940.76	16.72	2953.00	OK
1108.45	52+26.62	PP-05	54" RCP	2936.63	256.00	2940.80	16.64	2953.00	OK
1108.46	52+26.62	PP-05	54" RCP	2936.64	256.00	2940.85	16.55	2953.00	OK
1108.47	52+26.62	PP-05	54" RCP	2936.65	256.00	2940.94	16.36	2953.00	OK
1108.47	52+26.62	PP-05	42" RCP	2937.65	120.00	2947.56	12.47	2953.00	OK
1205.36	51+28.97	PP-05	42" RCP	2943.25	120.00	2949.09	12.47	2954.80	OK
1205.36	51+28.97	PP-05	36" RCP	2943.75	58.00	2952.16	8.21	2954.80	OK
1554.88	47+78.45	PP-05	36" RCP	2951.16	58.00	2954.85	8.21	2961.80	OK
1554.88	47+78.45	PP-05	30" RCP	2951.66	58.00	2954.04	12.03	2961.80	OK
1874.55	44+58.79	PP-04	30" RCP	2955.96	58.00	2960.27	11.82	2968.00	OK
2047.87	42+85.54	PP-04	30" RCP	2957.69	58.00	2963.85	11.82	2971.50	OK
2147.12	41+86.29	PP-04	30" RCP	2960.17	58.00	2965.94	11.82	2973.00	OK
2147.12	41+86.29	PP-04	30" RCP	2960.17	43.00	2967.86	8.76	2973.00	OK
2206.53	41+27.32	PP-04	30" RCP	2963.03	43.00	2968.63	8.76	2974.00	OK
2206.54	41+27.32	PP-04	30" RCP	2963.04	43.00	2968.69	8.76	2974.00	OK
2206.55	41+27.32	PP-04	30" RCP	2963.05	43.00	2968.75	8.76	2974.00	OK
2206.56	41+27.32	PP-04	30" RCP	2963.06	43.00	2968.81	8.76	2974.00	OK
2206.57	41+27.32	PP-04	30" RCP	2963.07	43.00	2968.87	8.76	2974.00	OK
2206.58	41+27.32	PP-04	30" RCP	2963.08	43.00	2968.93	8.76	2974.00	OK
2206.58	41+27.32	PP-04	24" RCP	2963.58	43.00	2967.29	13.69	2974.00	OK
2306.09	41+22.07	LAT-01	24" RCP	2965.06	43.00	2970.89	13.69	2975.00	OK
2306.09	41+22.07	LAT-01	24" RCP	2965.06	43.00	2970.89	13.69	2975.00	OK

```
T1 SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
T2 BY OLYMPIA COMPANIES
T3 SHAUMBER MID MAIN STORM DRAIN ALIGNMENT "USHA2b" (ULTIMATE CONDITION)
SO   1000.0002933.000 54      .013                2935.80
R    1108.4302936.610 54      .013                                      15.00 1
R    1108.4402936.620 54      .013                                      15.00
R    1108.4502936.630 54      .013                                      15.00
R    1108.4602936.640 54      .013                                      15.00
R    1108.4702936.650 54      .013                                       2.00
JX   1108.4702937.650 42 42   .013  136.0           2937.67          90.0
R    1205.3602943.250 42      .013                                       4.00 1
JX   1205.3602943.750 36 30 18.013   57.0      5.0  2943.25 2945.25  73.0 72.0
R    1554.8802951.160 36      .013                                      00.00 1
JX   1554.8802951.660 30      .013
R    1874.5502955.960 30      .013                                       1.00 1
R    2047.8702957.690 30      .013                                      00.00 1
R    2147.1202960.170 30      .013                                      00.00 1
JX   2147.1202960.170 30 18 18.013    7.5      7.5  2961.17 2961.17  85.0 85.0
R    2206.5302963.030 30      .013                                      15.00 1
R    2206.5402963.040 30      .013                                      15.00
R    2206.5502963.050 30      .013                                      15.00
R    2206.5602963.060 30      .013                                      15.00
R    2206.5702963.070 30      .013                                      15.00
R    2206.5802963.080 30      .013                                      15.00
JX   2206.5802963.580 24      .013
R    2306.0902965.060 24      .013
SH   2306.0902965.060 24      .013
CD  18  4   1    .000   1.500     .000  .000  .000   .00
CD  24  4   1    .000   2.000     .000  .000  .000   .00
CD  30  4   1    .000   2.500     .000  .000  .000   .00
CD  36  4   1    .000   3.000     .000  .000  .000   .00
CD  42  4   1    .000   3.500     .000  .000  .000   .00
CD  48  4   1    .000   4.000     .000  .000  .000   .00
CD  54  4   1    .000   4.500     .000  .000  .000   .00
Q           43.000   .0
```

FILE: USHA2b.WSW W S P G W - EDIT LISTING - Version 14.10 Date: 3- 5-2020 Time: 4: 0:52

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	18	4	1		1.500														
CD	24	4	1		2.000														
CD	30	4	1		2.500														
CD	36	4	1		3.000														
CD	42	4	1		3.500														
CD	48	4	1		4.000														
CD	54	4	1		4.500														

W S P G W

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

HEADING LINE NO 2 IS -

BY OLYMPIA COMPANIES

HEADING LINE NO 3 IS -

SHAUMBER MID MAIN STORM DRAIN ALIGNMENT "USHA2b" (ULTIMATE CONDITION)

W S P G W

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1000.000	2933.000	54	2935.800

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1108.430	2936.610	54	.013	.000	.000	15.000	1

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1108.440	2936.620	54	.013	.000	.000	15.000	0

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1108.450	2936.630	54	.013	.000	.000	15.000	0

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1108.460	2936.640	54	.013	.000	.000	15.000	0

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1108.470	2936.650	54	.013	.000	.000	2.000	0

ELEMENT NO 7 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1108.470	2937.650	42	42	0	.013	136.000	.000	2937.670	.000	90.000	.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 8 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1205.360	2943.250	42	.013	.000	.000	4.000	1

ELEMENT NO 9 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1205.360	2943.750	36	30	18	.013	57.000	5.000	2943.250	2945.250	73.000	72.000

```
                                                                                                    RADIUS    ANGLE
                                                                                                      .000    .000
 ELEMENT NO  10 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                              RADIUS    ANGLE     ANG PT  MAN H
                               1554.880 2951.160   36              .013                               .000     .000      .000     1
                                                          W S P G W                                                      PAGE NO   3
                          WATER SURFACE PROFILE - ELEMENT CARD LISTING
 ELEMENT NO  11 IS A JUNCTION         *         *     *     *                *                 *                *
                    U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                               1554.880 2951.660   30     0     0   .013      .000      .000      .000      .000    .000     .000
                                                                                                    RADIUS    ANGLE
                                                                                                      .000    .000
 ELEMENT NO  12 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                              RADIUS    ANGLE     ANG PT  MAN H
                               1874.550 2955.960   30              .013                               .000     .000     1.000     1
 ELEMENT NO  13 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                              RADIUS    ANGLE     ANG PT  MAN H
                               2047.870 2957.690   30              .013                               .000     .000      .000     1
 ELEMENT NO  14 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                              RADIUS    ANGLE     ANG PT  MAN H
                               2147.120 2960.170   30              .013                               .000     .000      .000     1
 ELEMENT NO  15 IS A JUNCTION         *         *     *     *                *                 *                *
                    U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                               2147.120 2960.170   30    18    18   .013     7.500     7.500  2961.170 2961.170  85.000   85.000
                                                                                                    RADIUS    ANGLE
                                                                                                      .000    .000
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
 ELEMENT NO  16 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                              RADIUS    ANGLE     ANG PT  MAN H
                               2206.530 2963.030   30              .013                               .000     .000    15.000     1
 ELEMENT NO  17 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                              RADIUS    ANGLE     ANG PT  MAN H
                               2206.540 2963.040   30              .013                               .000     .000    15.000     0
 ELEMENT NO  18 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                              RADIUS    ANGLE     ANG PT  MAN H
                               2206.550 2963.050   30              .013                               .000     .000    15.000     0
 ELEMENT NO  19 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                              RADIUS    ANGLE     ANG PT  MAN H
                               2206.560 2963.060   30              .013                               .000     .000    15.000     0
                                                          W S P G W                                                      PAGE NO   4
                          WATER SURFACE PROFILE - ELEMENT CARD LISTING
 ELEMENT NO  20 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                              RADIUS    ANGLE     ANG PT  MAN H
                               2206.570 2963.070   30              .013                               .000     .000    15.000     0
 ELEMENT NO  21 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                              RADIUS    ANGLE     ANG PT  MAN H
                               2206.580 2963.080   30              .013                               .000     .000    15.000     0
 ELEMENT NO  22 IS A JUNCTION         *         *     *     *                *                 *                *
                    U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                               2206.580 2963.580   24     0     0   .013      .000      .000      .000      .000    .000     .000
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                                                                                                RADIUS    ANGLE
                                                                                                  .000    .000
ELEMENT NO  23 IS A REACH              *          *     *
                    U/S DATA   STATION    INVERT  SECT          N                                RADIUS    ANGLE     ANG PT  MAN H
                               2306.090 2965.060   24          .013                                .000     .000      .000     0
ELEMENT NO  24 IS A SYSTEM HEADWORKS                    *                  *
                    U/S DATA   STATION    INVERT  SECT                                  W S ELEV
                               2306.090 2965.060   24                                      .000
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SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
SHAUMBER MID MAIN STORM DRAIN ALIGNMENT "USHA2b" (ULTIMATE CONDITION)

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
1000.000	2933.000	3.233	2936.233	256.00	20.93	6.80	2943.04	.00	4.29	4.05	4.500	.000	.00	1 .0
26.764	.0333					.0218	.58	3.23	2.12	2.81	.013	.00	.00	PIPE
1026.764	2933.891	3.327	2937.218	256.00	20.31	6.40	2943.62	.00	4.29	3.95	4.500	.000	.00	1 .0
31.817	.0333					.0200	.64	3.33	2.00	2.81	.013	.00	.00	PIPE
1058.581	2934.950	3.487	2938.437	256.00	19.36	5.82	2944.26	.00	4.29	3.76	4.500	.000	.00	1 .0
23.066	.0333					.0180	.42	3.49	1.82	2.81	.013	.00	.00	PIPE
1081.647	2935.718	3.664	2939.382	256.00	18.46	5.29	2944.67	.00	4.29	3.50	4.500	.000	.00	1 .0
16.438	.0333					.0164	.27	3.66	1.63	2.81	.013	.00	.00	PIPE
1098.084	2936.266	3.868	2940.134	256.00	17.60	4.81	2944.94	.00	4.29	3.13	4.500	.000	.00	1 .0
10.346	.0333					.0152	.16	3.87	1.44	2.81	.013	.00	.00	PIPE
1108.430	2936.610	4.118	2940.729	256.00	16.78	4.37	2945.10	.00	4.29	2.51	4.500	.000	.00	1 .0
.010	1.0123					.0147	.00	4.12	1.20	1.09	.013	.00	.00	PIPE
1108.440	2936.620	4.142	2940.762	256.00	16.72	4.34	2945.10	.00	4.29	2.43	4.500	.000	.00	1 .0
.010	.9756					.0147	.00	4.14	1.17	1.10	.013	.00	.00	PIPE
1108.450	2936.630	4.170	2940.800	256.00	16.64	4.30	2945.10	.00	4.29	2.35	4.500	.000	.00	1 .0
.010	1.0000					.0147	.00	4.17	1.15	1.10	.013	.00	.00	PIPE
1108.460	2936.640	4.207	2940.847	256.00	16.55	4.26	2945.10	.00	4.29	2.22	4.500	.000	.00	1 .0
.010	1.0000					.0147	.00	4.21	1.11	1.10	.013	.00	.00	PIPE

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
SHAUMBER MID MAIN STORM DRAIN ALIGNMENT "USHA2b" (ULTIMATE CONDITION)

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
1108.470	2936.650	4.294	2940.944	256.00	16.36	4.16	2945.10	.00	4.29	1.88	4.500	.000	.00	1 .0
JUNCT STR	.0000					.0145	.00	4.29	1.00		.013	.00	.00	PIPE
1108.470	2937.650	9.914	2947.563	120.00	12.47	2.42	2949.98	.00	3.25	.00	3.500	.000	.00	1 .0
96.890	.0578					.0142	1.38	9.91	.00	1.74	.013	.00	.00	PIPE
1205.360	2943.250	5.844	2949.094	120.00	12.47	2.42	2951.51	.00	3.25	.00	3.500	.000	.00	1 .0
JUNCT STR	.0000					.0109	.00	5.84	.00		.013	.00	.00	PIPE
1205.360	2943.750	8.407	2952.157	58.00	8.21	1.05	2953.20	.00	2.47	.00	3.000	.000	.00	1 .0
349.520	.0212					.0076	2.64	8.41	.00	1.67	.013	.00	.00	PIPE
1554.880	2951.160	3.692	2954.852	58.00	8.21	1.05	2955.90	.00	2.47	.00	3.000	.000	.00	1 .0
JUNCT STR	.0000							3.69	.00		.013	.00	.00	PIPE
1554.880	2951.660	2.379	2954.039	58.00	12.03	2.25	2956.29	.00	2.38	1.07	2.500	.000	.00	1 .0
8.906	.0135					.0181	.16	2.38	1.00	2.50	.013	.00	.00	PIPE
1563.786	2951.780	2.500	2954.280	58.00	11.82	2.17	2956.45	.00	2.38	.00	2.500	.000	.00	1 .0
310.764	.0135					.0195	6.05	2.50	.00	2.50	.013	.00	.00	PIPE
1874.550	2955.960	4.639	2960.599	58.00	11.82	2.17	2962.77	.00	2.38	.00	2.500	.000	.00	1 .0
173.320	.0100					.0200	3.47	4.64	.00	2.50	.013	.00	.00	PIPE
2047.870	2957.690	6.483	2964.173	58.00	11.82	2.17	2966.34	.00	2.38	.00	2.500	.000	.00	1 .0
99.250	.0250					.0200	1.98	6.48	.00	1.84	.013	.00	.00	PIPE

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
2147.120	2960.170	6.096	2966.266	58.00	11.82	2.17	2968.43	.00	2.38	.00	2.500	.000	.00	1 .0
JUNCT STR	.0000					.0155	.00	6.10	.00		.013	.00	.00	PIPE
2147.120	2960.170	8.013	2968.183	43.00	8.76	1.19	2969.37	.00	2.19	.00	2.500	.000	.00	1 .0
59.410	.0481					.0110	.65	8.01	.00	1.22	.013	.00	.00	PIPE
2206.530	2963.030	5.925	2968.955	43.00	8.76	1.19	2970.15	.00	2.19	.00	2.500	.000	.00	1 .0
.010	1.0000					.0110	.00	5.92	.00	.55	.013	.00	.00	PIPE
2206.540	2963.040	5.974	2969.014	43.00	8.76	1.19	2970.21	.00	2.19	.00	2.500	.000	.00	1 .0
.010	1.0000					.0110	.00	5.97	.00	.55	.013	.00	.00	PIPE
2206.550	2963.050	6.023	2969.073	43.00	8.76	1.19	2970.26	.00	2.19	.00	2.500	.000	.00	1 .0
.010	1.0000					.0110	.00	6.02	.00	.55	.013	.00	.00	PIPE
2206.560	2963.060	6.072	2969.132	43.00	8.76	1.19	2970.32	.00	2.19	.00	2.500	.000	.00	1 .0
.010	1.0000					.0110	.00	6.07	.00	.55	.013	.00	.00	PIPE
2206.570	2963.070	6.121	2969.191	43.00	8.76	1.19	2970.38	.00	2.19	.00	2.500	.000	.00	1 .0
.010	1.0000					.0110	.00	6.12	.00	.55	.013	.00	.00	PIPE
2206.580	2963.080	6.170	2969.250	43.00	8.76	1.19	2970.44	.00	2.19	.00	2.500	.000	.00	1 .0
JUNCT STR	.0000					.0236	.00	6.17	.00		.013	.00	.00	PIPE
2206.580	2963.580	4.035	2967.615	43.00	13.69	2.91	2970.52	.00	1.96	.00	2.000	.000	.00	1 .0
99.510	.0149					.0361	3.60	4.04	.00	2.00	.013	.00	.00	PIPE

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 3- 5-2020 Time: 4: 0:55

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

BY OLYMPIA COMPANIES

SHAUMBER MID MAIN STORM DRAIN ALIGNMENT "USHA2b" (ULTIMATE CONDITION)

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
2306.090	2965.060	6.151	2971.211	43.00	13.69	2.91	2974.12	.00	1.96	.00	2.000	.000	.00	1	.0

Iron Mountain Road

Hydraulic Analysis

Ultimate Condition WSPG Summary
Mainline in Iron Mountain Road along Northern Boundary of Project Site

WSPGW Station	Invert Elevation (ft)	Equivalent Roadway Station	Improvement Plan Sheet	Storm Drain Dimension	Q_{100} (cfs)	WSE (ft)	Velocity (ft/s)[1]	FG Elevation	HGL Check[2]
940.69	2824.89	N/A	PP-08	7' x 5' RCB	426	2835.80	12.17	N/A	N/A
951.69	2825.59	N/A	PP-08	7' x 5' RCB	426	2835.88	12.17	2839.55	OK
1020.93	2830.16	79+10.78	PP-08	7' x 5' RCB	426	2836.78	12.17	2839.55	OK
1034.93	2830.23	79+24.78	PP-08	7' x 5' RCB	426	2836.87	12.17	2839.55	OK
1117.78	2830.63	80+07.63	PP-08	7' x 5' RCB	410	2837.73	11.71	2840.64	OK
1129.79	2830.64	81+11.79	PP-08	7' x 5' RCB	360	2838.45	10.29	2841.05	OK
1233.34	2832.39	81+23.88	PP-08	7' x 5' RCB	360	2834.52	24.19	2842.63	OK
1241.34	2832.60	81+31.79	PP-08	TRANS STRCT	360	2836.12	22.44	2842.76	OK
1435.26	2833.78	83+26.07	PP-07	66" RCP	360	2836.63	28.95	2848.02	OK
1435.26	2834.28	83+26.07	PP-07	60" RCP	360	2837.39	28.10	2848.02	OK
1773.92	2847.18	86+65.17	PP-07	60" RCP	360	2850.28	28.19	2859.32	OK
2113.01	2860.30	90+04.25	PP-06	60" RCP	360	2863.43	27.85	2872.80	OK
2313.01	2868.30	92+04.25	PP-06	60" RCP	360	2871.56	26.57	2880.81	OK
2524.64	2876.27	94+15.89	PP-05	60" RCP	360	2879.81	24.19	2889.29	OK
2524.64	2876.77	98+15.89	PP-05	54" RCP	300	2879.71	27.21	2889.29	OK
2924.64	2892.75	98+15.89	PP-05	54" RCP	300	2895.73	26.88	2905.31	OK
3184.64	2903.15	100+75.89	PP-04	54" RCP	300	2906.25	25.67	2915.72	OK
3468.17	2914.35	103+59.42	PP-04	54" RCP	300	2918.25	20.49	2926.95	OK
3761.67	2920.88	106+42.59	PP-03	54" RCP	300	2925.27	18.99	2934.55	OK
3761.67	2921.88	106+42.59	PP-03	54" RCP	173	2929.33	17.98	2934.55	OK
3855.40	2925.64	107+46.33	PP-03	54" RCP	173	2932.35	17.98	2936.30	OK
3855.40	2925.64	107+46.33	PP-03	42" C900	157	2933.96	16.32	2936.30	OK
4250.98	2932.49	111+41.91	PP-02	42" RCP	157	2943.80	16.32	2951.57	OK
4515.40	2937.07	114+06.33	PP-02	42" RCP	157	2950.44	16.32	2966.05	OK
4630.98	2939.07	115+21.91	PP-02	42" RCP	157	2953.47	16.32	2971.36	OK
4961.97	2964.23	118+52.90	PP-01	42" RCP	157	2966.30	25.34	2985.10	OK
5077.69	2973.02	119+36.99	PP-01	42" RCP	157	2979.77	8.00	2988.57	OK
5237.69	2973.79	119+36.99	PP-01	60" RCP	157	2980.36	8.00	2988.57	OK
5237.69	2973.79	120+96.99	PP-01	60" RCP	157	2980.36	8.00	2991.00	OK

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T1 SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
T2 BY OLYMPIA COMPANIES
T3 IRON MOUNTAIN MAIN STORM DRAIN ALIGNMENT MODEL "UIRM1" (ULTIMATE CONDITION)
SO    940.6902824.890  1      .013               2835.800
R     951.6902825.590  1      .013
R    1020.9302830.160  1      .013                                  77.922    .000 0
JX   1034.9302830.230  1      .013    0.00          2830.230         00.0
JX   1117.7802830.630  1 24 18.013    8.0      8.0  2830.64 2834.14  45.0 45.0
JX   1129.7902830.640  1 30   .013   50.00          2834.480         45.0
R    1233.3402832.390  1      .013
TS   1241.3402832.600 66      .013
R    1435.2602833.780 66      .013
JX   1435.2602834.280 60      .013    0.00          2833.870         00.0
R    1773.9202847.180 60      .013                                       8.00 1
R    2113.0102860.300 60      .013                                      00.00 1
R    2313.0102868.300 60      .013                                      00.00 1
R    2524.6402876.270 60      .013                                      00.00 1
JX   2524.6402876.770 54 18 36.013    6.0     54.0  2879.77 2878.27  45.0 45.0
R    2924.6402892.750 54      .013                                      00.00 1
R    3184.6402903.150 54      .013                                      00.00 1
R    3468.1702914.350 54      .013                                      00.00 1
R    3761.6702920.880 54      .013                                      00.00 1
JX   3761.6702921.880 42 48   .013  127.00          2921.880         44.0
R    3855.4002925.640 42      .013                                      00.00 1
JX   3855.4002925.640 42 18 18.013    8.0      8.0  2927.64 2927.64  45.0 45.0
R    4250.9802932.490 42      .013                                      00.00 1
R    4515.4002937.070 42      .013                                      00.00 1
R    4630.9802939.070 42      .013                                      00.00 1
R    4961.9502964.228 42      .013                                      15.00 1
R    4961.9602964.229 42      .013                                      15.00
R    4961.9702964.230 42      .013                                      15.00
R    5077.6862973.016 42      .013
JX   5077.6872973.017 60      .013    0.00          2973.020         00.0
R    5077.6882973.018 60      .013                                      15.00
R    5077.6892973.019 60      .013                                      15.00
R    5077.6902973.020 60      .013                                      15.00
R    5237.6902973.790 60      .013
SH   5237.6902973.790 60      .013               2980.540
CD  18  4   1    .000   1.500     .000  .000  .000   .00
CD  24  4   1    .000   2.000     .000  .000  .000   .00
CD  30  4   1    .000   2.500     .000  .000  .000   .00
CD  36  4   1    .000   3.000     .000  .000  .000   .00
CD  42  4   1    .000   3.500     .000  .000  .000   .00
CD  48  4   1    .000   4.000     .000  .000  .000   .00
CD  54  4   1    .000   4.500     .000  .000  .000   .00
CD  60  4   1    .000   5.000     .000  .000  .000   .00
CD  66  4   1    .000   5.500     .000  .000  .000   .00
CD  72  4   1    .000   6.000     .000  .000  .000   .00
CD   1  3   0    .000   5.000    7.000  .000  .000   .00
Q           157.000   .0
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FILE: UIRM1UP.WSW W S P G W - EDIT LISTING - Version 14.10 Date: 3- 9-2020 Time:11:11:25

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

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	18	4	1		1.500														
CD	24	4	1		2.000														
CD	30	4	1		2.500														
CD	36	4	1		3.000														
CD	42	4	1		3.500														
CD	48	4	1		4.000														
CD	54	4	1		4.500														
CD	60	4	1		5.000														
CD	66	4	1		5.500														
CD	72	4	1		6.000														
CD	1	3	0	.000	5.000	7.000	.000	.000	.00										

W S P G W PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

HEADING LINE NO 2 IS -

BY OLYMPIA COMPANIES

HEADING LINE NO 3 IS -

IRON MOUNTAIN MAIN STORM DRAIN ALIGNMENT MODEL "UIRM1" (ULTIMATE CONDITION

W S P G W PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	940.690	2824.890	1	2835.800

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	951.690	2825.590	1	.013	.000	.000	.000	0

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1020.930	2830.160	1	.013	50.912	77.922	.000	0

ELEMENT NO 4 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1034.930	2830.230	1	0	0	.013	.000	.000	2830.230	.000	.000	.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 5 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1117.780	2830.630	1	24	18	.013	8.000	8.000	2830.640	2834.140	45.000	45.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 6 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1129.790	2830.640	1	30	0	.013	50.000	.000	2834.480	.000	45.000	.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 7 IS A REACH * * *

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                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           1233.340 2832.390    1              .013                         .000     .000      .000     0
ELEMENT NO   8 IS A TRANSITION        *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS   ANGLE
                           1241.340 2832.600   66              .013                         .000     .000
                                                W S P G W                                                    PAGE NO   3
                      WATER SURFACE PROFILE - ELEMENT CARD LISTING
ELEMENT NO   9 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           1435.260 2833.780   66              .013                         .000     .000      .000     0
ELEMENT NO  10 IS A JUNCTION          *         *     *     *              *                  *                *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           1435.260 2834.280   60     0     0   .013      .000      .000  2833.870      .000    .000     .000
                                                                                          RADIUS    ANGLE
                                                                                           .000     .000
ELEMENT NO  11 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           1773.920 2847.180   60              .013                         .000     .000     8.000     1
ELEMENT NO  12 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           2113.010 2860.300   60              .013                         .000     .000      .000     1
ELEMENT NO  13 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           2313.010 2868.300   60              .013                         .000     .000      .000     1
ELEMENT NO  14 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           2524.640 2876.270   60              .013                         .000     .000      .000     1
ELEMENT NO  15 IS A JUNCTION          *         *     *     *              *                  *                *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           2524.640 2876.770   54    18    36   .013     6.000    54.000  2879.770  2878.270  45.000   45.000
                                                                                          RADIUS    ANGLE
                                                                                           .000     .000
ELEMENT NO  16 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           2924.640 2892.750   54              .013                         .000     .000      .000     1
ELEMENT NO  17 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           3184.640 2903.150   54              .013                         .000     .000      .000     1
ELEMENT NO  18 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           3468.170 2914.350   54              .013                         .000     .000      .000     1
                                                W S P G W                                                    PAGE NO   4
                      WATER SURFACE PROFILE - ELEMENT CARD LISTING
ELEMENT NO  19 IS A REACH             *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           3761.670 2920.880   54              .013                         .000     .000      .000     1
ELEMENT NO  20 IS A JUNCTION          *         *     *     *              *                  *                *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           3761.670 2921.880   42    48     0   .013   127.000      .000  2921.880      .000  44.000     .000
                                                                                          RADIUS    ANGLE
                                                                                           .000     .000
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 ELEMENT NO  21 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               3855.400 2925.640   42              .013                           .000     .000      .000     1
 ELEMENT NO  22 IS A JUNCTION         *         *     *     *               *                      *                *
                    U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                               3855.400 2925.640   42    18    18   .013     8.000     8.000  2927.640 2927.640  45.000   45.000
                                                                                              RADIUS    ANGLE
                                                                                                .000     .000
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
 ELEMENT NO  23 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               4250.980 2932.490   42              .013                           .000     .000      .000     1
 ELEMENT NO  24 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               4515.400 2937.070   42              .013                           .000     .000      .000     1
 ELEMENT NO  25 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               4630.980 2939.070   42              .013                           .000     .000      .000     1
 ELEMENT NO  26 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               4961.950 2964.228   42              .013                           .000     .000    15.000     1
 ELEMENT NO  27 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               4961.960 2964.229   42              .013                           .000     .000    15.000     0
                                                W S P G W                                                          PAGE NO   5
                          WATER SURFACE PROFILE - ELEMENT CARD LISTING
 ELEMENT NO  28 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               4961.970 2964.230   42              .013                           .000     .000    15.000     0
 ELEMENT NO  29 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               5077.686 2973.016   42              .013                           .000     .000      .000     0
 ELEMENT NO  30 IS A JUNCTION         *         *     *     *               *                      *                *
                    U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                               5077.687 2973.017   60     0     0   .013      .000      .000  2973.020      .000    .000     .000
                                                                                              RADIUS    ANGLE
                                                                                                .000     .000
 ELEMENT NO  31 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               5077.688 2973.018   60              .013                           .000     .000    15.000     0
 ELEMENT NO  32 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               5077.689 2973.019   60              .013                           .000     .000    15.000     0
 ELEMENT NO  33 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               5077.690 2973.020   60              .013                           .000     .000    15.000     0
 ELEMENT NO  34 IS A REACH            *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               5237.690 2973.790   60              .013                           .000     .000      .000     0
 ELEMENT NO  35 IS A SYSTEM HEADWORKS                 *                    *
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U/S DATA	STATION	INVERT	SECT	W S ELEV
	5237.690	2973.790	60	2980.540

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 3- 9-2020 Time:11:11:29

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
IRON MOUNTAIN MAIN STORM DRAIN ALIGNMENT MODEL "UIRM1" (ULTIMATE CONDI

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
940.690	2824.890	10.910	2835.800	426.00	12.17	2.30	2838.10	.00	4.86	7.00	5.000	7.000	.00	0 .0
11.000	.0637					.0069	.08	10.91	.96	1.86	.013	.00	.00	BOX
951.690	2825.590	10.285	2835.875	426.00	12.17	2.30	2838.18	.00	4.86	7.00	5.000	7.000	.00	0 .0
69.240	.0660					.0069	.47	.00	.96	1.83	.013	.00	.00	BOX
1020.930	2830.160	6.618	2836.778	426.00	12.17	2.30	2839.08	.00	4.86	7.00	5.000	7.000	.00	0 .0
JUNCT STR	.0050					.0069	.10	.00	.96		.013	.00	.00	BOX
1034.930	2830.230	6.644	2836.874	426.00	12.17	2.30	2839.17	.00	4.86	7.00	5.000	7.000	.00	0 .0
JUNCT STR	.0048					.0064	.53	6.64	.96		.013	.00	.00	BOX
1117.780	2830.630	7.095	2837.725	410.00	11.71	2.13	2839.86	.00	4.74	7.00	5.000	7.000	.00	0 .0
JUNCT STR	.0008					.0049	.06	7.10	.92		.013	.00	.00	BOX
1129.790	2830.640	7.809	2838.449	360.00	10.29	1.64	2840.09	.00	4.35	7.00	5.000	7.000	.00	0 .0
55.545	.0169					.0049	.27	7.81	.81	2.64	.013	.00	.00	BOX
1185.335	2831.579	7.142	2838.720	360.00	10.29	1.64	2840.36	.00	4.35	7.00	5.000	7.000	.00	0 .0
HYDRAULIC JUMP														
1185.335	2831.579	2.207	2833.786	360.00	23.30	8.43	2842.22	.00	4.35	7.00	5.000	7.000	.00	0 .0
48.005	.0169					.0293	1.41	2.21	2.76	2.64	.013	.00	.00	BOX
1233.340	2832.390	2.126	2834.516	360.00	24.19	9.09	2843.60	.00	4.35	7.00	5.000	7.000	.00	0 .0
TRANS STR	.0263					.0259	.21	2.13	2.92		.013	.00	.00	BOX

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
IRON MOUNTAIN MAIN STORM DRAIN ALIGNMENT MODEL "UIRM1" (ULTIMATE CONDI

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1241.340	2832.600	3.517	2836.117	360.00	22.44	7.82	2843.94	.00	5.06	5.28	5.500	.000	.00	1 .0
13.729	.0061					.0215	.30	3.52	2.27	5.50	.013	.00	.00	PIPE
1255.069	2832.684	3.468	2836.152	360.00	22.81	8.08	2844.23	.00	5.06	5.31	5.500	.000	.00	1 .0
38.840	.0061					.0234	.91	3.47	2.33	5.50	.013	.00	.00	PIPE
1293.909	2832.920	3.330	2836.250	360.00	23.93	8.89	2845.14	.00	5.06	5.38	5.500	.000	.00	1 .0
37.415	.0061					.0264	.99	3.33	2.52	5.50	.013	.00	.00	PIPE
1331.323	2833.148	3.201	2836.348	360.00	25.09	9.78	2846.13	.00	5.06	5.43	5.500	.000	.00	1 .0
36.010	.0061					.0298	1.07	3.20	2.72	5.50	.013	.00	.00	PIPE
1367.333	2833.367	3.078	2836.445	360.00	26.32	10.75	2847.20	.00	5.06	5.46	5.500	.000	.00	1 .0
34.631	.0061					.0338	1.17	3.08	2.93	5.50	.013	.00	.00	PIPE
1401.964	2833.577	2.962	2836.539	360.00	27.60	11.83	2848.37	.00	5.06	5.48	5.500	.000	.00	1 .0
33.296	.0061					.0383	1.28	2.96	3.15	5.50	.013	.00	.00	PIPE
1435.260	2833.780	2.851	2836.631	360.00	28.95	13.01	2849.64	.00	5.06	5.50	5.500	.000	.00	1 .0
JUNCT STR	.0000					.0394	.00	2.85	3.39		.013	.00	.00	PIPE
1435.260	2834.280	3.105	2837.385	360.00	28.10	12.26	2849.64	.00	4.83	4.85	5.000	.000	.00	1 .0
338.660	.0381					.0383	12.98	3.11	3.05	3.11	.013	.00	.00	PIPE
1773.920	2847.180	3.096	2850.276	360.00	28.19	12.34	2862.62	.00	4.83	4.86	5.000	.000	.00	1 .0
339.090	.0387					.0379	12.85	3.10	3.06	3.09	.013	.00	.00	PIPE

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
2113.010	2860.300	3.128	2863.428	360.00	27.85	12.05	2875.47	.00	4.83	4.84	5.000	.000	.00	1 .0
200.000	.0400					.0352	7.05	3.13	3.00	3.06	.013	.00	.00	PIPE
2313.010	2868.300	3.258	2871.558	360.00	26.57	10.96	2882.52	.00	4.83	4.76	5.000	.000	.00	1 .0
133.307	.0377					.0314	4.18	3.26	2.78	3.12	.013	.00	.00	PIPE
2446.317	2873.320	3.394	2876.715	360.00	25.37	9.99	2886.71	.00	4.83	4.67	5.000	.000	.00	1 .0
78.323	.0377					.0280	2.19	3.39	2.56	3.12	.013	.00	.00	PIPE
2524.640	2876.270	3.545	2879.814	360.00	24.19	9.08	2888.90	.00	4.83	4.54	5.000	.000	.00	1 .0
JUNCT STR	.0000					.0332	.00	3.54	2.35		.013	.00	.00	PIPE
2524.640	2876.770	2.944	2879.714	300.00	27.21	11.50	2891.21	.00	4.39	4.28	4.500	.000	.00	1 .0
400.000	.0399					.0393	15.73	2.94	2.99	2.94	.013	.00	.00	PIPE
2924.640	2892.750	2.976	2895.726	300.00	26.88	11.22	2906.95	.00	4.39	4.26	4.500	.000	.00	1 .0
260.000	.0400					.0367	9.54	2.98	2.93	2.94	.013	.00	.00	PIPE
3184.640	2903.150	3.100	2906.250	300.00	25.67	10.24	2916.49	.00	4.39	4.17	4.500	.000	.00	1 .0
94.014	.0395					.0333	3.13	3.10	2.70	2.96	.013	.00	.00	PIPE
3278.653	2906.864	3.200	2910.064	300.00	24.80	9.55	2919.61	.00	4.39	4.08	4.500	.000	.00	1 .0
77.455	.0395					.0302	2.34	3.20	2.54	2.96	.013	.00	.00	PIPE
3356.108	2909.923	3.348	2913.271	300.00	23.64	8.68	2921.95	.00	4.39	3.93	4.500	.000	.00	1 .0
50.574	.0395					.0271	1.37	3.35	2.32	2.96	.013	.00	.00	PIPE

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
3406.682	2911.921	3.509	2915.430	300.00	22.54	7.89	2923.32	.00	4.39	3.73	4.500	.000	.00	1 .0
35.690	.0395					.0245	.87	3.51	2.10	2.96	.013	.00	.00	PIPE
3442.372	2913.331	3.690	2917.021	300.00	21.49	7.17	2924.20	.00	4.39	3.46	4.500	.000	.00	1 .0
25.798	.0395					.0223	.58	3.69	1.89	2.96	.013	.00	.00	PIPE
3468.170	2914.350	3.898	2918.248	300.00	20.49	6.52	2924.77	.00	4.39	3.06	4.500	.000	.00	1 .0
163.185	.0222					.0209	3.42	3.90	1.65	3.79	.013	.00	.00	PIPE
3631.354	2917.981	4.044	2922.025	300.00	19.92	6.16	2928.19	.00	4.39	2.72	4.500	.000	.00	1 .0
130.315	.0222					.0206	2.68	4.04	1.49	3.79	.013	.00	.00	PIPE
3761.670	2920.880	4.387	2925.267	300.00	18.99	5.60	2930.87	.00	4.39	1.41	4.500	.000	.00	1 .0
JUNCT STR	.0000					.0251	.00	4.39	1.00		.013	.00	.00	PIPE
3761.670	2921.880	7.451	2929.330	173.00	17.98	5.02	2934.35	.00	3.44	.00	3.500	.000	.00	1 .0
93.730	.0401					.0296	2.77	7.45	.00	2.50	.013	.00	.00	PIPE
3855.400	2925.640	6.713	2932.353	173.00	17.98	5.02	2937.37	.00	3.44	.00	3.500	.000	.00	1 .0
JUNCT STR	.0000					.0270	.00	6.71	.00		.013	.00	.00	PIPE
3855.400	2925.640	8.319	2933.959	157.00	16.32	4.13	2938.09	.00	3.41	.00	3.500	.000	.00	1 .0
395.580	.0173					.0244	9.63	8.32	.00	3.50	.013	.00	.00	PIPE
4250.980	2932.490	11.308	2943.798	157.00	16.32	4.13	2947.93	.00	3.41	.00	3.500	.000	.00	1 .0
264.420	.0173					.0244	6.44	11.31	.00	3.50	.013	.00	.00	PIPE

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 3- 9-2020 Time:11:11:29

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

BY OLYMPIA COMPANIES

IRON MOUNTAIN MAIN STORM DRAIN ALIGNMENT MODEL "UIRM1" (ULTIMATE CONDI

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

4515.400	2937.070	13.374	2950.444	157.00	16.32	4.13	2954.58	.00	3.41	.00	3.500	.000	.00	1 .0
115.580	.0173					.0244	2.81	13.37	.00	3.50	.013	.00	.00	PIPE
4630.980	2939.070	14.395	2953.465	157.00	16.32	4.13	2957.60	.00	3.41	.00	3.500	.000	.00	1 .0
116.302	.0760					.0244	2.83	14.40	.00	1.88	.013	.00	.00	PIPE
4747.282	2947.910	8.569	2956.479	157.00	16.32	4.13	2960.61	.00	3.41	.00	3.500	.000	.00	1 .0
HYDRAULIC JUMP														
4747.282	2947.910	1.926	2949.836	157.00	28.94	13.01	2962.84	.00	3.41	3.48	3.500	.000	.00	1 .0
108.231	.0760					.0676	7.31	1.93	4.09	1.88	.013	.00	.00	PIPE
4855.513	2956.137	1.985	2958.123	157.00	27.88	12.07	2970.19	.00	3.41	3.47	3.500	.000	.00	1 .0
65.784	.0760					.0605	3.98	1.99	3.85	1.88	.013	.00	.00	PIPE
4921.296	2961.138	2.065	2963.203	157.00	26.58	10.97	2974.17	.00	3.41	3.44	3.500	.000	.00	1 .0
40.654	.0760					.0536	2.18	2.06	3.58	1.88	.013	.00	.00	PIPE
4961.970	2964.230	2.149	2966.379	157.00	25.34	9.97	2976.35	.00	3.41	3.41	3.500	.000	.00	1 .0
2.503	.0759					.0501	.13	2.15	3.31	1.89	.013	.00	.00	PIPE
4964.473	2964.420	2.156	2966.576	157.00	25.25	9.90	2976.48	.00	3.41	3.40	3.500	.000	.00	1 .0
28.021	.0759					.0470	1.32	2.16	3.29	1.89	.013	.00	.00	PIPE
4992.495	2966.548	2.245	2968.793	157.00	24.08	9.00	2977.79	.00	3.41	3.36	3.500	.000	.00	1 .0
21.126	.0759					.0417	.88	2.25	3.04	1.89	.013	.00	.00	PIPE

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 3- 9-2020 Time:11:11:29

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
IRON MOUNTAIN MAIN STORM DRAIN ALIGNMENT MODEL "UIRM1" (ULTIMATE CONDI

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
5013.621	2968.152	2.341	2970.493	157.00	22.96	8.18	2978.68	.00	3.41	3.29	3.500	.000	.00	1 .0

16.526	.0759					.0371	.61	2.34	2.81	1.89	.013	.00	.00	PIPE					
5030.147	2969.407	2.444	2971.850	157.00	21.89	7.44	2979.29	.00	3.41	3.21	3.500	.000	.00	1	.0				
13.209	.0759					.0331	.44	2.44	2.58	1.89	.013	.00	.00	PIPE					
5043.356	2970.410	2.554	2972.964	157.00	20.87	6.76	2979.73	.00	3.41	3.11	3.500	.000	.00	1	.0				
10.676	.0759					.0297	.32	2.55	2.36	1.89	.013	.00	.00	PIPE					
5054.033	2971.220	2.675	2973.895	157.00	19.90	6.15	2980.04	.00	3.41	2.97	3.500	.000	.00	1	.0				
8.635	.0759					.0267	.23	2.68	2.15	1.89	.013	.00	.00	PIPE					
5062.668	2971.876	2.809	2974.685	157.00	18.97	5.59	2980.27	.00	3.41	2.79	3.500	.000	.00	1	.0				
6.892	.0759					.0242	.17	2.81	1.94	1.89	.013	.00	.00	PIPE					
5069.560	2972.399	2.960	2975.360	157.00	18.09	5.08	2980.44	.00	3.41	2.53	3.500	.000	.00	1	.0				
5.229	.0759					.0223	.12	2.96	1.72	1.89	.013	.00	.00	PIPE					
5074.789	2972.796	3.142	2975.938	157.00	17.25	4.62	2980.56	.00	3.41	2.12	3.500	.000	.00	1	.0				
2.897	.0759					.0215	.06	3.14	1.47	1.89	.013	.00	.00	PIPE					
5077.686	2973.016	3.405	2976.421	157.00	16.44	4.20	2980.62	.00	3.41	1.14	3.500	.000	.00	1	.0				
JUNCT STR	1.0000					.0126	.00	3.41	1.00		.013	.00	.00	PIPE					
5077.687	2973.017	6.609	2979.626	157.00	8.00	.99	2980.62	.00	3.59	.00	5.000	.000	.00	1	.0				
5077.688	2973.018	6.657	2979.675	157.00	8.00	.99	2980.67	.00	3.59	.00	5.000	.000	.00	1	.0				
5077.689	2973.019	6.705	2979.724	157.00	8.00	.99	2980.72	.00	3.59	.00	5.000	.000	.00	1	.0				
5077.690	2973.020	6.753	2979.773	157.00	8.00	.99	2980.77	.00	3.59	.00	5.000	.000	.00	1	.0				
160.000	.0048					.0036	.58	6.75	.00	3.60	.013	.00	.00	PIPE					

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 3- 9-2020 Time:11:11:29

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

BY OLYMPIA COMPANIES

IRON MOUNTAIN MAIN STORM DRAIN ALIGNMENT MODEL "UIRM1" (ULTIMATE CONDI

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	
5237.690	2973.790	6.565	2980.355	157.00	8.00	.99	2981.35	.00	3.59	.00	5.000	.000	.00	1 .0

Skye Canyon Park Drive

Hydraulic Analysis

Ultimate Condition WSPG Summary

Lateral to Mainline in Skye Canyon Park along Southern Boundary of Project Site

WSPG Station	Equivalent Roadway Station	Improvement Plan Sheet	Storm Drain Dimension	Invert Elevation (ft)	Q_{100} (cfs)	WSE (ft)	Velocity (ft/s)	FG Elevation	HGL Check[1]
1472.68	65+21.82	PP-05	18" RCP	2852.19	15.20	2852.95	17.02	2868.50	OK
1672.68	63+21.82	PP-05	18" RCP	2868.47	15.20	2869.36	13.85	2878.00	OK
2021.58	59+72.92	PP-04	18" RCP	2885.03	15.20	2886.44	8.82	2894.50	OK
2021.58	59+72.92	PP-04	18" RCP	2885.04	7.20	2888.26	4.07	2894.50	OK
2376.48	56+18.72	PP-03	18" RCP	2902.13	7.20	2902.74	10.77	2911.40	OK
2643.77	53+52.79	PP-03	18" RCP	2912.82	7.20	2913.56	8.34	2922.20	OK
2911.06	50+85.21	PP-03	18" RCP	2918.16	7.20	2919.20	5.51	2927.80	OK
2911.06	50+85.21	PP-03	18" RCP	2918.17	0.10	2918.29	1.59	2927.80	OK
2911.06	50+85.21	PP-03	18" RCP	2918.16	7.20	2919.20	5.51	2927.80	OK

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T1 SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
T2 BY OLYMPIA COMPANIES
T3 LATERAL TO SKYE CANYON PARK MAINLINE (ULTIMATE CONDITION)
SO   1472.6802852.190 18      .013                  2852.078
R    1672.6802868.470 18      .013                                                1
R    2021.5802885.030 18      .013                                                1
JX   2021.5802885.040 18 18 18.013    4.0      4.0  2885.0402885.040 80.0-85.0
R    2376.4802902.130 18      .013                                      7.0   1
R    2643.7702912.820 18      .013                                          1
R    2911.0602918.160 18      .013                                          1
JX   2911.0602918.170 18    18.013    0.1      7.0             2918.170       -90.0
SH   2911.0602918.170 18      .013
CD  18  4   0   0.000   1.500    0.000 0.000 0.000  0.0000.00  0.00
Q            0.100
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FILE: SCPD-L.WSW                    W S P G W  - EDIT LISTING - Version 14.10          Date: 3-11-2020  Time: 8:12: 9
                                WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING                              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     18    4      0            1.500
                                          W S P G W                                                          PAGE NO   1
                          WATER SURFACE PROFILE - TITLE CARD LISTING
HEADING LINE NO 1 IS -
                            SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
HEADING LINE NO 2 IS -
                            BY OLYMPIA COMPANIES
HEADING LINE NO 3 IS -
                            LATERAL TO SKYE CANYON PARK MAINLINE (ULTIMATE CONDITION)
                                          W S P G W                                                          PAGE NO   2
                          WATER SURFACE PROFILE - ELEMENT CARD LISTING
 ELEMENT NO   1 IS A SYSTEM OUTLET      *         *     *
                      U/S DATA   STATION    INVERT  SECT                                    W S ELEV
                                 1472.680 2852.190   18                                     2852.000
 ELEMENT NO   2 IS A REACH             *         *     *
                      U/S DATA   STATION    INVERT  SECT              N                         RADIUS    ANGLE     ANG PT  MAN H
                                 1672.680 2868.470   18             .013                         .000     .000      .000     0
 ELEMENT NO   3 IS A REACH             *         *     *
                      U/S DATA   STATION    INVERT  SECT              N                         RADIUS    ANGLE     ANG PT  MAN H
                                 2021.580 2885.030   18             .013                         .000     .000      .000     0
 ELEMENT NO   4 IS A JUNCTION          *         *     *     *               *                    *                 *
                      U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                                 2021.580 2885.040   18    18    18   .013     4.000     4.000  2885.040 2885.040  80.000  -85.000
                                                                                              RADIUS    ANGLE
                                                                                                .000     .000
 ELEMENT NO   5 IS A REACH             *         *     *
                      U/S DATA   STATION    INVERT  SECT              N                         RADIUS    ANGLE     ANG PT  MAN H
                                 2376.480 2902.130   18             .013                         .000     .000     7.000     1
 ELEMENT NO   6 IS A REACH             *         *     *
                      U/S DATA   STATION    INVERT  SECT              N                         RADIUS    ANGLE     ANG PT  MAN H
                                 2643.770 2912.820   18             .013                         .000     .000      .000     0
 ELEMENT NO   7 IS A REACH             *         *     *
                      U/S DATA   STATION    INVERT  SECT              N                         RADIUS    ANGLE     ANG PT  MAN H
                                 2911.060 2918.160   18             .013                         .000     .000      .000     0
 ELEMENT NO   8 IS A JUNCTION          *         *     *     *               *                    *                 *
                      U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                                 2911.060 2918.170   18     0    18   .013      .100     7.000      .000 2918.000  17.000     .000
                                                                                              RADIUS    ANGLE
                                                                                                .000 -90.000
 ELEMENT NO   9 IS A SYSTEM HEADWORKS              *                    *
                      U/S DATA   STATION    INVERT  SECT                                        W S ELEV
                                 2911.060 2918.170   18                                         .000
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SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
LATERAL TO SKYE CANYON PARK MAINLINE (ULTIMATE CONDITION)

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
1472.680	2852.190	.756	2852.946	15.20	17.02	4.50	2857.44	.00	1.41	1.50	1.500	.000	.00	0 .0
34.912	.0814					.0814	2.84	.76	3.89	.76	.013	.00	.00	PIPE
1507.592	2855.032	.756	2855.788	15.20	17.02	4.50	2860.29	.00	1.41	1.50	1.500	.000	.00	0 .0
77.827	.0814					.0798	6.21	.76	3.89	.76	.013	.00	.00	PIPE
1585.418	2861.367	.765	2862.132	15.20	16.76	4.36	2866.50	.00	1.41	1.50	1.500	.000	.00	0 .0
46.615	.0814					.0735	3.43	.77	3.80	.76	.013	.00	.00	PIPE
1632.033	2865.161	.795	2865.956	15.20	15.98	3.97	2869.92	.00	1.41	1.50	1.500	.000	.00	0 .0
19.897	.0814					.0648	1.29	.80	3.53	.76	.013	.00	.00	PIPE
1651.930	2866.781	.826	2867.607	15.20	15.24	3.61	2871.21	.00	1.41	1.49	1.500	.000	.00	0 .0
12.207	.0814					.0572	.70	.83	3.28	.76	.013	.00	.00	PIPE
1664.137	2867.775	.859	2868.633	15.20	14.53	3.28	2871.91	.00	1.41	1.48	1.500	.000	.00	0 .0
8.543	.0814					.0506	.43	.86	3.05	.76	.013	.00	.00	PIPE
1672.680	2868.470	.893	2869.363	15.20	13.85	2.98	2872.34	.00	1.41	1.47	1.500	.000	.00	0 .0
163.394	.0475					.0475	7.76	.89	2.83	.89	.013	.00	.00	PIPE
1836.074	2876.225	.893	2877.119	15.20	13.85	2.98	2880.10	.00	1.41	1.47	1.500	.000	.00	0 .0
85.842	.0475					.0461	3.96	.89	2.83	.89	.013	.00	.00	PIPE
1921.916	2880.300	.910	2881.210	15.20	13.55	2.85	2884.06	.00	1.41	1.47	1.500	.000	.00	0 .0
42.633	.0475					.0423	1.80	.91	2.73	.89	.013	.00	.00	PIPE

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
LATERAL TO SKYE CANYON PARK MAINLINE (ULTIMATE CONDITION)

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
1964.548	2882.323	.948	2883.271	15.20	12.92	2.59	2885.86	.00	1.41	1.45	1.500	.000	.00	0 .0
19.596	.0475					.0375	.73	.95	2.52	.89	.013	.00	.00	PIPE
1984.144	2883.253	.988	2884.241	15.20	12.32	2.36	2886.60	.00	1.41	1.42	1.500	.000	.00	0 .0
12.114	.0475					.0333	.40	.99	2.33	.89	.013	.00	.00	PIPE
1996.258	2883.828	1.031	2884.859	15.20	11.74	2.14	2887.00	.00	1.41	1.39	1.500	.000	.00	0 .0
8.364	.0475					.0297	.25	1.03	2.15	.89	.013	.00	.00	PIPE
2004.623	2884.225	1.077	2885.302	15.20	11.20	1.95	2887.25	.00	1.41	1.35	1.500	.000	.00	0 .0
6.064	.0475					.0265	.16	1.08	1.97	.89	.013	.00	.00	PIPE
2010.687	2884.513	1.127	2885.640	15.20	10.67	1.77	2887.41	.00	1.41	1.30	1.500	.000	.00	0 .0
4.482	.0475					.0238	.11	1.13	1.80	.89	.013	.00	.00	PIPE
2015.169	2884.726	1.182	2885.907	15.20	10.18	1.61	2887.52	.00	1.41	1.23	1.500	.000	.00	0 .0
3.260	.0475					.0216	.07	1.18	1.63	.89	.013	.00	.00	PIPE
2018.429	2884.881	1.244	2886.124	15.20	9.70	1.46	2887.59	.00	1.41	1.13	1.500	.000	.00	0 .0
2.193	.0475					.0197	.04	1.24	1.45	.89	.013	.00	.00	PIPE
2020.622	2884.985	1.316	2886.300	15.20	9.25	1.33	2887.63	.00	1.41	.99	1.500	.000	.00	0 .0
.958	.0475					.0185	.02	1.32	1.26	.89	.013	.00	.00	PIPE
2021.580	2885.030	1.410	2886.440	15.20	8.82	1.21	2887.65	.00	1.41	.71	1.500	.000	.00	0 .0
JUNCT STR	.0000					.0114	.00	1.41	1.00		.013	.00	.00	PIPE

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT) / SF Ave	Water Elev / HF	Q (CFS) / SE Dpth	Vel (FPS) / Froude N	Vel Head / Norm Dp	Energy Grd.El. / "N"	Super Elev / X-Fall	Critical Depth / ZR	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip / Type Ch
2021.580	2885.040	3.221	2888.261	7.20	4.07	.26	2888.52	.00	1.04	.00	1.500	.000	.00	0 .0
33.341	.0482					.0047	.16	3.22	.00	.58	.013	.00	.00	PIPE
2054.921	2886.646	1.777	2888.423	7.20	4.07	.26	2888.68	.00	1.04	.00	1.500	.000	.00	0 .0
HYDRAULIC JUMP														
2054.921	2886.646	.576	2887.221	7.20	11.53	2.06	2889.28	.00	1.04	1.46	1.500	.000	.00	0 .0
235.832	.0482					.0482	11.36	.58	3.11	.58	.013	.00	.00	PIPE
2290.754	2898.002	.576	2898.577	7.20	11.53	2.06	2900.64	.00	1.04	1.46	1.500	.000	.00	0 .0
56.134	.0482					.0469	2.63	.58	3.11	.58	.013	.00	.00	PIPE
2346.888	2900.705	.584	2901.289	7.20	11.30	1.98	2903.27	.00	1.04	1.46	1.500	.000	.00	0 .0
29.592	.0482					.0428	1.27	.58	3.02	.58	.013	.00	.00	PIPE
2376.480	2902.130	.606	2902.736	7.20	10.77	1.80	2904.54	.00	1.04	1.47	1.500	.000	.00	0 .0
144.814	.0400					.0400	5.79	.61	2.82	.61	.013	.00	.00	PIPE
2521.294	2907.922	.606	2908.527	7.20	10.77	1.80	2910.33	.00	1.04	1.47	1.500	.000	.00	0 .0
57.777	.0400					.0390	2.26	.61	2.82	.61	.013	.00	.00	PIPE
2579.071	2910.233	.614	2910.846	7.20	10.58	1.74	2912.58	.00	1.04	1.48	1.500	.000	.00	0 .0
31.897	.0400					.0357	1.14	.61	2.75	.61	.013	.00	.00	PIPE
2610.969	2911.508	.636	2912.145	7.20	10.09	1.58	2913.73	.00	1.04	1.48	1.500	.000	.00	0 .0
13.986	.0400					.0314	.44	.64	2.56	.61	.013	.00	.00	PIPE

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 3-11-2020 Time: 8:12:13

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

BY OLYMPIA COMPANIES

LATERAL TO SKYE CANYON PARK MAINLINE (ULTIMATE CONDITION)

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
2624.954	2912.068	.660	2912.727	7.20	9.62	1.44	2914.16	.00	1.04	1.49	1.500	.000	.00	0 .0
8.552	.0400				.0276	.24	.66	2.39	.61	.013	.00	.00	PIPE	
2633.506	2912.410	.684	2913.094	7.20	9.17	1.31	2914.40	.00	1.04	1.49	1.500	.000	.00	0 .0
5.917	.0400				.0243	.14	.68	2.23	.61	.013	.00	.00	PIPE	
2639.423	2912.646	.710	2913.356	7.20	8.74	1.19	2914.54	.00	1.04	1.50	1.500	.000	.00	0 .0
4.347	.0400				.0213	.09	.71	2.08	.61	.013	.00	.00	PIPE	
2643.770	2912.820	.737	2913.557	7.20	8.34	1.08	2914.64	.00	1.04	1.50	1.500	.000	.00	0 .0
156.640	.0200				.0200	3.13	.74	1.94	.74	.013	.00	.00	PIPE	
2800.409	2915.949	.737	2916.686	7.20	8.34	1.08	2917.77	.00	1.04	1.50	1.500	.000	.00	0 .0
58.975	.0200				.0192	1.13	.74	1.94	.74	.013	.00	.00	PIPE	
2859.385	2917.128	.755	2917.883	7.20	8.08	1.01	2918.90	.00	1.04	1.50	1.500	.000	.00	0 .0
23.388	.0200				.0173	.40	.76	1.85	.74	.013	.00	.00	PIPE	
2882.773	2917.595	.784	2918.379	7.20	7.70	.92	2919.30	.00	1.04	1.50	1.500	.000	.00	0 .0
11.221	.0200				.0152	.17	.78	1.72	.74	.013	.00	.00	PIPE	
2893.994	2917.819	.815	2918.634	7.20	7.35	.84	2919.47	.00	1.04	1.49	1.500	.000	.00	0 .0
6.737	.0200				.0134	.09	.81	1.60	.74	.013	.00	.00	PIPE	
2900.731	2917.954	.847	2918.800	7.20	7.00	.76	2919.56	.00	1.04	1.49	1.500	.000	.00	0 .0
4.370	.0200				.0119	.05	.85	1.48	.74	.013	.00	.00	PIPE	

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	

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|         |         |         |         |         |         |         |         |         |         |         |         |         |
2905.101  2918.041     .880  2918.921     7.20    6.68     .69  2919.61     .00    1.04     1.48    1.500     .000   .00   0   .0
      -|-       -|-      -|-       -|-       -|-     -|-     -|-       -|-     -|-      -|-      -|-      -|-     -|-     -|-     |-
   2.863    .0200                                          .0105      .03      .88    1.38     .74    .013       .00   .00  PIPE
|         |         |         |         |         |         |         |         |         |         |         |         |         |
2907.964  2918.098     .916  2919.014     7.20    6.37     .63  2919.64     .00    1.04     1.46    1.500     .000   .00   0   .0
      -|-       -|-      -|-       -|-       -|-     -|-     -|-       -|-     -|-      -|-      -|-      -|-     -|-     -|-     |-
   1.799    .0200                                          .0093      .02      .92    1.28     .74    .013       .00   .00  PIPE
|         |         |         |         |         |         |         |         |         |         |         |         |         |
2909.763  2918.134     .954  2919.088     7.20    6.07     .57  2919.66     .00    1.04     1.44    1.500     .000   .00   0   .0
      -|-       -|-      -|-       -|-       -|-     -|-     -|-       -|-     -|-      -|-      -|-      -|-     -|-     -|-     |-
    .982    .0200                                          .0082      .01      .95    1.18     .74    .013       .00   .00  PIPE
|         |         |         |         |         |         |         |         |         |         |         |         |         |
2910.745  2918.154     .995  2919.148     7.20    5.79     .52  2919.67     .00    1.04     1.42    1.500     .000   .00   0   .0
      -|-       -|-      -|-       -|-       -|-     -|-     -|-       -|-     -|-      -|-      -|-      -|-     -|-     -|-     |-
    .315    .0200                                          .0073      .00      .99    1.09     .74    .013       .00   .00  PIPE
|         |         |         |         |         |         |         |         |         |         |         |         |         |
2911.060  2918.160    1.039  2919.199     7.20    5.51     .47  2919.67     .00    1.04     1.38    1.500     .000   .00   0   .0
      -|-       -|-      -|-       -|-       -|-     -|-     -|-       -|-     -|-      -|-      -|-      -|-     -|-     -|-     |-
JUNCT STR   .0000                                                                  1.04    1.00            .013      .00   .00  PIPE
                    -------------------- WARNING - Junction Analysis - Large Lateral Flow(s)------------------
|         |         |         |         |         |         |         |         |         |         |         |         |         |
2911.060  2918.170     .116  2918.286      .10    1.59     .04  2918.32     .00     .12      .80    1.500     .000   .00   0   .0
      -|-       -|-      -|-       -|-       -|-     -|-     -|-       -|-     -|-      -|-      -|-      -|-     -|-     -|-     |-
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Ultimate Condition WSPG Summary
Mainline in Skye Canyon Park Drive at Southern Boundary of Project Site

WSPG Station	Equivalent Roadway Station	Improvement Plan Sheet	Storm Drain Dimension	Invert Elevation (ft)	Q_{100} (cfs)	WSE (ft)	Velocity (ft/s)	FG Elevation	HGL Check[1]
1000.00	N/A	PP-06	60" RCP	2836.81	354.00	2840.45	23.09	2855.00	OK
1055.47	69+39.	PP-06	60" RCP	2838.47	354.00	2842.22	22.40	2855.60	OK
1090.90	69+03.57	PP-06	60" RCP	2839.48	354.00	2843.31	21.93	2856.00	OK
1090.90	69+03.57	PP-06	60" RCP	2839.49	341.00	2842.99	23.22	2856.00	OK
1395.73	65+98.77	PP-05	60" RCP	2846.84	341.00	2850.28	23.71	2865.00	OK
1472.68	65+21.82	PP-05	60" RCP	2848.68	341.00	2852.08	24.00	2868.45	OK
1472.68	65+21.82	PP-05	72" RCP	2847.69	326.00	2851.43	25.96	2868.45	OK
1759.96	62+67.49	PP-05	72" RCP	2857.31	326.00	2859.88	28.19	2872.00	OK
2034.21	N/A	PP-07	72" RCP	2872.07	326.00	2876.99	13.15	2883.00	OK
2034.21	N/A	PP-07	72" RCP	2872.07	326.00	2876.99	13.15	2883.00	OK

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T1 SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
T2 BY OLYMPIA COMPANIES
T3 SKYE CANYON PARK MAINLINE (ULTIMATE CONDITION)
SO   1000.0002836.810 60      .013                  2840.460
R    1055.4702838.470 60      .013                                                  1
R    1090.9002839.480 60      .013                                                  1
JX   1090.9002839.490 60 24 24.013    6.5      6.5  2842.4902842.490 90.0-84.0
R    1395.7302846.840 60      .013                                                  1
R    1472.6802848.670 60      .013                                      15.0   1
R    1472.6802848.680 60      .013                                      14.0   1
JX   1472.6802848.690 72 18   .013   15.0           2852.190         27.0
R    1759.9602857.310 72      .013                                                  1
R    2034.2102872.070 72      .013                                                  1
SH   2034.2102872.070 72      .013
CD  18  4   0   0.000   1.500    0.000 0.000 0.000  0.0000.00  0.00
CD  24  4   0   0.000   2.000    0.000 0.000 0.000  0.0000.00  0.00
CD  60  4   0   0.000   5.000    0.000 0.000 0.000  0.0000.00  0.00
CD  72  4   0   0.000   6.000    0.000 0.000 0.000  0.0000.00  0.00
Q           326.000
```

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WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

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	18	4	0		1.500														
CD	24	4	0		2.000														
CD	60	4	0		5.000														
CD	72	4	0		6.000														

W S P G W PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

HEADING LINE NO 2 IS -

BY OLYMPIA COMPANIES

HEADING LINE NO 3 IS -

SKYE CANYON PARK MAINLINE (ULTIMATE CONDITION)

W S P G W PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1000.000	2836.810	60	2840.000

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1055.470	2838.470	60	.013	.000	.000	.000	0

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1090.900	2839.480	60	.013	.000	.000	.000	0

ELEMENT NO 4 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1090.900	2839.490	60	24	24	.013	6.500	6.500	2842.490	2842.490	90.000	-84.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1395.730	2846.840	60	.013	.000	.000	.000	0

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1472.680	2848.670	60	.013	.000	.000	15.000	1

ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1472.680	2848.680	60	.013	.000	.000	14.000	1

ELEMENT NO 8 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1472.680	2848.690	72	18	0	.013	15.000	.000	2852.190	.000	27.000	.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 9 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1759.960	2857.310	72	.013	.000	.000	.000	0

ELEMENT NO 10 IS A REACH * * *

SCPD.EDT

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2034.210	2872.070	72	.013	.000	.000	.000	0

W S P G W

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 11 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	2034.210	2872.070	72	.000

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
SKYE CANYON PARK MAINLINE (ULTIMATE CONDITION)

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
L/Elem	Ch Slope													
1000.000	2836.810	3.644	2840.454	354.00	23.09	8.28	2848.73	.00	4.82	4.45	5.000	.000	.00	0 .0
55.470	.0299					.0230	1.28	3.64	2.19	3.34	.013	.00	.00	PIPE
1055.470	2838.470	3.752	2842.222	354.00	22.40	7.79	2850.01	.00	4.82	4.33	5.000	.000	.00	0 .0
35.430	.0285					.0217	.77	3.75	2.07	3.40	.013	.00	.00	PIPE
1090.900	2839.480	3.830	2843.311	354.00	21.93	7.47	2850.78	.00	4.82	4.23	5.000	.000	.00	0 .0
JUNCT STR	.0000					.0228	.00	3.83	1.98		.013	.00	.00	PIPE
1090.900	2839.490	3.502	2842.992	341.00	23.22	8.37	2851.36	.00	4.79	4.58	5.000	.000	.00	0 .0
304.830	.0241					.0251	7.64	3.50	2.28	3.52	.013	.00	.00	PIPE
1395.730	2846.840	3.436	2850.276	341.00	23.71	8.73	2859.00	.00	4.79	4.64	5.000	.000	.00	0 .0
76.950	.0238					.0261	2.01	3.44	2.37	3.54	.013	.00	.00	PIPE
1472.680	2848.680	3.398	2852.078	341.00	24.00	8.94	2861.02	.00	4.79	4.67	5.000	.000	.00	0 .0
JUNCT STR	.0000					.0295	.00	3.40	2.42		.013	.00	.00	PIPE
1472.680	2848.690	2.736	2851.426	326.00	25.96	10.47	2861.89	.00	4.92	5.98	6.000	.000	.00	0 .0
162.985	.0300					.0342	5.57	2.74	3.16	2.80	.013	.00	.00	PIPE
1635.665	2853.581	2.664	2856.245	326.00	26.88	11.22	2867.47	.00	4.92	5.96	6.000	.000	.00	0 .0
124.295	.0300					.0383	4.76	2.66	3.32	2.80	.013	.00	.00	PIPE
1759.960	2857.310	2.570	2859.880	326.00	28.19	12.34	2872.22	.00	4.92	5.94	6.000	.000	.00	0 .0
.159	.0538					.0407	.01	2.57	3.56	2.38	.013	.00	.00	PIPE

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
SKYE CANYON PARK MAINLINE (ULTIMATE CONDITION)

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
1760.119	2857.319	2.570	2859.888	326.00	28.19	12.34	2872.23	.00	4.92	5.94	6.000	.000	.00	0 .0
66.062	.0538					.0383	2.53	2.57	3.56	2.38	.013	.00	.00	PIPE
1826.181	2860.874	2.664	2863.538	326.00	26.88	11.22	2874.76	.00	4.92	5.96	6.000	.000	.00	0 .0
45.622	.0538					.0336	1.53	2.66	3.32	2.38	.013	.00	.00	PIPE
1871.803	2863.329	2.763	2866.093	326.00	25.63	10.20	2876.29	.00	4.92	5.98	6.000	.000	.00	0 .0
33.971	.0538					.0296	1.00	2.76	3.10	2.38	.013	.00	.00	PIPE
1905.774	2865.158	2.867	2868.025	326.00	24.44	9.27	2877.30	.00	4.92	5.99	6.000	.000	.00	0 .0
26.421	.0538					.0260	.69	2.87	2.89	2.38	.013	.00	.00	PIPE
1932.195	2866.580	2.976	2869.555	326.00	23.30	8.43	2877.99	.00	4.92	6.00	6.000	.000	.00	0 .0
21.115	.0538					.0229	.48	2.98	2.69	2.38	.013	.00	.00	PIPE
1953.310	2867.716	3.090	2870.806	326.00	22.22	7.66	2878.47	.00	4.92	6.00	6.000	.000	.00	0 .0
17.164	.0538					.0202	.35	3.09	2.50	2.38	.013	.00	.00	PIPE
1970.474	2868.640	3.209	2871.849	326.00	21.18	6.97	2878.82	.00	4.92	5.99	6.000	.000	.00	0 .0
14.097	.0538					.0178	.25	3.21	2.33	2.38	.013	.00	.00	PIPE
1984.572	2869.399	3.335	2872.733	326.00	20.20	6.33	2879.07	.00	4.92	5.96	6.000	.000	.00	0 .0
11.633	.0538					.0157	.18	3.33	2.16	2.38	.013	.00	.00	PIPE
1996.205	2870.025	3.467	2873.492	326.00	19.26	5.76	2879.25	.00	4.92	5.93	6.000	.000	.00	0 .0
9.605	.0538					.0139	.13	3.47	2.01	2.38	.013	.00	.00	PIPE

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
2005.810	2870.542	3.607	2874.149	326.00	18.36	5.23	2879.38	.00	4.92	5.88	6.000	.000	.00	0 .0
7.889	.0538					.0123	.10	3.61	1.86	2.38	.013	.00	.00	PIPE
2013.699	2870.966	3.756	2874.722	326.00	17.51	4.76	2879.48	.00	4.92	5.81	6.000	.000	.00	0 .0
6.406	.0538					.0109	.07	3.76	1.72	2.38	.013	.00	.00	PIPE
2020.105	2871.311	3.913	2875.224	326.00	16.69	4.33	2879.55	.00	4.92	5.72	6.000	.000	.00	0 .0
5.093	.0538					.0097	.05	3.91	1.59	2.38	.013	.00	.00	PIPE
2025.198	2871.585	4.082	2875.667	326.00	15.91	3.93	2879.60	.00	4.92	5.60	6.000	.000	.00	0 .0
3.904	.0538					.0086	.03	4.08	1.47	2.38	.013	.00	.00	PIPE
2029.101	2871.795	4.263	2876.058	326.00	15.17	3.58	2879.63	.00	4.92	5.44	6.000	.000	.00	0 .0
2.793	.0538					.0077	.02	4.26	1.35	2.38	.013	.00	.00	PIPE
2031.895	2871.946	4.459	2876.405	326.00	14.47	3.25	2879.65	.00	4.92	5.24	6.000	.000	.00	0 .0
1.715	.0538					.0069	.01	4.46	1.23	2.38	.013	.00	.00	PIPE
2033.610	2872.038	4.674	2876.712	326.00	13.79	2.95	2879.67	.00	4.92	4.98	6.000	.000	.00	0 .0
.600	.0538					.0062	.00	4.67	1.12	2.38	.013	.00	.00	PIPE
2034.210	2872.070	4.915	2876.985	326.00	13.15	2.69	2879.67	.00	4.92	4.62	6.000	.000	.00	0 .0

Ultimate Condition WSPG Summary Main Storm Drain Culvert Crossing in Egan Crest at Southern Boundary of Project Site									
WSPG Station	**Equivalent Roadway Station**	**Improvement Plan Sheet**	**Storm Drain Dimension**	**Invert Elevation (ft)**	**Q_{100} (cfs)**	**WSE (ft)**	**Velocity (ft/s)**	**FG Elevation**	**HGL Check[1]**
1000.00	N/A	LAT-02	54" RCP	2891.40	297.00	2894.59	24.64	2910.60	OK
1140.84	33+33.36	LAT-02	54" RCP	2897.79	297.00	2902.17	18.81	2913.60	OK
1140.84	33+33.36	LAT-02	54" RCP	2897.79	247.00	2905.28	15.53	2913.60	OK
1225.76	N/A	LAT-02	54" RCP	2902.27	247.00	2906.54	15.84	2914.40	OK
1225.76	N/A	LAT-02	54" RCP	2902.27	247.00	2906.54	15.84	2914.40	OK

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T1 SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
T2 BY OLYMPIA COMPANIES
T3 EGAN CREST MAIN STORM DRAIN CULVERT CROSSING ALIGNMENT MODEL "EGN1" (ULTIMATE CONDITION)
SO   1000.0002891.400 54      .013                2895.90
R    1140.8402897.780 54      .013                                    00.00 1
JX   1140.8402897.790 54 36   .013   50.00          2899.290         62.0
R    1225.7602902.270 54      .013
SH   1225.7602902.270 54      .013
CD  36  4   1    .000   3.000     .000  .000  .000   .00
CD  54  4   1    .000   4.500     .000  .000  .000   .00
Q           247.000   .0
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WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

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	36	4	1		3.000														
CD	54	4	1		4.500														

W S P G W PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C

HEADING LINE NO 2 IS -

BY OLYMPIA COMPANIES

HEADING LINE NO 3 IS -

EGAN CREST MAIN STORM DRAIN CULVERT CROSSING ALIGNMENT MODEL "EGN1" (ULTIM

W S P G W PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1000.000	2891.400	54	2895.900

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1140.840	2897.780	54	.013	.000	.000	.000	1

ELEMENT NO 3 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1140.840	2897.790	54	36	0	.013	50.000	.000	2899.290	.000	62.000	.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1225.760	2902.270	54	.013	.000	.000	.000	0

ELEMENT NO 5 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1225.760	2902.270	54	.000

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
EGAN CREST MAIN STORM DRAIN CULVERT CROSSING ALIGNMENT MODEL "EGN1" (U

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1000.000	2891.400	3.191	2894.591	297.00	24.63	9.42	2904.01	.00	4.38	4.09	4.500	.000	.00	1 .0
32.058	.0453					.0304	.97	3.19	2.53	2.80	.013	.00	.00	PIPE
1032.058	2892.852	3.285	2896.138	297.00	23.87	8.85	2904.99	.00	4.38	4.00	4.500	.000	.00	1 .0
36.981	.0453					.0278	1.03	3.29	2.38	2.80	.013	.00	.00	PIPE
1069.039	2894.528	3.441	2897.969	297.00	22.76	8.04	2906.01	.00	4.38	3.82	4.500	.000	.00	1 .0
27.529	.0453					.0250	.69	3.44	2.17	2.80	.013	.00	.00	PIPE
1096.568	2895.775	3.613	2899.387	297.00	21.70	7.31	2906.70	.00	4.38	3.58	4.500	.000	.00	1 .0
20.740	.0453					.0227	.47	3.61	1.96	2.80	.013	.00	.00	PIPE
1117.308	2896.714	3.808	2900.522	297.00	20.69	6.65	2907.17	.00	4.38	3.25	4.500	.000	.00	1 .0
15.177	.0453					.0209	.32	3.81	1.73	2.80	.013	.00	.00	PIPE
1132.485	2897.402	4.042	2901.443	297.00	19.73	6.04	2907.49	.00	4.38	2.72	4.500	.000	.00	1 .0
8.355	.0453					.0202	.17	4.04	1.48	2.80	.013	.00	.00	PIPE
1140.840	2897.780	4.382	2902.162	297.00	18.81	5.49	2907.66	.00	4.38	1.44	4.500	.000	.00	1 .0
JUNCT STR	.0000					.0180	.00	4.38	1.00		.013	.00	.00	PIPE
1140.840	2897.790	7.476	2905.266	247.00	15.53	3.75	2909.01	.00	4.27	.00	4.500	.000	.00	1 .0
65.288	.0528					.0158	1.03	7.48	.00	2.37	.013	.00	.00	PIPE
1206.128	2901.234	5.060	2906.294	247.00	15.53	3.75	2910.04	.00	4.27	.00	4.500	.000	.00	1 .0

HYDRAULIC JUMP

SKYE CANYON INFRASTRUCTURE - PHASE 3B, 3C
BY OLYMPIA COMPANIES
EGAN CREST MAIN STORM DRAIN CULVERT CROSSING ALIGNMENT MODEL "EGN1" (U

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
1206.128	2901.234	3.494	2904.729	247.00	18.64	5.39	2910.12	.00	4.27	3.75	4.500	.000	.00	1 .0
3.900	.0528					.0172	.07	3.49	1.75	2.37	.013	.00	.00	PIPE
1210.027	2901.440	3.564	2905.004	247.00	18.28	5.19	2910.19	.00	4.27	3.65	4.500	.000	.00	1 .0
7.735	.0528					.0161	.12	3.56	1.68	2.37	.013	.00	.00	PIPE
1217.762	2901.848	3.752	2905.600	247.00	17.43	4.72	2910.32	.00	4.27	3.35	4.500	.000	.00	1 .0
5.473	.0528					.0147	.08	3.75	1.49	2.37	.013	.00	.00	PIPE
1223.235	2902.137	3.973	2906.110	247.00	16.62	4.29	2910.40	.00	4.27	2.89	4.500	.000	.00	1 .0
2.525	.0528					.0139	.04	3.97	1.29	2.37	.013	.00	.00	PIPE
1225.760	2902.270	4.266	2906.536	247.00	15.84	3.90	2910.43	.00	4.27	2.00	4.500	.000	.00	1 .0

Skye Canyon Detention Basin 2
Grouted Riprap Ditch Calculation Summary

3/9/2020

Location	Q_{100} (cfs)	Slope (%)	Depth (ft)	Velocity (fps)	Riprap D50 (in)	Notes
Egan Crest Drive (included in Skye Canyon Park Drive plans)	297	6.0%	1.73	11.1	12	Partially grouted riprap specified due to high slope/velocity. Larger riprap is not recommended for partial grouting due to voids that are too large to retain the grout, and not enough contact area between stones to effectively glue them together.

Egan Crest Drive Culvert Downstream Ditch

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.040	
Channel Slope	0.06000	ft/ft
Left Side Slope	2.00	ft/ft (H:V)
Right Side Slope	2.00	ft/ft (H:V)
Bottom Width	12.00	ft
Discharge	297.00	ft^3/s

Results

Normal Depth	1.73	ft
Flow Area	26.68	ft^2
Wetted Perimeter	19.72	ft
Hydraulic Radius	1.35	ft
Top Width	18.91	ft
Critical Depth	2.33	ft
Critical Slope	0.02042	ft/ft
Velocity	11.13	ft/s
Velocity Head	1.93	ft
Specific Energy	3.65	ft
Froude Number	1.65	
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	1.73	ft
Critical Depth	2.33	ft
Channel Slope	0.06000	ft/ft

Egan Crest Drive Culvert Downstream Ditch

GVF Output Data

Critical Slope	0.02042	ft/ft

Matrix (Partially Grouted) Riprap Lab Flume Study

Jeffrey D. G. Marr, Principal Investigator
St. Anthony Falls Laboratory
University of Minnesota

April 2015

Research Project
Final Report 2015-15

Minnesota Department of Transportation

RESEARCH SERVICES & LIBRARY

Office of Transportation System Management

LRRB
LOCAL ROAD RESEARCH BOARD

V = characteristic average velocity in the contracted section (ft/s)

S_s = Specific gravity of rock riprap

g = gravitational acceleration ($32.2 ft/s^2$)

y = depth of flow in the contracted bridge opening (ft)

K = 0.89 for a spill-through abutment (1.02 for a vertical wall abutment)

For Froude Numbers greater than 0.8, the following equation is recommended:

$$\frac{D_{50}}{y} = \frac{K}{S_s - 1}\left[\frac{V^2}{gy}\right]^{0.14}$$

Where the parameters are as defined above, expect:

K = 0.61 for spill-through abutments (0.69 for vertical wall abutments)

The Design Guideline also includes recommendations for estimating the characteristic average velocity. This velocity depends on the set-back ratio of the abutment and the set-back length of the abutment. The set-back length of the abutment is defined as the distance from the ear edge of the main channel to the toe of the abutment. The set-back ratio can then be calculated by dividing the set-back length by the average channel flow depth.

The set-back ratio is then used to decide how to calculate the flow and area when using flow divided by area to calculate velocity. If the set-back ratio is less than five for the abutments, the entire contracted area should be considered. If the set-back ratio is greater than five for the abutments, the overbank section only should be considered. Additional details are given in the guidelines for scenarios when the set-back ratio for one abutment is greater than five and for the other abutment is less than five.

The recommended extent of rock riprap is also defined in the Design Guideline 8, including how far riprap should extend from the toe of the abutment, how far riprap should extend up the slope of the abutment, the thickness of the riprap, and the use of underlying filter material.

2.1.3 Characterizing Riprap Size, Shape, Angularity, and Percent Grout for Matrix Riprap

Design recommendations for the rock riprap, grout, and the filter material for matrix riprap at piers, were provided in the NCHRP Report 593. Although piers and abutments interact with the channel differently, optimum matrix riprap characteristics will likely be similar. Recommendations given in the report for piers provided a useful starting point for the abutment analysis.

Angular rock was preferred, which provides greater stability over rounded riprap. The suggested length to thickness ratio was less than or equal to 3.0. The standard gradations recommended for use for matrix riprap applications are: USCOE Class II, Class III, and Class IV, with d_{50} of 8.5 to 10.5, 11.5 to 14.0, and 14.5 to 17.5 inches, respectively. These approximately translate to MnDOT riprap Classes III, IV, and V, respectively. The NCRHP Report maintains that riprap gradations smaller than these classes have void spaces that are too small for the grout to penetrate. Riprap gradations larger than these classes do not have enough contact between the stones and void spaces are too large to retain the grout.

Portland cement-based grout is recommended with a mix based on design guidance from the Federal Waterway Engineering and Research Institute in Germany. The mix density should range from 120 to 140 lb/ft^3. Table 2.1 gives guidance on the recommended grout mix. Standard tests are recommended to check the rock and grout quality before use on a site.

Table 6.5 summarizes the runs completed along with the peak flow rates and their velocities. The maximum average flow velocities achieved in the steep flume were slightly above 15 fps. The matrix riprap with MnDOT grout specification did not fail with these high velocities regardless of the angularity of the rocks used in the matrix. When half of the recommended grout (by weight) was used, matrix ripraps failed at velocities about 8 to 9 fps.

Table 6.5. Summary of ten test runs and results.

Run Number	Rock Type	Grout Description	Maximum/Failure Flow Rate (cfs)	Depth (ft)	Maximum/Failure Flow Velocity (fps)	Shear Stress (lb/ft^2)
1	Angular	No Grout	0.2	0.02	6.7	0.2
2	Angular	MnDOT specification	10.4	0.45	15.4	2.6
3	Angular	MnDOT specification	10.8	0.46	15.7	2.7
4	Angular	1/2 Grout by weight	1.5	0.10	10.0	0.8
5	Angular	1/2 Grout by weight	1.2	0.09	9.0	0.8
6	River Rock	No Grout	0.3	0.03	6.7	0.3
7	River Rock	MnDOT specification	10.2	0.44	15.5	2.6
8	River Rock	MnDOT specification	10.6	0.46	15.4	2.7
9	River Rock	1/2 Grout by weight	1.5	0.10	10.0	0.8
10	River Rock	1/2 Grout by weight	1.2	0.09	8.9	0.8

APPENDIX D

Reference Material

- Master Land Use Plan Exhibit
- Master Drainage Study Excerpt

DRAFT 1/15/2018

LAND USE	NET ACRES	MAX DENSITY	AVERAGE DENSITY	OLD LUP NET ACRES	CHANGE
RESIDENTIAL "LOW"	394.12	15.00	5.19	324.66	69.46
RESIDENTIAL "MEDIUM-LOW"	316.71	15.00	6.19	312.14	4.57
RESIDENTIAL 'MEDIUM-LOW ATTACHED"	17.73	25.00	14.99	50.02	(32.29)
RESIDENTIAL "ACTIVE ADULT"	-	15.00	6.50	-	-
GENERAL COMMERCIAL	41.76			41.96	(0.20)
GAMING	40.54			39.87	0.67
	810.86			768.65	42.21
KYLE INTERCHANGE	2.75			4.69	(1.94)
SHEEP MTN. PARKWAY	26.50			26.50	-
FLOOD CONTROL					
PUBLIC FACILITY	42.61			56.79	(14.18)
PARK AND TRAIL PARCELS	29.20			28.80	0.40
ARROYO	11.76			21.83	(10.07)
OPEN SPACE	1.32			1.32	-
SCHOOLS	31.81			50.87	(19.06)
HUALAPAI SUBSTATION	-				
POWER EASEMENT	-				
ROADS	75.91			73.27	2.64
SUBTOTAL	221.86			264.07	(42.21)
TOTAL	1,032.72			1,032.72	(0.00)

KYLE CANYON ROAD
SR-157
IRON MOUNTAIN ROAD
OSSO BLANCA RD
US-95
DRAKE DRIVE
GRAND CANYON DRIVE
SHEEP MOUNTAIN PARKWAY
SKYE PARK DRIVE
SKYE VILLAGE ROAD
EGAN CREST DR
SHAUMBER ROAD
CANYON VIEW LANE
W SKYE CANYON PARK DR
EAGLE CANYON AVENUE
MOUNTAIN LANDING STREET
GRAND TETON DRIVE
TEE PEE LN
BRENT LANE
N SKYE CANYON PARK DR
RED ROCK NATIONAL CONSERVATION AREA
OFFICER IGOR SOLDO MEMORIAL PARK
EXISTING WILLIAM & MARY SCHERKENBACH ELEMENTARY SCHOOL
OFFICER ALYN BECK MEMORIAL PARK
EXISTING JAMES BILBRAY ELEMENTARY SCHOOL

4.09 GC 3.19 AC-N
NDOT GC 3.73 AC-N
4.04 GC 8.52 AC-N
4.5 GED 40.54 AC-N
5.12 PARK 1.92 AC-N
5.20 OPEN SPACE 1.32 AC-N
5.07 FLOOD CONTROL 16.14 AC-N
5.02 MIDDLE SCHOOL 19.98 AC-N
5.03 ML 20.59 AC-N
2.07 ML 22.87 AC-N
2.34 PF 1.15 AC-N
2.05 L 23.35 AC-N
2.03 ML 17.15 AC-N
2.01 MLA 12.77 AC-N
2.02 ML 18.57 AC-N
2.04 PARK 2.94 AC-N
5.14 ML 18.43 AC-N
5.01 L 18.94 AC-N
2.36 PARK 0.82 AC-N
2.32 L 23.10 AC-N
5.13 PARK 2.20 AC-N
ARROYO 3.25 AC-N
2.31 PARK 2.11 AC-N
5.09 ML 20.31 AC-N
2.10 ML 29.06 AC-N
2.09 ML 24.08 AC-N
2.08 ML 16.65 AC-N
2.37 GC 30.05 AC-N
2.06 L 21.99 AC-N
5.06 L 65.68 AC-N
5.10 ELEM SCHOOL 11.83 AC-N
2.11 ML 13.68 AC-N
2.12 ML 5.01 AC-N
2.57 AC-N ARROYO
2.13 PARK 13.25 AC-N
5.17 PF 6.49 AC-N
5.08 FLOOD CONTROL 14.13 AC-N
2.30 MLA 4.98 AC-N
ARROYO 4.82 AC-N
2.15 L 16.80 AC-N
2.14 L 12.25 AC-N
1.1 L 35.23 AC-N
1.2 L 37.93 AC-N
1.6 PARK 1.7 AC-N
2.16 L 14.92 AC-N
2.17 L 16.68 AC-N
2.23C PARK 2.13 AC-N
2.23A ML 12.27 AC-N
2.20 ML 28.38 AC-N
2.35 PF 5.48 AC-N
2.23B ML 15.92 AC-N
2.29 L 18.38 AC-N
2.27 ML 19.54 AC-N
1.3 L 38.87 AC-N
1.4 L 33.34 AC-N
1.5 PARK 0.47 AC-N
2.38 PF 0.37 AC-N
2.21B ML 15.48 AC-N
2.23C TRAIL 1.62 AC-N
2.21A ML 15.07 AC-N
2.28 ML 20.32 AC-N

LEGEND

- PROJECT BOUNDARY
- EASEMENT LINE (ESMT)
- EXISTING FRONTAGE ROAD EASEMENT NEV-043376, N-46063, CC-018234, CC-018191 & CC-018138
- EXISTING TRANSMISSION POLE
- RIGHT-OF-WAY LINE (BACK-OF-CURB)
- PARCEL PROPERTY LINE
- STREETSCAPE COMMON ELEMENT LINE
- NDOT RIGHT OF WAY AREA - PLANNED LAND USE OUTSIDE OF PROJECT BOUNDARY APPROXIMATELY - 17.18 ACRES
- PROPOSED STREET
- ARROYO
- PARK & TRAIL
- SCHOOL
- OPEN SPACE
- PF FLOOD CONTROL & PUBLIC FACILITY
- L RESIDENTIAL "LOW"
- ML RESIDENTIAL "MEDIUM-LOW"
- MLA RESIDENTIAL "MEDIUM-LOW ATTACHED"
- AA RESIDENTIAL "ACTIVE ADULT"
- GC GENERAL COMMERCIAL
- GED GAMING
- ★ 2.5 ACRES RESERVED FOR RTC TRANSIT CENTER
- AC-N NET ACRES
- AC-G GROSS ACRES

400 0 400 800
SCALE FEET

N

NOTE: AC -ACREAGES SHOWN ARE BASED ON RIGHTS-OF-WAY SHOWN. ADDITIONAL RIGHT-OF-WAY MAY BE NEEDED AT INTERSECTIONS OF MAJOR ROADWAYS.

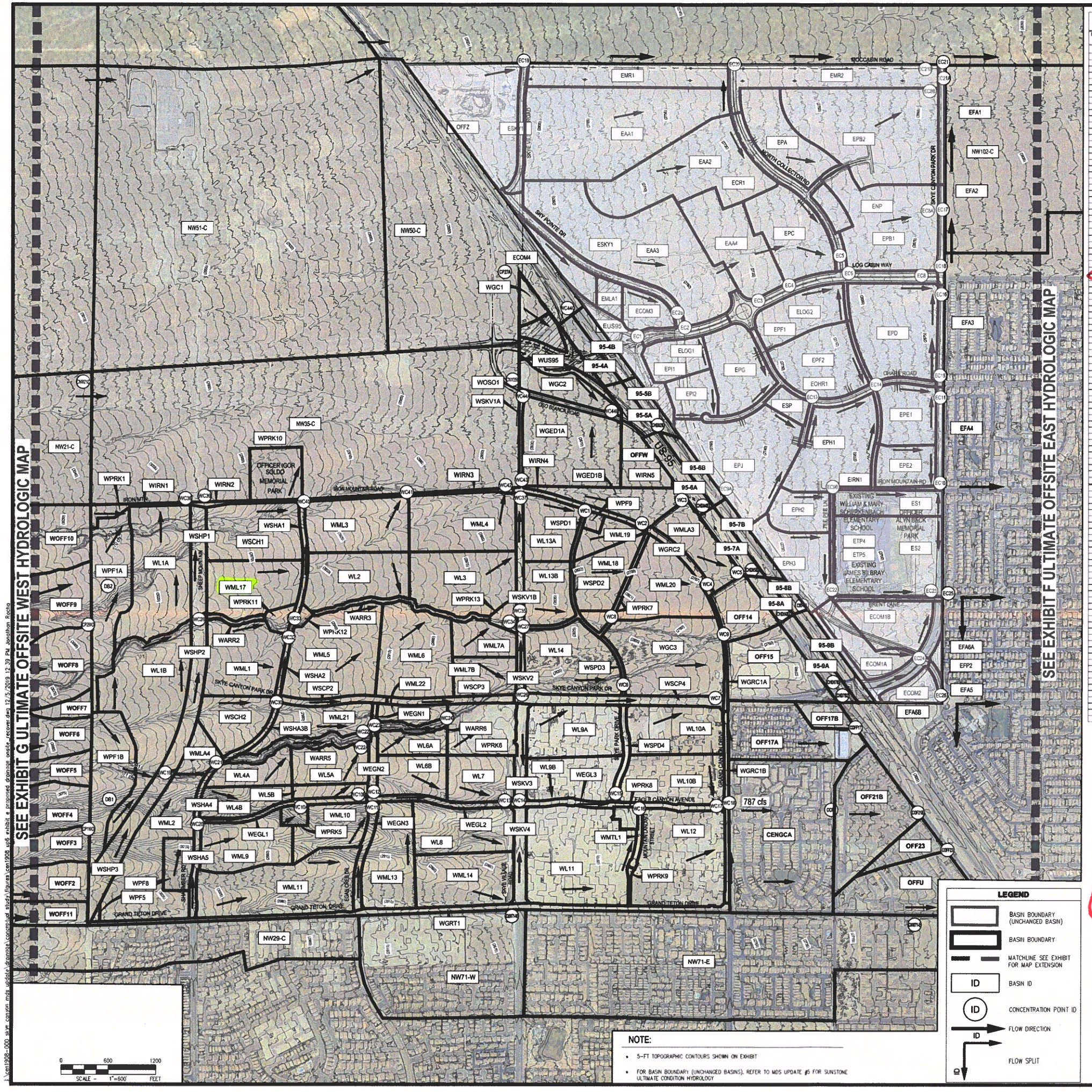
NOTE: STREET LANDSCAPING AC - ACREAGES ARE INCLUDED IN THE ADJACENT PARCELS

MASTER LAND USE PLAN

SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118

Olympia Companies LLC

SKYE CANYON


SEE EXHIBIT G ULTIMATE OFFSITE WEST HYDROLOGIC MAP
SEE EXHIBIT F ULTIMATE OFFSITE EAST HYDROLOGIC MAP
TOCCASIN ROAD
SKY POINTE DR
SKY CANYON DRIVE
NORTH COLLECTOR RD
LOG CABIN WAY
CRANE ROAD
IRON MOUNTAIN RD
SKY CANYON PARK DR
GRAND TETON DRIVE
GRAND CANYON DRIVE
OLD BRANCH ROAD
I-95
OFFICER IGOR SOLDO MEMORIAL PARK
EXISTING WILLIAM & MARY OVERFIELD ELEMENTARY SCHOOL
EXISTING BENJAMIN FRANKLIN ELEMENTARY SCHOOL
EXISTING JAMES W. BRAY ELEMENTARY SCHOOL
ALVIN BECK MEMORIAL PARK
787 cfs
CENGCA
NW51-C
NW50-C
NW35-C
NW21-C
NW29-C
NW71-E
NW71-W
NW102-C
NW157
EFA1
EFA2
EFA3
EFA4
EFA6A
EFA6B
EFP2
EFA5
OFF2
OFF14
OFF15
OFF17A
OFF17B
OFF21B
OFF23
OFFU
OFFW
WUS95
WGC1
WGC2
WGC3
WGED1A
WGED1B
WGRC1A
WGRC2
WGRT1
WEGN1
WEGN2
WEGN3
WEGL1
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WEGL3
WSKV1A
WSKV1B
WSKV2
WSKV3
WSKV4
WSPD1
WSPD2
WSPD3
WSCP1
WSCP2
WSCP3
WSCP4
WSHA1
WSHA2
WSHA3A
WSHA3B
WSHA4
WSHA5
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WSHP2
WSHP3
WSCH1
WSCH2
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WPRK8
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WPRK11
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EPJ
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ELOG2
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EMR2
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WC40

APPENDIX E

CD of Electronic Files

Westwood

5740 S. Arville St., Suite 216
Las Vegas, NV 89118

Main (702) 284-5300

westwoodps.com
(888) 937-5150

3/9/2020

Albert Sung, P.E.
City of Las Vegas
333 Rancho Drive (7th Floor)
Las Vegas, NV 89101

Re: Technical Drainage Study Update No. 2
Skye Canyon Phase 3B/3C Infrastructure

Albert:

This letter certifies that all items provided on the Update No. 2 to the Technical Drainage Study for Skye Canyon Phase 3B/3C Infrastructure submittal CD match the paper version bound into the study.

Please contact me if you have any questions.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES

Lant Leavitt, P.E.
Project Manager II

SKYE CANYON

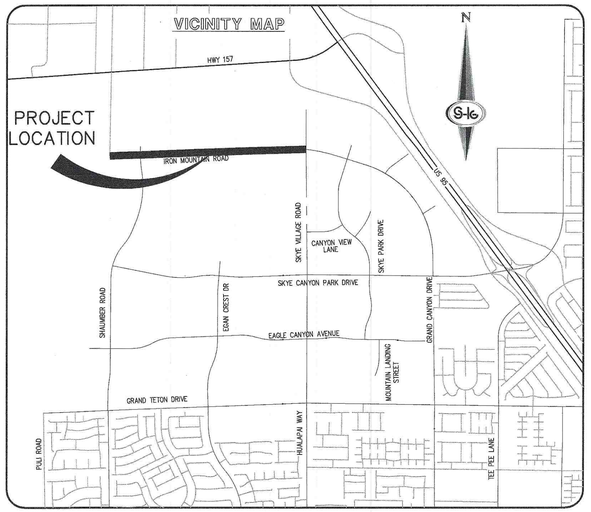
IMPROVEMENT PLANS

FOR

SKYE CANYON PHASE 3B, 3C
IRON MOUNTAIN ROAD

SHAUMBER RD TO SKYE VILLAGE RD

APN:126-12-501-004
12.6 AC



BENCHMARK

MONUMENT ID: USDA (1934) 19

U.S. DEPARTMENT OF AGRICULTURE BRASS DISC AT SOUTHWEST CORNER OF U.S. 95 AND KYLE CANYON ROAD

ELEVATION = 2817.61 FEET, 858.810 METERS
NAVD 88 DATUM

PER THE CITY OF LAS VEGAS BENCHMARK BOOK – 2008 ADJUSTMENT (UPDATED 05/24/2010)

BASIS OF BEARING

NORTH 89°16'30" WEST, BEING THE BEARING OF THE SOUTH LINE OF THE NORTHWEST QUARTER (NW1/4) OF SECTION 7, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE 147, PAGE 71 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

OWNER

SECTION 12, LLC
% OLYMPIA COMPANIES LLC
11411 SOUTHERN HIGHLANDS
PARKWAY, SUITE 300
LAS VEGAS, NV 89141

DEVELOPER

NINETY–FIVE MANAGEMENT LLC
% OLYMPIA COMPANIES LLC
11411 SOUTHERN HIGHLANDS
PARKWAY, SUITE 300
LAS VEGAS, NV 89141
PH (702) 220–6565
FX (702) 220–6566

ENGINEER

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5740 S. ARVILLE STREET #216
LAS VEGAS, NV 89118
(702) 284–5300

PROJECT PLAN APPROVAL IS CONTINGENT UPON THE APPROVAL AND CONSTRUCTION OF:

LVVWD PROJECT #126408
SKYE CANYON II PHASE 3B, 3C – SKYE CANYON PARK DRIVE
LVVWD PROJECT #126409
SKYE CANYON 3B, 3C – SHAUMBER ROAD







APPROVALS

CITY ENGINEER–ALLEN E. PAVELKA PE #9029 DATE

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

CITY OF LAS VEGAS DEPARTMENT OF PLANNING

THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE PLANNING DEPARTMENT. DATE

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
PROJECT NO. 126410 DATE:
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL
SHEETS: G–01 THRU G–03, GR–01, PP–01 THRU PP–08, UTL–01 THRU UTL–08, PRV–01 THRU PRV–06, & LAT–01

APPROVAL BY THE FIRE DEPARTMENT HAVING JURISDICTION IS REQUIRED PRIOR TO OBTAINING FINAL APPROVAL FROM THE LAS VEGAS VALLEY WATER DISTRICT.

LAS VEGAS FIRE AND RESCUE DATE

NV ENERGY DATE

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

CENTRAL TELEPHONE CO, DBA CENTURYLINK DATE

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

SOUTHWEST GAS CORPORATION DATE

COX COMMUNICATIONS LAS VEGAS, INC. DATE

DRY UTILITY SUPPLEMENTAL INDEX

SOUTHWEST GAS	
1	
2	
3	
4	
5	
6	
7	

INDEX OF DRAWINGS

SHT. NO.	DWG NO.	DESCRIPTION
1	G–01	COVER SHEET
2	G–02	GENERAL NOTES
3	G–03	ABBREVIATIONS, LEGEND, AND QUANTITIES
4	TY–01	ROADWAY SECTIONS
5	TY–02	ROADWAY SECTIONS
6	PP–01	CONSTRUCTION PLAN – "IM" 120+75 TO "IM" 117+00
7	PP–02	CONSTRUCTION PLAN – "IM" 117+00 TO "IM" 111+00
8	PP–03	CONSTRUCTION PLAN – "IM" 111+00 TO "IM" 105+50
9	PP–04	CONSTRUCTION PLAN – "IM" 105+50 TO "IM" 99+50
10	PP–05	CONSTRUCTION PLAN – "IM" 99+50 TO "IM" 93+50
11	PP–06	CONSTRUCTION PLAN – "IM" 93+50 TO "IM" 87+50
12	PP–07	CONSTRUCTION PLAN – "IM" 87+50 TO "IM" 81+75
13	PP–08	CONSTRUCTION PLAN – "IM" 81+75 TO "IM" 75+50
14	LAT–01	STORM DRAIN LATERALS
15	GR–01	GRADING PLAN
16	DTL–01	STORM DRAIN DETAILS
17	UTL–01	UTL PLAN & PROFILE – "IM" 111+00 TO "IM" 105+50
18	UTL–02	UTL PLAN & PROFILE – "IM" 105+50 TO "IM" 99+50
19	UTL–03	UTL PLAN & PROFILE – "IM" 99+50 TO "IM" 93+50
20	UTL–04	UTL PLAN & PROFILE – "IM" 93+50 TO "IM" 87+50
21	UTL–05	UTL PLAN & PROFILE – "IM" 87+50 TO "IM" 81+75
22	UTL–06	UTL PLAN & PROFILE – "IM" 81+75 TO "IM" 75+50
23	UTL–07	UTILITY LATERAL I
24	UTL–08	UTILITY LATERAL II
25	PRV–01	PRV DETAIL SHEET I
26	PRV–02	PRV DETAIL SHEET II
27	PRV–03	PRV DETAIL SHEET III
28	PRV–04	PRV DETAIL SHEET IV
29	PRV–05	PRV DETAIL SHEET V
30	PRV–06	PRV DETAIL SHEET VI
31	TR–01	TRAFFIC PLAN I
32	TR–02	TRAFFIC PLAN II
33	TR–03	TRAFFIC PLAN III
34	TR–04	TRAFFIC PLAN IV
35	TR–05	TRAFFIC PLAN IV
36	HC–1	HORIZONTAL CONTROL PLAN
37	HC–2	HORIZONTAL CONTROL PLAN
38	HC–3	HORIZONTAL CONTROL PLAN
39	HC–4	HORIZONTAL CONTROL PLAN
40	HC–5	HORIZONTAL CONTROL PLAN
41	HC–6	HORIZONTAL CONTROL PLAN
42	HC–7	HORIZONTAL CONTROL PLAN
43	HC–8	HORIZONTAL CONTROL PLAN
44	S0.00	GENERAL STRUCTURAL NOTES
45	S0.10	TYPICAL DETAILS
46	S1.00	PLAN VIEWS
47	S2.00	SECTIONS

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	SD REVISIONS	2/19/20	SVB		
1	UPDATE CHANGES TO SHAUMBER WL, ADD WATER LATERAL	2/19/20	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
IRON MOUNTAIN ROAD
COVER SHEET

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

DERICK D.J YORO
Exp: 06/30/2020
CIVIL
No. 16396
STATE OF NEVADA
PROFESSIONAL ENGINEER
3/9/20

G-01
SHEET 1 OF 47

L18-02473
107V7514

J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\IMPROVJB-CVM\OLY1609-000-CVR-ILDWG 3/9/2020 4:43 PM Scott Booth

LEGEND

— — —TEL 5–4"— — —	EXISTING TELEPHONE CABLE
— — —12" SS— — —	EXISTING SANITARY SEWER LINE
— — —12" W— — —	EXISTING WATER LINE
— — —18" SD— — —	EXISTING STORM DRAIN LINE
— — —ELE UG 1–4"— — —	EXISTING UNDERGROUND ELECTRICAL LINE
— — —OHP— — —	EXISTING OVERHEAD POWER LINE
— — —OHP/TEL— — —	EXISTING OVERHEAD POWER AND TELEPHONE LINE
— — —4" PE GAS— — —	EXISTING GAS LINE
— — —CATV— — —	EXISTING CABLE TELEVISION LINE
	EXISTING CURB & GUTTER
	EXISTING RIGHT–OF–WAY LINE
	EXISTING PROPERTY LINE
—X—X—X—	EXISTING CHAIN–LINK FENCE
SL	EXISTING STREET LIGHT CONDUIT
MH	EXISTING MANHOLE OR VAULT
	EXISTING VALVE (GAS OR WATER)
FH	EXISTING FIRE HYDRANT
PP	EXISTING POWER OR TELEPHONE POLE
	EXISTING PADMOUNTED SERVICE PEDESTAL
	EXISTING NV ENERGY TRANSFORMER
	EXISTING SWING GATE
	EXISTING STREET LIGHT
	EXISTING ON–SITE LIGHT
	STREET CENTERLINE
	EASEMENT LINE
	AEP
	PROPOSED SIGN
	CONCRETE SURFACE
	PLANTMIX BITUMINOUS SURFACE
	FLOWLINE
	SAWCUT LINE
1875	CONTOUR LINE
12.3 TC	ELEVATION
[12.3] TC	FUTURE ELEVATION
D	STORM DRAIN MANHOLE
S	SANITARY SEWER MANHOLE
	100 WATT STREET LIGHT
	250 WATT STREET LIGHT
—— — — —4" ITS— ——	FAST ITS CONDUIT
	FAST P30 PULLBOX
	FAST TYPE 200 SPLICE VAULT
	SIGHT VISIBILITY ZONE

ABBREVIATIONS

ABUT	ABUTMENT	GND	GROUND	R/W	RIGHT–OF–WAY
AC	ALUMINUM CAP/ASPHALTIC CONCRETE	H	HEIGHT	RT	RIGHT
AEP	AUTHORIZATION TO ENTER PROPERTY	HGL	HYDRAULIC GRADE LINE	S	SOUTH
AP	ANGLE POINT	HORIZ	HORIZONTAL	SCH	SCHEDULE
APN	ASSESSORS PARCEL NUMBER	HWY	HIGHWAY	SD	STORM DRAIN
AVE	AVENUE	INV	INVERT	SDMH	STORM DRAIN MANHOLE
BC	BEGIN CURVE/BRASS CAP/BACK OF CURB	ITS	INTELLIGENT TRANSPORTATION SYSTEM	SECT	SECTION
BCR	BEGIN CURB RETURN	JT	JOINT	SF	SQUARE FOOT/FEET
BLVD	BOULEVARD	LF	LINEAR (LINEAL) FEET	SHLDR	SHOULDER
BM	BENCHMARK	LIP	LIP OF GUTTER	SHT	SHEET
BOT	BOTTOM	LT	LEFT	SIM	SIMILAR
BRG	BEARING	LUM	LUMINAIRE	SP	SERVICE POINT
BSW	BACK OF SIDEWALK	LVVWD	LAS VEGAS VALLEY WATER DISTRICT	SPA	SPACING
BVCE	BEGIN VERTICAL CURVE ELEVATION	MAX	MAXIMUM	SQ	SQUARE
BVCS	BEGIN VERTICAL CURVE STATION	MH	MANHOLE	SS	SANITARY SEWER
CATV	UNDERGROUND CABLE TV	MIN	MINIMUM	SSMH	SANITARY SEWER MANHOLE
CG	CURB AND GUTTER	MLCP	MULTI–LAYERED COMPOSITE PIPE	STA	STATION
CCSD	DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS	MOD	MODIFY/MODIFIED	STD	STANDARD
		MON	MONUMENT	ST	STREET
CKT	CIRCUIT	MPH	MILES PER HOUR	STL	STEEL
CLR	CLEAR/CLEARANCE	N	NORTH	SL	STREET LIGHT
CLBM	CITY OF LAS VEGAS BENCHMARK	NDOT	NEVADA DEPARTMENT OF TRANSPORTATION	STRUCT	STRUCTURE
CLV	CITY OF LAS VEGAS	NO	NUMBER	SW	SIDEWALK
CMU	CONCRETE MASONRY UNIT	NVE	NV ENERGY	SNBORS	SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARDS
CONC	CONCRETE	NTS	NOT TO SCALE		
℄, C/L	CENTERLINE	OC	ON CENTER	SWG	SOUTHWEST GAS
COB	CENTER OF BOLLARD	OHP	OVERHEAD POWER LINE	T	TELEPHONE/TOP
COL	COLUMN	PAT	PATENT	TAN	TANGENT
CONST	CONSTRUCT/CONSTRUCTION	PB	PULL BOX	TC	TOP OF CURB
COORD	COORDINATE	PBS	PLANTMIX BITUMINOUS SURFACE	TEMP	TEMPORARY
COR	CORNER	PC	POINT OF CURVE, PHOTO CELL	TF	TOP OF FOOTING
CY	CUBIC YARD(S)	PCC	POINT OF COMPOUND CURVE	TG	TOP OF GRATE
Δ	DELTA	PD	PONDING DEPTH	TMH	TOP OF MANHOLE
DB	DIRECT BURY	PE	PROJECT ENGINEER/POLYETHYLENE	TRANS	TRANSITION STRUCTURE
DBL	DOUBLE	PED	PEDESTRIAN	THW	TOP OF HEADWALL
DI	DROP INLET	PG	PROFILE GRADE (FG ON CONTROL LINE)	TRW	TOP OF RETAINING WALL
DIA	DIAMETER	PGL	PROFILE GRADE LINE	TW	TOP OF WALL
DIST	DISTANCE	PH	POTHOLE	TS	TRAFFIC SIGNAL
DR	DRIVE	PI	POINT OF INTERSECTION	TYP	TYPICAL
DW	DRIVEWAY	PKWY	PARKWAY	UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS
DWG	DRAWING	PL	PROPERTY LINE		
ECR	END CURB RETURN	PMF	PAVEMENT MARKING FILM	USDCCA	UNIFORM STD. DRAWINGS FOR PUBLIC WORKS' CONSTRUCTION OFF–SITE IMPROVEMENTS CLARK COUNTY AREA, NEVADA
E	EAST	POB	POINT OF BEGINNING		
EA	EACH	POC	POINT ON CURVE		
ESMT	EASEMENT	POE	POINT OF ENDING	UT	UNDERGROUND TELEPHONE
ECR	END CURB RETURN	POT	POINT ON TANGENT	VAR	VARIABLE/VARIES
ELEC	ELECTRICAL	PP	POWER POLE	VC	VERTICAL CURVE
ELEV/EL	ELEVATION	PPCBR	PORTABLE PRECAST CONCRETE BARRIER RAIL	VERT	VERTICAL
EP/EOP	EDGE OF PAVEMENT	PPM	POLYUREA PAVEMENT MARKINGS	VG	VALLEY GUTTER
EQ	EQUAL	PR	PAIR	W	WEST
EST	ESTIMATED	PROP	PROPOSED	WY	WAY
EVC	END VERTICAL CURVE	PRC	POINT OF REVERSE CURVE	WT	WEIGHT
EX./EXIST	EXISTING	PRVC	POINT REVERSE VERTICAL CURVE	XING	CROSSING
EXP	EXPANSION JOINT	PSI	POUNDS PER SQUARE INCH		
EW	EACH WAY	PT	POINT OF TANGENCY		
FC	FACE OF CURB	PVI	POINT OF VERTICAL INTERSECTION		
FG	FINISH GRADE	PVMT	PAVEMENT		
FH	FIRE HYDRANT	R	RADIUS		
FL	FLOW LINE	RCB	REINFORCED CONCRETE BOX		
FO	FIBER OPTIC	RCP	REINFORCED CONCRETE PIPE		
FS	FINISH SURFACE	RD	ROAD		
FT	FOOT/FEET	RDWY	ROADWAY		
FTG	FOOTING	REC	RECTANGULAR		
FW	FACE OF WALL	REINF	REINFORCED		
FYA	FLASHING YELLOW ARROW	REQD	REQUIRED		
G	GAS	RND	ROUND		
GA	GAUGE	RP	RADIUS POINT		
GB	GRADE BREAK	RPM	RAISED PAVEMENT MARKERS		

ALIGNMENT ABBREVIATIONS

"ECD"	EGAN CREST DRIVE (SKYE CANYON PARK DRIVE TO EAGLE CANYON DRIVE)
"IMR"	IRON MOUNTAIN ROAD (SKYE VILLAGE ROAD TO SHAUMBER ROAD)
"SCP"	SKYE CANYON PARK DRIVE (SKYE VILLAGE ROAD TO SHAUMBER ROAD)
"SR"	SHAUMBER ROAD (SKYE CANYON PARK DRIVE TO IRON MOUNTAIN ROAD)
"SVR"	SKYE VILLAGE ROAD

QUANTITIES

	DESCRIPTION		PRIVATE	PUBLIC
DRAINAGE				
1.	DROP INLET 5' TYPE CM2	EA	–	3
2.	DROP INLET 17.5' TYPE CM2	EA	–	1
3.	DROP INLET 20' TYPE CM2	EA	–	2
4.	48" TYPE II MANHOLE	EA	–	5
5.	60" TYPE III MANHOLE	EA	–	6
6.	72" TYPE II MANHOLE	EA	–	5
7.	NDOT TYPE 4 MANHOLE	EA	–	–
8.	RCA ACCESS MANHOLE	LF	–	2
9.	18" RCP	LF	–	690
10.	24" RCP	LF	–	10
11.	30" RCP	LF	–	148
12.	36" RCP	LF	–	75
13.	42" RCP	LF	–	1420
14.	54" RCP	LF	–	1230
15.	60" RCP	LF	–	1160
16.	66" RCP	LF	–	130
17.	96"X48" RCB	LF	–	–
18.	PRECAST 7'X5' RCB	LF	–	140
19.	PRECAST 8'X5' RCB	LF	–	–
20.	PRECAST 8'X7' RCA	LF	–	–
21.	CONCRETE DRAINAGE CHANNEL	SF	–	2380
22.	SPECIAL STRUCTURES	EA	–	2
23.	NDOT TYPE II HEADWALL	LF	–	–
24.	18" END SECTION	LF	–	–
25.	30" END SECTION	LF	–	2
26.	36" END SECTION	LF	–	1
27.	42" END SECTION	LF	–	1
28.	RIPRAP	CY		235
29.	42" C900 SD	LF	–	160
SEWER SYSTEM (ALTERNATIVE A - FOR CONSTRUCTION)				
1.	8" SDR35 PVC SEWER PIPE	LF	–	90
2.	STANDARD 60" SEWER MANHOLE	EA	–	4
3.	8" SEWER PIPE CAP	EA	–	4
4.	STANDARD 72" SEWER MANHOLE	EA	–	4
5.	15" SDR35 PVC SEWER PIPE	LF	–	2,360
6.	15" C–905 PVC SEWER PIPE	LF	–	360
SEWER SYSTEM (ALTERNATIVE B - FOR BIDDING PURPOSES ONLY)				
1.	8" SDR35 PVC SEWER PIPE	LF	–	2,450
2.	STANDARD 48" SEWER MANHOLE	EA	–	8
3.	8" SEWER PIPE CAP	EA	–	4
4.	STANDARD 72" SEWER MANHOLE	EA	–	–
5.	15" SDR35 PVC SEWER PIPE	LF	–	–
6.	8" C–900 PVC SEWER PIPE	LF	–	360
WATER SYSTEM				
1.	FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS PLATE NO. 40	EA	–	3
2.	24" DIP WATER PIPE (CLASS 150)	LF	–	2700
3.	8" DIP WATER PIPE (CLASS 150)	LF	–	168
4.	6" C–900 PVC WATER PIPE (CLASS 150)	LF	–	110
5.	24" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	4
6.	8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	4
7.	6" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	2
8.	24" X 24" TEE PER UDACS PLATE NO. 31	EA	–	2
9.	24" X 36" TAPPING TEE	EA	–	1
10.	24" X 8" TEE PER UDACS PLATE NO. 31	EA	–	4
11.	24" X 6" TEE PER UDACS PLATE NO. 31	EA	–	2
12.	24" X 12" CROSS	EA	–	1
13.	6" 45 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	4
14.	24" 45 DEGREE BEND	EA	–	2
15.	24" 11.25 DEGREE BEND	EA	–	4
16.	42" PIPE CASING	LF	–	48
17.		–	–	–
18.		–	–	–
19.		–	–	–
STREET IMPROVEMENTS				
1.	4 1/2" A.C. PAVEMENT W/ 4" TYPE II OVER 4" TYPE I AGGREGATE BASE	SY	–	11,285
2.	STANDARD 24" TYPE "L" ISLAND CURB & GUTTER W/6" TYPE I AGGREGATE BASE	LF	–	2670
3.	STANDARD 8" TYPE "A" ISLAND CURB W/6" TYPE I AGGREGATE BASE	LF	–	1070
4.	STANDARD 30" TYPE "ROLL" CURB & GUTTER W/6" TYPE I AGGREGATE BASE	LF	–	–
5.	4' WIDE CONCRETE SIDEWALK W/4" TYPE II AGGREGATE BASE	SF	–	–
6.	COMMON ELEMENT LANDSCAPING	SF	–	–
7.	2" ALUMINUM CAP STAMPED MONUMENT PER CCAUSD DWG 242	EA	–	8
8.	SIDEWALK RAMPS PER CCAUSD NO. 235	EA	–	1
TRAFFIC SIGNALS				
1.	30" STOP SIGN WITH POST (R1–1)	EA	–	1
2.	9" STREET NAME SIGN (0–3, BROWN W/ WHITE LETTERS)(1 POLES x 2 PER POLE=2)	EA	–	2
3.	BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKER	EA	–	3
4.	CROSSWALK MARKINGS	SF	–	2025
5.	P30 PULL BOX W/METAL COVER	EA	–	7
6.	4" ITS CONDUIT	LF	–	2700
7.	TYPE I CENTERLINE (PAINT)	LF	–	1645
8.	CHEVRON STRIPING	SF	–	1090
9.	6" SOLID WHITE STRIPING (PAINT)	LF	–	6095
10.	RED PAINT	LF	–	90
11.	TYPE 4 LANE LINE	LF	–	710
12.	CONCRETE BARRIER	LF	–	275
DRY UTILITIES				
1.	133W LED LUMINAIRE STREET LIGHT W/DECORATIVE POLE	EA	–	16
2.	1–1/4" PVC STREET LIGHT CONDUIT WITH (2) #4 AND (1) #8 CONDUCTORS	LF	–	2930
3.	NO. 3–1/2 PULL BOX W/METAL COVER	EA	–	5
4.	150 AMP SERVICE PEDESTAL (IRR)	EA	–	–
5.	200 AMP SERVICE PEDESTAL (STLT)	EA	–	1

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
PROJECT NO.: 126410 DATE: 9/25/2017

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	SD REVISIONS	2/19/20	SVB		
1	UPDATE QUANTITIES	2/19/20	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
IRON MOUNTAIN ROAD
ABBREVIATIONS, LEGEND, AND QUANTITIES

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

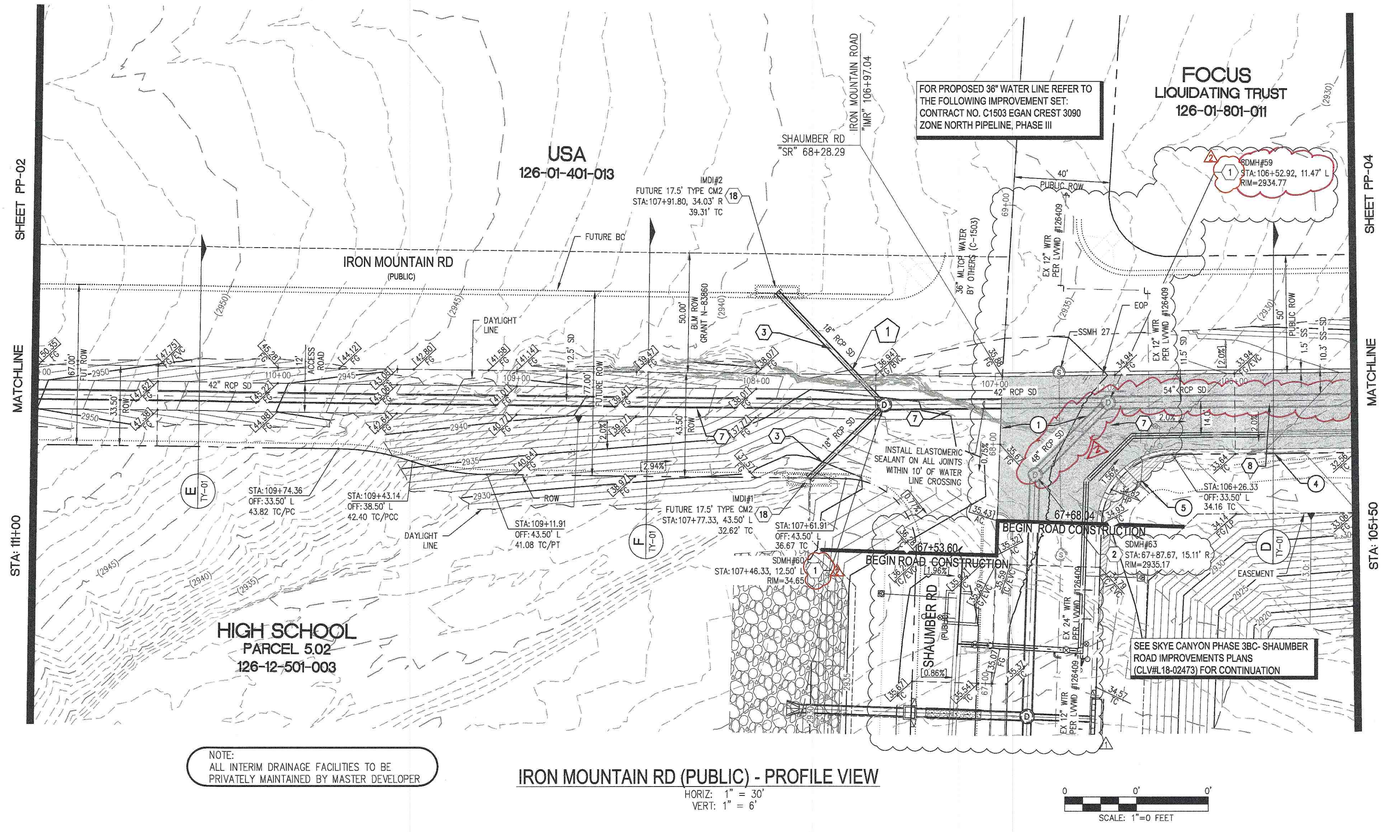
PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER – STATE OF NEVADA
DERICK D.J. YORO
Exp: 06/30/2020
CIVIL
No. 16396
3/9/20

G-03
SHEET 3 OF 47

L18–02473
107V7514

J:\OLY1609-000 SKYE CANYON PHASE 3A_3B_3C\DWG\IMPROV_3B-C\MAJOR\OLY1609-000-G06-MAJ.DWG 3/9/2020 4:43 PM Scott Booth

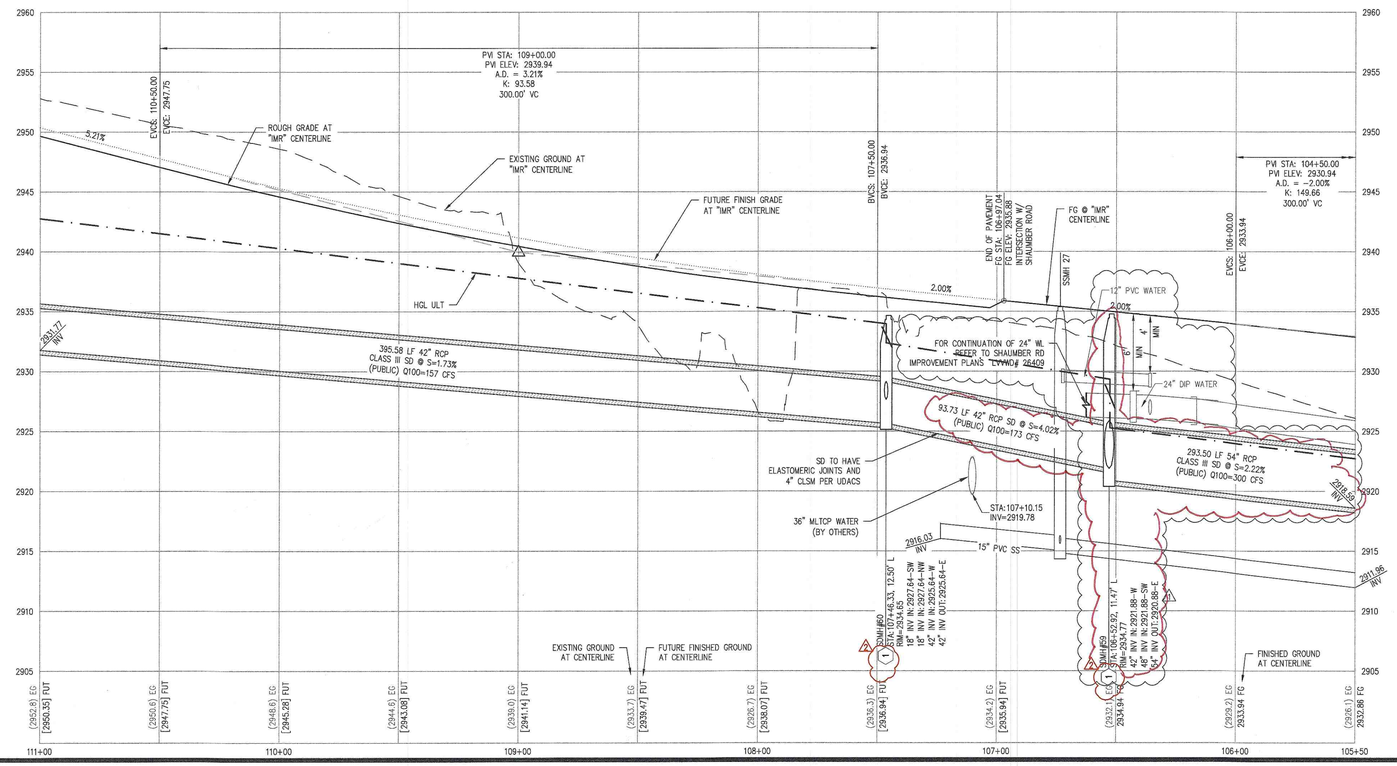


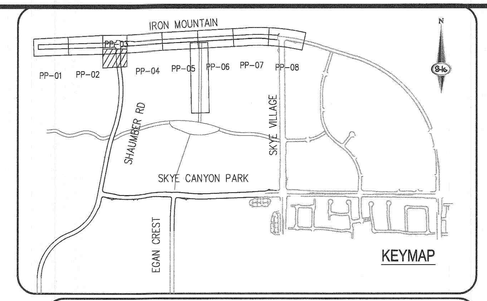
NOTE:
ALL INTERIM DRAINAGE FACILITIES TO BE PRIVATELY MAINTAINED BY MASTER DEVELOPER

IRON MOUNTAIN RD (PUBLIC) - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'

0 0' 0'
SCALE: 1"=0 FEET





CONSTRUCTION NOTES

1	CONSTRUCT 1" UTACS OVER 4.5" PBS OVER 4" TYPE II AGGREGATE BASE (SEE TY SHEETS)
2	CONSTRUCT 1" UTACS OVER 5.5" PBS OVER 6" TYPE II AGGREGATE BASE (SEE TY SHEETS)
3	CONSTRUCT "A" TYPE ISLAND CURB (USDCCA STD. DWG. NO. 219)
4	CONSTRUCT "L" TYPE CURB AND GUTTER (USDCCA STD. DWG. NO. 216)
5	CONSTRUCT SIDEWALK RAMP (CASE II) WITH TACTILE WARNING PANEL (USDCCA STD. DWG. NO 235)
6	CONSTRUCT BUS TURN-OUT (USDCCA STD. DWG. NO. 234.1)
7	CONSTRUCT CONCRETE SIDEWALK (USDCCA STD. DWG. 234)
P	PROTECT IN PLACE (VERIFY LOCATION AND ELEVATION OF EX. IMPROVEMENT)

STORM DRAIN NOTES

1	CONSTRUCT 48" TYPE II-SD MANHOLE (USDCCA STD. DWG. NO. 405.2)
2	CONSTRUCT 60" TYPE III MANHOLE (USDCCA STD. DWG. NO. 406.1)
3	INSTALL 18" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
4	INSTALL 24" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
5	INSTALL 30" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
6	INSTALL 36" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
7	INSTALL 42" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
8	INSTALL 54" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
9	INSTALL 60" RCP (USDCCA STD. DWG. NO. 503.2)
10	INSTALL 72" RCP (USDCCA STD. DWG. NO. 503.2)
11	INSTALL 30" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
12	INSTALL 36" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
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NOTES

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9. SEE UT-SHEETS FOR WATER AND SEWER PLAN AND PROFILES.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/10/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

NOTE:
PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES, SUCH AS BUT NOT LIMITED TO, THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF VEGETATION.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
PROJECT NO.: 126410 DATE: 9/25/2017

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

FAST Call Before you Underground. 1-702-432-5300 FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig Avoid putting yourself or others in danger. Call 811 or 1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP:
1	SD REVISIONS	2/19/20	SVB		
2	MOVE SD, ADD 24" AND 12" WL	2/19/20	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
IRON MOUNTAIN ROAD
CONSTRUCTION PLAN - "IM" 111+00 TO "IM" 105+50

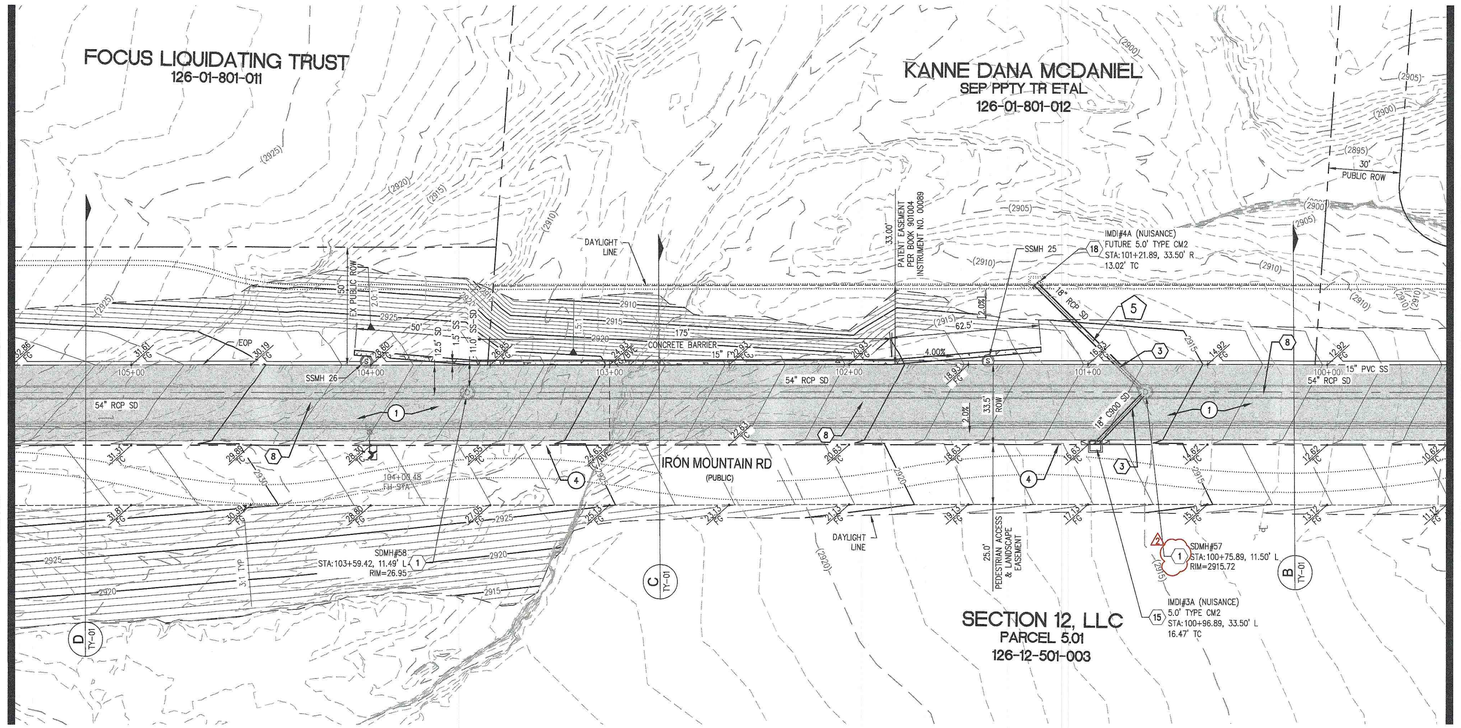
DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO. OLY1609-000

DERICK D. J. YORO — Exp: 06/30/2020 — CIVIL — No. 16396 — STATE OF NEVADA — PROFESSIONAL ENGINEER — 3/10/20

PP-03
SHEET 8 OF 47

L18-02473
107V7514

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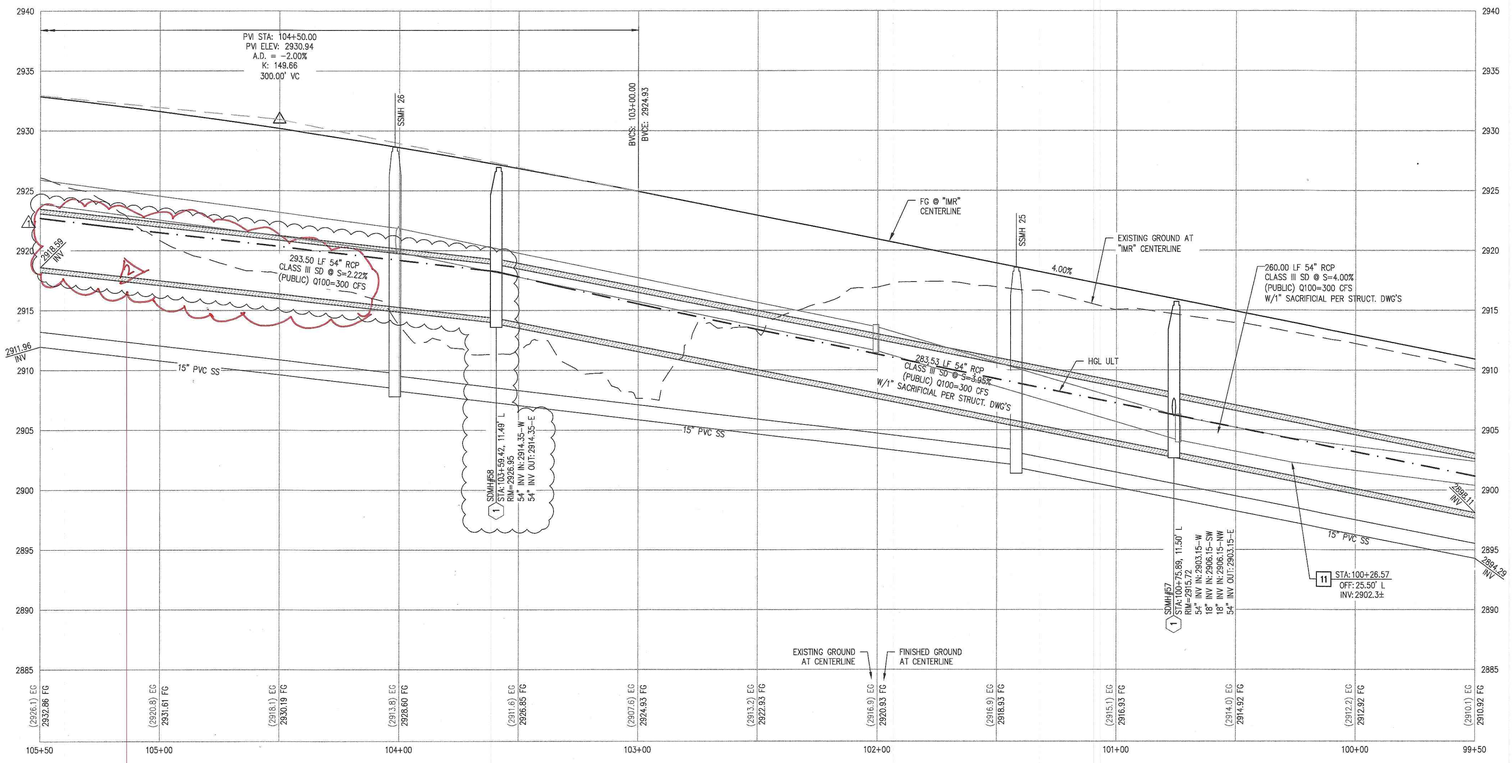


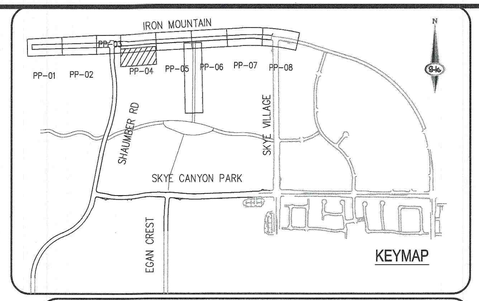
NOTE:
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IRON MOUNTAIN RD (PUBLIC) - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'

SCALE: 1"=0 FEET





CONSTRUCTION NOTES

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P	PROTECT IN PLACE (VERIFY LOCATION AND ELEVATION OF EX. IMPROVEMENT)

STORM DRAIN NOTES

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LEGEND

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DERICK YORO, P.E. 16396 — DATE 3/10/20

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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
PROJECT NO.: 126410 DATE: 9/25/2017

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PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	SD REVISIONS	2/19/20	SVB		
1	ADJUST SD	2/19/20	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
IRON MOUNTAIN ROAD
CONSTRUCTION PLAN - "IM" 105+50 TO "IM" 99+50

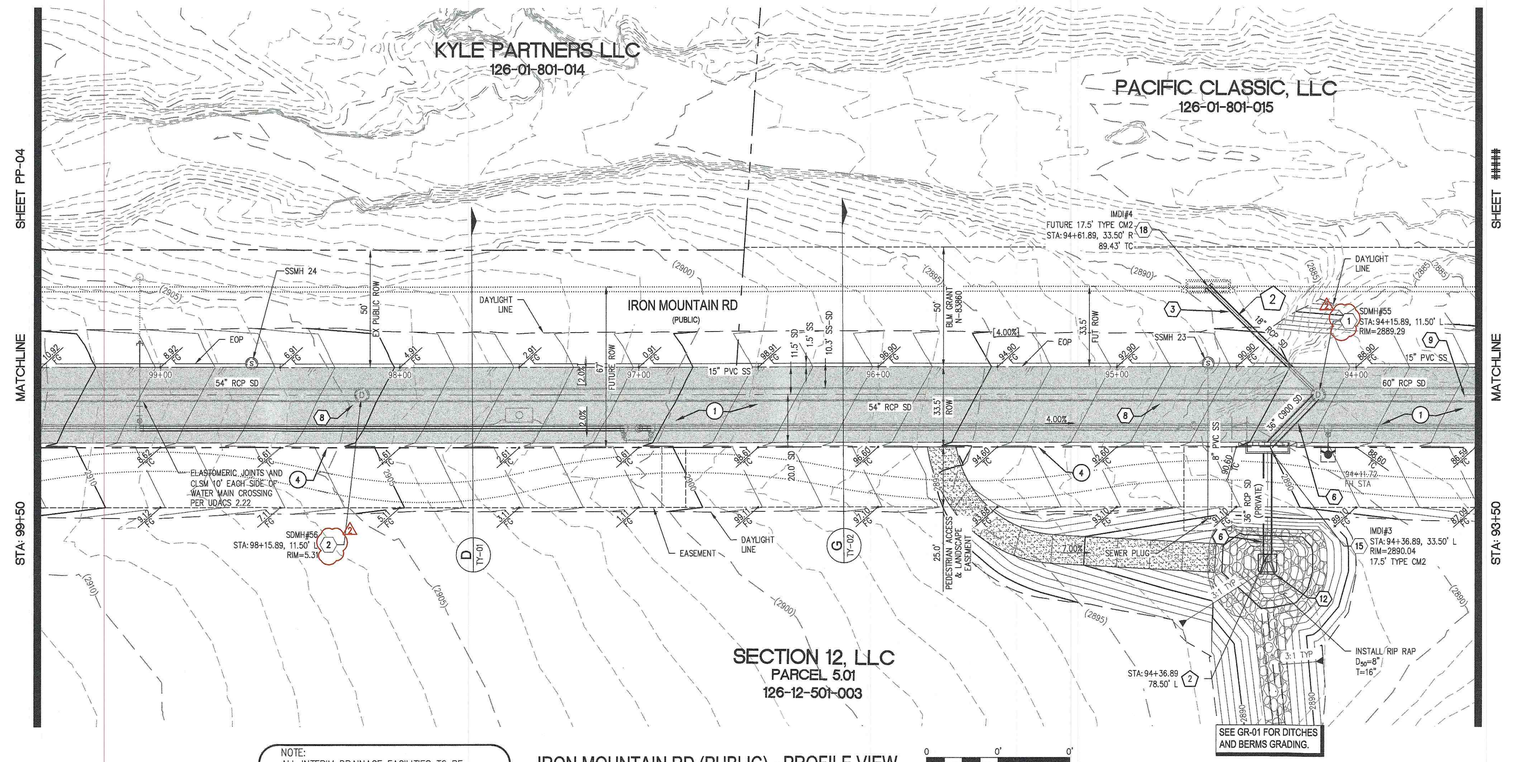
DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER - STATE OF NEVADA
DERICK D. YORO
No. 16396
Exp: 06/30/2020
CIVIL
3/10/20

PP-04
SHEET 9 OF 47

L18-02473
107V7514

a:\OLY1609-000 SKYE CANYON PHASE 3A_3B_3C\PWP\WPROV\3B-CVM\OLY1609-000-PHP-IM.DWG 3/9/2020 4:46 PM Scott Booth

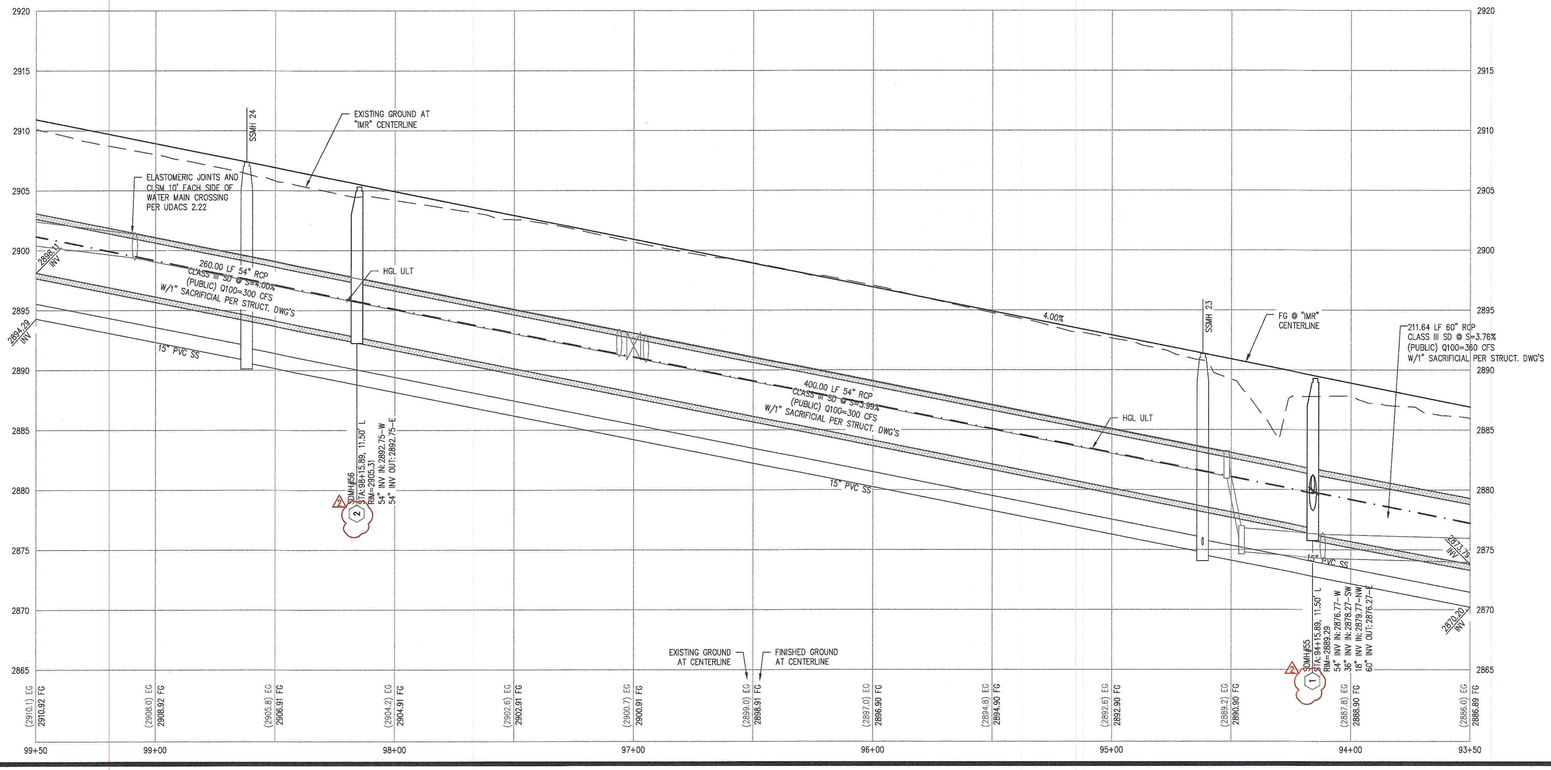


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IRON MOUNTAIN RD (PUBLIC) - PROFILE VIEW

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DERICK YORO, P.E. 16396 — 3/10/20 DATE

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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
PROJECT NO.: 126410 DATE: 9/25/2017

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PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	SD REVISIONS	2/10/20	SWB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
IRON MOUNTAIN ROAD
CONSTRUCTION PLAN - "IM" 99+50 TO "IM" 93+50

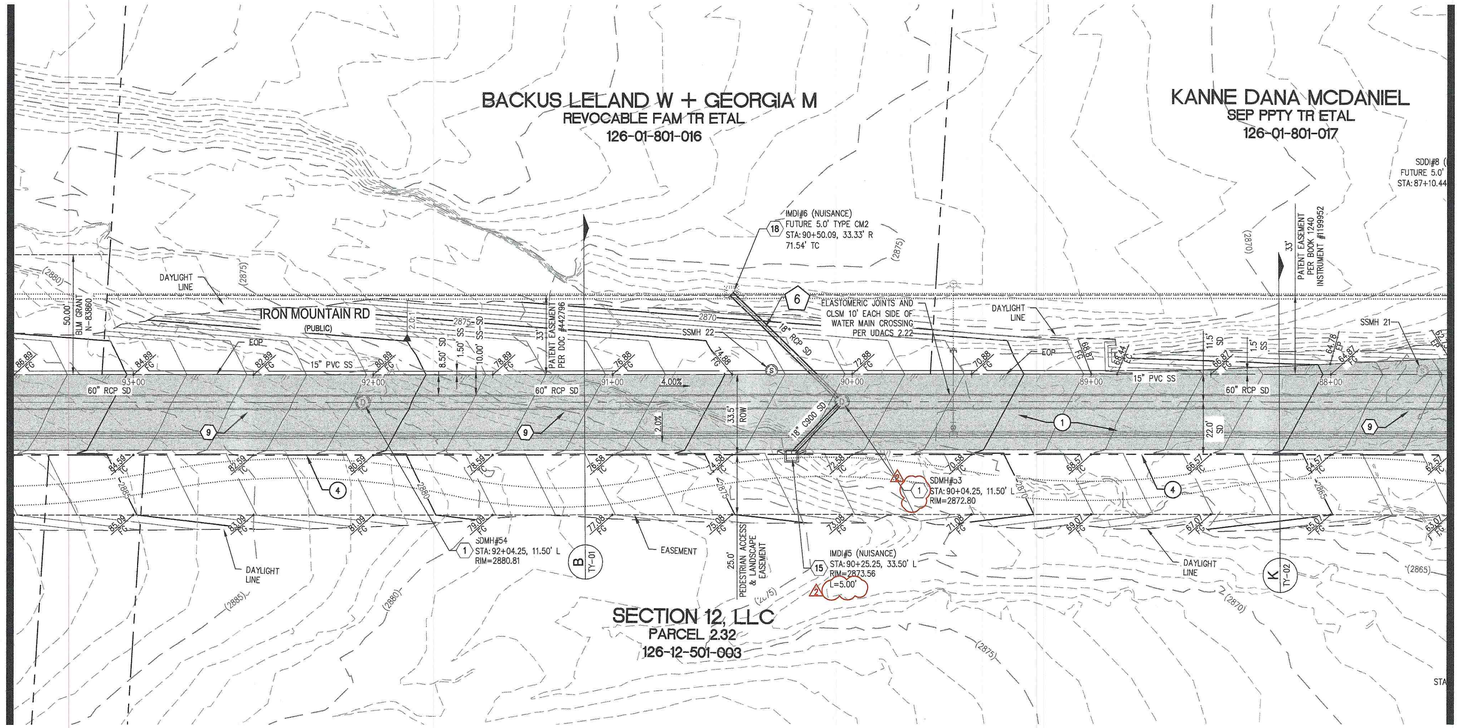
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PROJECT NO.
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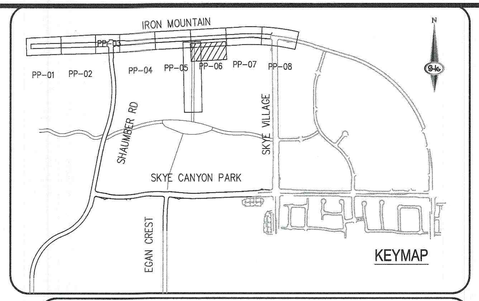
DERICK D.J. YORO — NEVADA — No. 16396 — PROFESSIONAL ENGINEER — STATE OF NEVADA — Exp: 06/30/2020 — CIVIL
3/10/20

PP-05
SHEET 10 OF 47

L18-02473
107V7514

J:\OLY1609-000 SKYE CANYON PHASE 3A, 3B, 3C\DWG\MPREVU\3B-CSW\OLY1609-000-PHP-ALIGN 3/9/2020 4:48 PM Scott Booth



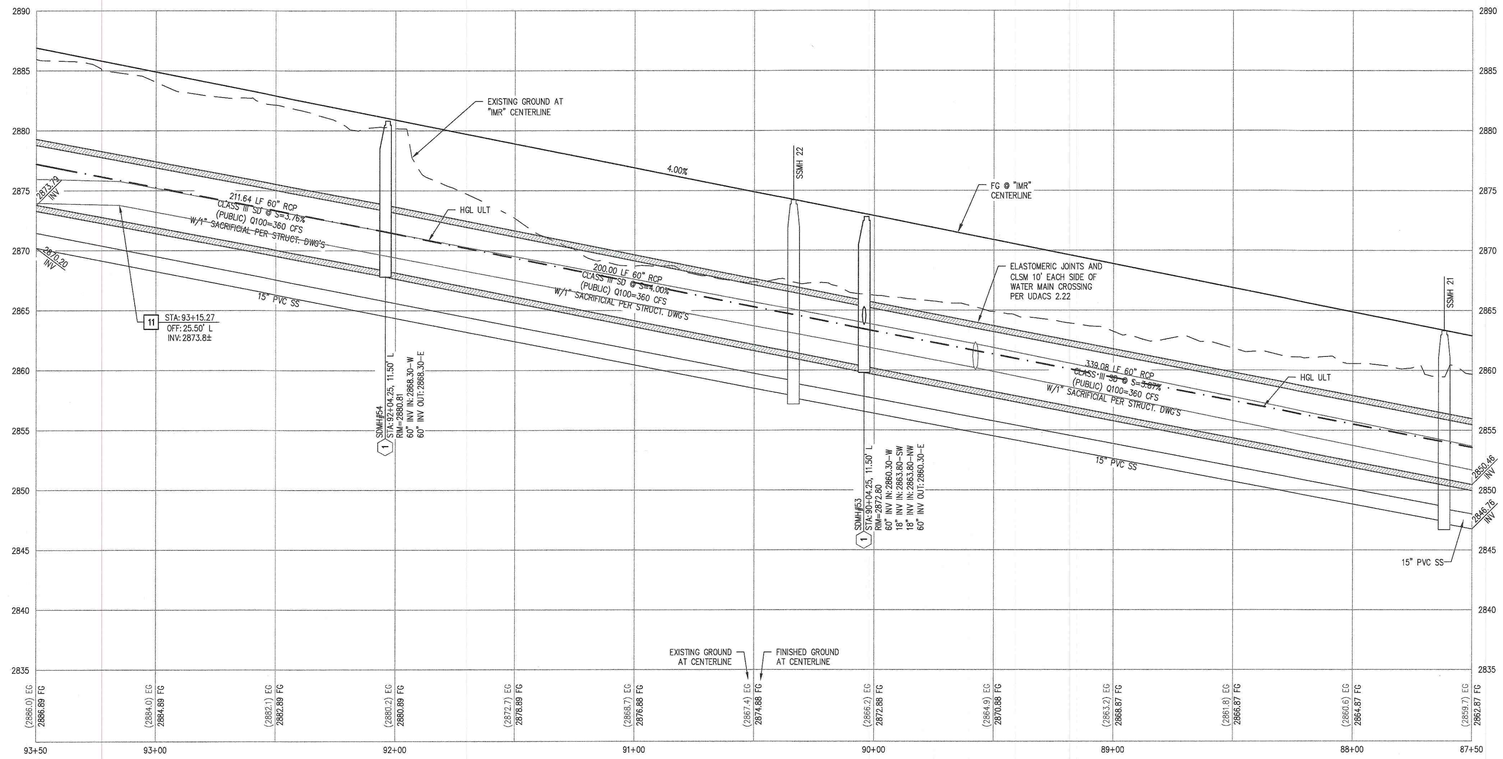


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DERICK YORO, P.E. 16396 — DATE 3/10/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

NOTE:
PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES, SUCH AS BUT NOT LIMITED TO, THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF VEGETATION.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
PROJECT NO.: 126410 DATE: 9/25/2017

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

FAST. Call Before you Dig Underground. 1-702-432-6300 FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig. Avoid cutting underground utility lines. It's costly. Call 811 or 1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
3	SD REVISIONS	2/19/20	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
IRON MOUNTAIN ROAD
CONSTRUCTION PLAN - "IM" 93+50 TO "IM" 87+50

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

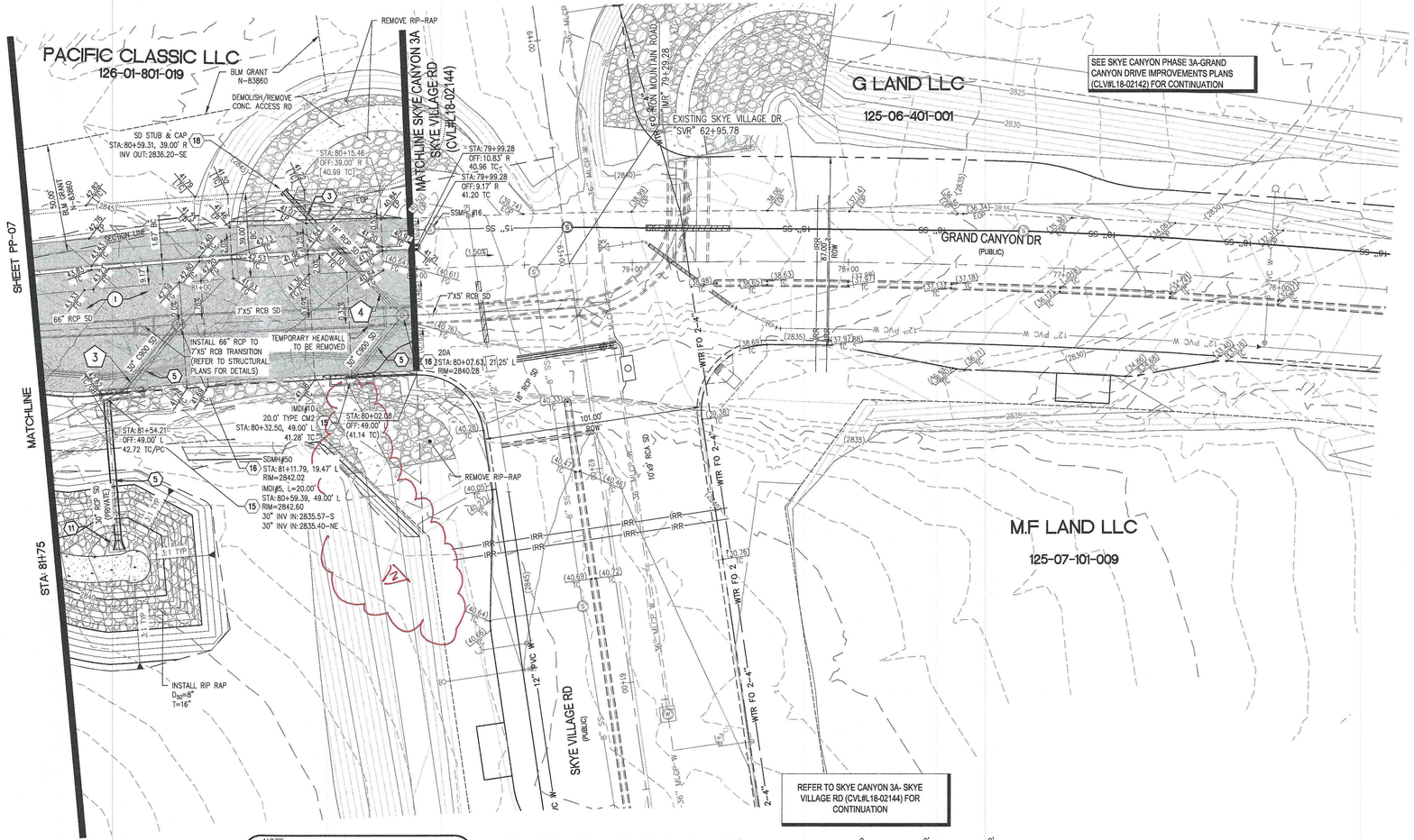
PROJECT NO.
OLY1609-000

DERICK D. YORO — NEVADA — PROFESSIONAL ENGINEER — STATE OF NEVADA — Exp: 08/30/2020 — CIVIL — No. 16396 — 3/10/20

PP-06
SHEET 11 OF 47

L18-02473
107V7514

J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\IMPROVA\3B-CVIM\OLY1609-000-PMP-IMLDWG 3/9/2020 4:47 PM Scott Booth



CONSTRUCTION NOTES

1	CONSTRUCT 1" UTACS OVER 4.5" PBS OVER 4" TYPE II AGGREGATE BASE (SEE TY SHEETS)
2	CONSTRUCT 1" UTACS OVER 5.5" PBS OVER 6" TYPE II AGGREGATE BASE (SEE TY SHEETS)
3	CONSTRUCT "A" TYPE ISLAND CURB (USDCCA STD. DWG. NO. 219)
4	CONSTRUCT "L" TYPE CURB AND GUTTER (USDCCA STD. DWG. NO. 216)
5	CONSTRUCT SIDEWALK RAMP (CASE II) WITH TACTILE WARNING PANEL (USDCCA STD. DWG. NO 235)
6	CONSTRUCT BUS TURN-OUT (USDCCA STD. DWG. NO. 234.1)
7	CONSTRUCT CONCRETE SIDEWALK (USDCCA STD. DWG. 234)
P	PROTECT IN PLACE (VERIFY LOCATION AND ELEVATION OF EX. IMPROVEMENT)

STORM DRAIN NOTES

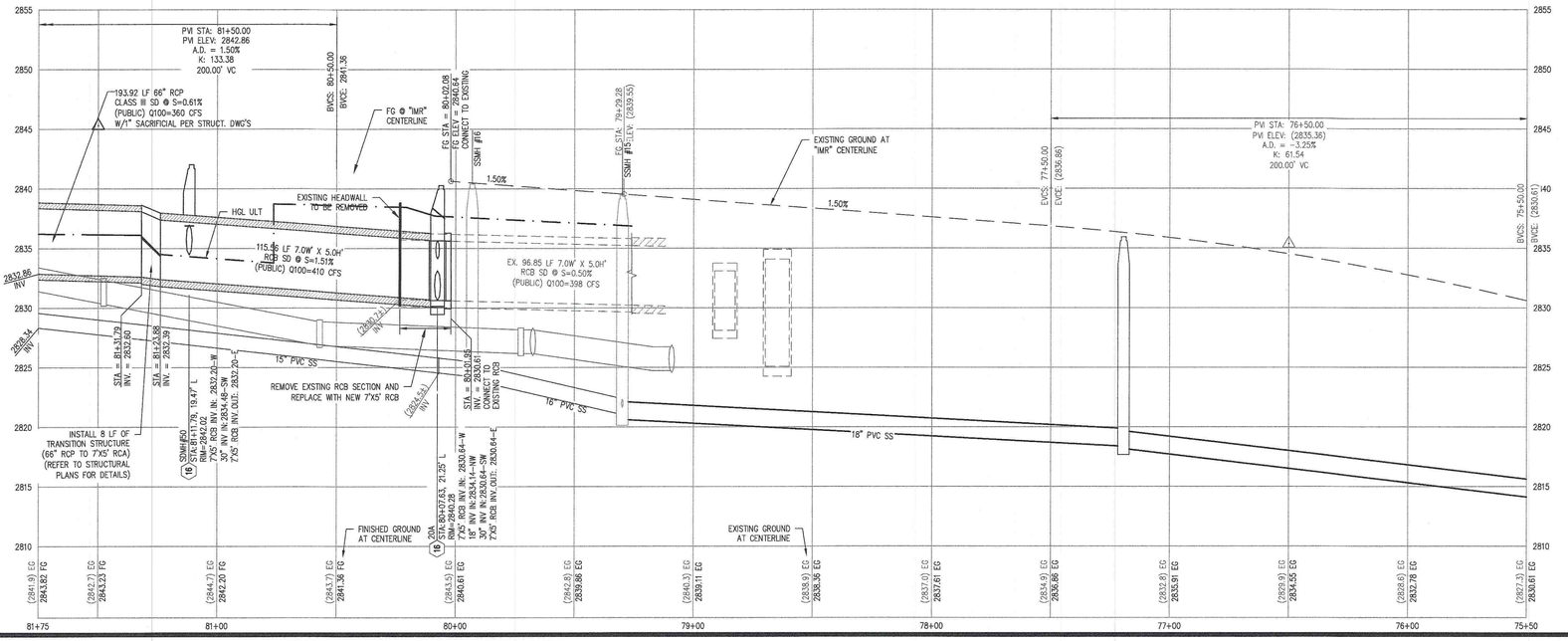
1	CONSTRUCT 48" TYPE II-SD MANHOLE (USDCCA STD. DWG. NO. 405.2)
2	CONSTRUCT 60" TYPE III MANHOLE (USDCCA STD. DWG. NO. 406.1)
3	INSTALL 18" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
4	INSTALL 24" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
5	INSTALL 30" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
6	INSTALL 36" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
7	INSTALL 42" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
8	INSTALL 54" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
9	INSTALL 60" RCP (USDCCA STD. DWG. NO. 503.2)
10	INSTALL 72" RCP (USDCCA STD. DWG. NO. 503.2)
11	INSTALL 30" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
12	INSTALL 36" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
13	INSTALL 42" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
14	INSTALL 72" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
15	CONSTRUCT TYPE "CM2" DROP INLET. SIZE PER PLAN (USDCCA STD. DWG. NO. 412.1 & 421)
16	RCB ACCESS MANHOLE (SEE SEE STRUCTURAL PLANS)
17	CONSTRUCT CONCRETE COLLAR (SEE DETAIL 3/DTL-01)
18	CONSTRUCT INTERIM BRICK AND MORTAR PLUG SEE DETAIL 2/DTL-01
19	INSTALL 24" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
20	INSTALL 54" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
21	INSTALL 66" RCP (USDCCA STD. DWG. NO. 503.2) W/1" SACRIFICIAL CONCRETE PER STRUCTURAL DWGS

NOTE:
ALL INTERIM DRAINAGE FACILITIES TO BE PRIVATELY MAINTAINED BY MASTER DEVELOPER

IRON MOUNTAIN RD (PUBLIC) - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'

SCALE: 1"=0 FEET



NOTES

1. ALL RCP SHALL BE CLASS III UNLESS OTHERWISE SHOWN.
2. ALL PIPE LENGTHS ARE MEASURED ALONG PIPE CENTERLINE TO CENTER OF MANHOLE OR INSIDE EDGE OF DI OR RCB/RCA.
3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
5. ALL PIPES ARE PUBLICLY MAINTAINED IN PUBLIC ROW.
6. ADD SPECIAL INSPECTION REQUIRED FOR PIPE SEGMENTS WITH SACRIFICIAL CONCRETE.
7. DIMENSIONS ARE TO BE BACK OF CURB, FACE OF CURB, OR FACE OF MEDIAN UNLESS OTHERWISE NOTED.
8. SEE TY-SHEETS FOR TYPICAL SECTIONS.
9. SEE UT-SHEETS FOR WATER AND SEWER PLAN AND PROFILES.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB,
OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/6/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

NOTE:
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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
PROJECT NO.: 126410 DATE: 9/25/2017

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

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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE SD STUB				

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
IRON MOUNTAIN ROAD
CONSTRUCTION PLAN - "IM" 81+75 TO "IM" 75+50

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

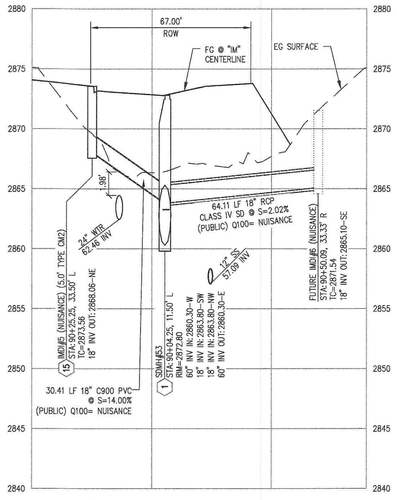
NEVADA ENGINEER STATE OF NEVADA DERICK D.J YORO Exp. 06/30/2020 CIVIL No. 16396 3/6/20

PP-08
SHEET 13 OF 47
L18-02473
107V7514

J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\ENG\MP\PDV\3B-CVIM\OLY1609-000-PHP-IMLINE 3/9/2020 4:47 PM Scott Booth

APPROVED FOR CONSTRUCTION

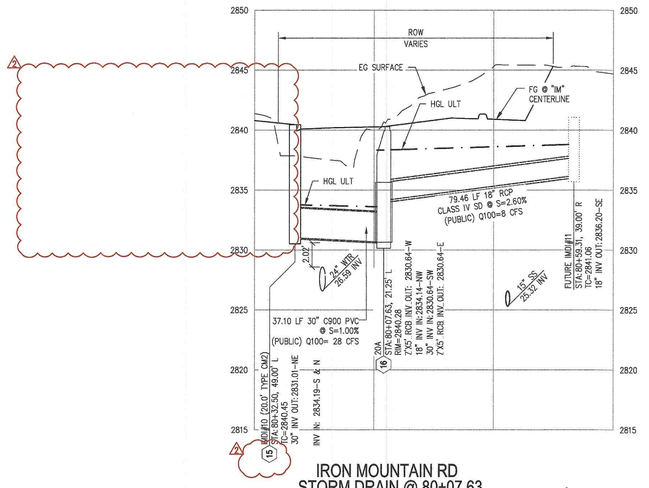
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
PROJECT NO.: 126410 DATE: 9/25/2017



IRON MOUNTAIN RD
STORM DRAIN @ 90+04.25

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: #####

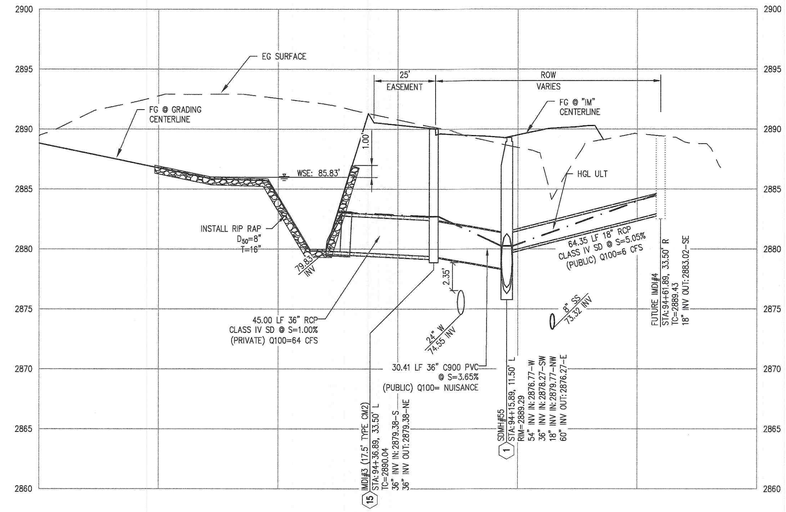
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IRON MOUNTAIN RD
STORM DRAIN @ 80+07.63

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-08

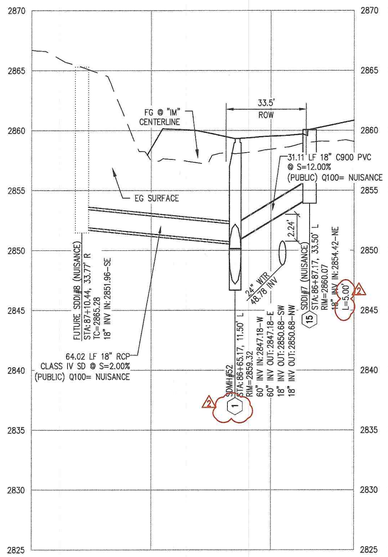
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IRON MOUNTAIN RD
STORM DRAIN @ 94+15.89

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-05

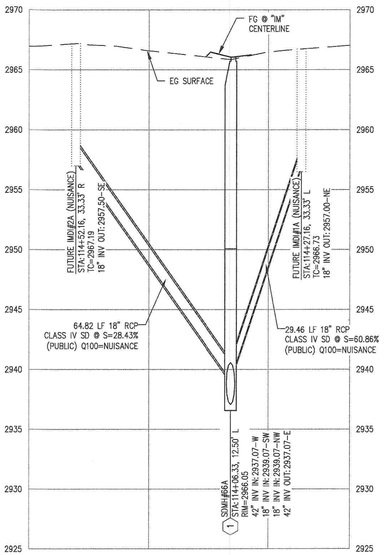
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IRON MOUNTAIN RD
STORM DRAIN @ 86+04.25

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-07

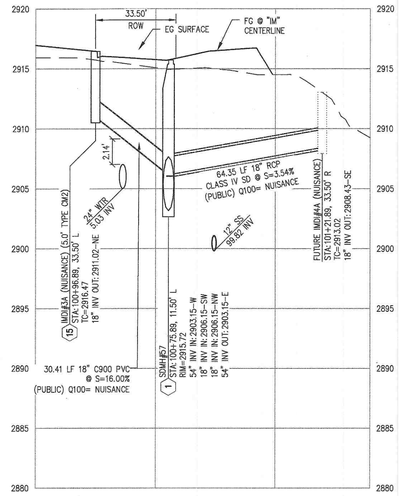
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IRON MOUNTAIN RD
STORM DRAIN @ 114+06.33

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-02

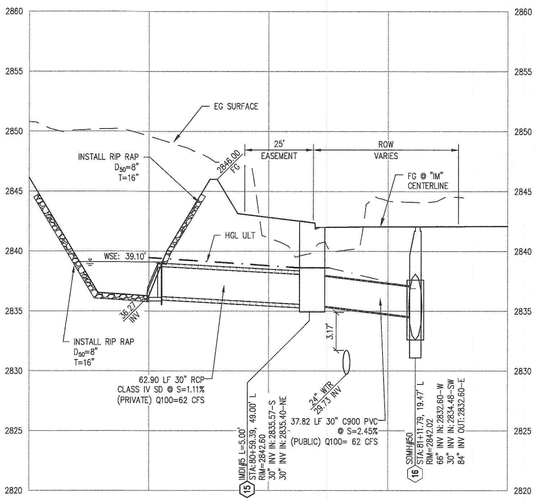
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IRON MOUNTAIN RD
STORM DRAIN @ 100+75.89

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-04

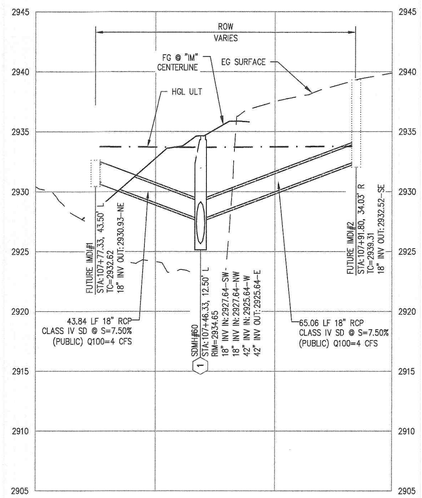
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IRON MOUNTAIN RD
STORM DRAIN @ 81+11.79

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-08

3



IRON MOUNTAIN RD
STORM DRAIN @ 107+46.33

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-03

1

SLATER HANIFAN GROUP
a Westwood team
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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	SD REVISIONS	2/19/20	SWB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
IRON MOUNTAIN ROAD
STORM DRAIN LATERALS

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

PROJECT NO.
OLY1609-000

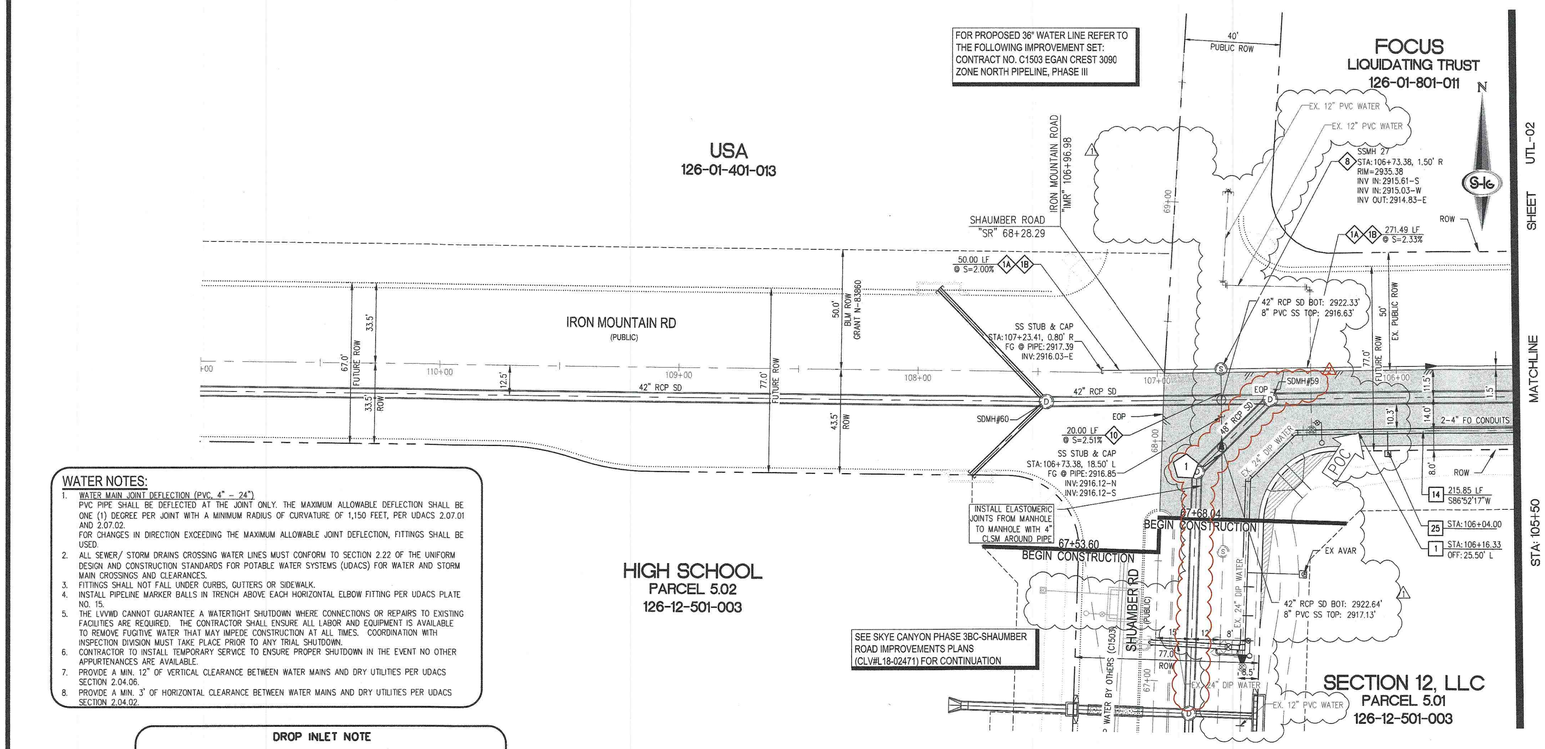
3/9/20

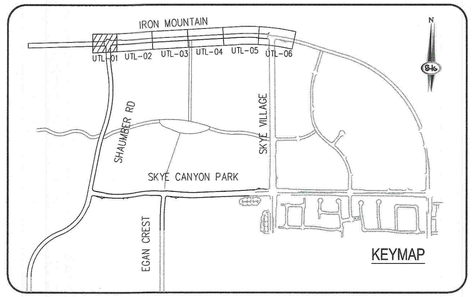
LAT-01
SHEET 14 OF 47

L18-02473
107V7514

J:\OLY1609-000 SKYE CANYON PHASE 3A 3C\DWG\MARROW\SR-C\MVLA\1609-000-LAT-MDMH 3/9/2020 4:48 PM Scott Booth

*ALT A TO BE CONSTRUCTED
*ALT B BIDDING PURPOSES ONLY





SEWER NOTES

ALTERNATIVE A (FOR CONSTRUCTION)

1A INSTALL 15" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17) (TO BE CONSTRUCTED)
2A INSTALL 15" C905 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17) (TO BE CONSTRUCTED)
3A CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4A CONSTRUCT 72" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)

ALTERNATIVE B (FOR BIDDING PURPOSES ONLY)

1B INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17) (TO BE CONSTRUCTED)
2B INSTALL 8" C900 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17) (TO BE CONSTRUCTED)
3B CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)

REGULAR CONSTRUCTION NOTES

3 CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4 CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
5 INSTALL STUB AND CAP (SEE DETAIL 7 ON SHEET DTL-01)
6 INSTALL 10" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
7 REMOVE EXISTING PLUG AND CONNECT TO 8" SEWER
8 CONSTRUCT 72" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)
9 CONSTRUCT 60" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)
10 INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17) (TO BE CONSTRUCTED)

WATER NOTES:

1. WATER MAIN JOINT DEFLECTION (PVC, 4" – 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
3. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
4. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
5. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
6. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
7. PROVIDE A MIN. 12" OF VERTICAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.06.
8. PROVIDE A MIN. 3' OF HORIZONTAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02.

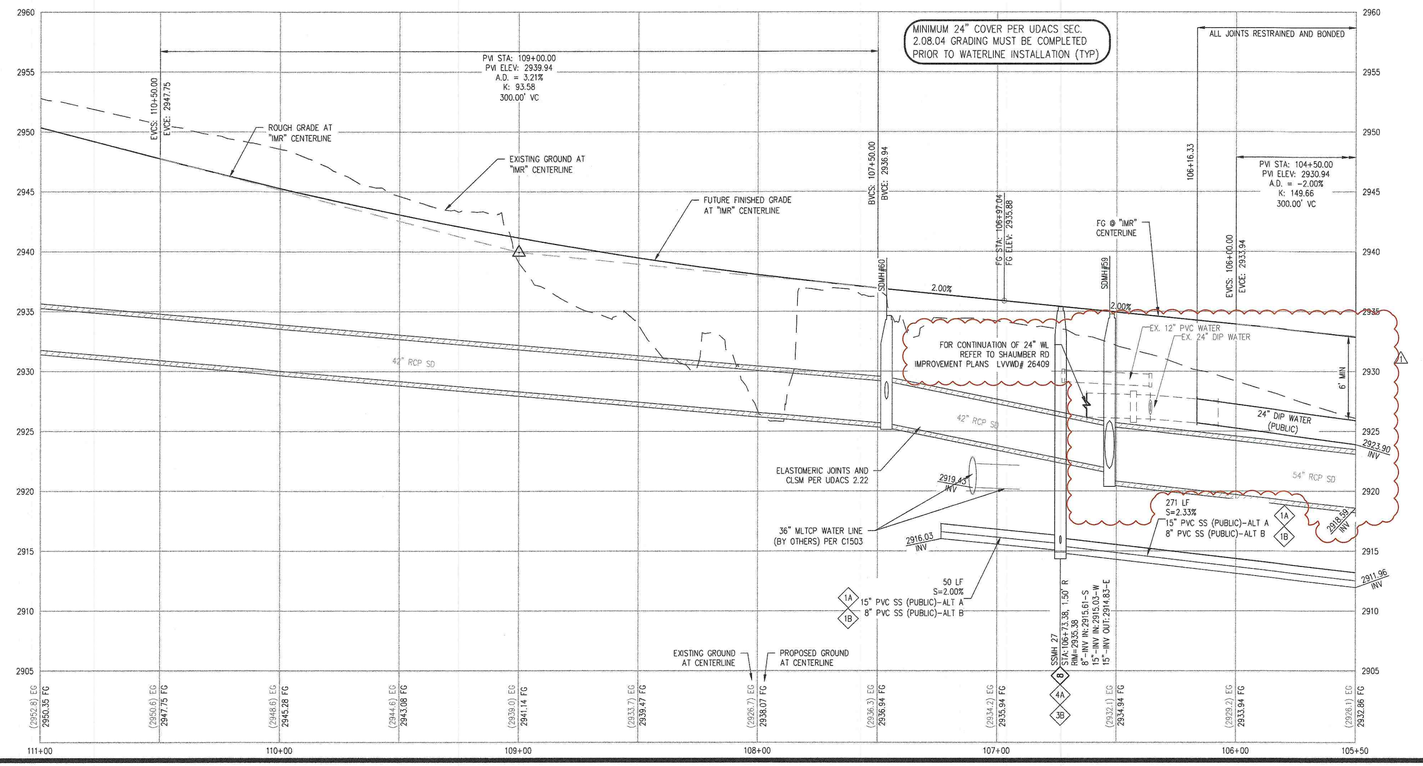
DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

IRON MOUNTAIN RD - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'



SEWER CONNECTION NOTE:

ONE OR MORE SEGMENTS OF THE DOWNSTREAM SEWER SYSTEM THAT WILL SERVE THIS PROJECT HAS NOT BEEN COMPLETED AND/OR ACCEPTED FOR MAINTENANCE BY THE CITY OF LAS VEGAS. ANY WORK DONE ON THIS PROJECT PRIOR TO THE COMPLETION AND/OR ACCEPTANCE OF THE DOWNSTREAM SEWER SYSTEM(S) SHALL BE DONE AT THE DEVELOPER'S OWN RISK. THE CITY OF LAS VEGAS RESERVES THE RIGHT TO PREVENT THE PHYSICAL CONNECTION OF THIS PROJECT INTO THE DOWNSTREAM SEWER SYSTEM UNTIL ALL SEGMENTS HAVE BEEN COMPLETED AND ACCEPTED FOR MAINTENANCE, OR UNTIL SUCH TIME AS THEY ARE DEEMED AVAILABLE FOR SERVICE.

DISCLAIMER NOTES:

1. NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS SHOWN FOR INFORMATION ONLY. REFERENCE NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS DRAWINGS FOR CONSTRUCTION DETAILS. CONTRACTOR TO COORDINATE WITH UTILITIES FOR REMOVAL AND INSTALLATION OF FACILITIES.
2. ALL EXISTING UTILITY LOCATIONS SHOW HEREON 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. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. THE DEPTH BELOW GRADE OF THE VARIOUS UTILITIES DEPICTED ON THE PLANS VARIES THROUGHOUT THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHERE EXCAVATING AND GRADING THE SUBBASE IN THE VICINITY OF UTILITIES TO AVOID DAMAGE TO THE LATTER.
3. ALL EXISTING UTILITIES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.

LEGEND

X UTILITY LATERAL # (SEE UTL-07 & UTL-08 SHEETS)

WATER NOTES

1 REMOVE CAP AND BLOW-OFF PER UDACS PLATE NO. 36 AND CONNECT NEW PIPE PER UDACS SECTION 3.14. CONNECT 2-4" FIBER OPTIC CONDUITS PER DETAIL 2 ON SHEET PRV-06A
2 INSTALL VERTICAL 45° BEND, SIZE PER PLAN, WITH RESTRAINED JOINTS
3 INSTALL HORIZONTAL 11.25° BEND, SIZE PER PLAN, WITH RESTRAINED JOINTS
4 INSTALL 24" GATE VALVE WITH BYPASS. SEE DETAIL 2 ON PRV-01
5 INSTALL 24"x24" TEE WITH RESTRAINED JOINTS PER PLAN
6 INSTALL 24"x8" TEE WITH RESTRAINED JOINTS PER PLAN
7 INSTALL 24"x36" TAPPING TEE W/ BYPASS & INSULATION GASKET PER UDACS 73 (SEE DTL 1, UTL-06)
8 INSTALL 6" CAP WITH BLOW-OFF PER UDACS PLATE 36
9 INSTALL 8" CAP WITH BLOW-OFF PER UDACS PLATE 36
10 INSTALL 8" GATE VALVE PER UDACS PLATE 39
11 INSTALL 1° VERTICAL DEFLECTION, PER UDACS SEC. 2.07
12 INSTALL DEEP BURY FIRE HYDRANT PER UDACS PLATE 41
13 INSTALL 24"X6" TEE AND GATE VALVE WITH RESTRAINED JOINTS PER PLAN
14 INSTALL 24" DIP WATERLINE (PUBLIC) PER UDACS PLATE 15 AND 17
15 INSTALL 6" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) PER UDACS PLATE 15 AND 17
16 INSTALL 8" DIP WATERLINE (PUBLIC) PER UDACS PLATE 15 AND 17
17 INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN, WITH RESTRAINED JOINTS
18 INSTALL 24"X12" CROSS WITH RESTRAINED JOINTS PER PLAN
19 INSTALL 6" GATE VALVE PER UDACS PLATE 39
20 INSTALL 4" AIR VALVE ASSEMBLY PER UDACS PLATE 38
21 INSTALL 6" BLOW-OFF ASSEMBLY PER UDACS PLATE 37
22 INSTALL 42" STEEL CASING PER UDACS PLATE 23
23 INSTALL 24"X12" REDUCER PER PLAN
24 INSTALL 12" GATE VALVE PER UDACS PLATE 39
25 INSTALL TYPE T TEST STATION PER DETAIL 1 ON SHEET PRV-04
26 INSTALL TYPE 1 TEST STATION PER DETAIL 3 ON SHEET PRV-04
27 INSTALL CENTURYLINK 200 PULLBOX PER DETAIL 1 ON SHEET PRV-01
28 INSTALL FIBER OPTIC VAULT PER DETAIL 1 ON SHEET PRV-06A
29 DEMO EXISTING JENSEN 3048 FIBER OPTIC PULLBOX PER DETAIL 3 ON SHEET PRV-06A
30 CONNECT FIBER OPTIC CONDUIT PER DETAIL 2 ON SHEET PRV-06A
31
32
33

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126410 FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW: TOTAL 1,500 GPM

APPROVED

LAS VEGAS FIRE AND RESCUE DATE

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

FAST Call Before you Dig UnderGround. 1-702-432-5500 FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig Avoid cutting underground utility lines. It's costly. Call 811 or 1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE SD	2/19/20	SVB		
1	MOVE SD, ADD 24" AND 12" WL	2/19/20	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
IRON MOUNTAIN ROAD
UTL PLAN & PROFILE - "IM" 111+00 TO "IM" 105+50

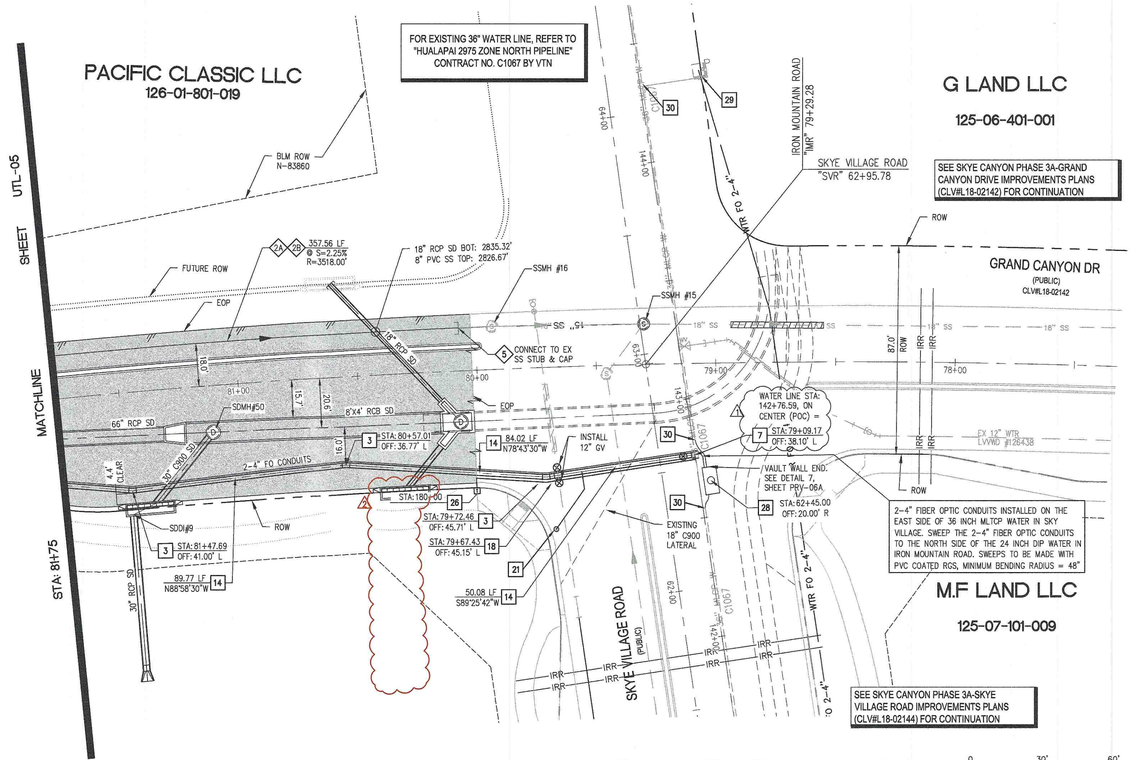
DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO. OLY1609-000

DERICK D.J. YORO — NEVADA — No. 16396 — PROFESSIONAL ENGINEER — CIVIL — Exp: 06/30/2020

UTL-01
SHEET 17 OF 47

L18-02473
107V7514

I:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MPROV_SB-CV\UTL\1609-000-UTL-ALIGNS 3/9/2020 5:55 PM Scott Booth



FOR EXISTING 36" WATER LINE, REFER TO "HUALAPAI 2975 ZONE NORTH PIPELINE" CONTRACT NO. C1067 BY VTN

APPROVED

LAS VEGAS FIRE AND RESCUE DATE

MINIMUM 24" COVER PER UDACS SEC. 2.08.04 GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION (TYP)

DROP INLET NOTE

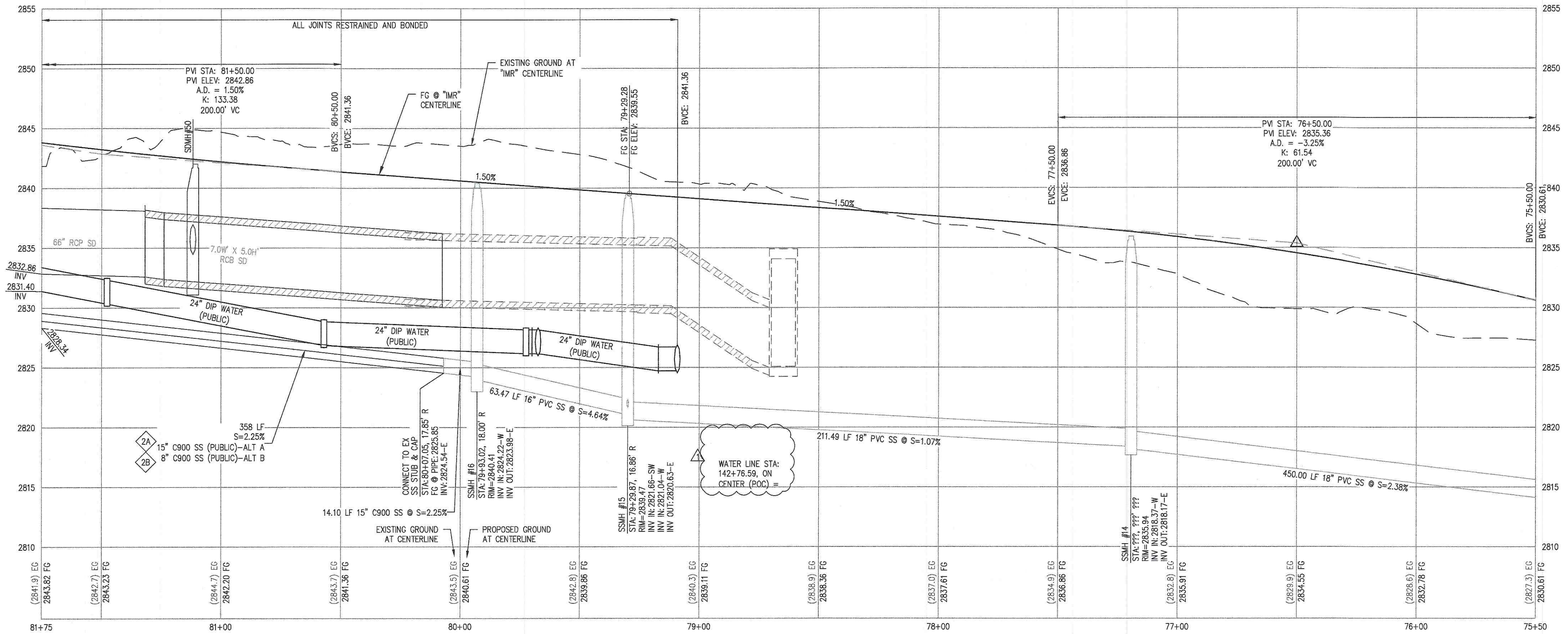
WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

IRON MOUNTAIN RD - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'

SCALE: 1"=30 FEET



\\OLYMPUS-2000 SKYE CANYON PHASE 3A 3B 3C\DWG\IMPROVA\3B-3C\M\OLY1609-000-UTL-MLDWG 3/9/2020 4:03 PM Scott Booth

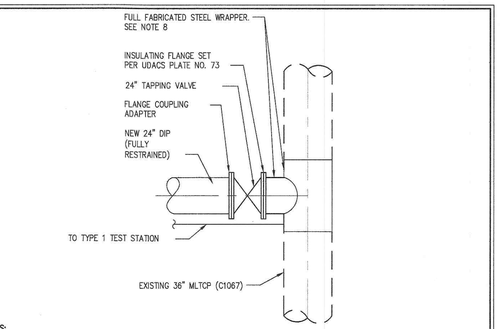
*ALT A TO BE CONSTRUCTED
*ALT B BIDDING PURPOSES ONLY

N

S-16

EASEMENT WITH TREES, SHRUBS, DECORATIVE ROCKS, BLOCK WALL, OR FENCE

TREES, SHRUBS, OR DECORATIVE ROCKS, AND ANY BLOCK WALL OR OTHER FENCE MATERIAL, SHALL BE DESIGNED AND CONSTRUCTED AROUND THE EASEMENT(S) TO ALLOW THE DISTRICT DIRECT ACCESS TO THE VAULT(S) BACKFLOW ASSEMBLIES, AND PIPING FROM THE ADJACENT RIGHT-OF-WAY.

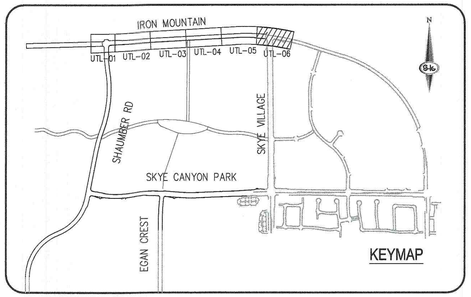


NOTES:
1. TAPPING FITTING SHALL BE FULL WRAPPER AND DESIGNED IN ACCORDANCE WITH AWWA M11.
2. DESIGN PRESSURE = 150 PSI.
3. ALL INTERIOR FERROUS METALS SHALL BE COATED OR CEMENT MORTAR COATING AFTER COMPLETION.
4. THE EXISTING PIPE SHALL REMAIN IN SERVICE, WITH WATER FLOWING, DURING ENTIRE TAPPING OPERATION.
5. VERIFY POSITION OF PROPOSED TAP PRIOR TO COMMENCING OPERATION. POSITION TAP AT LEAST 5 FEET FROM JOINT IN EXISTING PIPE.
6. PROVIDE SUPPORT FOR TAPPING VALVE AND TAPPING MACHINE.
7. CONTRACTOR TO SUBMIT WET TAP SUBMITTAL PRIOR TO START OF WORK FOR APPROVAL.
8. PROVIDE 80 MIL TAPE COATING ON WRAPPER PLATE AND NOZZLE ASSEMBLY. REPAIR DIELECTRIC TAPE ON THE EXISTING 36" PIPE (C1067) IN ACCORDANCE WITH AWWA C209.

1 **WET TAP DETAIL** NOT TO SCALE

WATER NOTES:

1. WATER MAIN JOINT DEFLECTION (PVC, 4" – 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
3. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
4. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
5. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
6. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
7. PROVIDE A MIN. 12" OF VERTICAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.06.
8. PROVIDE A MIN. 3' OF HORIZONTAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02.



SEWER NOTES

ALTERNATIVE A (FOR CONSTRUCTION)

1A INSTALL 15" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17) (TO BE CONSTRUCTED)
2A INSTALL 15" C905 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17) (TO BE CONSTRUCTED)
3A CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4A CONSTRUCT 72" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)

ALTERNATIVE B (FOR BIDDING PURPOSES ONLY)

1B INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17) (TO BE CONSTRUCTED)
2B INSTALL 8" C900 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17) (TO BE CONSTRUCTED)
3B CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)

REGULAR CONSTRUCTION NOTES

3 CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4 CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
5 INSTALL STUB AND CAP (SEE DETAIL 7 ON SHEET DTL-01)
6 INSTALL 10" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
7 REMOVE EXISTING PLUG AND CONNECT TO 8" SEWER
8 CONSTRUCT 72" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)
9 CONSTRUCT 60" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)
10 INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17) (TO BE CONSTRUCTED)

WATER NOTES

1 REMOVE CAP AND BLOW-OFF PER UDACS PLATE NO. 36 AND CONNECT NEW PIPE PER UDACS SECTION 3.14. CONNECT 2-4" FIBER OPTIC CONDUITS PER DETAIL 2 ON SHEET PRV-06A
2 INSTALL VERTICAL 45° BEND, SIZE PER PLAN, WITH RESTRAINED JOINTS
3 INSTALL HORIZONTAL 11.25° BEND, SIZE PER PLAN, WITH RESTRAINED JOINTS
4 INSTALL 24" GATE VALVE WITH BYPASS. SEE DETAIL 2 ON PRV-01
5 INSTALL 24"X24" TEE WITH RESTRAINED JOINTS PER PLAN
6 INSTALL 24"X8" TEE WITH RESTRAINED JOINTS PER PLAN
7 INSTALL 24"X36" TAPPING TEE W/ BYPASS & INSULATION GASKET PER UDACS 73 (SEE DTL 1, UTL-06)
8 INSTALL 6" CAP WITH BLOW-OFF PER UDACS PLATE 36
9 INSTALL 8" CAP WITH BLOW-OFF PER UDACS PLATE 36
10 INSTALL 8" GATE VALVE PER UDACS PLATE 39
11 INSTALL 1" VERTICAL DEFLECTION, PER UDACS SEC. 2.07
12 INSTALL DEEP BURY FIRE HYDRANT PER UDACS PLATE 41
13 INSTALL 24"X6" TEE AND GATE VALVE WITH RESTRAINED JOINTS PER PLAN
14 INSTALL 24" DIP WATERLINE (PUBLIC) PER UDACS PLATE 15 AND 17
15 INSTALL 6" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) PER UDACS PLATE 15 AND 17
16 INSTALL 8" DIP WATERLINE (PUBLIC) PER UDACS PLATE 15 AND 17
17 INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN, WITH RESTRAINED JOINTS
18 INSTALL 24"X12" CROSS WITH RESTRAINED JOINTS PER PLAN
19 INSTALL 6" GATE VALVE PER UDACS PLATE 39
20 INSTALL 4" AIR VALVE ASSEMBLY PER UDACS PLATE 38
21 INSTALL 6" BLOW-OFF ASSEMBLY PER UDACS PLATE 37
22 INSTALL 42" STEEL CASING PER UDACS PLATE 23
23 INSTALL 24"X12" REDUCER PER PLAN
24 INSTALL 12" GATE VALVE PER UDACS PLATE 39
25 INSTALL TYPE T TEST STATION PER DETAIL 1 ON SHEET PRV-04
26 INSTALL TYPE 1 TEST STATION PER DETAIL 3 ON SHEET PRV-04
27 INSTALL CENTURYLINK 200 PULLBOX PER DETAIL 1 ON SHEET PRV-01
28 INSTALL FIBER OPTIC VAULT PER DETAIL 1 ON SHEET PRV-06A
29 DEMO EXISTING JENSEN 3048 FIBER OPTIC PULLBOX PER DETAIL 3 ON SHEET PRV-06A
30 CONNECT FIBER OPTIC CONDUIT PER DETAIL 2 ON SHEET PRV-06A
31
32
33

SEWER CONNECTION NOTE:

ONE OR MORE SEGMENTS OF THE DOWNSTREAM SEWER SYSTEM THAT WILL SERVE THIS PROJECT HAS NOT BEEN COMPLETED AND/OR ACCEPTED FOR MAINTENANCE BY THE CITY OF LAS VEGAS. ANY WORK DONE ON THIS PROJECT PRIOR TO THE COMPLETION AND/OR ACCEPTANCE OF THE DOWNSTREAM SEWER SYSTEM(S) SHALL BE DONE AT THE DEVELOPER'S OWN RISK. THE CITY OF LAS VEGAS RESERVES THE RIGHT TO PREVENT THE PHYSICAL CONNECTION OF THIS PROJECT INTO THE DOWNSTREAM SEWER SYSTEM UNTIL ALL SEGMENTS HAVE BEEN COMPLETED AND ACCEPTED FOR MAINTENANCE, OR UNTIL SUCH TIME AS THEY ARE DEEMED AVAILABLE FOR SERVICE.

DISCLAIMER NOTES:

1. NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS SHOWN FOR INFORMATION ONLY. REFERENCE NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS DRAWINGS FOR CONSTRUCTION DETAILS. CONTRACTOR TO COORDINATE WITH UTILITIES FOR REMOVAL AND INSTALLATION OF FACILITIES.
2. ALL EXISTING UTILITY LOCATIONS SHOW HEREON 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. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. THE DEPTH BELOW GRADE OF THE VARIOUS UTILITIES DEPICTED ON THE PLANS VARIES THROUGHOUT THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHERE EXCAVATING AND GRADING THE SUBBASE IN THE VICINITY OF UTILITIES TO AVOID DAMAGE TO THE LATTER.
3. ALL EXISTING UTILITIES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.

LEGEND

X UTILITY LATERAL # (SEE UTL-07 & UTL-08 SHEETS)

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126410 FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW: TOTAL 1,500 GPM

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

FAST
Call Before you Dig Underground.
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid nicking underground utility lines. It's costly.
Call 811
OR
1-800-227-2600

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

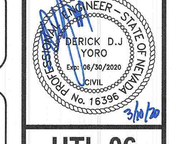
NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	SD REVISIONS	2/19/20	SVB		
1	ADD STATION EQUATION	2/19/20	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
IRON MOUNTAIN ROAD
UTL PLAN & PROFILE - "IM" 81+75 TO "IM" 75+50

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

PROJECT NO.
OLY1609-000

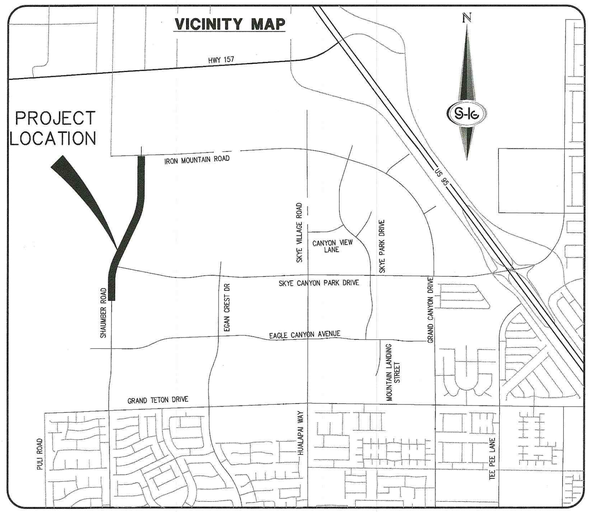


UTL-06
SHEET 22 OF 47

L18-02473
107V7514

SKYE CANYON

IMPROVEMENT PLANS
FOR
SKYE CANYON PHASE 3B, 3C
SHAUMBER ROAD
SKYE CANYON PARK TO IRON MOUNTAIN RD
APN:126-12-501-004
28.3 AC



BENCHMARK

MONUMENT ID: USDA (1934) 19

U.S. DEPARTMENT OF AGRICULTURE BRASS DISC AT SOUTHWEST CORNER OF U.S. 95 AND KYLE CANYON ROAD

ELEVATION = 2817.61 FEET, 858.810 METERS
NAVD 88 DATUM

PER THE CITY OF LAS VEGAS BENCHMARK BOOK – 2008 ADJUSTMENT (UPDATED 05/24/2010)

BASIS OF BEARING

NORTH 89°16'30" WEST, BEING THE BEARING OF THE SOUTH LINE OF THE NORTHWEST QUARTER (NW1/4) OF SECTION 7, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE 147, PAGE 71 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

OWNER

M F LAND LLC
% OLYMPIA COMPANIES LLC
11411 SOUTHERN HIGHLANDS
PARKWAY, SUITE 300
LAS VEGAS, NV 89141

DEVELOPER

NINETY–FIVE MANAGEMENT LLC
% OLYMPIA COMPANIES LLC
11411 SOUTHERN HIGHLANDS
PARKWAY, SUITE 300
LAS VEGAS, NV 89141
PH (702) 220–6565
FX (702) 220–6566

ENGINEER

SLATER HANIFAN GROUP
5740 S. ARVILLE STREET #216
LAS VEGAS, NV 89118
(702) 284–5300

CONTINGENCY NOTE

PROJECT PLAN APPROVAL IS CONTINGENT UPON APPROVAL AND CONSTRUCTION OF:
*LVVWD PROJECT #1260408, SKYE CANYON PHASE 3B,3C SKY CANYON DRIVE

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

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

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
or
1-800-227-2600

APPROVALS

CITY ENGINEER–ALLEN E. PAVELKA PE #9029 DATE

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

CITY OF LAS VEGAS DEPARTMENT OF PLANNING DATE
THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE PLANNING DEPARTMENT.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126409 FIRST APPROVED DATE:
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL

APPROVAL BY THE FIRE DEPARTMENT HAVING JURISDICTION IS REQUIRED PRIOR TO OBTAINING FINAL APPROVAL FROM THE LAS VEGAS VALLEY WATER DISTRICT.

LAS VEGAS FIRE AND RESCUE DATE

NV ENERGY DATE

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

CENTRAL TELEPHONE CO, DBA CENTURYLINK DATE

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

SOUTHWEST GAS CORPORATION DATE

COX COMMUNICATIONS LAS VEGAS, INC. DATE

INDEX OF DRAWINGS

SHT. NO.	DWG NO.	DESCRIPTION
1	G–01	COVER SHEET
2	G–02	GENERAL NOTES
3	G–03	ABBREVIATIONS, LEGEND, AND QUANTITIES
4	TY–01	ROADWAY SECTIONS
5	PP–01	CONSTRUCTION PLAN – "SR" 22+00 TO "SR" 28+00
6	PP–02	CONSTRUCTION PLAN – "SR" 28+00 TO "SR" 34+50
7	PP–03	CONSTRUCTION PLAN – "SR" 34+50 TO "SR" 40+50
8	PP–04	CONSTRUCTION PLAN – "SR" 40+50 TO "SR" 46+50
9	PP–05	CONSTRUCTION PLAN – "SR" 46+50 TO "SR" 52+50
10	PP–06	CONSTRUCTION PLAN – "SR" 52+50 TO "SR" 58+50
11	PP–07	CONSTRUCTION PLAN – "SR" 58+50 TO "SR" 64+50
12	PP–08	CONSTRUCTION PLAN – "SR" 64+50 TO "SR" 69+50
13	PP–09	CONSTRUCTION PLAN – DB OUTFALL
14	LAT–01	STORM DRAIN LATERALS I
15	LAT–02	STORM DRAIN LATERALS II
16	GR–01	GRADING SHEET I
17	GR–02	GRADING SHEET II
18	GR–03	GRADING SHEET III
19	GR–04	GRADING SHEET IV
20	GR–05	GRADING SHEET V
21	DTL–01	STORM DRAIN DETAILS
22	UTL–01	UTL PLAN & PROFILE – "SR" 22+00 TO "SR" 28+00
23	UTL–02	UTL PLAN & PROFILE – "SR" 28+00 TO "SR" 34+50
24	UTL–03	UTL PLAN & PROFILE – "SR" 34+50 TO "SR" 40+50
25	UTL–04	UTL PLAN & PROFILE – "SR" 40+50 TO "SR" 46+50
26	UTL–05	UTL PLAN & PROFILE – "SR" 46+50 TO "SR" 52+50
27	UTL–06	UTL PLAN & PROFILE – "SR" 52+50 TO "SR" 58+50
28	UTL–07	UTL PLAN & PROFILE – "SR" 58+50 TO "SR" 64+50
29	UTL–08	UTL PLAN & PROFILE – "SR" 64+50 TO "SR" 69+50
30	UTL–09	UTILITY LATERAL I
31	UTL–10	UTILITY LATERAL II
32	UTL–11	UTILITY LATERAL III
33	TR–01	TRAFFIC PLAN I
34	TR–02	TRAFFIC PLAN II
35	TR–03	TRAFFIC PLAN III
36	TR–04	TRAFFIC PLAN IV
37	HC–1	HORIZONTAL CONTROL PLAN
38	HC–2	HORIZONTAL CONTROL PLAN
39	HC–3	HORIZONTAL CONTROL PLAN
40	HC–4	HORIZONTAL CONTROL PLAN
41	HC–5	HORIZONTAL CONTROL PLAN
42	HC–6	HORIZONTAL CONTROL PLAN

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SHT. NO.	DWG NO.	DESCRIPTION
43	HC–7	HORIZONTAL CONTROL PLAN
44	HC–8	HORIZONTAL CONTROL PLAN
45		

DRY UTILITY SUPPLEMENTAL INDEX

SOUTHWEST GAS

1	
2	
3	
4	
5	
6	
7	

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP
2	REVISE STORM DRAIN	3/9/20	DMH		
1	ADDITIONAL 12" & 24" WATER LINE MOVE	2/13/20	SHB		
	WATER LATERALS, ADD WTR LATERAL AND SEWER SLEEVES				

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER ROAD
COVER SHEET

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

PROJECT NO.
OLY1609-000

NEVADA ENGINEER STATE OF NEVADA PROFESSIONAL ENGINEER DERICK D.J YORO Exp: 06/30/2020 CIVIL No. 16396
3/10/20

G-01
SHEET 1 OF 44

L18-02471
107V7512

J:\OLY1609-000 SKYE CANYON PHASE 3A,3B,3C\ENGINEER\DWG\3B-C\SHEETS\OLY1609-000-CVR-SHT.DWG, 3/9/2020 2:40 PM, Brenda Miller

LEGEND

—— TEL 5-4" ——	EXISTING TELEPHONE CABLE
—— 12" SS ——	EXISTING SANITARY SEWER LINE
—— 12" W ——	EXISTING WATER LINE
—— 18" SD ——	EXISTING STORM DRAIN LINE
—— ELE UG 1-4" ——	EXISTING UNDERGROUND ELECTRICAL LINE
—— OHP ——	EXISTING OVERHEAD POWER LINE
—— OHP/TEL ——	EXISTING OVERHEAD POWER AND TELEPHONE LINE
—— 4" PE GAS ——	EXISTING GAS LINE
—— CATV ——	EXISTING CABLE TELEVISION LINE
	EXISTING CURB & GUTTER
	EXISTING RIGHT-OF-WAY LINE
	EXISTING COMMON ELEMENT LINE
—X—X—X—	EXISTING CHAIN-LINK FENCE
SL	EXISTING STREET LIGHT CONDUIT
MH	EXISTING MANHOLE OR VAULT
	EXISTING VALVE (GAS OR WATER)
FH	EXISTING FIRE HYDRANT
PP	EXISTING POWER OR TELEPHONE POLE
	EXISTING PADMOUNTED SERVICE PEDESTAL
	EXISTING NV ENERGY TRANSFORMER
	EXISTING SWING GATE
	EXISTING STREET LIGHT
	EXISTING ON-SITE LIGHT

	STREET CENTERLINE
	EASEMENT LINE
	AEP
	PROPOSED SIGN
	CONCRETE SURFACE
PLANTMIX	PLANTMIX BITUMINOUS SURFACE
	FLOWLINE
	SAWCUT LINE
1875	CONTOUR LINE
12.3 TC	ELEVATION
12.3 TC	FUTURE ELEVATION
D	STORM DRAIN MANHOLE
S	SANITARY SEWER MANHOLE
	100 WATT STREET LIGHT
	250 WATT STREET LIGHT
—— 4" ITS ——	FAST ITS CONDUIT
	FAST P30 PULLBOX
	FAST TYPE 200 SPLICE VAULT
	SIGHT VISIBILITY ZONE

ABBREVIATIONS

ABUT	ABUTMENT
AC	ALUMINUM CAP/ASPHALTIC CONCRETE
AEP	AUTHORIZATION TO ENTER PROPERTY
AP	ANGLE POINT
APN	ASSESSORS PARCEL NUMBER
AVE	AVENUE
BC	BEGIN CURVE/BRASS CAP/BACK OF CURB
BCR	BEGIN CURB RETURN
BLVD	BOULEVARD
BM	BENCHMARK
BOT	BOTTOM
BRG	BEARING
BSW	BACK OF SIDEWALK
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
CATV	UNDERGROUND CABLE TV
CG	CURB AND GUTTER
CCSD	DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS
CKT	CIRCUIT
CLR	CLEAR/CLEARANCE
CLBM	CITY OF LAS VEGAS BENCHMARK
CLV	CITY OF LAS VEGAS
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
℄ ℄/L	CENTERLINE
COB	CENTER OF BOLLARD
COL	COLUMN
CONST	CONSTRUCT/CONSTRUCTION
COORD	COORDINATE
COR	CORNER
CY	CUBIC YARD(S)
Δ	DELTA
DB	DIRECT BURY
DBL	DOUBLE
DI	DROP INLET
DIA	DIAMETER
DIST	DISTANCE
DR	DRIVE
DW	DRIVEWAY
DWG	DRAWING
ECR	END CURB RETURN
E	EAST
EA	EACH
ESMT	EASEMENT
ECR	END CURB RETURN
ELEC	ELECTRICAL
ELEV/EL	ELEVATION
EP/EOP	EDGE OF PAVEMENT
EQ	EQUAL
EST	ESTIMATED
EVC	END VERTICAL CURVE
EX./EXIST	EXISTING
EXP	EXPANSION JOINT
EW	EACH WAY
FC	FACE OF CURB
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FO	FIBER OPTIC
FS	FINISH SURFACE
FT	FOOT/FEET
FTG	FOOTING
FW	FACE OF WALL
FYA	FLASHING YELLOW ARROW
G	GAS
GA	GAUGE
GB	GRADE BREAK
GND	GROUND
H	HEIGHT
HGL	HYDRAULIC GRADE LINE
HORIZ	HORIZONTAL
HWY	HIGHWAY
INV	INVERT
ITS	INTELLIGENT TRANSPORTATION SYSTEM
JT	JOINT
LF	LINEAR (LINEAL) FEET
LIP	LIP OF GUTTER
LT	LEFT
LUM	LUMINAIRE
LVVWD	LAS VEGAS VALLEY WATER DISTRICT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MLCP	MULTI-LAYERED COMPOSITE PIPE
MOD	MODIFY/MODIFIED
MON	MONUMENT
MPH	MILES PER HOUR
N	NORTH
NDOT	NEVADA DEPARTMENT OF TRANSPORTATION
NO	NUMBER
NVE	NV ENERGY
NTS	NOT TO SCALE
OC	ON CENTER
OHP	OVERHEAD POWER LINE
PAT	PATENT
PB	PULL BOX
PBS	PLANTMIX BITUMINOUS SURFACE
PC	POINT OF CURVE, PHOTO CELL
PCC	POINT OF COMPOUND CURVE
PD	PONDING DEPTH
PE	PROJECT ENGINEER/POLYETHYLENE
PED	PEDESTRIAN
PG	PROFILE GRADE (FG ON CONTROL LINE)
PGL	PROFILE GRADE LINE
PH	POTHOLE
PI	POINT OF INTERSECTION
PKWY	PARKWAY
PL	PROPERTY LINE
PMF	PAVEMENT MARKING FILM
POB	POINT OF BEGINNING
POC	POINT ON CURVE
POE	POINT OF ENDING
POT	POINT ON TANGENT
PP	POWER POLE
PPCBR	PORTABLE PRECAST CONCRETE BARRIER RAIL
PPM	POLYUREA PAVEMENT MARKINGS
PR	PAIR
PROP	PROPOSED
PRC	POINT OF REVERSE CURVE
PRVC	POINT REVERSE VERTICAL CURVE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
R	RADIUS
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REC	RECTANGULAR
REINF	REINFORCED
REQD	REQUIRED
RND	ROUND
RP	RADIUS POINT
RPM	RAISED PAVEMENT MARKERS
R/W	RIGHT-OF-WAY
RT	RIGHT
S	SOUTH
SCH	SCHEDULE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SECT	SECTION
SF	SQUARE FOOT/FEET
SHLDR	SHOULDER
SHT	SHEET
SIM	SIMILAR
SP	SERVICE POINT
SPA	SPACING
SQ	SQUARE
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
ST	STREET
STL	STEEL
SL	STREET LIGHT
STRUCT	STRUCTURE
SW	SIDEWALK
SNBORS	SOUTHERN NEVADA BUILDING OFFICIALS REGIONAL STANDARDS
SWG	SOUTHWEST GAS
T	TELEPHONE/TOP
TAN	TANGENT
TC	TOP OF CURB
TEMP	TEMPORARY
TF	TOP OF FOOTING
TG	TOP OF GRATE
TMH	TOP OF MANHOLE
TRANS	TRANSITION STRUCTURE
THW	TOP OF HEADWALL
TRW	TOP OF RETAINING WALL
TW	TOP OF WALL
TS	TRAFFIC SIGNAL
TYP	TYPICAL
UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS
USDCCA	UNIFORM STD. DRAWINGS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS CLARK COUNTY AREA, NEVADA
UT	UNDERGROUND TELEPHONE
VAR	VARIABLE/VARIES
VC	VERTICAL CURVE
VERT	VERTICAL
VG	VALLEY GUTTER
W	WEST
WY	WAY
WT	WEIGHT
XING	CROSSING

ALIGNMENT ABBREVIATIONS

"ECD"	EGAN CREST DRIVE (SKYE CANYON PARK DRIVE TO EAGLE CANYON DRIVE)
"IMR"	IRON MOUNTAIN ROAD (SKYE VILLAGE ROAD TO SHAUMBER ROAD)
"SCP"	SKYE CANYON PARK DRIVE (SKYE VILLAGE ROAD TO SHAUMBER ROAD)
"SR"	SHAUMBER ROAD (SKYE CANYON PARK DRIVE TO IRON MOUNTAIN ROAD)
"SVR"	SKYE VILLAGE ROAD

QUANTITIES - ADDITIONAL ITEMS

			PRIVATE	PUBLIC
WATER SYSTEM				
1.	24" DIP RESTRAINED AND BONDED JOINTS	LF	–	194
2.	24" DIRECT BURIED GATE VALVE WITH BY-PASS INSTALLATION	EA	–	1
3.	24"X12" TEE W/ RESTRAINED JOINTS	EA	–	1
4.	24"X24" TEE W/ RESTRAINED JOINTS	EA	–	1
5.	6" MANUAL BLOW-OFF ASSEMBLY PER UDACS PLATE NO. 37	EA	–	2
6.	4" COMBINATION AIR VALVE ASSEMBLY PER UDACS PLATE NO. 38	EA	–	1
7.	24" 45 DEGREE BEND W/ RESTRAINED JOINTS	EA	–	2
8.	24"X12" REDUCER W/ RESTRAINED JOINTS	EA	–	1
9.	24" 22.5 DEGREE BEND W/ RESTRAINED JOINTS	EA	–	1
10.				

QUANTITIES

			PRIVATE	PUBLIC
DRAINAGE				
	DESCRIPTION			
1.	DROP INLET 5.0' TYPE CM2	EA	–	2
2.	DROP INLET 17.5' TYPE CM2	EA	–	3
3.	DROP INLET 20' TYPE CM2	EA	–	–
4.	STRUCTURAL DROP INLET	EA	–	–
5.	60" TYPE III MANHOLE	EA	–	11
6.	48" TYPE II MANHOLE	EA	–	10
7.	NDOT TYPE 4 MANHOLE	EA	–	–
8.	BEEHIVE INLET	EA	–	–
9.	18" RCP	LF	–	155
10.	24" RCP	LF	–	–
11.	30" RCP	LF	–	665
12.	36" RCP	LF	–	993
13.	42" RCP	LF	–	645
14.	54" RCP	LF	–	800
15.	60" RCP	LF	–	120
16.	72" RCP	LF	–	–
17.	76"X48" HERCP	LF	–	–
18.	PRECAST 6'X6' RCB	LF	–	–
19.	PRECAST 8'X5' RCB	LF	–	–
20.	PRECAST 8'X7' RCA	LF	–	–
21.	PRECAST 10'X9' RCA	LF	–	–
22.	STRUCTURAL HEADWALL	EA	–	–
23.	NDOT TYPE II HEADWALL	EA	–	–
24.	18" END SECTION	EA	–	–
25.	24" END SECTION	EA	–	3
26.	30" END SECTION	EA	–	–
27.	36" END SECTION	EA	–	1
28.	42" END SECTION	EA	–	1
29.	54" END SECTION	EA	–	2
30.	RIPRAP	CY	–	430
31.	18" C900 SD	LF	–	115
32.	24" C900 SD	LF	–	130
33.	30" C900 SD	LF	–	100
34.	36" C900 SD	LF	–	55
35.	42" C900 SD	LF	–	50
36.	54" C900 SD	LF	–	180
37.	CONCRETE COLLAR	EA	–	1
SEWER SYSTEM				
1.	8" C900 SEWER PIPE	LF	–	50
2.	8" SDR35 PVC SEWER PIPE	LF	–	315
3.	STANDARD 48" SEWER MANHOLE	EA	–	3
4.	8" SWER PIPE CAP	EA	–	2
5.	STANDARD 72" SEWER MANHOLE	EA	–	2
6.	18" STEEL SLEEVE PER UDACS PLATE NO. 23	LF	–	224
WATER SYSTEM				
1.	FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS PLATE NO. 40	EA	–	3
2.	12" C-900 PVC WATER PIPE (CLASS 150)	LF	–	2,886
3.	16" DIP RESTRAINED AND BONDED JOINTS	LF	–	140
4.	6" C-900 PVC WATER PIPE (CLASS 150)	LF	–	160
5.	8" DIP WATER PIPE (CLASS 150)	LF	–	10
6.	8" PVC WATER PIPE (CLASS 150)	LF	–	269
7.	12" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	10
8.	8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	5
9.	6" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	2
10.	12" X 12" TEE PER UDACS PLATE NO. 31	EA	–	1
11.	12" X 8" TEE PER UDACS PLATE NO. 31	EA	–	5
12.	12" X 6" TEE PER UDACS PLATE NO. 31	EA	–	–
13.	11.25 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	–
14.	22.5 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	14
15.	45 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	18
16.	12" CAP AND 2" BLOW-OFF ASSEMBLY W/CAP PER UDACS PLATE NO. 36	EA	–	1
17.	8" CAP AND 2" BLOW-OFF ASSEMBLY W/CAP PER UDACS PLATE NO. 36	EA	–	7
18.	90 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	2
STREET IMPROVEMENTS				
1.	5.5" A.C. PAVEMENT W/ 6" TYPE II OVER 4" TYPE I AGGREGATE BASE	SY	–	7415
2.	STANDARD 24" TYPE "L" ISLAND CURB & GUTTER W/6" TYPE I AGGREGATE BASE	LF	–	2500
3.	STANDARD 8" TYPE "A" ISLAND CURB W/6" TYPE I AGGREGATE BASE	LF	–	2665
4.	4" WIDE CONCRETE SIDEWALK W/4" TYPE II AGGREGATE BASE	SF	–	–
5.	COMMON ELEMENT LANDSCAPING	SF	–	–
6.	2" ALUMINUM CAP STAMPED MONUMENT PER CCAUSD DWG 242	EA	–	8
7.	SIDEWALK RAMPS PER CCAUSD NO. 235	EA	–	1
TRAFFIC SIGNALS				
1.	30" STOP SIGN WITH POST (R1-1)	EA	–	1
2.	9" STREET NAME SIGN (D-3, BROWN W/ WHITE LETTERS)(2 POLES x 2 PER POLE=4)	EA	–	4
3.	BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKER	EA	–	3
4.	CHEVRON STRIPPING	SF	–	260
5.	P30 PULL BOX W/ METAL COVER	EA	–	3
6.	4" ITS CONDUIT	LF	–	2500
7.	TYPE I CENTERLINE (PAINT)	LF	–	2235
8.	RED PAINT	LF	–	90
9.	#5 PULLBOX	EA	–	–
10.	#7 PULLBOX	EA	–	2
DRY UTILITIES				
1.	133W LED LUMINAIRE STREET LIGHT W/DECORATIVE POLE	EA	–	16
2.	1-1/4" PVC STREET LIGHT CONDUIT WITH (2) #4 AND (1) #8 CONDUCTORS	LF	–	2720
3.	NO. 3-1/2 PULL BOX W/METAL COVER	EA	–	4
4.	150 AMP SERVICE PEDESTAL (IRR)	EA	–	–
5.	200 AMP SERVICE PEDESTAL (STLT)	EA	–	2
6.				

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126409 FIRST APPROVAL DATE: _____

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REVISED STORM DRAIN QUANTITIES	3/9/20	DMH		
2	ADDITIONAL 12" & 24" WATER LINE	7/13/20	SRB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER ROAD

ABBREVIATIONS, LEGEND, AND QUANTITIES

DATE: 3/9/20
DRAFTER: ##
DESIGNER: ##
CHECKED: ##

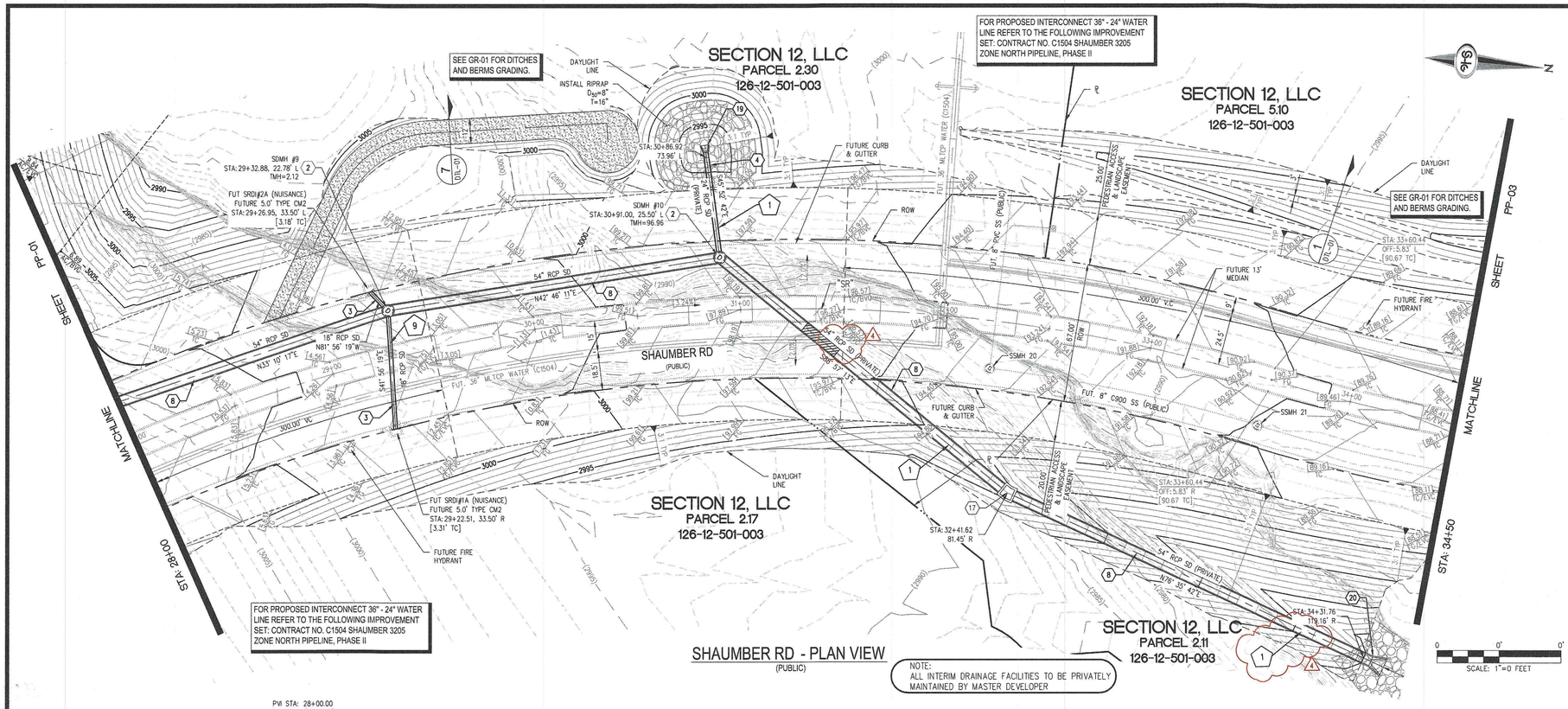
PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER - STATE OF NEVADA
DARICK D.J YORO
Exp: 06/30/2020
CIVIL
No. 16396
3/10/20

G-03
SHEET 3 OF 44

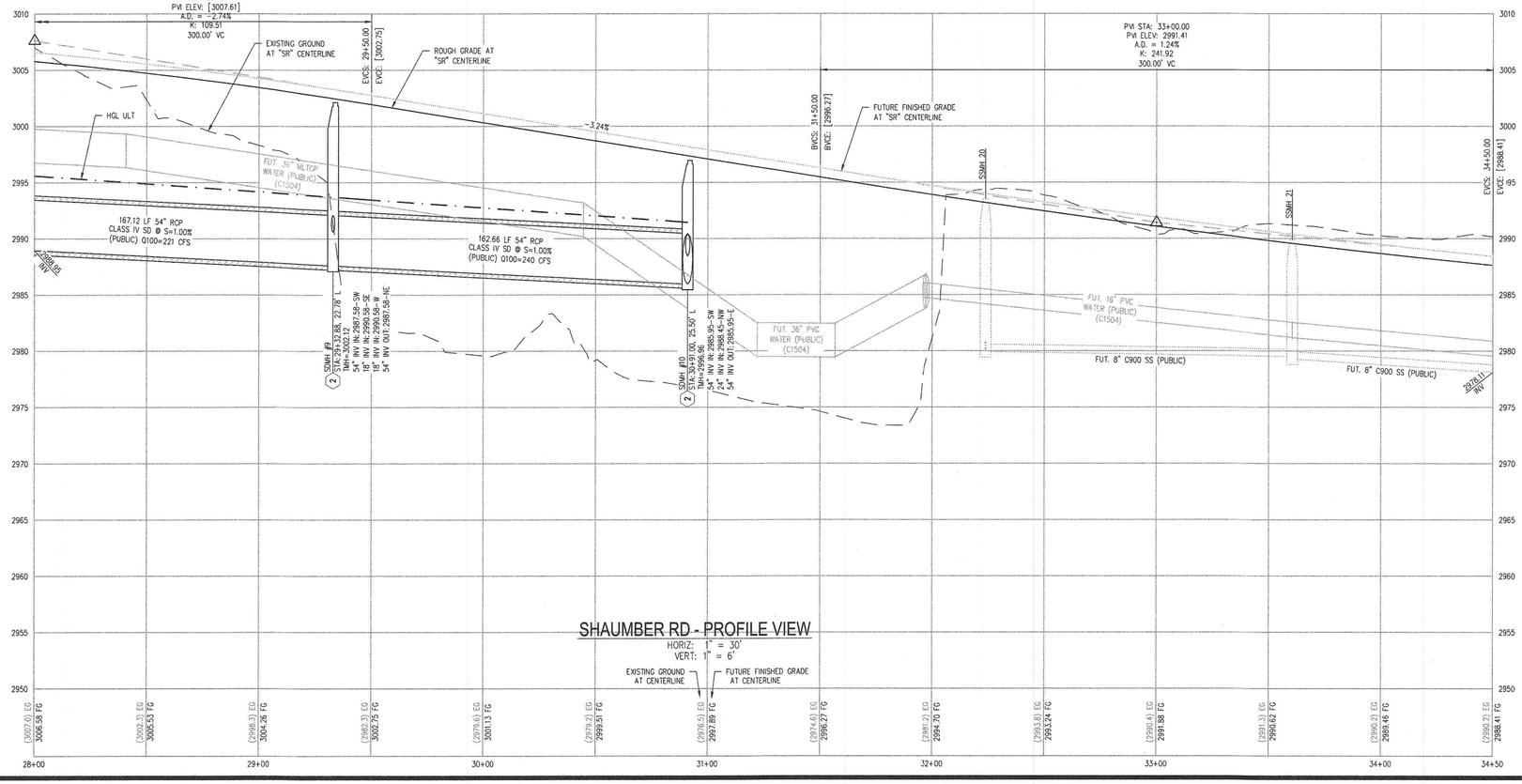
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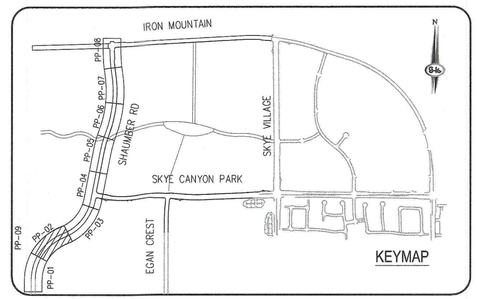
SHAUMBER RD - PLAN VIEW
(PUBLIC)

NOTE:
ALL INTERIM DRAINAGE FACILITIES TO BE PRIVATELY MAINTAINED BY MASTER DEVELOPER



SHAUMBER RD - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 6'

EXISTING GROUND AT CENTERLINE — FUTURE FINISHED GRADE AT CENTERLINE



CONSTRUCTION NOTES

1	CONSTRUCT 1" UTACS OVER 4.5" PBS OVER 4" TYPE II AGGREGATE BASE (SEE TY SHEETS)
2	CONSTRUCT 1" UTACS OVER 5.5" PBS OVER 6" TYPE II AGGREGATE BASE (SEE TY SHEETS)
3	CONSTRUCT "A" TYPE ISLAND CURB (USDCCA STD. DWG. NO. 219)
4	CONSTRUCT "L" TYPE CURB AND GUTTER (USDCCA STD. DWG. NO. 216)
5	CONSTRUCT SIDEWALK RAMP (CASE II) WITH TACTILE WARNING PANEL (USDCCA STD. DWG. NO 235)
6	CONSTRUCT BUS TURN-OUT (USDCCA STD. DWG. NO. 234.1)
7	CONSTRUCT CONCRETE SIDEWALK (USDCCA STD. DWG. 234)
P	PROTECT IN PLACE (VERIFY LOCATION AND ELEVATION OF EX. IMPROVEMENT)

STORM DRAIN NOTES

1	CONSTRUCT 48" TYPE II-SD MANHOLE (USDCCA STD. DWG. NO. 405.2)
2	CONSTRUCT 60" TYPE III MANHOLE (USDCCA STD. DWG. NO. 406.1)
3	INSTALL 18" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
4	INSTALL 24" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
5	INSTALL 30" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERAIL)
6	INSTALL 36" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
7	INSTALL 42" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
8	INSTALL 54" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
9	INSTALL 60" RCP (USDCCA STD. DWG. NO. 503.2)
10	INSTALL 72" RCP (USDCCA STD. DWG. NO. 503.2)
11	INSTALL 30" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
12	INSTALL 36" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
13	INSTALL 42" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
14	INSTALL 72" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
15	CONSTRUCT TYPE "CM2" DROP INLET, SIZE PER PLAN (USDCCA STD. DWG. NO. 412.1 & 421)
16	STRUCTURAL MANHOLE
17	CONSTRUCT CONCRETE COLLAR (SEE DETAIL 3/DTL-01)
18	CONSTRUCT INTERIM BRICK AND MORTAR PLUG SEE DETAIL 2/DTL-01
19	INSTALL 24" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
20	INSTALL 54" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
21	INSTALL 66" RCP END SECTION (NDOT STD. PLAN R-2.3.1) W/1" SACRIFICIAL CONCRETE PER STRUCTURAL DWGS

NOTES

1. ALL RCP SHALL BE CLASS III UNLESS OTHERWISE SHOWN.
2. ALL PIPE LENGTHS ARE MEASURED ALONG PIPE CENTERLINE TO CENTER OF MANHOLE OR INSIDE EDGE OF DI OR RCB/RCA.
3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
5. ALL PIPES ARE PUBLICLY MAINTAINED IN PUBLIC ROW.
6. ADD SPECIAL INSPECTION REQUIRED FOR PIPE SEGMENTS WITH SACRIFICIAL CONCRETE.
7. DIMENSIONS ARE TO BE BACK OF CURB, FACE OF CURB, OR FACE OF MEDIAN UNLESS OTHERWISE NOTED.
8. SEE TY-SHEETS FOR TYPICAL SECTIONS.
9. SEE UT-SHEETS FOR WATER AND SEWER PLAN AND PROFILES.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/4/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

NOTE:
PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES, SUCH AS BUT NOT LIMITED TO, THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF VEGETATION.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126409 — FIRST APPROVED DATE: _____

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

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

Call before you Dig Avoid cutting underground utility lines. It's costly. Call 811 or 1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REVISE SD PIPE MATERIAL & ADD LAT. NOTE	3/9/20	EMH		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER ROAD
CONSTRUCTION PLAN - "SR" 28+00 TO "SR" 34+50

DATE: 3/10/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

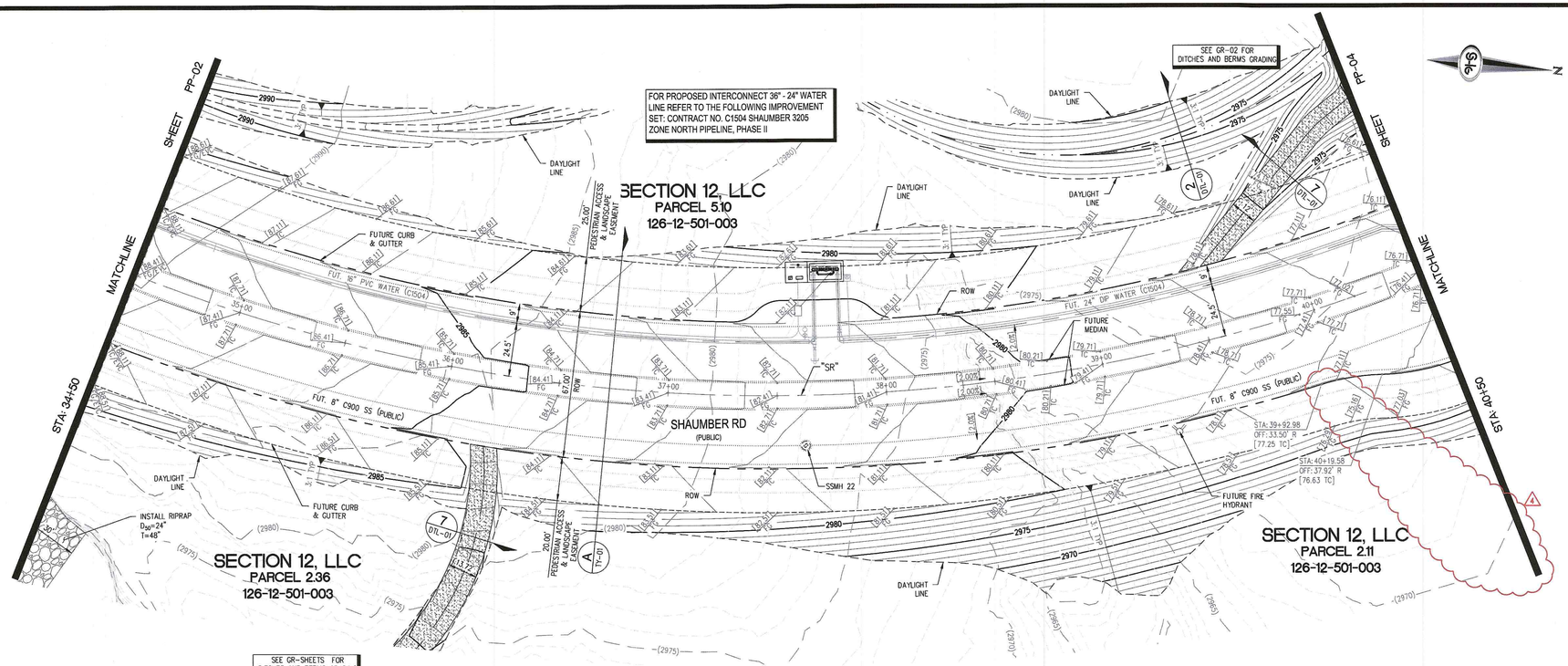
PROJECT NO.
OLY1609-000

DERICK D.J YORO — NEVADA — PROFESSIONAL ENGINEER — STATE OF NEVADA — No. 16396 — CIVIL — exp: 06/30/2020 — 3/4/20

PP-02
SHEET 6 OF 44

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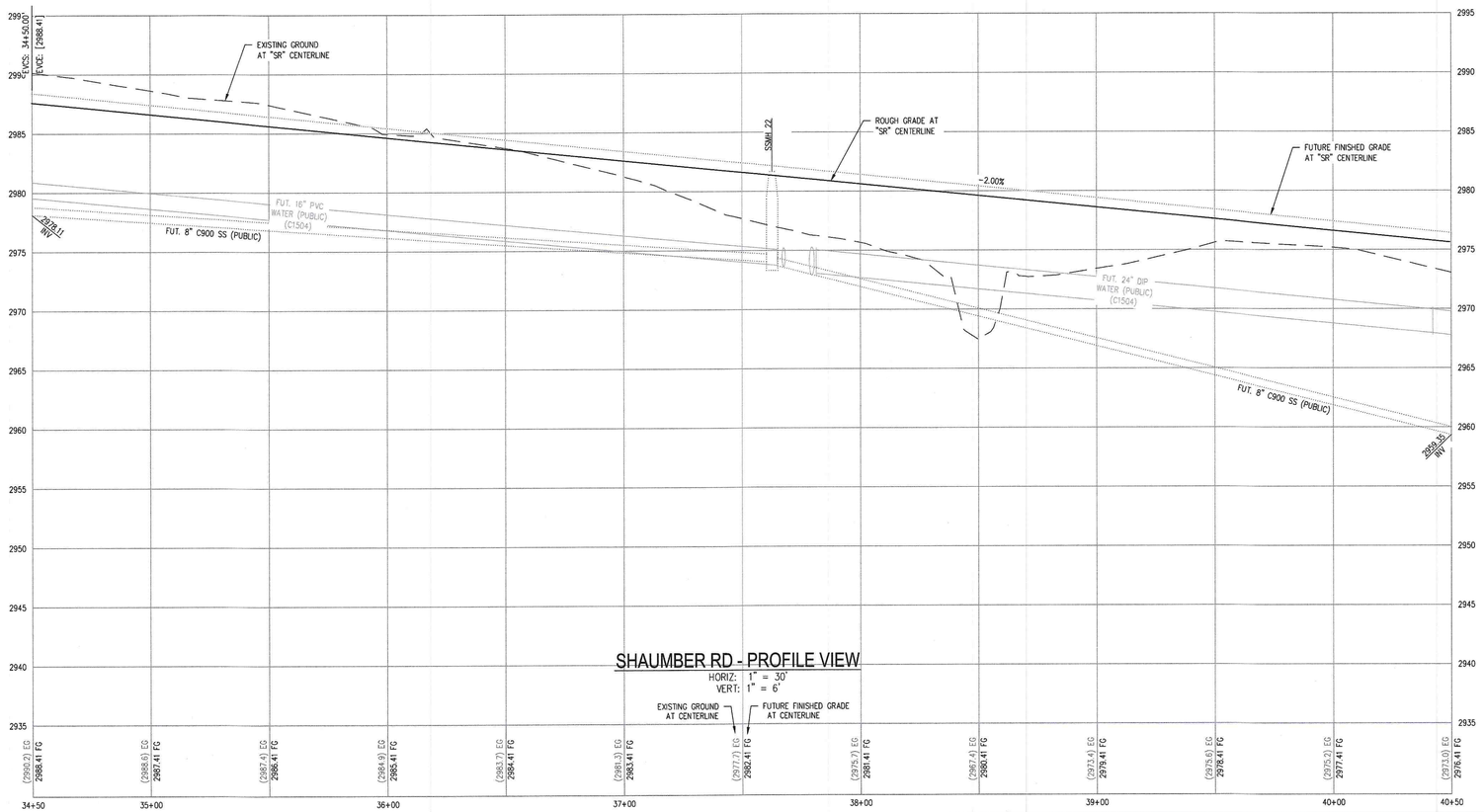
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SHAUMBER RD - PLAN VIEW
(PUBLIC)

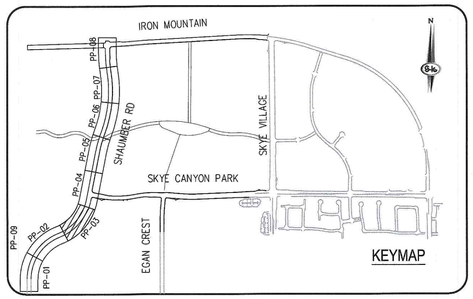
SCALE: 1"=0 FEET

NOTE:
ALL INTERIM DRAINAGE FACILITIES TO BE PRIVATELY MAINTAINED BY MASTER DEVELOPER



SHAUMBER RD - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'



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7	CONSTRUCT CONCRETE SIDEWALK (USDCCA STD. DWG. 234)
P	PROTECT IN PLACE (VERIFY LOCATION AND ELEVATION OF EX. IMPROVEMENT)

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1	CONSTRUCT 48" TYPE II-SD MANHOLE (USDCCA STD. DWG. NO. 405.2)
2	CONSTRUCT 60" TYPE III MANHOLE (USDCCA STD. DWG. NO. 406.1)
3	INSTALL 18" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
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NOTES

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4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
5. ALL PIPES ARE PUBLICLY MAINTAINED IN PUBLIC ROW.
6. ADD SPECIAL INSPECTION REQUIRED FOR PIPE SEGMENTS WITH SACRIFICIAL CONCRETE.
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8. SEE TY-SHEETS FOR TYPICAL SECTIONS.
9. SEE UT-SHEETS FOR WATER AND SEWER PLAN AND PROFILES.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/10/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

NOTE:
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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126409 FIRST APPROVED DATE: _____

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

FAST
Call before you Underground.
1-702-432-8300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It's easy.
Call 811
OR
1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REMOVE MAINTENANCE ACCESS PATH	3/9/20	DMH		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER ROAD
CONSTRUCTION PLAN - "SR" 34+50 TO "SR" 40+50

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER STATE OF NEVADA
DERICK D.J YORO
Expires 06/30/2020
CIVIL
No. 16396
3/10/20

PP-03
SHEET 7 OF 44

L18-02471
107V7512

A:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MPROV\3B-C\SR\OLY1609-000-PHP-SR.DWG 3/9/2020 5:08 PM Scott Booth

FOR PROPOSED INTERCONNECT 36" - 24" WATER LINE REFER TO THE FOLLOWING IMPROVEMENT SET: CONTRACT NO. C1504 SHAUMBER 3205 ZONE NORTH PIPELINE, PHASE II

FOR PROPOSED 36" WATER LINE REFER TO THE FOLLOWING IMPROVEMENT SET: CONTRACT NO. C1503 EGAN CREST 3090 ZONE NORTH PIPELINE, PHASE III

SEE GR-02 FOR DITCHES AND BERMS GRADING.

SECTION 12, LLC
PARCEL 5.10
126-12-501-003

SECTION 12, LLC
PARCEL 5.09
126-12-501-003

SECTION 12, LLC
PARCEL 2.09
126-12-501-003

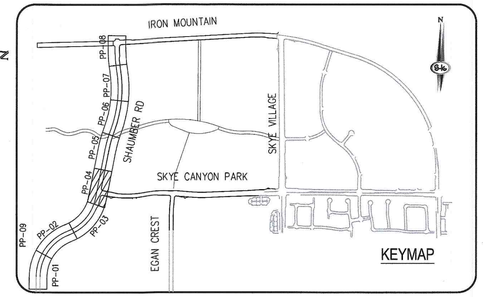
SECTION 12, LLC
PARCEL 2.11
126-12-501-003

SEE SKYE CANYON PHASE 3 SKYE CANYON PARK IMPROVEMENTS PLANS (CLV#L18-02472) FOR CONTINUATION

SHAUMBER RD - PLAN VIEW
(PUBLIC)

SCALE: 1"=0 FEET

NOTE:
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CONSTRUCTION NOTES

1	CONSTRUCT 1" UTACS OVER 4.5" PBS OVER 4" TYPE II AGGREGATE BASE (SEE TY SHEETS)
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LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

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DERICK YORO, P.E. 16396 — DATE 3/10/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL:32003C1750E, DATED SEPTEMBER 27, 2002

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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

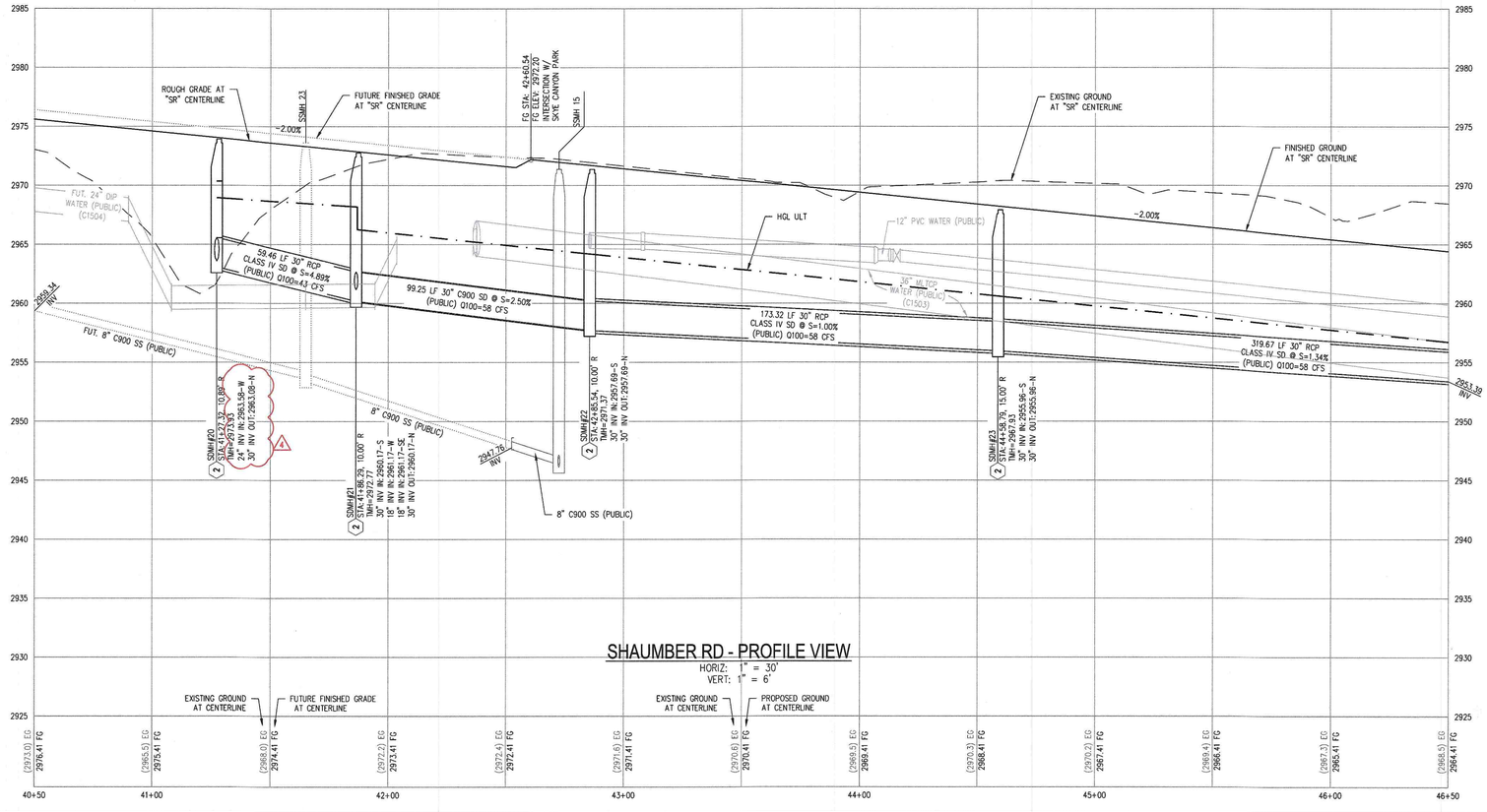
PROJECT NO. 126409 — FIRST APPROVED DATE: _____

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

FAST Call before you UnderGround. 1-702-432-5800 FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig Avoid cutting underground utility lines. It's costly. Call 811 OR 1-800-227-2600

SHAUMBER RD - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 6'



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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REMOVE SD PIPE	3/9/20	DMH		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER ROAD
CONSTRUCTION PLAN - "SR" 40+50 TO "SR" 46+50

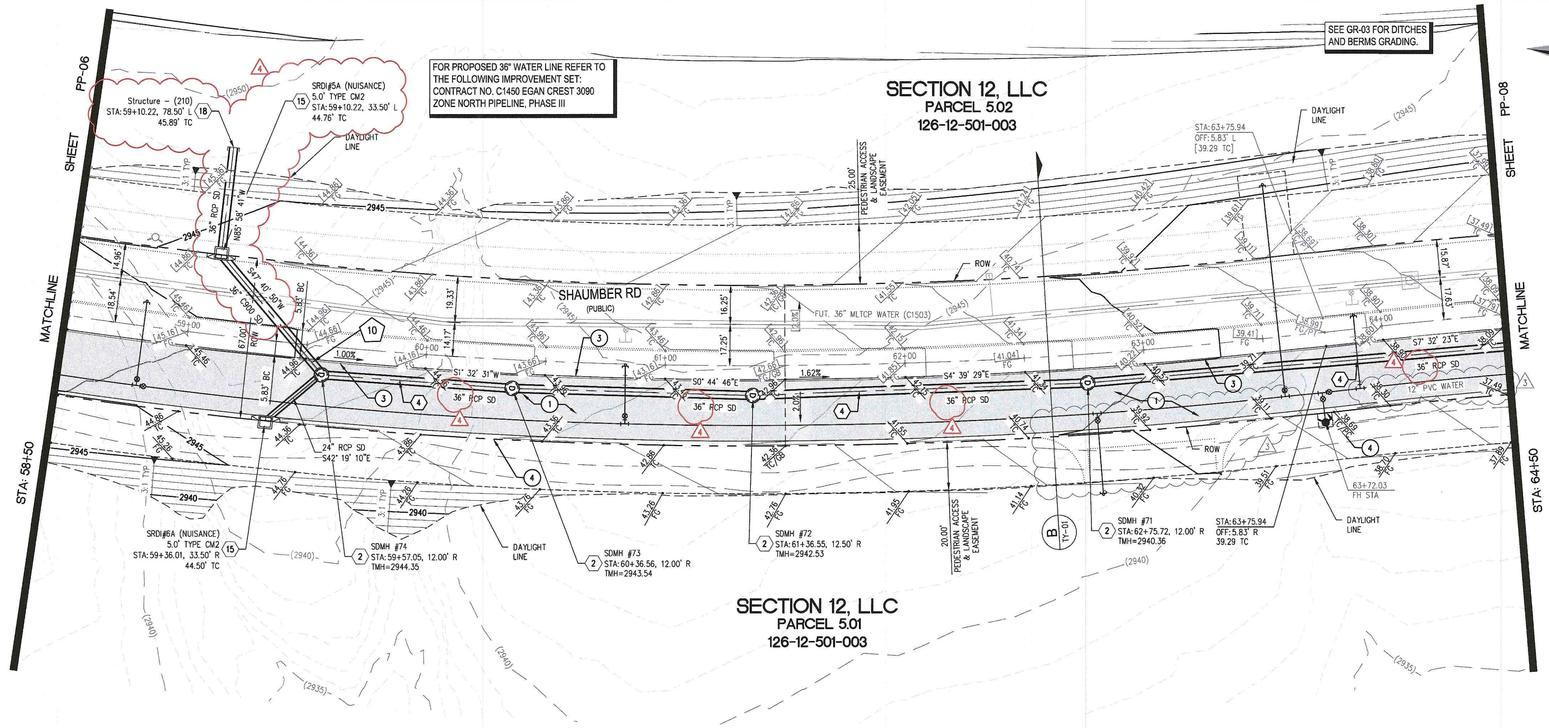
DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO. OLY1609-000

DERICK D.J. YORO — NEVADA — EXPIRES 06/30/2020 — CIVIL — No. 16396 — PROFESSIONAL ENGINEER — STATE OF NEVADA — 3/10/20

PP-04
SHEET 8 OF 44

L18-02471
107V7512

A:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MPROV\3B-CV\OLY1609-000-PMP-SR.DWG 3/9/2020 3:09 PM Scott Booth

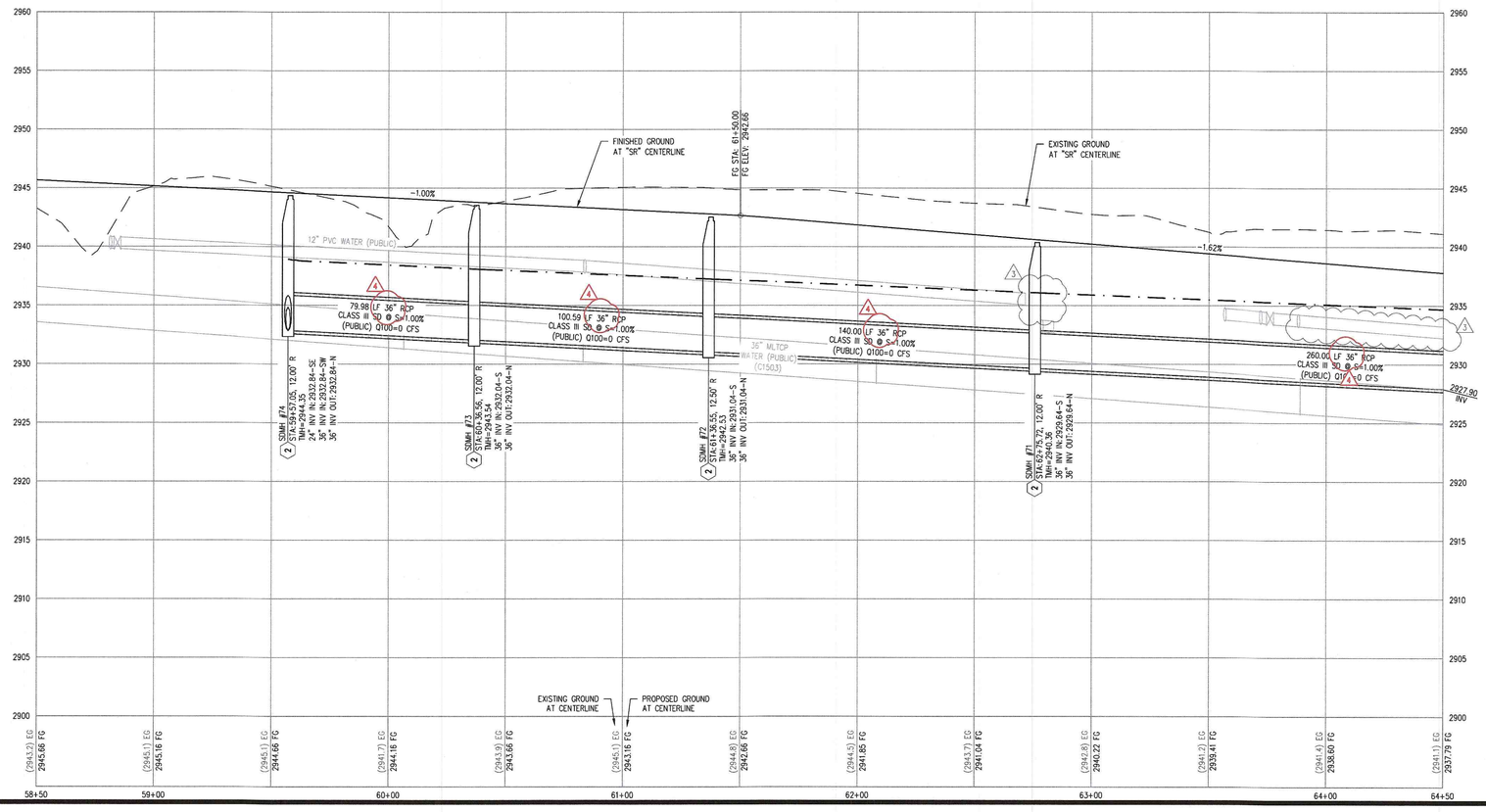


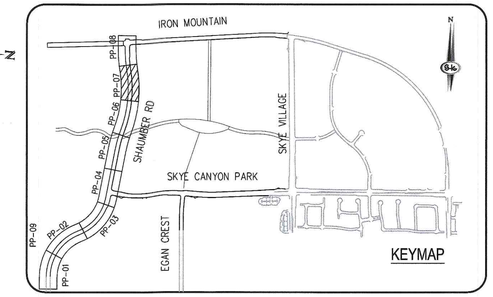
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LEGEND

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DERICK YORO, P.E. 16396 — DATE 3/10/20

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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126409 — FIRST APPROVED DATE: _____

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NO.	DESCRIPTION	DATE	BY	APP.	APP. DATE
2	REVISE SD PIPE SIZE & ADD SD STUB	3/9/20	DMH		
1	REVISE WATER	2/13/20	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER ROAD
CONSTRUCTION PLAN - "SR" 58+50 TO "SR" 64+50

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

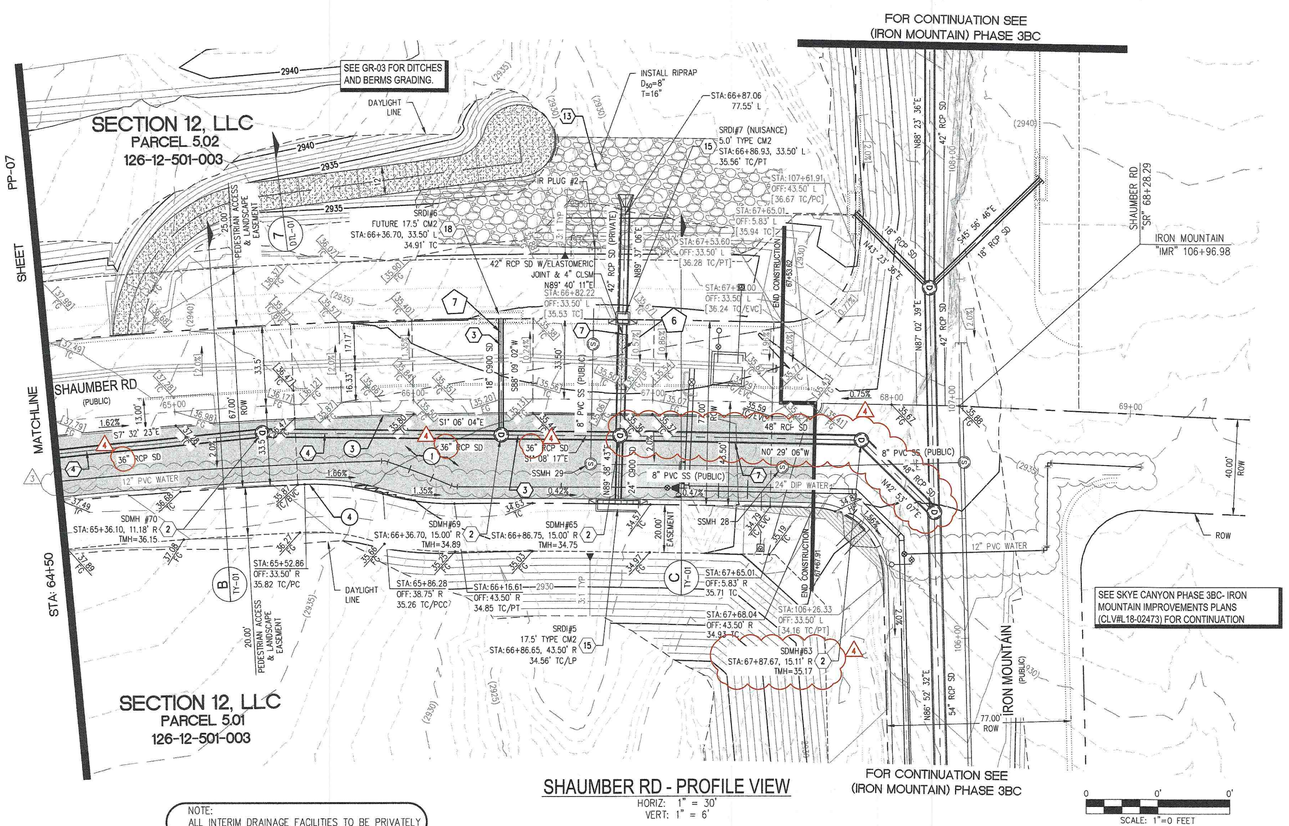
PROJECT NO.
OLY1609-000

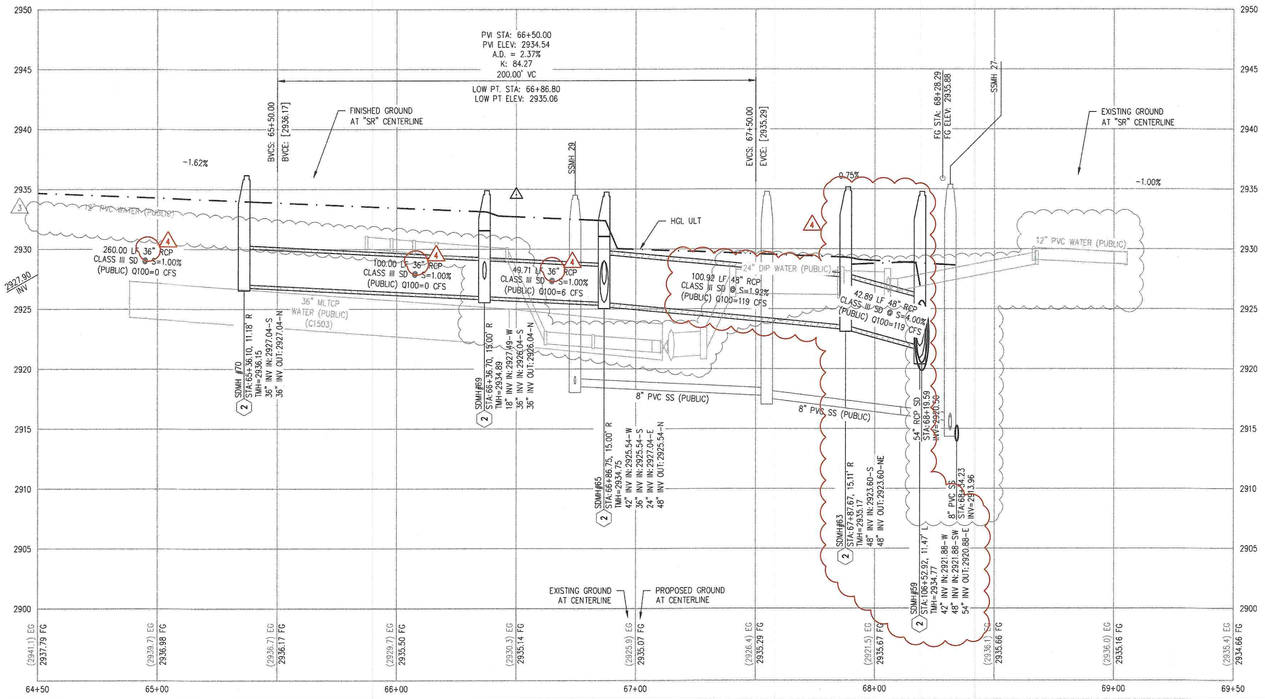
REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA
DERICK D. YORO
No. 16396
EXP. 06/30/2020
CIVIL
3/10/20

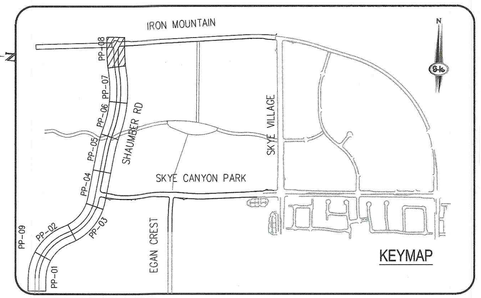
PP-07
SHEET 11 OF 44

L18-02471
107V7512

J:\OLY1609-000 SKYE CANYON PHASE 3A_3B_3C\DWG\IMPROVJOB-CIVIL\OLY1609-000-PHP-SR.DWG 3/9/2020 5:09 PM Scott Booth







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3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
5. ALL PIPES ARE PUBLICLY MAINTAINED IN PUBLIC ROW.
6. ADD SPECIAL INSPECTION REQUIRED FOR PIPE SEGMENTS WITH SACRIFICIAL CONCRETE.
7. DIMENSIONS ARE TO BE BACK OF CURB, FACE OF CURB, OR FACE OF MEDIAN UNLESS OTHERWISE NOTED.
8. SEE TY-SHEETS FOR TYPICAL SECTIONS.
9. SEE UT-SHEETS FOR WATER AND SEWER PLAN AND PROFILES.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/9/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

NOTE:
PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES, SUCH AS BUT NOT LIMITED TO, THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF VEGETATION.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126409 — FIRST APPROVED DATE: _____

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

FAST
Call Before you Underground.
1-702-486-5900
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
or
1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REVISE STORM DRAIN PIPE SIZE	3/9/20	EMH		
2	REVISE WATER	2/13/20	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER ROAD
CONSTRUCTION PLAN - "SR" 64+50 TO "SR" 69+50

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

PROJECT NO.
OLY1609-000

DERICK D.J. YORO — Exp: 6/30/2020 — CIVIL — No. 16396 — 3/9/20

PP-08
SHEET 12 OF 44

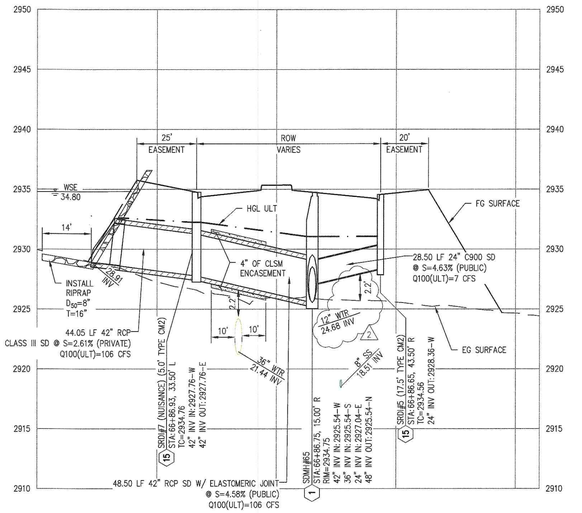
L18-02471
107V7512

J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MARKUPS\3B-CLV\PLN\1609-000-PHP-SR.DWG 3/9/2020 5:10 PM Scott Booth

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

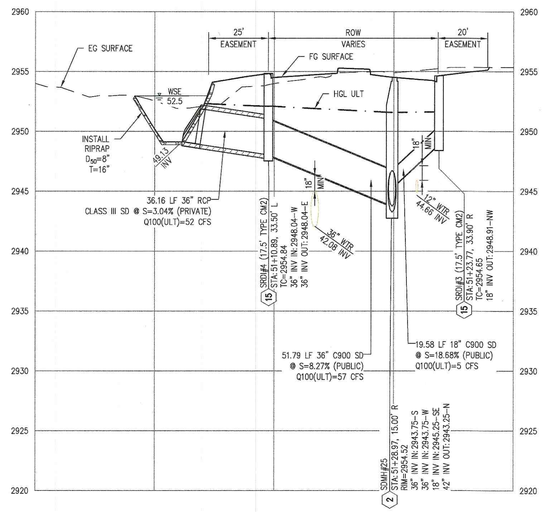
PROJECT NO. 126409 FIRST APPROVAL DATE: _____



SHAUMBER RD
STORM DRAIN @ 66+86.75

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-08

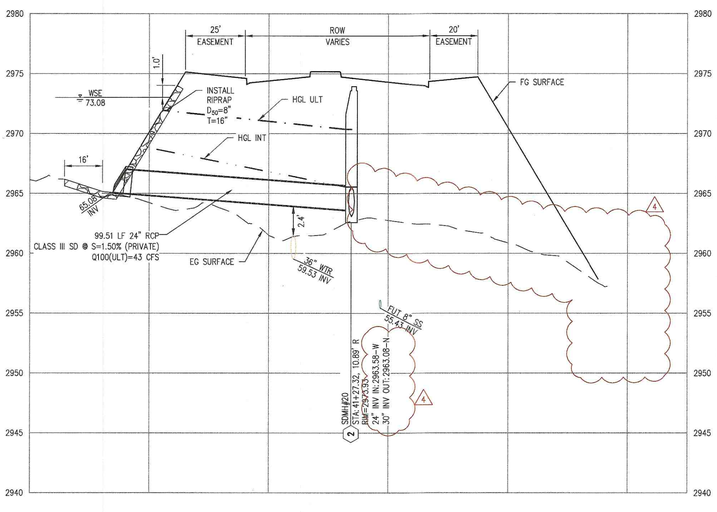
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SHAUMBER RD
STORM DRAIN @ 51+28.97

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-05

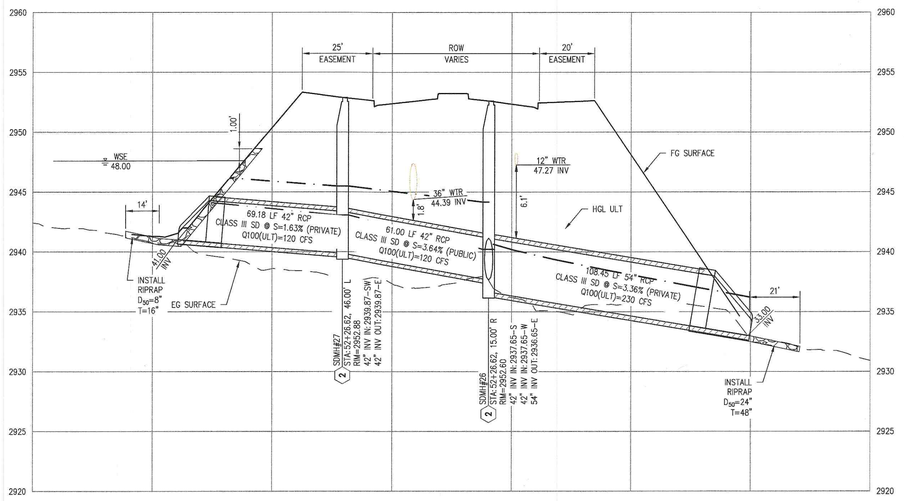
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SHAUMBER RD
STORM DRAIN @ 41+27.32

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-04

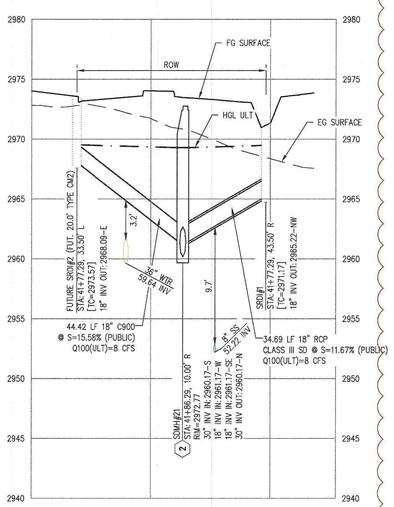
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SHAUMBER RD
STORM DRAIN @ 52+26.62

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-05

5



SHAUMBER RD
STORM DRAIN @ 41+86.29

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-04

3

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REMOVE SD TYPE & MOVE DETAIL TO LAT-02	3/9/20	DMH		
1	ADDITIONAL 12" WATER LINE	12/10/19	SWB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER ROAD
STORM DRAIN LATERALS I

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER – STATE OF NEVADA
DERICK D.J YORO
Exp: 06/30/2020
CIVIL
No. 16396
PROJECT ENGINEER
3/10/20

LAT-01
SHEET 14 OF 44

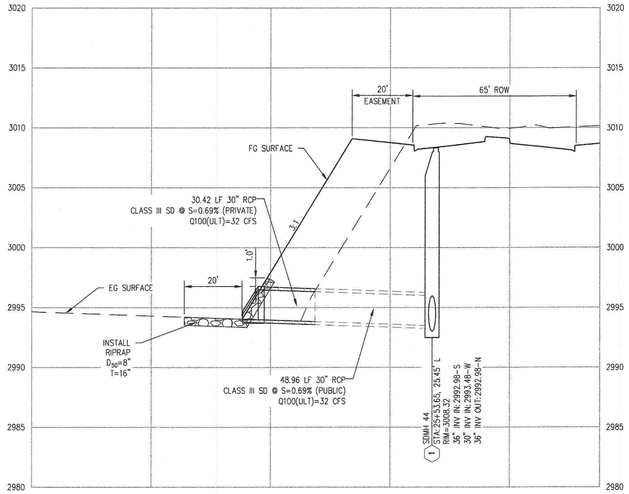
L18-02471
107V7512

J:\OLY1609-000 SKYE CANYON PHASE 3A, 3B, 3C\DWG\MISC\XLSX-CLSP\OLY1609-000-LAT-SP.DWG 3/9/2020 3:21 PM Rhonda Miller

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

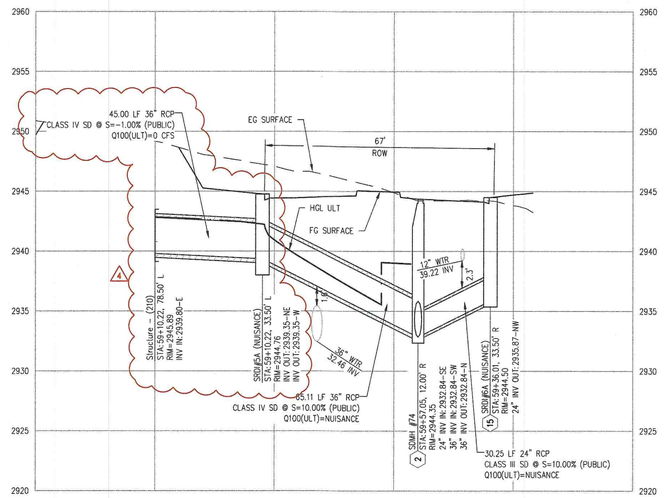
PROJECT NO. 126409 FIRST APPROVAL DATE: _____



SHAUMBER RD
STORM DRAIN @ 25+27.48

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-01

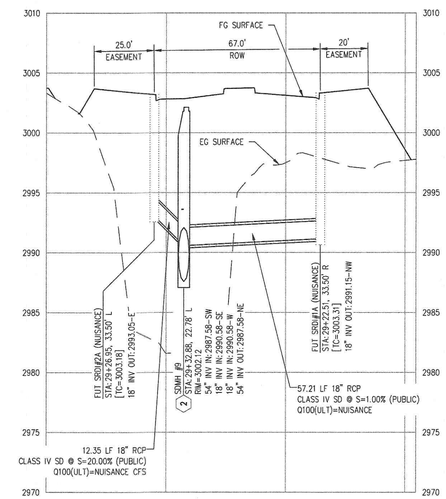
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SHAUMBER RD
STORM DRAIN @ 59+57.02

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET:PP-02

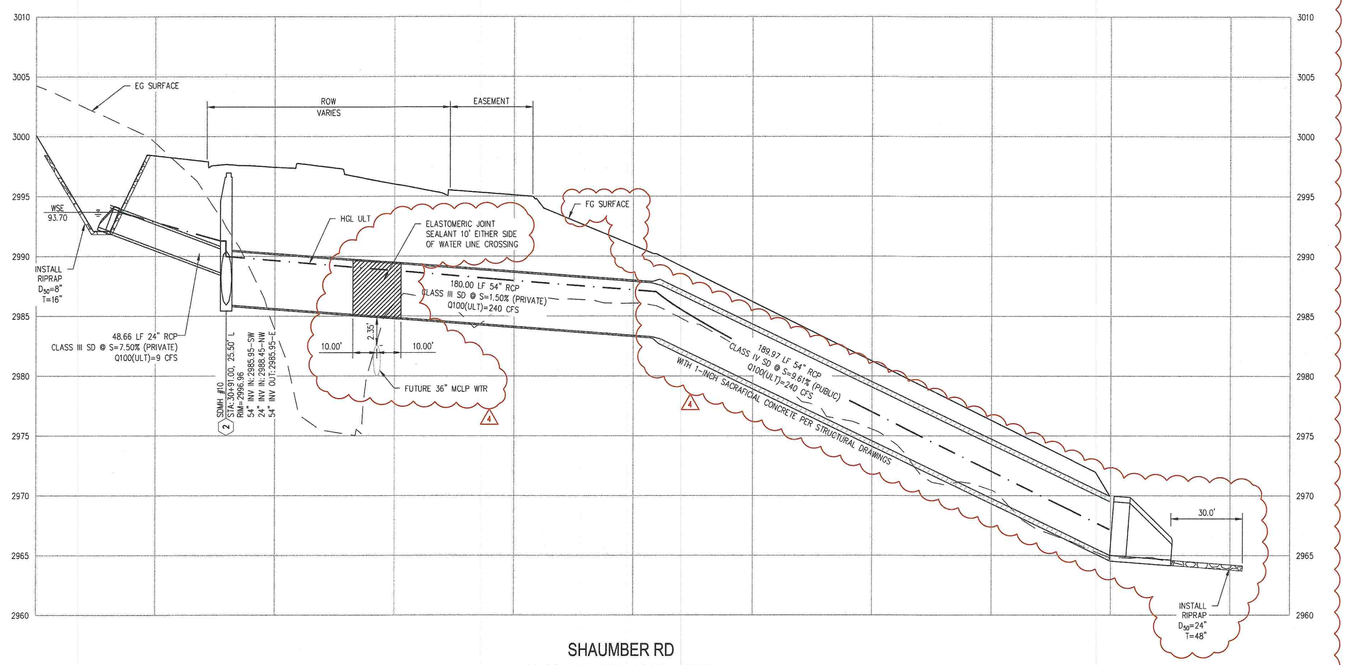
10



SHAUMBER RD
STORM DRAIN @ 29+32.28

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET:PP-02

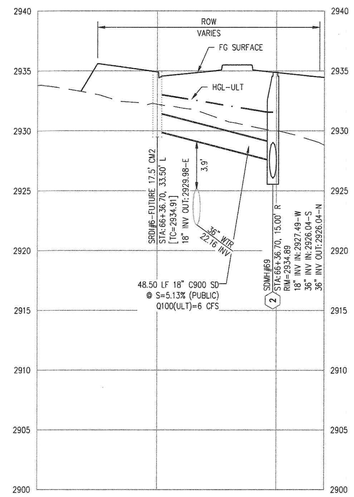
9



SHAUMBER RD
STORM DRAIN @ 30+91.00

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-02

1



SHAUMBER RD
STORM DRAIN @ 66+36.70

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-08

7

4

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REV. PROFILES 1, 10 & REARRANGE DETAILS	3/9/19	DMH		

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

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER ROAD
STORM DRAIN LATERALS II

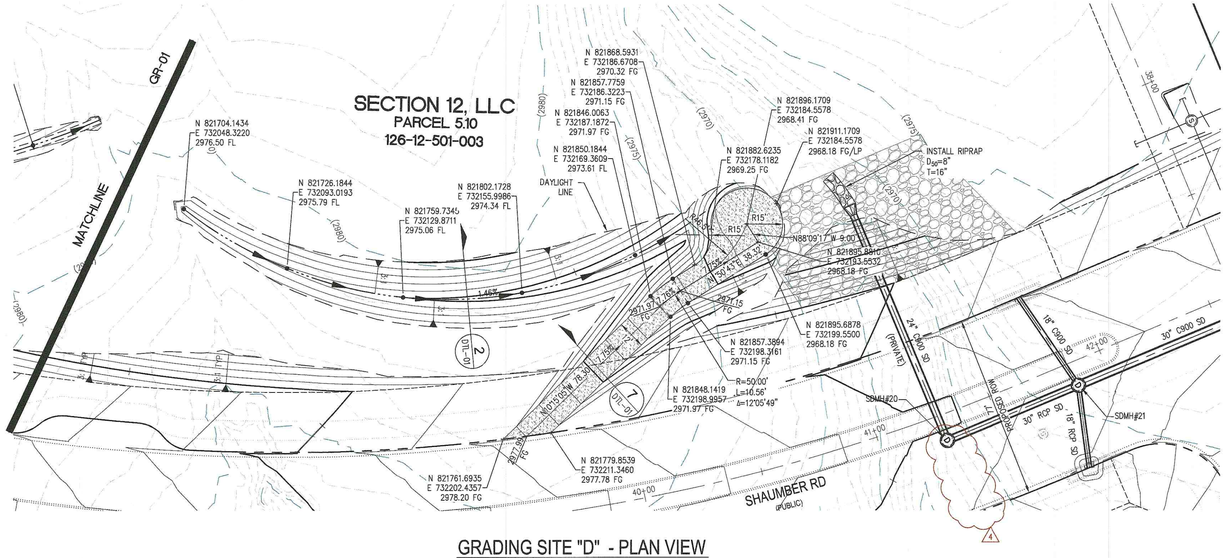
DATE: 3/10/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER - STATE OF NEVADA
DERICK D.J. YORO
Exp: 06/30/2020
CIVIL
No. 16396
3/11/20

LAT-02
SHEET 15 OF 44

L18-02471
107V7512

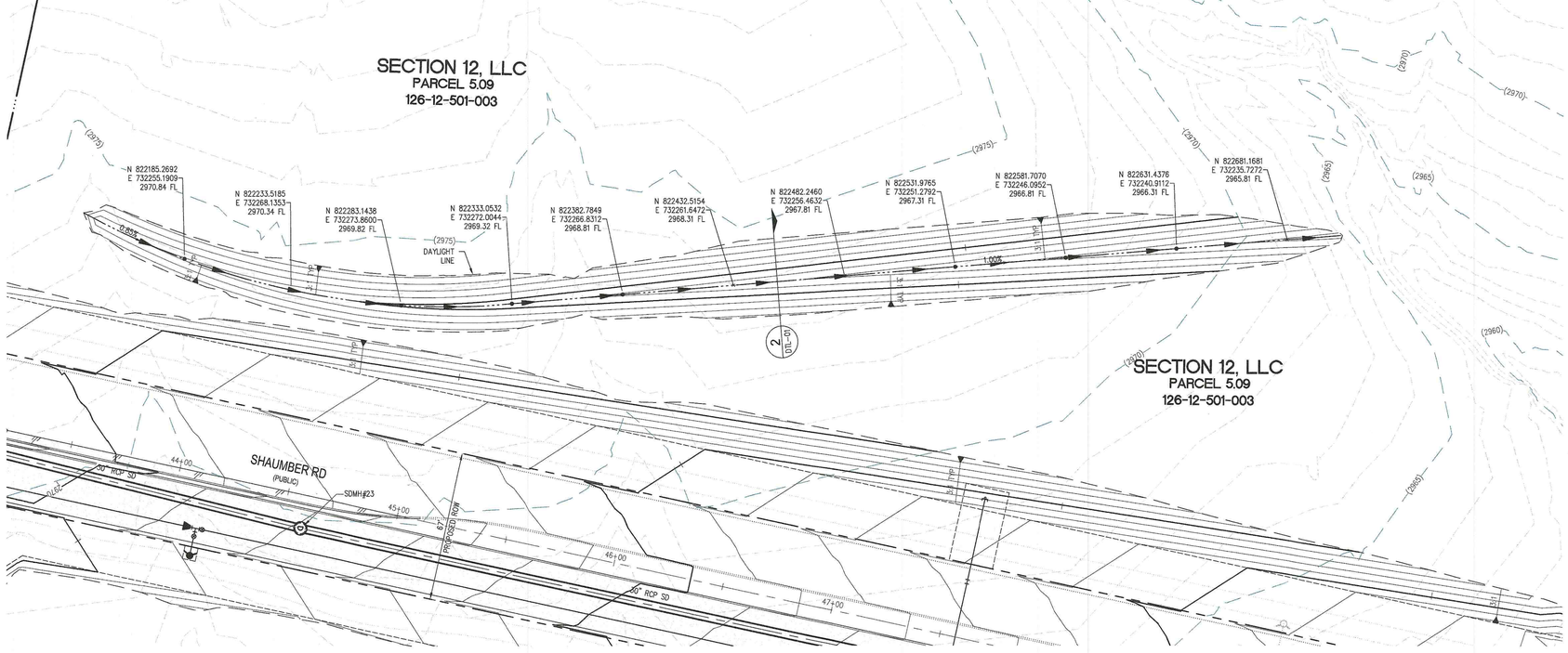
J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\IMPROV\3B-C\OLY1609-000-LA1-SD.DWG 3/10/2020 4:47 PM Scott Booth



GRADING SITE "D" - PLAN VIEW

HORZ: 1"=0'

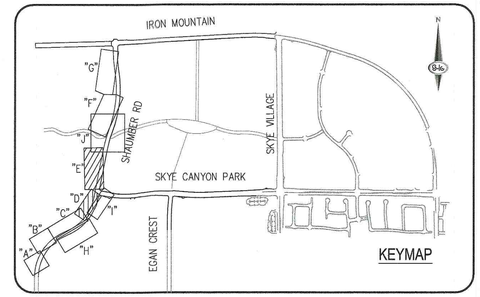
NOTE:
ALL INTERIM DRAINAGE FACILITIES TO BE PRIVATELY MAINTAINED BY MASTER DEVELOPER



GRADING SITE "E" - PLAN VIEW

HORZ: 1"=0'

SCALE: 1"=0 FEET



CONSTRUCTION NOTES

1	CONSTRUCT 1" UTACS OVER 4.5" PBS OVER 4" TYPE II AGGREGATE BASE (SEE TY SHEETS)
2	CONSTRUCT 1" UTACS OVER 5.5" PBS OVER 6" TYPE II AGGREGATE BASE (SEE TY SHEETS)
3	CONSTRUCT "A" TYPE ISLAND CURB (USDCCA STD. DWG. NO. 219)
4	CONSTRUCT "L" TYPE CURB AND GUTTER (USDCCA STD. DWG. NO. 216)
5	CONSTRUCT SIDEWALK RAMP (CASE II) WITH TACTILE WARNING PANEL (USDCCA STD. DWG. NO 235)
6	CONSTRUCT BUS TURN-OUT (USDCCA STD. DWG. NO. 234.1)
7	CONSTRUCT CONCRETE SIDEWALK (USDCCA STD. DWG. 234)
P	PROTECT IN PLACE (VERIFY LOCATION AND ELEVATION OF EX. IMPROVEMENT)

STORM DRAIN NOTES

1	CONSTRUCT 48" TYPE II-SD MANHOLE (USDCCA STD. DWG. NO. 405.2)
2	CONSTRUCT 60" TYPE III MANHOLE (USDCCA STD. DWG. NO. 406.1)
3	INSTALL 18" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
4	INSTALL 24" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
5	INSTALL 30" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
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10	INSTALL 72" RCP (USDCCA STD. DWG. NO. 503.2)
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12	INSTALL 36" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
13	INSTALL 42" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
14	INSTALL 72" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
15	CONSTRUCT TYPE "CM2" DROP INLET. SIZE PER PLAN (USDCCA STD. DWG. NO. 412.1 & 421)
16	STRUCTURAL MANHOLE
17	CONSTRUCT CONCRETE COLLAR (SEE DETAIL 3/DTL-01)
18	CONSTRUCT INTERIM BRICK AND MORTAR PLUG SEE DETAIL 2/DTL-01
19	INSTALL 24" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
20	INSTALL 54" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
21	INSTALL 66" RCP END SECTION (NDOT STD. PLAN R-2.3.1) W/1" SACRIFICIAL CONCRETE PER STRUCTURAL DWGS

NOTES

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2. ALL PIPE LENGTHS ARE MEASURED ALONG PIPE CENTERLINE TO CENTER OF MANHOLE OR INSIDE EDGE OF DI OR RCB/RCA.
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DROP INLET NOTE

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OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE: 3/10/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126409 FIRST APPROVED DATE: _____

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REMOVE "SD" PIPE	3/9/20	DMH		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER ROAD
GRADING SHEET II

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

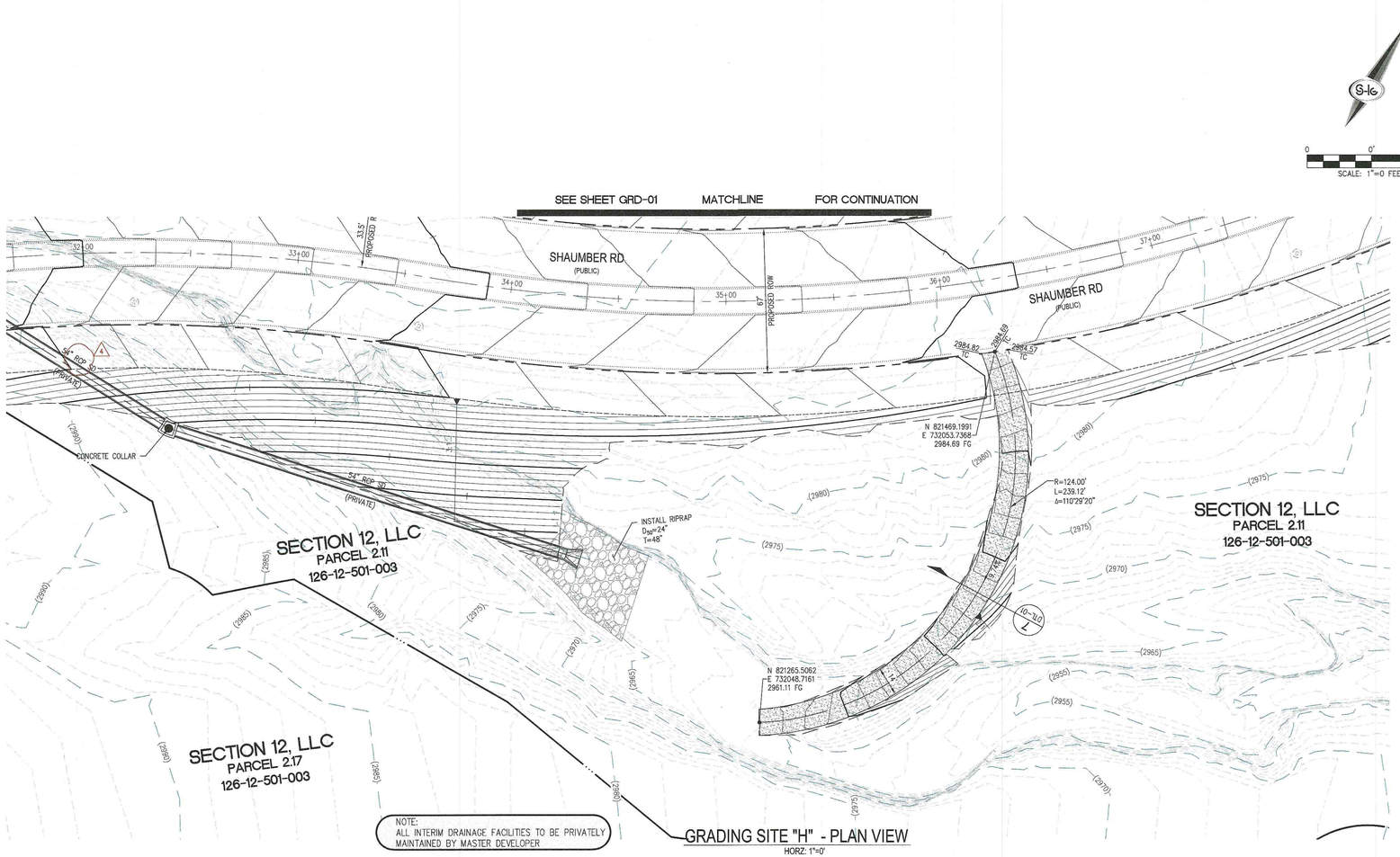
PROJECT NO.
OLY1609-000

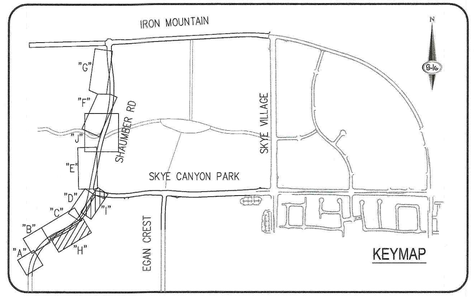
PROFESSIONAL ENGINEER STATE OF NEVADA DERICK D.J. YORO Exp.06/30/2020 CIVIL No. 16396 3/10/20

GR-02
SHEET 17 OF 44

L18-02471
107V7512

J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MAPROW\SR-CVSR\OLY1609-000-SR0-SBLDNG 3/9/2020 5:05 PM Rhonda Miller





CONSTRUCTION NOTES

1	CONSTRUCT 1" UTACS OVER 4.5" PBS OVER 4" TYPE II AGGREGATE BASE (SEE TY SHEETS)
2	CONSTRUCT 1" UTACS OVER 5.5" PBS OVER 6" TYPE II AGGREGATE BASE (SEE TY SHEETS)
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P	PROTECT IN PLACE (VERIFY LOCATION AND ELEVATION OF EX. IMPROVEMENT)

STORM DRAIN NOTES

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NOTES

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LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/9/20

FLOOD ZONE

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NOTE:
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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126409 — FIRST APPROVED DATE: _____

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FAST
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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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OR
1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP
1	REMOVE SD PIPE, ACCESS RD & REV SD MAT	3/9/20	DMH		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER ROAD
GRADING SHEET IV

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

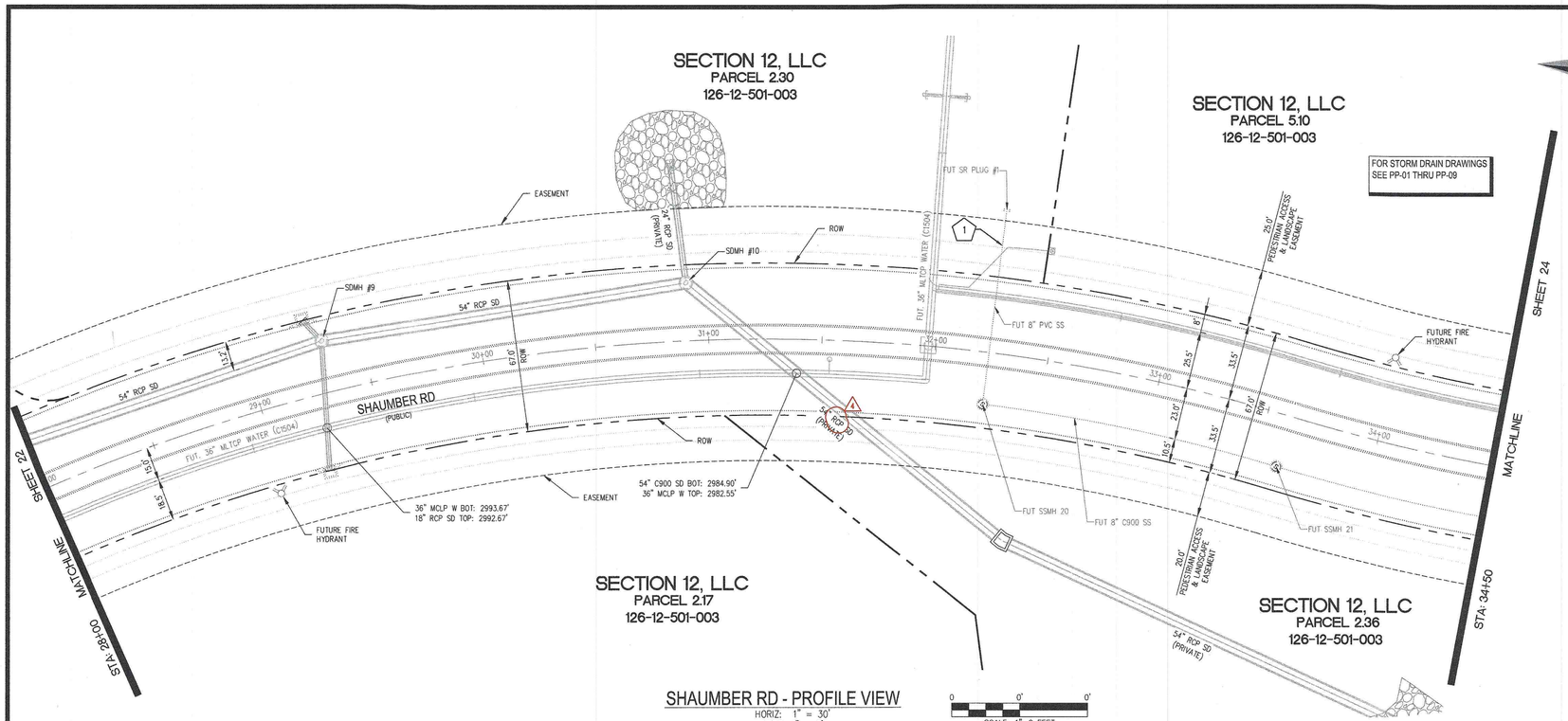
PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER STATE OF NEVADA DERICK D.J YORO Exp: 06/30/2020 CIVIL No. 16396
3/9/20

GR-04
SHEET 19 OF 44

L18-02471
107V7512

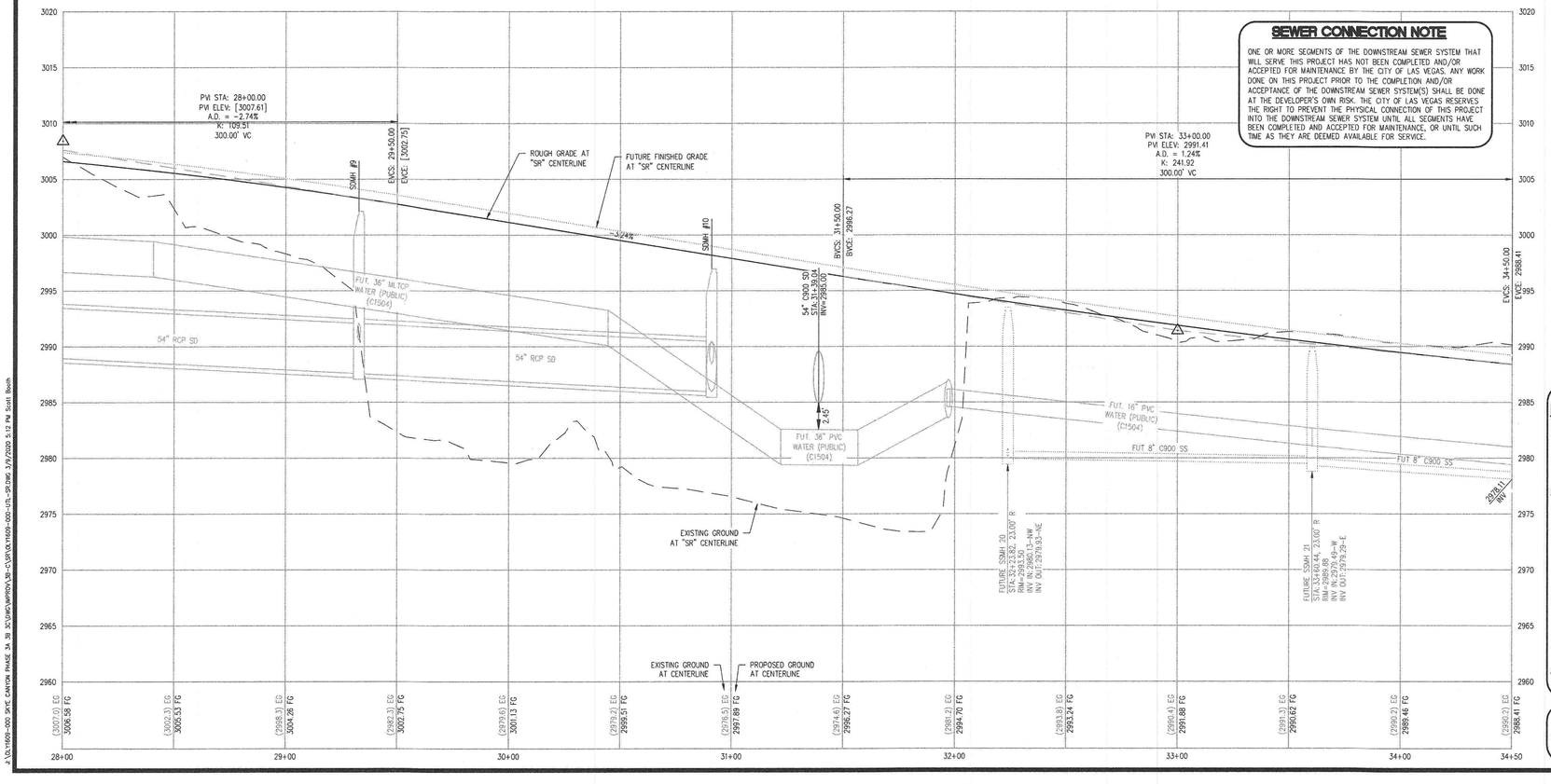
J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\IMPROV\3B-GR\OLY1609-000-3BC-GR04.DWG 3/9/2020 5:17 PM Ronnie Miller



SHAUMBER RD - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'

SCALE: 1"=0 FEET



SEWER CONNECTION NOTE

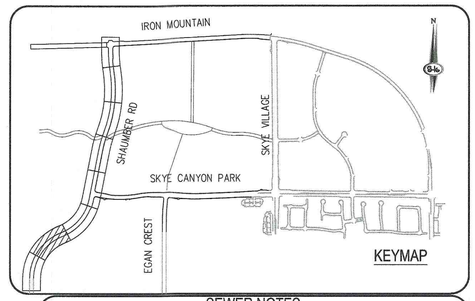
ONE OR MORE SEGMENTS OF THE DOWNSTREAM SEWER SYSTEM THAT WILL SERVE THIS PROJECT HAS NOT BEEN COMPLETED AND/OR ACCEPTED FOR MAINTENANCE BY THE CITY OF LAS VEGAS. ANY WORK DONE ON THIS PROJECT PRIOR TO THE COMPLETION AND/OR ACCEPTANCE OF THE DOWNSTREAM SEWER SYSTEM(S) SHALL BE DONE AT THE DEVELOPER'S OWN RISK. THE CITY OF LAS VEGAS RESERVES THE RIGHT TO PREVENT THE PHYSICAL CONNECTION OF THIS PROJECT INTO THE DOWNSTREAM SEWER SYSTEM UNTIL ALL SEGMENTS HAVE BEEN COMPLETED AND ACCEPTED FOR MAINTENANCE, OR UNTIL SUCH TIME AS THEY ARE DEEMED AVAILABLE FOR SERVICE.

DISCLAIMER NOTES:

1. NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS SHOWN FOR INFORMATION ONLY. REFERENCE NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS DRAWINGS FOR CONSTRUCTION DETAILS. CONTRACTOR TO COORDINATE WITH UTILITIES FOR REMOVAL AND INSTALLATION OF FACILITIES.
2. ALL EXISTING UTILITY LOCATIONS SHOW HEREON 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. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. THE DEPTH BELOW GRADE OF THE VARIOUS UTILITIES DEPICTED ON THE PLANS VARIES THROUGHOUT THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHERE EXCAVATING AND GRADING THE SUBBASE IN THE VICINITY OF UTILITIES TO AVOID DAMAGE TO THE LATTER.
3. ALL EXISTING UTILITIES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.

LEGEND

(X) FOR WATER AND SEWER LATERAL(S) # (SEE UTL-09 TO ULT-11 SHEETS)



SEWER NOTES

1. INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
2. INSTALL 12" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
3. CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4. CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
5. INSTALL STUB AND CAP (SEE DETAIL 7 ON SHEET DTL-01)
6. INSTALL 10" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
7. REMOVE SEWER PLUG AND CONNECT TO THE SEWER LINE
8. CONSTRUCT 72" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B, AND SD-4)

WATER NOTES

1. REMOVE CAP AND BLOW-OFF PER UDACS PLATE NO. 36 AND CONNECT NEW PIPE PER UDACS SECTION 3.14.
2. INSTALL 2" BLOW OFF AND CAP PER UDACS PLATE NO. 36
3. INSTALL HORIZONTAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
4. INSTALL HORIZONTAL 22.50° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
5. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
6. INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
7. INSTALL VERTICAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
8. INSTALL VERTICAL 22.50° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
9. INSTALL VERTICAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
10. INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
11. INSTALL WATER JOINT 1° DEFLECTION PER UDACS SECTION 2.07
12. INSTALL 12"X12" TEE (UDACS PLATE NO. 31)
13. INSTALL GATE VALVE (UDACS PLATE NO. 30 AND 39) (SEE PLAN FOR SIZE)
14. INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 40
15. INSTALL STEEL CASING (UDACS PLATE 22 AND 23)
16. INSTALL 12"X8" TEE (UDACS PLATE NO. 31)
17. INSTALL 8" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
18. INSTALL 12" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
19. INSTALL 1° HORIZONTAL DEFLECTION, PER UDACS SEC. 2.07
20. INSTALL 1° VERTICAL DEFLECTION, PER UDACS SEC. 2.07
21. INSTALL 12" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
22. INSTALL 10" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
23. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
24. INSTALL 8" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
25. INSTALL 16" DIP WATERLINE (PUBLIC) W/RESTRAINED AND BONDED JOINTS (UDACS PLATE NO. 15 AND 17)
26. INSTALL 8"X8" TEE (UDACS PLATE NO. 31)
27. INSTALL 10"X8" TEE (UDACS PLATE NO. 31)
28. INSTALL 16"X16" TEE (UDACS PLATE NO. 31)
29. INSTALL 12"X8" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
30. INSTALL 12"X10" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
31. INSTALL 16"X12" REDUCER W/ RESTRAINT JOINTS
32. INSTALL 16"X12" TEE (UDACS PLATE NO. 31)
33. INSTALL VERTICAL 22.5° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
34. INSTALL 12"X6" TEE W/ 6" GATE VALVE PER UDACS NO. 30 AND 39
35. INSTALL 6" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)

WATER NOTES:

1. WATER MAIN JOINT DEFLECTION (PVC, 4" - 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
3. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
4. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
5. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
6. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
7. PROVIDE A MIN. 12" OF VERTICAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.06.
8. PROVIDE A MIN. 3' OF HORIZONTAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126409 FIRST APPROVAL DATE: _____

LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

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

FAST
Call before you dig Underground.
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It is costly.
Call 811
OR
1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REVISE PIPE MATERIAL	3/9/20	DMH		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER RD
UTL PLAN & PROFILE - "SR" 28+00 TO "SR" 34+50

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA
DERICK D.J. YORO
Expr: 08/30/2020
CIVIL
No. 16396

3/9/20

UTL-02
SHEET 23 OF 44

L18-02471
107V7512

J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\IMPROVS\3B-C\SR\OLY1609-000-UTL-SR(3WG 3/4/2020 5:12 PM Scott Booth

SECTION 12, LLC
PARCEL 5.10
126-12-501-003

SECTION 12, LLC
PARCEL 5.09
126-12-501-003

SECTION 12, LLC
PARCEL 2.11
126-12-501-003

SECTION 12, LLC
PARCEL 2.09
126-12-501-003

FOR PROPOSED 36" WATER LINE REFER TO THE FOLLOWING IMPROVEMENT SET:
CONTRACT NO. C1503 EGAN CREST 3090 ZONE NORTH PIPELINE, PHASE III

FOR STORM DRAIN DRAWINGS SEE PP-01 THRU PP-09

SEE SKYE CANYON PHASE 3BC- SKYE CANYON PARK IMPROVEMENTS PLANS (CL#WL18-02472) FOR CONTINUATION

SHEET 24 — MATCHLINE — STA: 40+50

SHEET 26 — MATCHLINE — STA: 46+50

SHAUMBER RD STA: 42+50.54

SKYE CANYON PARK "SCP" 38+94.98

24" C900 SD (PRIVATE)

24" DIP WATER (C1503)

30" C900 SD

30" RCP SD

18" RCP SD

SDMH#20

SDMH#21

SDMH#22

SDMH#23

SRD#1

SRD#2

SC-PLUG#4

FUT 8" C900 SS

FUT SSMH 23

POC STA: 39+53.48

BEGIN CONSTRUCTION STA: 39+68.48

10" C-900 SS

18" RCP SD BOT: 2962.56'
FUTURE 8" PVC SS TOP: 2952.91'

36" MLTCP WATER (C1503)

SKYE CANYON PARK (PUBLIC)

EX. 16" DIP WATER PER LVVWD #126408

SSMH 14

SSMH 15
STA: 39+17.98, 12.00' L
RIM=2971.37
INV IN: 2946.32-W
INV IN: 2946.32-S
INV OUT: 2946.12-E

TEST STATION (PER LVVWD #126408) PROTECT IN PLACE

EX. 16" GV PER LVVWD #126408

36" RCP SD BOT: 2957.79'
10" PVC SS TOP: 2947.38'

36" PIPE WTR BOT: 2961.37'
10" PVC SS TOP: 2947.46'

SSMH 16
STA: 38+21.48, 12.00' L
RIM=2974.74
INV IN: 2946.95-W
INV IN: 2946.95-S
INV IN: 2946.95-N
INV OUT: 2946.75-E

SS STUB & CAP STA: 38+11.48, 11.97' L

SS STUB & CAP STA: 38+21.48, 13.50' R

SS STUB & CAP STA: 38+21.48, 36.50' L

SS STUB & CAP STA: 39+53.48, 12.04' L

STA: 39+53.48 OFF: 25.00' L

STA: 43+08.09 OFF: 25.00' R

STA: 42+85.54 OFF: 47.55' R

STA: 44+06.18 OFF: 25.00' R

STA: 44+12.68 OFF: 37.50' R

STA: 44+12.68 OFF: 25.00' R

STA: 44+15.68 OFF: 25.00' R

25.50 LF @ S=0.60%

24.50 LF @ S=0.60%

96.50 LF @ S=0.45%

35.50 LF @ S=0.45%

20.00 LF @ S=6.55%

31.89 LF S33°55'54"E

10.95 LF S78°55'54"E

98.08 LF S11°04'06"W

337.61 LF S11°04'06"W

EOP

ROW

EASEMENT

FUTURE BC

ROW/BC

16" DIP WATER

12" PVC WATER

12" GV

6'X6' LVVWD EASEMENT

25.0' PEDESTRIAN ACCESS & LANDSCAPE EASEMENT

20.0' PEDESTRIAN ACCESS & LANDSCAPE EASEMENT

0 0' 0'
SCALE: 1"=0 FEET

SHAUMBER RD - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 6'

APPROVED
LAS VEGAS FIRE AND RESCUE DATE

MINIMUM 24" COVER PER UDACS SEC. 2.08.04 GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION (TYP)

ROUGH GRADE AT "SR" CENTERLINE
FUTURE FINISHED GRADE AT "SR" CENTERLINE
EXISTING GROUND AT "SR" CENTERLINE
FINISHED GROUND AT "SR" CENTERLINE
INSTALL RESTRAIN AND BONDED JOINTS STA: 43+59 TO STA: 44+06
FUT 24" DIP WATER (PUBLIC) (C1504)
24" DIP WATER (C1503)
98.08 LF 16" DIP WATER (PUBLIC)
31.89 LF 16" DIP WATER (PUBLIC)
337.61 LF 12" PVC WATER (PUBLIC)
20.00 LF 8" C900 SS @ S=6.55%
FUTURE SSMH 23 STA: 41+64.91, 23.00' R RIM=2973.63 INV IN: 2953.37-S INV OUT: 2953.37-N
SC-PLUG#4 STA: 39+17.98, 8.00' R RIM=2971.90 INV OUT: 2947.63-N
SSMH 15 STA: 42+72.54, 23.00' R RIM=2971.37 10" -INV IN: 2946.32-W 10" -INV IN: 2946.32-S 10" -INV OUT: 2946.12-E
STA: 42+85.54, 47.55' R FG @ PIPE: 2971.7± INV: 2964.5±
STA: 43+08.09, 25.00' R FG @ PIPE: 2971.2± INV: 2964.6±
STA: 44+06.18, 25.00' R FG @ PIPE: 2969.3± INV: 2963.6±
STA: 44+12.68, 25.00' R FG @ PIPE: 2969.2± INV: 2963.6±
STA: 44+15.68, 25.00' R FG @ PIPE: 2969.1± INV: 2963.1±
2968.85 INV
2968.97 INV
2953.61 INV
6" MIN
4' MIN
10" MIN
36" MLTCP WATER (C1503)
30" RCP SD
30" C900 SD
EXISTING GROUND AT CENTERLINE
PROPOSED GROUND AT CENTERLINE

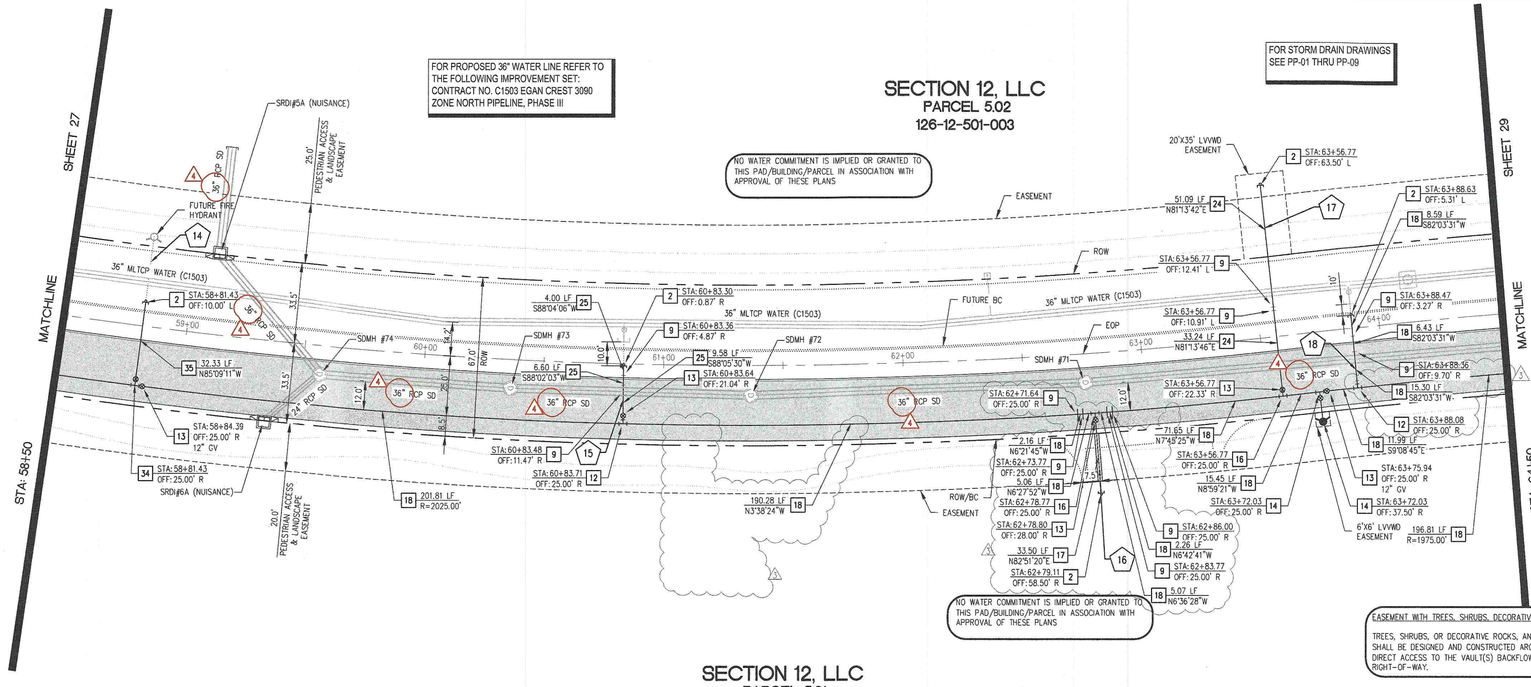
| | | |

FOR PROPOSED 36" WATER LINE REFER TO THE FOLLOWING IMPROVEMENT SET:
CONTRACT NO. C1503 EGAN CREST 3090
ZONE NORTH PIPELINE, PHASE III

FOR STORM DRAIN DRAWINGS SEE PP-01 THRU PP-09

SECTION 12, LLC
PARCEL 5.02
126-12-501-003

NO WATER COMMITMENT IS IMPLIED OR GRANTED TO THIS PAD/BUILDING/PARCEL IN ASSOCIATION WITH APPROVAL OF THESE PLANS

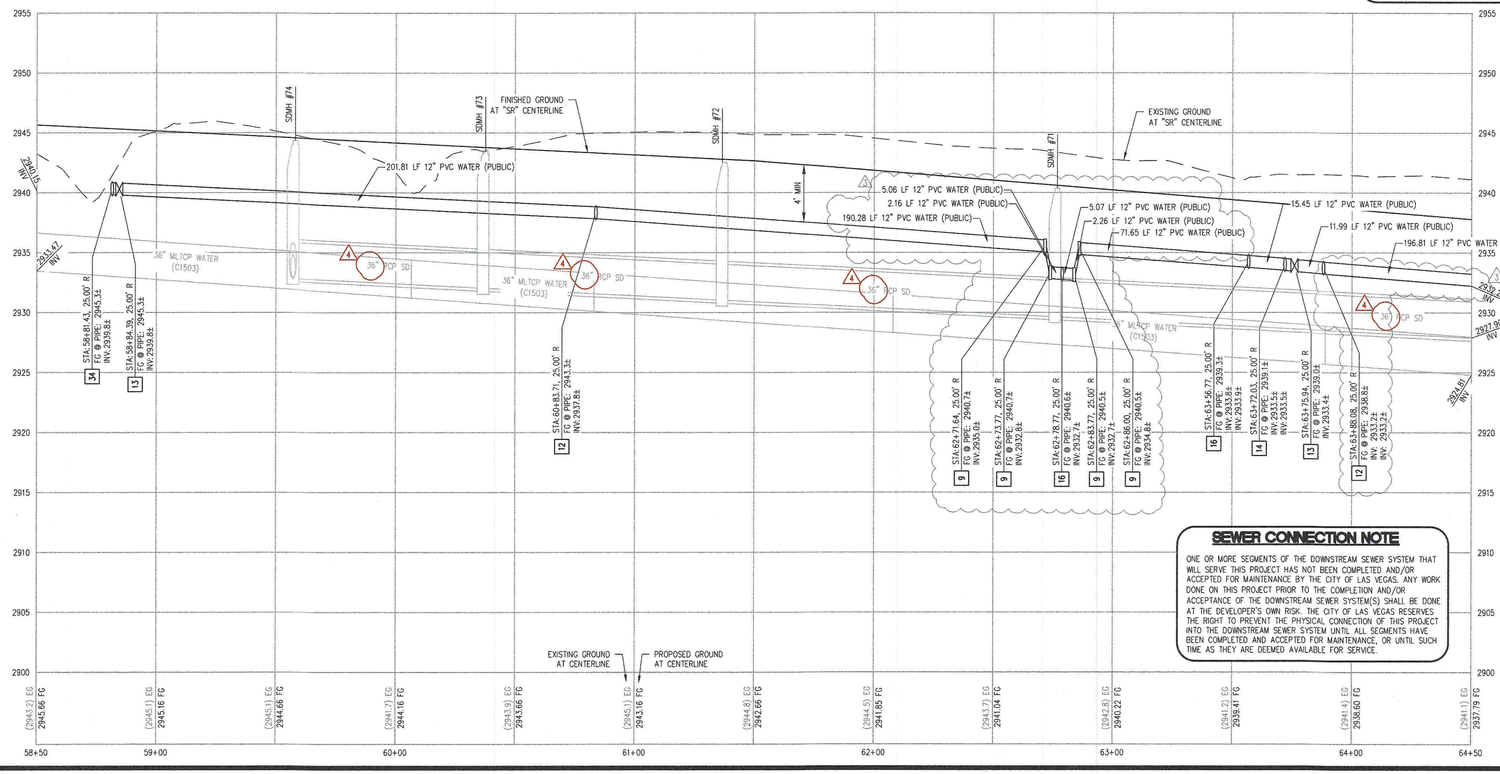


SECTION 12, LLC
PARCEL 5.01
126-12-501-003

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SHAUMBER RD - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 6'

SCALE: 1"=0 FEET



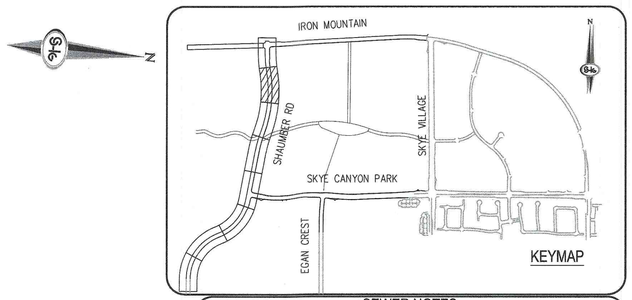
MINIMUM 24" COVER PER UDACS SEC. 2.08.04 GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION (TYP)

APPROVED

LAS VEGAS FIRE AND RESCUE DATE

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3. CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4. CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
5. INSTALL STUB AND CAP (SEE DETAIL 7 ON SHEET DTL-01)
6. INSTALL 10" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
7. REMOVE SEWER PLUG AND CONNECT TO THE SEWER LINE
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5. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
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27. INSTALL 10"X6" TEE (UDACS PLATE NO. 31)
28. INSTALL 16"X16" TEE (UDACS PLATE NO. 31)
29. INSTALL 12"X8" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
30. INSTALL 12"X10" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
31. INSTALL 16"X12" REDUCER W/ RESTRAINT JOINTS
32. INSTALL 16"X12" TEE (UDACS PLATE NO. 31)
33. INSTALL VERTICAL 22.5° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
34. INSTALL 12"X6" TEE W/ 6" GATE VALVE PER UDACS NO. 30 AND 39
35. INSTALL 6" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)

WATER NOTES:

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   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
3. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
4. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
5. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
6. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
7. PROVIDE A MIN. 12" OF VERTICAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.06.
8. PROVIDE A MIN. 3' OF HORIZONTAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02.

DISCLAIMER NOTES:

1. NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS SHOWN FOR INFORMATION ONLY. REFERENCE NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS DRAWINGS FOR CONSTRUCTION DETAILS. CONTRACTOR TO COORDINATE WITH UTILITIES FOR REMOVAL AND INSTALLATION OF FACILITIES.
2. ALL EXISTING UTILITY LOCATIONS SHOW HEREON 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. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. THE DEPTH BELOW GRADE OF THE VARIOUS UTILITIES DEPICTED ON THE PLANS VARIES THROUGHOUT THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHERE EXCAVATING AND GRADING THE SUBBASE IN THE VICINITY OF UTILITIES TO AVOID DAMAGE TO THE LATTER.
3. ALL EXISTING UTILITIES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.

LEGEND

(X) FOR WATER AND SEWER LATERAL(S) # (SEE UTL-09 TO UTL-11 SHEETS)

EASEMENT WITH TREES, SHRUBS, DECORATIVE ROCKS, BLOCK WALL, OR FENCE

TREES, SHRUBS, OR DECORATIVE ROCKS, AND ANY BLOCK WALL OR OTHER FENCE MATERIAL, SHALL BE DESIGNED AND CONSTRUCTED AROUND THE EASEMENT(S) TO ALLOW THE DISTRICT DIRECT ACCESS TO THE VAULT(S) BACKFLOW ASSEMBLIES, AND PIPING FROM THE ADJACENT RIGHT-OF-WAY.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126409 FIRST APPROVAL DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL







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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REVISE SD PIPE SIZE & ADD STUB	2/21/2020	DJH		
2	ADDITIONAL 12" & 24" WATER LINE, MOVE LATERAL	2/13/20	SVD		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER RD
UTL PLAN & PROFILE - "SR" 58+50 TO "SR" 64+50

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000



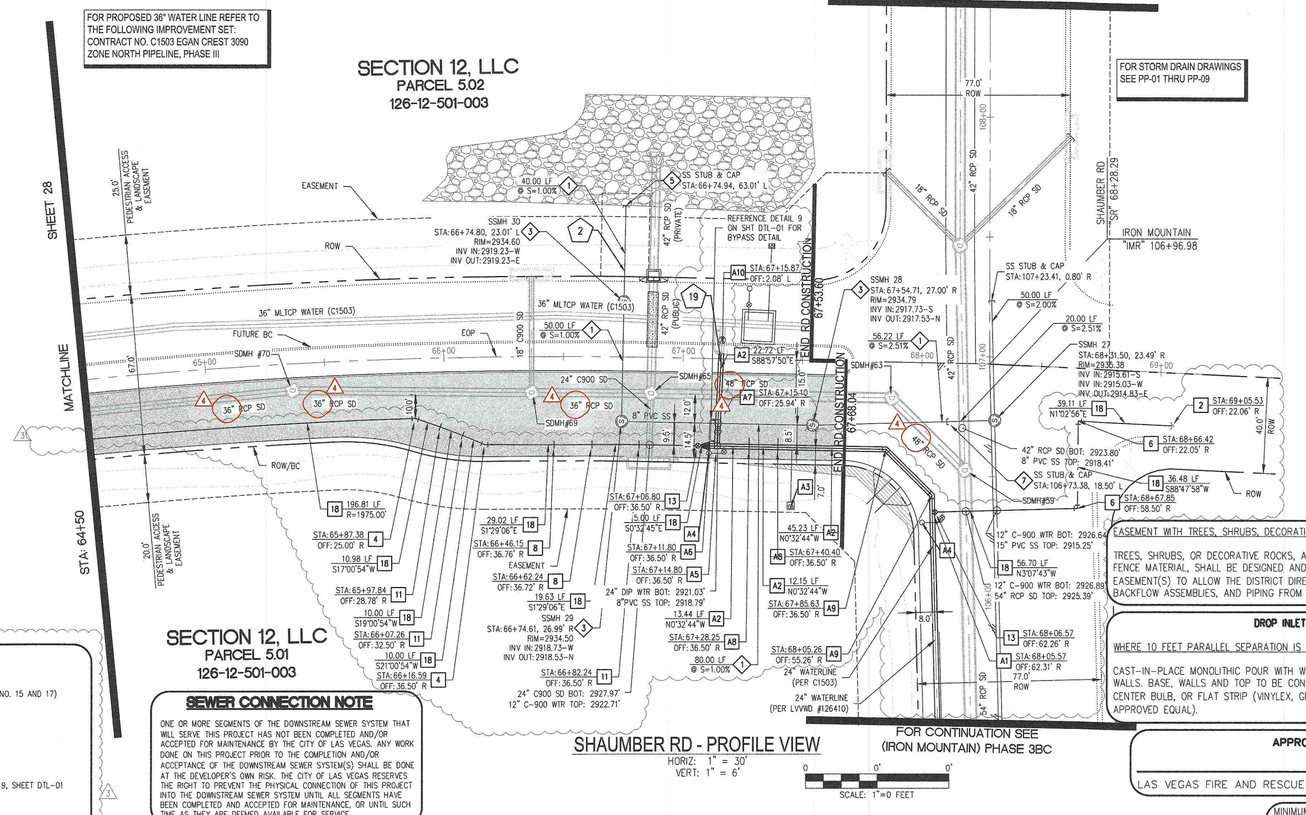
UTL-07
SHEET 28 OF 44

L18-02471
107V7512

J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\IMPROV\3A-3B-3C\DWG\OLY1609-000-UTL-SR.DWG 3/9/2020 5:13 PM Scott Boosh

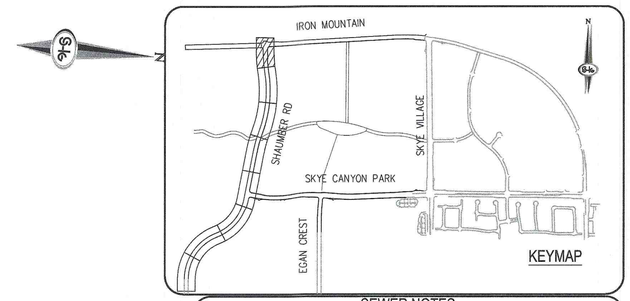
FOR PROPOSED 36" WATER LINE REFER TO THE FOLLOWING IMPROVEMENT SET: CONTRACT NO. C1503 EGAN CREST 3090 ZONE NORTH PIPELINE, PHASE III

FOR STORM DRAIN DRAWINGS SEE PP-01 THRU PP-09



SHAUMBER RD - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'



SEWER NOTES

1. INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
2. INSTALL 12" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
3. CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4. CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
5. INSTALL STUB AND CAP (SEE DETAIL 7 ON SHEET DTL-01)
6. INSTALL 10" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
7. REMOVE SEWER PLUG AND CONNECT TO THE SEWER LINE
8. CONSTRUCT 72" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B, AND SD-4)

WATER NOTES

1. REMOVE CAP AND BLOW-OFF PER UDACS PLATE NO. 36 AND CONNECT NEW PIPE PER UDACS SECTION 3.14
2. INSTALL 2" BLOW OFF AND CAP PER UDACS PLATE NO. 36
3. INSTALL HORIZONTAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
4. INSTALL HORIZONTAL 22.50° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
5. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
6. INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
7. INSTALL VERTICAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
8. INSTALL VERTICAL 22.50° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
9. INSTALL VERTICAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
10. INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
11. INSTALL WATER JOINT 1° DEFLECTION PER UDACS SECTION 2.07
12. INSTALL 12"X12" TEE (UDACS PLATE NO. 31)
13. INSTALL GATE VALVE (UDACS PLATE NO. 30 AND 39) (SEE PLAN FOR SIZE)
14. INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 40
15. INSTALL STEEL CASING (UDACS PLATE 22 AND 23)
16. INSTALL 12"X8" TEE (UDACS PLATE NO. 31)
17. INSTALL 8" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
18. INSTALL 12" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
19. INSTALL 1° HORIZONTAL DEFLECTION, PER UDACS SEC. 2.07
20. INSTALL 1° VERTICAL DEFLECTION, PER UDACS SEC. 2.07
21. INSTALL 12" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
22. INSTALL 10" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
23. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
24. INSTALL 8" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
25. INSTALL 16" DIP WATERLINE (PUBLIC) W/RESTRAINED AND BONDED JOINTS (UDACS PLATE NO. 15 AND 17)
26. INSTALL 8"X8" TEE (UDACS PLATE NO. 31)
27. INSTALL 10"X8" TEE (UDACS PLATE NO. 31)
28. INSTALL 16"X16" TEE (UDACS PLATE NO. 31)
29. INSTALL 12"X8" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
30. INSTALL 12"X10" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
31. INSTALL 16"X12" REDUCER W/ RESTRAINT JOINTS
32. INSTALL 16"X12" TEE (UDACS PLATE NO. 31)
33. INSTALL VERTICAL 22.5° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
34. INSTALL 12"X6" TEE W/ 6" GATE VALVE PER UDACS NO. 30 AND 39
35. INSTALL 6" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)

ADDITIONAL WATER NOTES

- A1 INSTALL 24"X12" TEE W/ RESTRAINED JOINTS
- A2 INSTALL 24" DIP WATERLINE W/ RESTRAINED AND BONDED JOINTS (UDACS PLATE NO. 15 AND 17)
- A3 INSTALL 4" COMBINATION AIR VALVE ASSEMBLY PER UDACS PLATE NO. 38
- A4 INSTALL 6" MANUAL BLOW-OFF ASSEMBLY PER UDACS PLATE NO. 37.
- A5 INSTALL 24"X24" TEE W/ RESTRAINED JOINTS
- A6 INSTALL 24" X 12" REDUCER W/ RESTRAINED JOINTS
- A7 INSTALL 24" DIRECT BURIED GATE VALVE WITH BY-PASS INSTALLATION SEE DETAIL 9, SHEET DTL-01
- A8 INSTALL 24" 22.5° VERTICAL BEND W/ RESTRAINED JOINTS
- A9 INSTALL 24" 45° HORIZONTAL BEND W/ RESTRAINED JOINTS
- A10 INSTALL BLOW-OFF AND CAP W/ RESTRAINED JOINTS

SEWER CONNECTION NOTE

ONE OR MORE SEGMENTS OF THE DOWNSTREAM SEWER SYSTEM THAT WILL SERVE THIS PROJECT HAS NOT BEEN COMPLETED AND/OR ACCEPTED FOR MAINTENANCE BY THE CITY OF LAS VEGAS. ANY WORK DONE ON THIS PROJECT PRIOR TO THE COMPLETION AND/OR ACCEPTANCE OF THE DOWNSTREAM SEWER SYSTEM(S) SHALL BE DONE AT THE DEVELOPER'S OWN RISK. THE CITY OF LAS VEGAS RESERVES THE RIGHT TO PREVENT THE PHYSICAL CONNECTION OF THIS PROJECT INTO THE DOWNSTREAM SEWER SYSTEM UNTIL ALL SEGMENTS HAVE BEEN COMPLETED AND ACCEPTED FOR MAINTENANCE, OR UNTIL SUCH TIME AS THEY ARE DEEMED AVAILABLE FOR SERVICE.

EASEMENT WITH TREES, SHRUBS, DECORATIVE ROCKS, BLOCK WALL, OR FENCE

TREES, SHRUBS, OR DECORATIVE ROCKS, AND ANY BLOCK WALL OR OTHER FENCE MATERIAL, SHALL BE DESIGNED AND CONSTRUCTED AROUND THE EASEMENT(S) TO ALLOW THE DISTRICT DIRECT ACCESS TO THE VAULT(S) BACKFLOW ASSEMBLIES, AND PIPING FROM THE ADJACENT RIGHT-OF-WAY.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

APPROVED

LAS VEGAS FIRE AND RESCUE DATE

MINIMUM 24" COVER PER UDACS SEC. 2.08.04 GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION (TYP)

DISCLAIMER NOTES:

1. NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS SHOWN FOR INFORMATION ONLY. REFERENCE NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS DRAWINGS FOR CONSTRUCTION DETAILS. CONTRACTOR TO COORDINATE WITH UTILITIES FOR REMOVAL AND INSTALLATION OF FACILITIES.
2. ALL EXISTING UTILITY LOCATIONS SHOW HEREON 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. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. THE DEPTH BELOW GRADE OF THE VARIOUS UTILITIES DEPICTED ON THE PLANS VARIES THROUGHOUT THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHERE EXCAVATING AND GRADING THE SUBBASE IN THE VICINITY OF UTILITIES TO AVOID DAMAGE TO THE LATTER.
3. ALL EXISTING UTILITIES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.

LEGEND

(X) FOR WATER AND SEWER LATERAL(S) # (SEE UTL-09 TO ULT-11 SHEETS)

WATER NOTES:

1. WATER MAIN JOINT DEFLECTION (PVC, 4" – 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
3. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
4. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
5. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
6. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
7. PROVIDE A MIN. 12" OF VERTICAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.06.
8. PROVIDE A MIN. 3' OF HORIZONTAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126409 FIRST APPROVAL DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

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

FAST
Call before you UnderGround.
1-702-432-5300
FRIENDLY AND ATTENTIVE SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It is costly.
Call 811
OR
1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE SD PIPE SIZE	2/21/2020	DJH		
1	ADDITIONAL 12" & 24" WATER LINE	7/13/20	SVR		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SHAUMBER RD
STA: 64+50 TO "SR" 69+50

UTL PLAN & PROFILE - "SR" 64+50 TO "SR" 69+50

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER - STATE OF NEVADA
DERICK D.J YORO
Exp: 06/30/2020
CIVIL
No. 16396
3/9/20

UTL-08
SHEET 29 OF 44

L18-02471
107V7512

A \OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\WORK\PROV\3B-1\SP\OLY1609-000-UTL-SP.DWG 3/9/2020 2:14 PM Scott Booth

SKYE CANYON

IMPROVEMENT PLANS
FOR
SKYE CANYON PHASE 3B, 3C
SKYE CANYON PARK DRIVE
SHAUMBER RD TO SKYE VILLAGE RD

APN:126-12-501-004
17.9 AC

BENCHMARK

MONUMENT ID: USDA (1934) 19

U.S. DEPARTMENT OF AGRICULTURE BRASS DISC AT SOUTHWEST CORNER OF U.S. 95 AND KYLE CANYON ROAD

ELEVATION = 2817.61 FEET, 858.810 METERS
NAVD 88 DATUM

PER THE CITY OF LAS VEGAS BENCHMARK BOOK – 2008 ADJUSTMENT (UPDATED 05/24/2010)

BASIS OF BEARING

NORTH 89°16'30" WEST, BEING THE BEARING OF THE SOUTH LINE OF THE NORTHWEST QUARTER (NW1/4) OF SECTION 7, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE 147, PAGE 71 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

OWNER

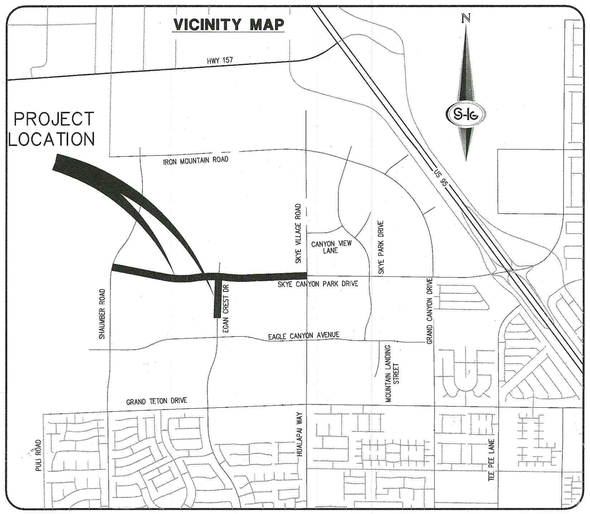
M F LAND LLC
% OLYMPIA COMPANIES LLC
11411 SOUTHERN HIGHLANDS
PARKWAY, SUITE 300
LAS VEGAS, NV 89141

DEVELOPER

NINETY–FIVE MANAGEMENT LLC
% OLYMPIA COMPANIES LLC
11411 SOUTHERN HIGHLANDS
PARKWAY, SUITE 300
LAS VEGAS, NV 89141
PH (702) 220–6565
FX (702) 220–6566

ENGINEER

SLATER HANIFAN GROUP
5740 S. ARVILLE STREET #216
LAS VEGAS, NV 89118
(702) 284–5300



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

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

Call before you Dig Avoid cutting underground utility lines. It's costly. Call 811 OR 1-800-227-2600

APPROVALS

CITY ENGINEER–ALLEN E. PAVELKA PE #9029 DATE

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

CITY OF LAS VEGAS DEPARTMENT OF PLANNING DATE

THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE PLANNING DEPARTMENT.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
PROJECT NO. 126408 FIRST APPROVED DATE:_____
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
SHEETS:

APPROVAL BY THE FIRE DEPARTMENT HAVING JURISDICTION IS REQUIRED PRIOR TO OBTAINING FINAL APPROVAL FROM THE LAS VEGAS VALLEY WATER DISTRICT.

LAS VEGAS FIRE AND RESCUE DATE

NV ENERGY DATE

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

CENTRAL TELEPHONE CO, DBA CENTURYLINK DATE

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

SOUTHWEST GAS CORPORATION DATE

COX COMMUNICATIONS LAS VEGAS, INC. DATE

INDEX OF DRAWINGS

SHT. NO.	DWG NO.	DESCRIPTION
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2	G–02	GENERAL NOTES
3	G–03	ABBREVIATIONS, LEGEND, AND QUANTITIES
4	TY–01	ROADWAY SECTIONS
5	PP–01	CONSTRUCTION PLAN – "SCP" 37+50 TO "SCP" 43+50
6	PP–02	CONSTRUCTION PLAN – "SCP" 43+50 TO "SCP" 50+00
7	PP–03	CONSTRUCTION PLAN – "SCP" 50+00 TO "SCP" 56+50
8	PP–04	CONSTRUCTION PLAN – "SCP" 56+50 TO "SCP" 62+50
9	PP–05	CONSTRUCTION PLAN – "SCP" 62+50 TO "SCP" 68+50
10	PP–06	CONSTRUCTION PLAN – "SCP" 68+50 TO "SCP" 72+00
11	PP–07	CONSTRUCTION PLAN – ARROYO GRADING
12	PP–08	CONSTRUCTION PLAN – "ECD" 29+50 TO "ECD" 35+50
13	PP–09	CONSTRUCTION PLAN – "ECD" 35+50 TO "ECD" 38+20
13A	RM–01	8" WATER REMOVAL PLAN
14	LAT–01	STORM DRAIN LATERALS I
15	LAT–02	STORM DRAIN LATERALS II
16	GR–01	GRADING SHEET I
17	GR–02	GRADING SHEET II
18	DTL–01	STORM DRAIN DETAILS
19	UTL–01	UTL PLAN & PROFILE – "SCP" 37+50 – "SCP" 43+50
20	UTL–02	UTL PLAN & PROFILE – "SCP" 43+50 – "SCP" 50+00
21	UTL–03	UTL PLAN & PROFILE – "SCP" 50+00 – "SCP" 56+50
22	UTL–04	UTL PLAN & PROFILE – "SCP" 56+50 – "SCP" 62+50
23	UTL–05	UTL PLAN & PROFILE – "SCP" 62+50 – "SCP" 68+50
24	UTL–06	UTL PLAN & PROFILE – "SCP" 68+50 – "SCP" 72+00
25	UTL–07	UTL PLAN & PROFILE – "ECD" 29+50 – "ECD" 35+50
26	UTL–08	UTL PLAN & PROFILE – "ECD" 35+50 – "ECD" 38+20
27	UTL–09	UTILITY LATERAL I
28	UTL–10	UTILITY LATERAL II
29	UTL–11	UTILITY LATERAL III
30	ULT–12	UTILITY DETAIL I
31	ULT–13	UTILITY DETAIL II
32	TR–01	TRAFFIC PLAN I
33	TR–02	TRAFFIC PLAN II
34	TR–03	TRAFFIC PLAN III
35	HC–1	HORIZONTAL CONTROL PLAN
36	HC–2	HORIZONTAL CONTROL PLAN
37	HC–3	HORIZONTAL CONTROL PLAN
38	HC–4	HORIZONTAL CONTROL PLAN
39	HC–5	HORIZONTAL CONTROL PLAN
40	HC–6	HORIZONTAL CONTROL PLAN
41	HC–7	HORIZONTAL CONTROL PLAN
42	HC–8	HORIZONTAL CONTROL PLAN

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44	S0.10	TYPICAL DETAILS
45	S1.00	PLAN VIEWS
46	S2.00	SECTIONS

DRY UTILITY SUPPLEMENTAL INDEX

SOUTHWEST GAS

1	
2	
3	
4	
5	
6	
7	

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REVISE STORM DRAIN	3/9/20	EMH		
2	ADD 12" WL, REMOVE FUTURE EGAN CREST SS, MOVE UTILITY LATERALS 2 & 18, REMOVE SS LAT. 3 & 4, CHANGE UTIL LAT 19 & 20 TEE'S	2/28/20	SWB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SKYE CANYON PARK
COVER SHEET

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

PROJECT NO.
OLY1609-000

DERICK D.J. YORO
Exp: 06/30/2020
CIVIL
No. 16396
STATE OF NEVADA
PROFESSIONAL ENGINEER
3/10/20

G-01
SHEET 1 OF 46

L18-02472
107V7513

J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MPIP\OLY3B-4\CSD\OLY1609-000-COR-SD.DWG 3/9/2020 8:56 PM Rhonda Miller

LEGEND

—— —— ——TEL 5-4"—— —— ——	EXISTING TELEPHONE CABLE
—— —— ——12" SS—— —— ——	EXISTING SANITARY SEWER LINE
—— —— ——12" W—— —— ——	EXISTING WATER LINE
—— —— ——18" SD—— —— ——	EXISTING STORM DRAIN LINE
—— —— ELE UG 1-4"—— ——	EXISTING UNDERGROUND ELECTRICAL LINE
—— —— ——OHP—— —— ——	EXISTING OVERHEAD POWER LINE
—— —— ——OHP/TEL—— —— ——	EXISTING OVERHEAD POWER AND TELEPHONE LINE
—— —— ——4" PE GAS—— ——	EXISTING GAS LINE
—— —— ——CATV—— —— ——	EXISTING CABLE TELEVISION LINE
	EXISTING CURB & GUTTER
	EXISTING RIGHT-OF-WAY LINE
	EXISTING PROPERTY LINE
——X——X——X——	EXISTING CHAIN-LINK FENCE
SL	EXISTING STREET LIGHT CONDUIT
MH	EXISTING MANHOLE OR VAULT
	EXISTING VALVE (GAS OR WATER)
FH	EXISTING FIRE HYDRANT
PP	EXISTING POWER OR TELEPHONE POLE
	EXISTING PADMOUNTED SERVICE PEDESTAL
	EXISTING NV ENERGY TRANSFORMER
	EXISTING SWING GATE
	EXISTING STREET LIGHT
	EXISTING ON-SITE LIGHT

	STREET CENTERLINE
	EASEMENT LINE
	AEP
	PROPOSED SIGN
	CONCRETE SURFACE
	PLANTMIX BITUMINOUS SURFACE
	FLOWLINE
	SAWCUT LINE
1875	CONTOUR LINE
123 TC	ELEVATION
[123] TC	FUTURE ELEVATION
D	STORM DRAIN MANHOLE
S	SANITARY SEWER MANHOLE
	100 WATT STREET LIGHT
	250 WATT STREET LIGHT
—— —— ——4" ITS—— ——	FAST ITS CONDUIT
	FAST P30 PULLBOX
	FAST TYPE 200 SPLICE VAULT
	SIGHT VISIBILITY ZONE

ABBREVIATIONS

ABUT	ABUTMENT	GND	GROUND	R/W	RIGHT-OF-WAY
AC	ALUMINUM CAP/ASPHALTIC CONCRETE	H	HEIGHT	RT	RIGHT
AEP	AUTHORIZATION TO ENTER PROPERTY	HGL	HYDRAULIC GRADE LINE	S	SOUTH
AP	ANGLE POINT	HORIZ	HORIZONTAL	SCH	SCHEDULE
APN	ASSESSORS PARCEL NUMBER	HWY	HIGHWAY	SD	STORM DRAIN
AVE	AVENUE	INV	INVERT	SDMH	STORM DRAIN MANHOLE
BC	BEGIN CURVE/BRASS CAP/BACK OF CURB	ITS	INTELLIGENT TRANSPORTATION SYSTEM	SECT	SECTION
BCR	BEGIN CURB RETURN	JT	JOINT	SF	SQUARE FOOT/FEET
BLVD	BOULEVARD	LF	LINEAR (LINEAL) FEET	SHLDR	SHOULDER
BM	BENCHMARK	LIP	LIP OF GUTTER	SHT	SHEET
BOT	BOTTOM	LT	LEFT	SIM	SIMILAR
BRG	BEARING	LUM	LUMINAIRE	SP	SERVICE POINT
BSW	BACK OF SIDEWALK	LVVWD	LAS VEGAS VALLEY WATER DISTRICT	SPA	SPACING
BVCE	BEGIN VERTICAL CURVE ELEVATION	MAX	MAXIMUM	SQ	SQUARE
BVCS	BEGIN VERTICAL CURVE STATION	MH	MANHOLE	SS	SANITARY SEWER
CATV	UNDERGROUND CABLE TV	MIN	MINIMUM	SSMH	SANITARY SEWER MANHOLE
CG	CURB AND GUTTER	MLCP	MULTI-LAYERED COMPOSITE PIPE	STA	STATION
CCSD	DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS	MOD	MODIFY/MODIFIED	STD	STANDARD
		MON	MONUMENT	ST	STREET
CKT	CIRCUIT	MPH	MILES PER HOUR	STL	STEEL
CLR	CLEAR/CLEARANCE	N	NORTH	SL	STREET LIGHT
CLBM	CITY OF LAS VEGAS BENCHMARK	NDOT	NEVADA DEPARTMENT OF TRANSPORTATION	STRUCT	STRUCTURE
CLV	CITY OF LAS VEGAS	NO	NUMBER	SW	SIDEWALK
CMU	CONCRETE MASONRY UNIT	NVE	NV ENERGY	SNBORS	SOUTHERN NEVADA BUILDING OFFICIALS
CONC	CONCRETE	NTS	NOT TO SCALE		REGIONAL STANDARDS
℄, C/L	CENTERLINE	OC	ON CENTER	SWG	SOUTHWEST GAS
COB	CENTER OF BOLLARD	OHP	OVERHEAD POWER LINE	T	TELEPHONE/TOP
COL	COLUMN	PAT	PATENT	TAN	TANGENT
CONST	CONSTRUCT/CONSTRUCTION	PB	PULL BOX	TC	TOP OF CURB
COORD	COORDINATE	PBS	PLANTMIX BITUMINOUS SURFACE	TEMP	TEMPORARY
COR	CORNER	PC	POINT OF CURVE, PHOTO CELL	TF	TOP OF FOOTING
CY	CUBIC YARD(S)	PCC	POINT OF COMPOUND CURVE	TG	TOP OF GRATE
Δ	DELTA	PD	PONDING DEPTH	TMH	TOP OF MANHOLE
DB	DIRECT BURY	PE	PROJECT ENGINEER/POLYETHYLENE	TRANS	TRANSITION STRUCTURE
DBL	DOUBLE	PED	PEDESTRIAN	THW	TOP OF HEADWALL
DI	DROP INLET	PG	PROFILE GRADE (FG ON CONTROL LINE)	TRW	TOP OF RETAINING WALL
DIA	DIAMETER	PGL	PROFILE GRADE LINE	TW	TOP OF WALL
DIST	DISTANCE	PH	POTHOLE	TS	TRAFFIC SIGNAL
DR	DRIVE	PI	POINT OF INTERSECTION	TYP	TYPICAL
DW	DRIVEWAY	PKWY	PARKWAY	UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS
DWG	DRAWING	PL	PROPERTY LINE		
ECR	END CURB RETURN	PMF	PAVEMENT MARKING FILM	USDCCA	UNIFORM STD. DRAWINGS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS CLARK COUNTY AREA, NEVADA
E	EAST	POB	POINT OF BEGINNING		
EA	EACH	POC	POINT ON CURVE		
ESMT	EASEMENT	POE	POINT OF ENDING	UT	UNDERGROUND TELEPHONE
ECR	END CURB RETURN	POT	POINT ON TANGENT	VAR	VARIABLE/VARIES
ELEC	ELECTRICAL	PP	POWER POLE	VC	VERTICAL CURVE
ELEV/EL	ELEVATION	PPCBR	PORTABLE PRECAST CONCRETE BARRIER RAIL	VERT	VERTICAL
EP/EOP	EDGE OF PAVEMENT	PPM	POLYUREA PAVEMENT MARKINGS	VG	VALLEY GUTTER
EQ	EQUAL	PR	PAIR	W	WEST
EST	ESTIMATED	PROP	PROPOSED	WY	WAY
EVC	END VERTICAL CURVE	PRC	POINT OF REVERSE CURVE	WT	WEIGHT
EX./EXIST	EXISTING	PRVC	POINT REVERSE VERTICAL CURVE	XING	CROSSING
EXP	EXPANSION JOINT	PSI	POUNDS PER SQUARE INCH		
EW	EACH WAY	PT	POINT OF TANGENCY		
FC	FACE OF CURB	PVI	POINT OF VERTICAL INTERSECTION		
FG	FINISH GRADE	PVMT	PAVEMENT		
FH	FIRE HYDRANT	R	RADIUS		
FL	FLOW LINE	RCB	REINFORCED CONCRETE BOX		
FO	FIBER OPTIC	RCP	REINFORCED CONCRETE PIPE		
FS	FINISH SURFACE	RD	ROAD		
FT	FOOT/FEET	RDWY	ROADWAY		
FTG	FOOTING	REC	RECTANGULAR		
FW	FACE OF WALL	REINF	REINFORCED		
FYA	FLASHING YELLOW ARROW	REQD	REQUIRED		
G	GAS	RND	ROUND		
GA	GAUGE	RP	RADIUS POINT		
GB	GRADE BREAK	RPM	RAISED PAVEMENT MARKERS		

ALIGNMENT ABBREVIATIONS

"ECD"	EGAN CREST DRIVE (SKYE CANYON PARK DRIVE TO EAGLE CANYON DRIVE)
"IMR"	IRON MOUNTAIN ROAD (SKYE VILLAGE ROAD TO SHAUMBER ROAD)
"SCP"	SKYE CANYON PARK DRIVE (SKYE VILLAGE ROAD TO SHAUMBER ROAD)
"SR"	SHAUMBER ROAD (SKYE CANYON PARK DRIVE TO IRON MOUNTAIN ROAD)
"SVR"	SKYE VILLAGE ROAD

QUANTITIES

			PRIVATE	PUBLIC
DRAINAGE				
	DESCRIPTION			
1.	DROP INLET 5' TYPE CM2	EA	–	3
2.	DROP INLET 10' TYPE CM2	EA	–	4
3.	DROP INLET 17.5' TYPE CM2	EA	–	1 (2)
4.	48" TYPE II MANHOLE	EA	–	4
5.	60" TYPE III MANHOLE	EA	–	1
6.	72" TYPE IIII MANHOLE	EA	–	4
7.	TYPE 4 MANHOLE	EA	–	1 (2)
8.	18" RCP	LF	–	1,202
9.	24" RCP	LF	–	75
10.	30" RCP	LF	–	–
11.	36" RCP	LF	–	125
12.	36" PVC	LF	–	–
13.	54" RCP	LF	–	330
14.	60" RCP	LF	–	156 (2)
15.	72" RCP	LF	–	560
16.	4'X8" RCB	LF	–	–
17.	PRECAST 6'X6' RCB	LF	–	–
18.	PRECAST 8'X5' RCB	LF	–	–
19.	PRECAST 8'X7' RCA	LF	–	–
20.	PRECAST 10'X9' RCA	LF	–	–
21.	STRUCTURAL HEADWALL	EA	–	–
22.	NDOT TYPE II HEADWALL	EA	–	–
23.	18" END SECTION	EA	–	–
24.	24" END SECTION	EA	–	1
25.	54" END SECTION	EA	–	1
26.	72" END SECTION	EA	–	2
27.	RIPRAP	CY	–	180
28.	18" C900 SD	LF	–	305
SEWER SYSTEM				
1.	10" SDR35 PVC SEWER PIPE	LF	–	1000
2.	8" SDR35 PVC SEWER PIPE	LF	–	640
3.	STANDARD 48" SEWER MANHOLE	EA	–	12
4.	8" SEWER PIPE CAP	EA	–	9
5.	10" C-900 SEWER PIPE CAP	LF	–	1800
6.	8" C-900 SEWER PIPE CAP	LF	–	200
7.	STANDARD 72" SEWER MANHOLE	EA	–	2
WATER SYSTEM				
1.	FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS PLATE NO. 40	EA	–	6
2.	6" C-900 PVC WATER PIPE (CLASS 150)	LF	–	190
3.	8" C-900 PVC WATER PIPE (CLASS 150)	LF	–	1,585
4.	12" C-900 PVC WATER PIPE (CLASS 150)	LF	–	2,165
5.	16" C-900 PVC WATER PIPE (CLASS 150)	LF	–	2000
6.	6" DIP WATER PIPE	LF	–	85
7.	8" DIP WATER PIPE	LF	–	363
8.	16" DIP RESTRAINED AND BONDED JOINTS	LF	–	1,990
9.	6" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	2 (2)
10.	8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	8
11.	12" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	9
12.	16" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	6
13.	12" X 12" TEE PER UDACS PLATE NO. 31	EA	–	2
14.	12" X 8" TEE PER UDACS PLATE NO. 31	EA	–	6
15.	12" X 6" TEE PER UDACS PLATE NO. 31	EA	–	1 (2)
16.	16" X 8" TEE PER UDACS PLATE NO. 31	EA	–	1
17.	16" X 16" TEE PER UDACS PLATE NO. 31	EA	–	1 (2)
18.	6" 45 DEGREE VERTICAL BEND PER UDACS PLATE NO. 31	EA	–	1
19.	8" 45 DEGREE VERTICAL BEND PER UDACS PLATE NO. 31	EA	–	7
20.	12" 11.25 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	2
21.	16" 45 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	4 (2)
22.	16" 45 DEGREE VERTICAL BEND PER UDACS PLATE NO. 31	EA	–	6
23.	1 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	18
24.	1 DEGREE VERTICAL BEND PER UDACS PLATE NO. 31	EA	–	2
25.	8" CAP AND 2" BLOW-OFF ASSEMBLY W/CAP PER UDACS PLATE NO. 36	EA	–	9
26.	12" CAP AND 2" BLOW-OFF ASSEMBLY W/CAP PER UDACS PLATE NO. 36	EA	–	2
27.	8" X 16" REDUCER PER UDACS PLATE NO. 30	EA	–	1
28.	16" X 12" INCREASER PER UDACS PLATE NO. 30	EA	–	1
STREET IMPROVEMENTS				
1.	5.5" A.C. PAVEMENT W/ 6" TYPE II OVER 4" TYPE I AGGREGATE BASE	SY	–	3880
2.	STANDARD 24" TYPE "L" ISLAND CURB & GUTTER W/6" TYPE I AGGREGATE BASE	LF	–	4,000
3.	STANDARD 8" TYPE "A" ISLAND CURB W/6" TYPE I AGGREGATE BASE	LF	–	1,180
4.	STANDARD 30" TYPE "ROLL" CURB & GUTTER W/6" TYPE I AGGREGATE BASE	LF	–	–
5.	4' WIDE CONCRETE SIDEWALK W/4" TYPE II AGGREGATE BASE	SF	–	–
6.	COMMON ELEMENT LANDSCAPING	SF	–	–
7.	2" ALUMINUM CAP STAMPED MONUMENT PER CCAUSD DWG 242	EA	–	8
8.	SIDEWALK RAMPS PER CCAUSD NO. 235	EA	–	1
TRAFFIC SIGNALS				
1.	30" STOP SIGN WITH POST (R1-1)	EA	–	1
2.	9" STREET NAME SIGN (0-3, BROWN W/ WHITE LETTERS)(2 POLES x 2 PER POLE=4)	EA	–	4
3.	BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKER	EA	–	6
4.	CHEVRON MARKINGS	SF	–	1,510
5.	P30 PULL BOX W/ METAL COVER	LF	–	10
6.	4" ITS CONDUIT	LF	–	4,470
7.	6" SOLID WHITE	LF	–	5220
8.	TYPE 4 LANE LINE	LF	–	6,170
9.	RED PAINT	LF	–	150
10.	#7 PULLBOX	EA	–	4
8.	TYPE 1 CENTERLINE (PAINT)	LF	–	780
DRY UTILITIES				
1.	133W LED LUMINAIRE STREET LIGHT W/DECORATIVE POLE	EA	–	7
2.	1-1/4" PVC STREET LIGHT CONDUIT WITH (2) #4 AND (1) #8 CONDUCTORS	LF	–	3,780
3.	NO. 3-1/2 PULL BOX W/METAL COVER	EA	–	12
4.	150 AMP SERVICE PEDESTAL (IRR)	EA	–	–
5.	200 AMP SERVICE PEDESTAL (STLT)	EA	–	2
6.	189W LED LUMINAIRE STREET LIGHT W/DECORATIVE POLE	EA	–	11

ADDITIONAL QUANTITIES

WATER SYSTEM				
1.	12" DIP WATER	LF	–	–
2.	16" X 12" TEE PER UDACS PLATE NO. 31	EA	–	1
3.	12" 90 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	1
4.	12" 45 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	–
5.	12" 22.5 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	2
6.	12" X 8" REDUCER PER UDACS PLATE NO. 30	EA	–	1
7.	8" 11.25 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	2
8.	8" 22.5 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	2
9.	8" 45 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	4
10.	12"X8" TAPPING SLEEVE WITH 12" TAPPING VALVE PER UDACS PLATE NO. 34 & 35	EA	–	–
SEWER SYSTEM				
1.	STANDARD 60" SEWER MANHOLE	EA	–	2

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

LVVWD PROJECT # 126408 FIRST APPROVED DATE: _____

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE STORM DRAIN	3/9/20	EMH		
1	REVISE QUANTITIES	2/28/20	SWB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SKYE CANYON PARK

ABBREVIATIONS, LEGEND, AND QUANTITIES

DERRICK D.J. IYORO
Exp. 06/30/2020
CIVIL
No. 16396
STATE OF NEVADA
PROFESSIONAL ENGINEER

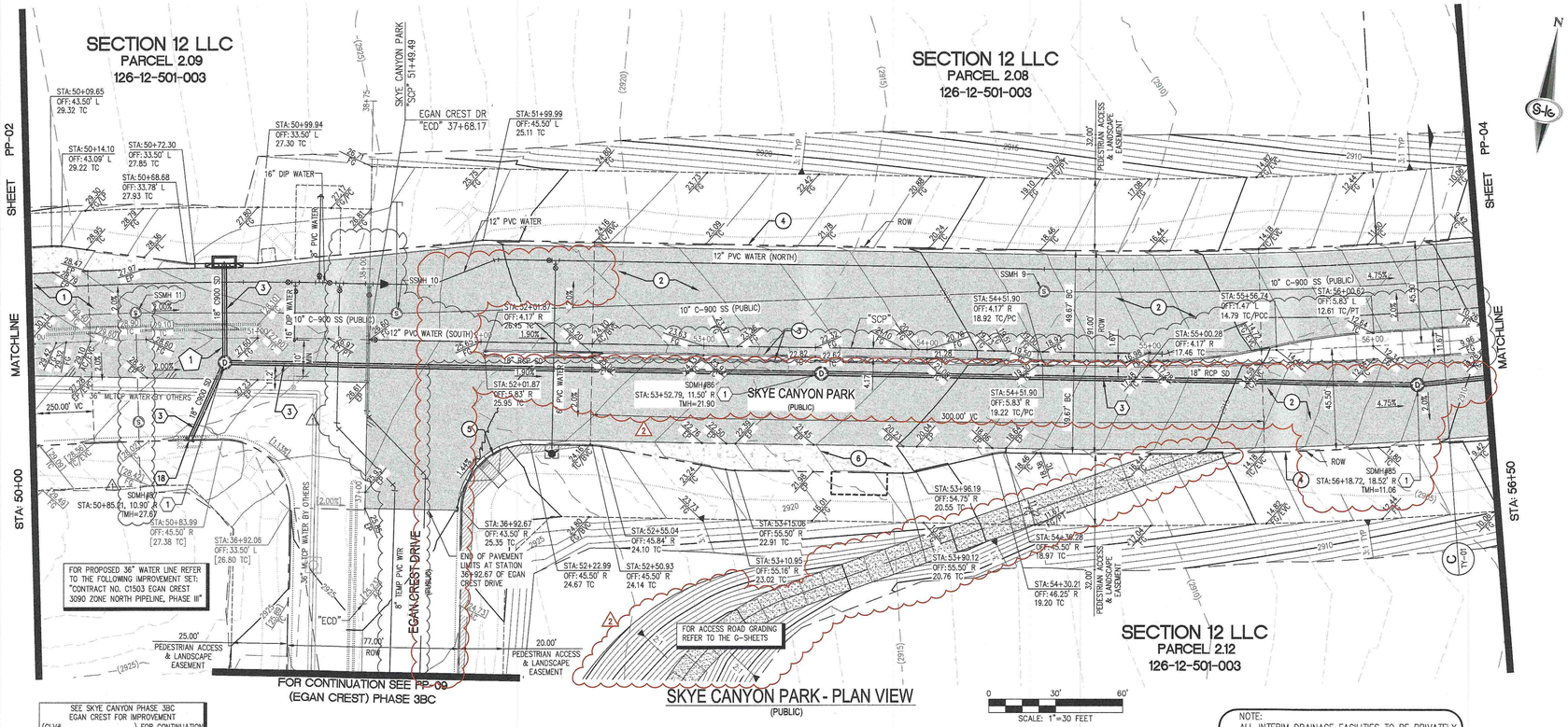
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DRAFTER: HF
DESIGNER: HF
CHECKED: DY

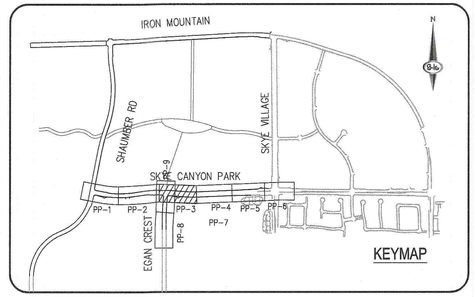
PROJECT NO.
OLY1609-000

G-03
SHEET 3 OF 46

L18-02472
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J:\OLY1609-000 SKYE CANYON PHASE 3A, 3B, 3C\DWG\MPRO\V\3B-C\SIG\OLY1609-000-CVR-SCLEMI 3/10/2020 4:10 PM Emily Hoy



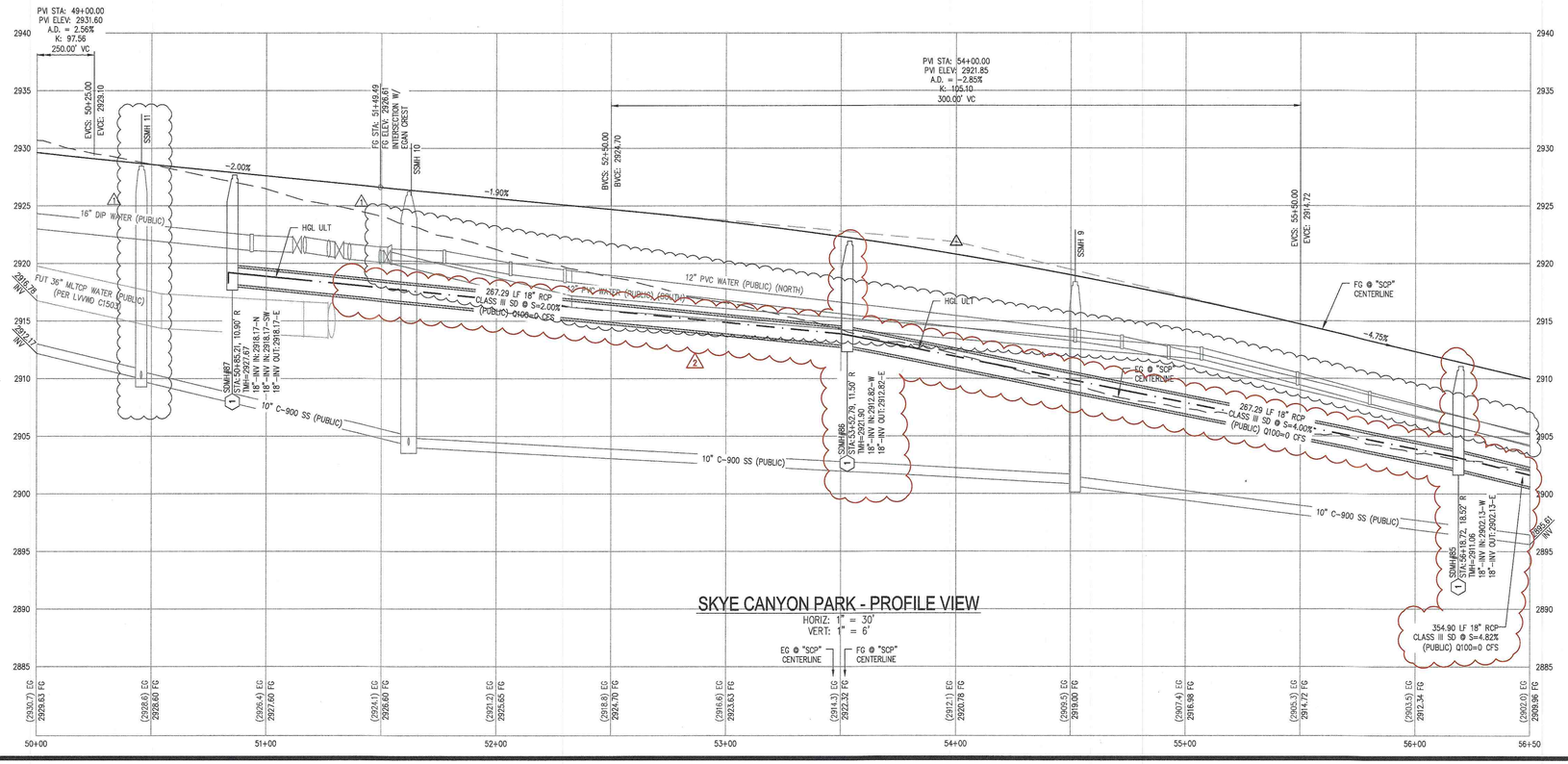


CONSTRUCTION NOTES

1	CONSTRUCT 1" UTACS OVER 4.5" PBS OVER 4" TYPE II AGGREGATE BASE (SEE TY SHEETS)
2	CONSTRUCT 1" UTACS OVER 5.5" PBS OVER 6" TYPE II AGGREGATE BASE (SEE TY SHEETS)
3	CONSTRUCT "A" TYPE ISLAND CURB (USDCCA STD. DWG. NO. 219)
4	CONSTRUCT "L" TYPE CURB AND GUTTER (USDCCA STD. DWG. NO. 216)
5	CONSTRUCT SIDEWALK RAMP (CASE II) WITH TACTILE WARNING PANEL (USDCCA STD. DWG. NO 235)
6	CONSTRUCT BUS TURN-OUT (USDCCA STD. DWG. NO. 234.1)
7	CONSTRUCT CONCRETE SIDEWALK (USDCCA STD. DWG. 234)
P	PROTECT IN PLACE (VERIFY LOCATION AND ELEVATION OF EX. IMPROVEMENT)

STORM DRAIN NOTES

1	CONSTRUCT 48" TYPE II-SD MANHOLE (USDCCA STD. DWG. NO. 405.2)
2	CONSTRUCT 60" TYPE III MANHOLE (USDCCA STD. DWG. NO. 406.1)
3	INSTALL 18" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
4	INSTALL 24" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
5	INSTALL 30" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
6	INSTALL 36" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
7	INSTALL 42" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
8	INSTALL 54" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
9	INSTALL 60" RCP (USDCCA STD. DWG. NO. 503.2)
10	INSTALL 72" RCP (USDCCA STD. DWG. NO. 503.2)
11	INSTALL 30" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
12	INSTALL 36" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
13	INSTALL 42" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
14	INSTALL 72" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
15	CONSTRUCT TYPE "CM2" DROP INLET. SIZE PER PLAN (USDCCA STD. DWG. NO. 412.1 & 421)
16	CONSTRUCT NDOT TYPE IV MANHOLE PER SHEET R-4.3.2 OF NDOT "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION.
17	CONSTRUCT CONCRETE COLLAR (SEE DETAIL 3/DTL-01)
18	CONSTRUCT INTERIM BRICK AND MORTAR PLUG SEE DETAIL 2/DTL-01
19	INSTALL 24" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
20	INSTALL 54" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
21	INSTALL 66" RCP END SECTION (NDOT STD. PLAN R-2.3.1) W/1' SACRIFICIAL CONCRETE PER STRUCTURAL DWGS



NOTES

1. ALL RCP SHALL BE CLASS III UNLESS OTHERWISE SHOWN.
2. ALL PIPE LENGTHS ARE MEASURED ALONG PIPE CENTERLINE TO CENTER OF MANHOLE OR INSIDE EDGE OF DI OR RCB/RCA.
3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
5. ALL PIPES ARE PUBLICLY MAINTAINED IN PUBLIC ROW.
6. ADD SPECIAL INSPECTION REQUIRED FOR PIPE SEGMENTS WITH SACRIFICIAL CONCRETE.
7. DIMENSIONS ARE TO BE BACK OF CURB, FACE OF CURB, OR FACE OF MEDIAN UNLESS OTHERWISE NOTED.
8. SEE TY-SHEETS FOR TYPICAL SECTIONS.
9. SEE UT-SHEETS FOR WATER AND SEWER PLAN AND PROFILES.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/11/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

NOTE:
PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES, SUCH AS BUT NOT LIMITED TO, THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF VEGETATION.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126408 — FIRST APPROVED DATE: _____

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

FAST
Call before you UnderGround.
1-702-432-6300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
or
1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE STORM DRAIN & ACCESS ROAD	3/9/20	EMH		
1	REVISE WATER, RELOCATE SEWER STUB	2/28/2020	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SKYE CANYON PARK
CONSTRUCTION PLAN - "SCP" 50+00 TO "SCP" 56+50

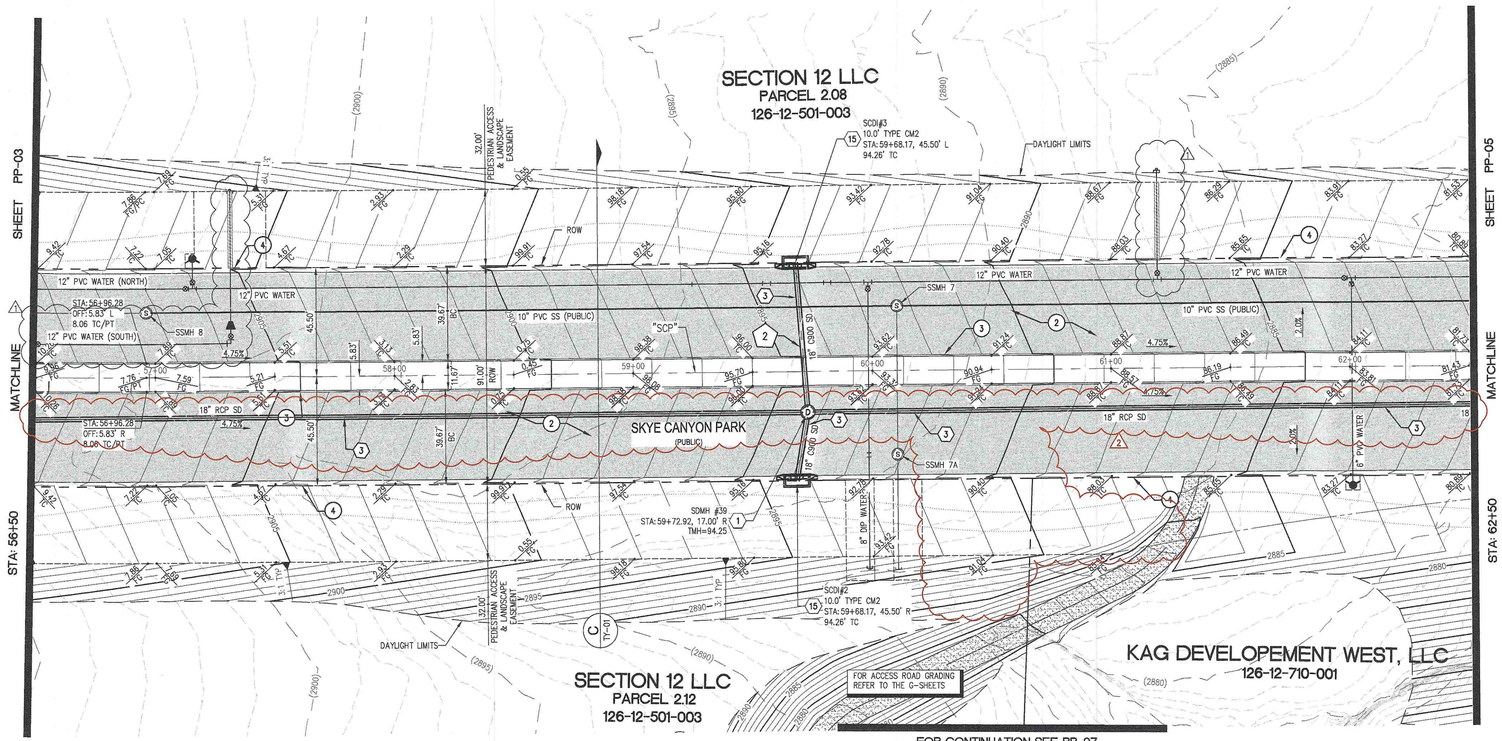
DATE: 3/11/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER STATE OF NEVADA
DERICK D. YORO
Exp. Date: 06/30/2020
CIVIL
No. 16396
PROFESSIONAL
3/11/20

PP-03
SHEET 7 OF 46

L18-02472
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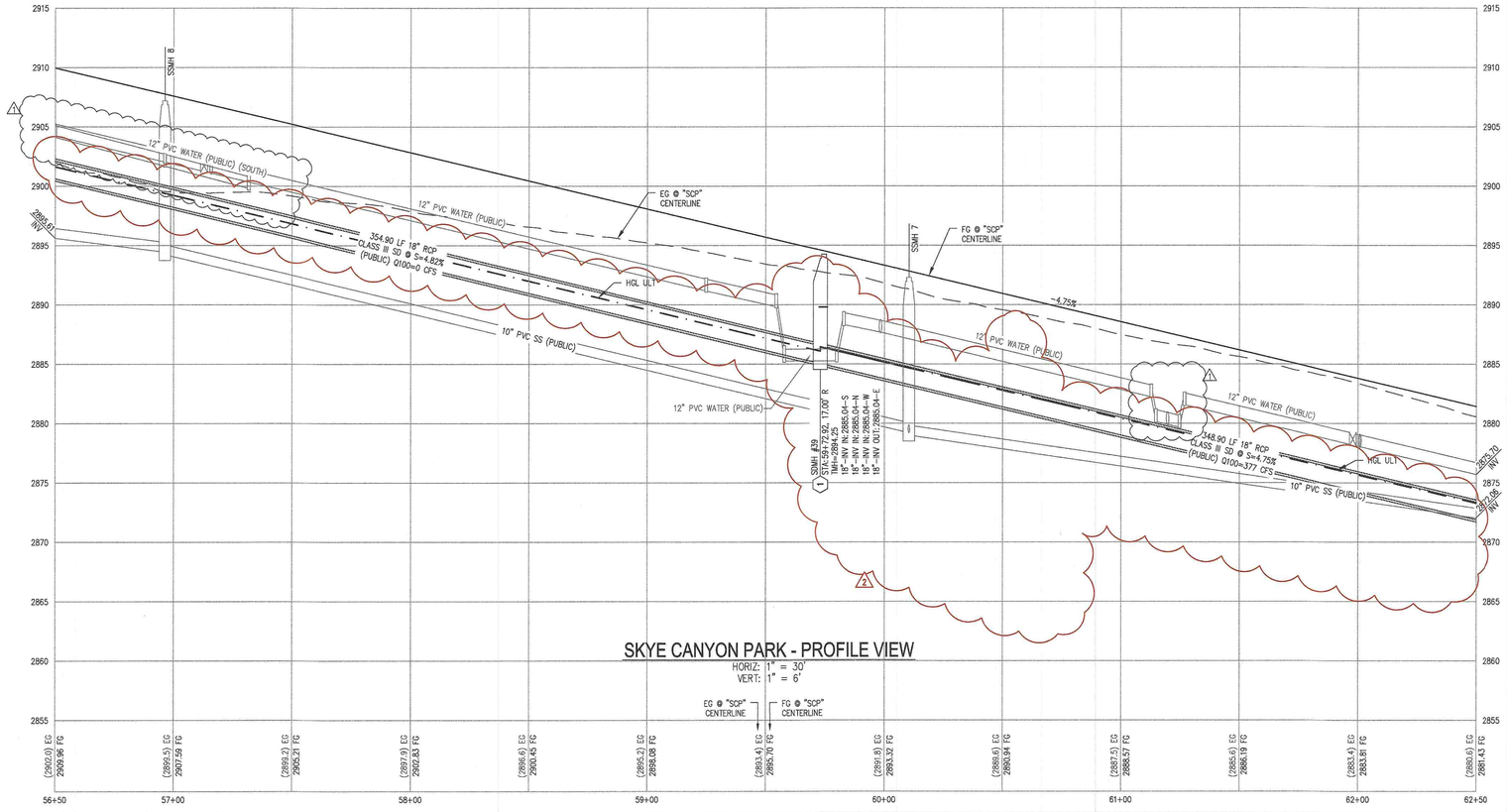
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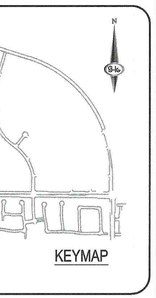
NOTE:
ALL INTERIM DRAINGE FACILITIES TO BE PRIVATELY MAINTAINED BY MASTER DEVELOPER

SKYE CANYON PARK - PLAN VIEW
(PUBLIC)

SCALE: 1"=30 FEET



SKYE CANYON PARK - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 6'



CONSTRUCTION NOTES

1	CONSTRUCT 1" UTACS OVER 4.5" PBS OVER 4" TYPE II AGGREGATE BASE (SEE TY SHEETS)
2	CONSTRUCT 1" UTACS OVER 5.5" PBS OVER 6" TYPE II AGGREGATE BASE (SEE TY SHEETS)
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4	CONSTRUCT "L" TYPE CURB AND GUTTER (USDCCA STD. DWG. NO. 216)
5	CONSTRUCT SIDEWALK RAMP (CASE II) WITH TACTILE WARNING PANEL (USDCCA STD. DWG. NO 235)
6	CONSTRUCT BUS TURN-OUT (USDCCA STD. DWG. NO. 234.1)
7	CONSTRUCT CONCRETE SIDEWALK (USDCCA STD. DWG. 234)
P	PROTECT IN PLACE (VERIFY LOCATION AND ELEVATION OF EX. IMPROVEMENT)

STORM DRAIN NOTES

1	CONSTRUCT 48" TYPE II-SD MANHOLE (USDCCA STD. DWG. NO. 405.2)
2	CONSTRUCT 60" TYPE III MANHOLE (USDCCA STD. DWG. NO. 406.1)
3	INSTALL 18" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
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16	CONSTRUCT NDOT TYPE IV MANHOLE PER SHEET R-4.3.2 OF NDOT "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION.
17	CONSTRUCT CONCRETE COLLAR (SEE DETAIL 3/DTL-01)
18	CONSTRUCT INTERIM BRICK AND MORTAR PLUG SEE DETAIL 2/DTL-01
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NOTES

1. ALL RCP SHALL BE CLASS III UNLESS OTHERWISE SHOWN.
2. ALL PIPE LENGTHS ARE MEASURED ALONG PIPE CENTERLINE TO CENTER OF MANHOLE OR INSIDE EDGE OF DI OR RCB/RCA.
3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
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6. ADD SPECIAL INSPECTION REQUIRED FOR PIPE SEGMENTS WITH SACRIFICIAL CONCRETE.
7. DIMENSIONS ARE TO BE BACK OF CURB, FACE OF CURB, OR FACE OF MEDIAN UNLESS OTHERWISE NOTED.
8. SEE TY-SHEETS FOR TYPICAL SECTIONS.
9. SEE UT-SHEETS FOR WATER AND SEWER PLAN AND PROFILES.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/11/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

NOTE:
PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES, SUCH AS BUT NOT LIMITED TO, THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF VEGETATION.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126408 — FIRST APPROVED DATE: _____

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

FAST. Call before you UnderGround. 1-702-432-6300 REGIONAL AND INTERNAL SYSTEM OF TRANSPORTATION

Call before you Dig. Avoid cutting underground utility lines. It's costly. Call 811 OR 1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE STORM DRAIN	3/9/20	EMH		
1	REVISE WATER	2/28/2020	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SKYE CANYON PARK
CONSTRUCTION PLAN - "SCP" 56+50 TO "SCP" 62+50

DATE: 3/11/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

PROJECT NO.
OLY1609-000

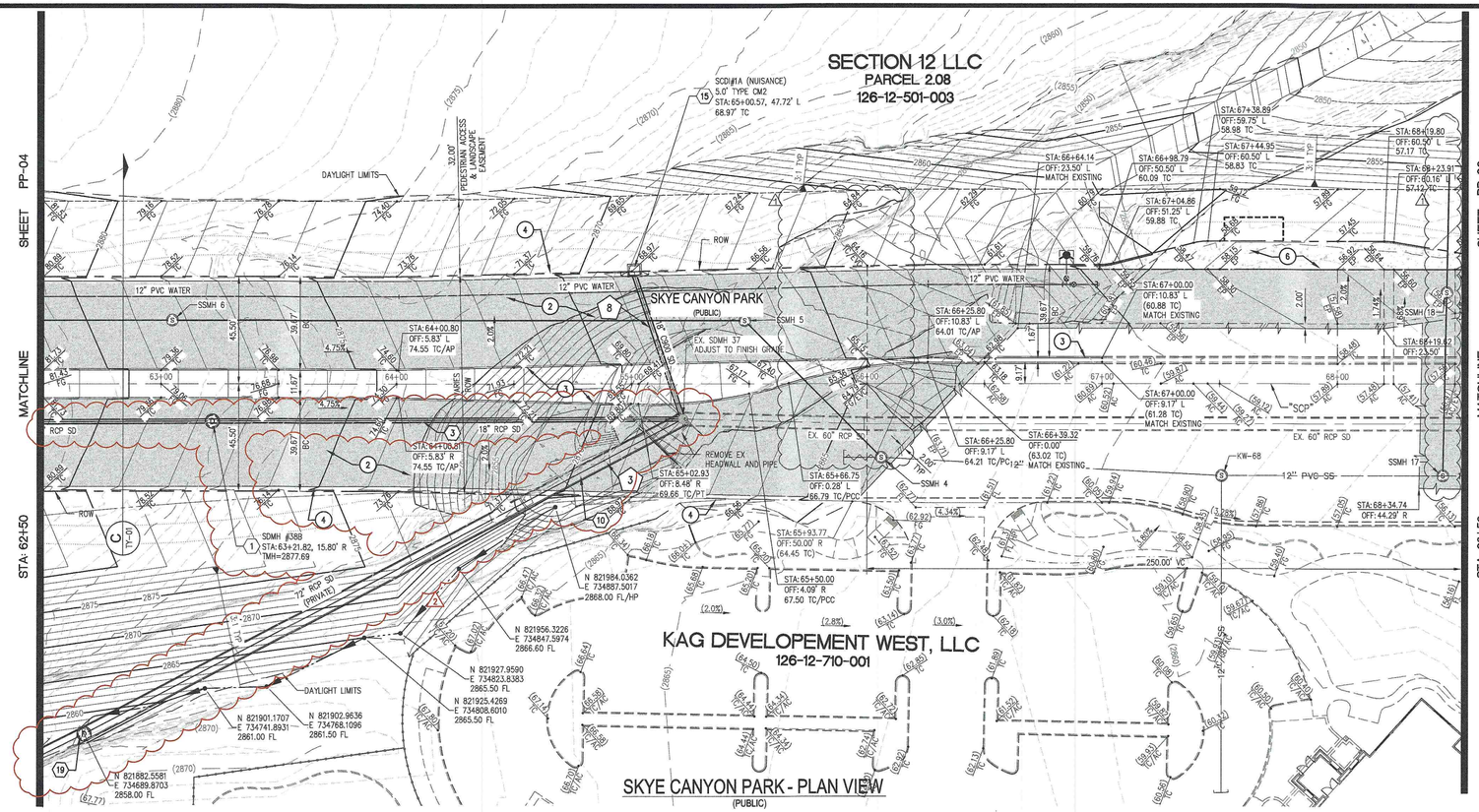
DERICK D.J YORO — Exp. 06/30/2020 — CIVIL — No. 16396 — PROFESSIONAL ENGINEER — STATE OF NEVADA

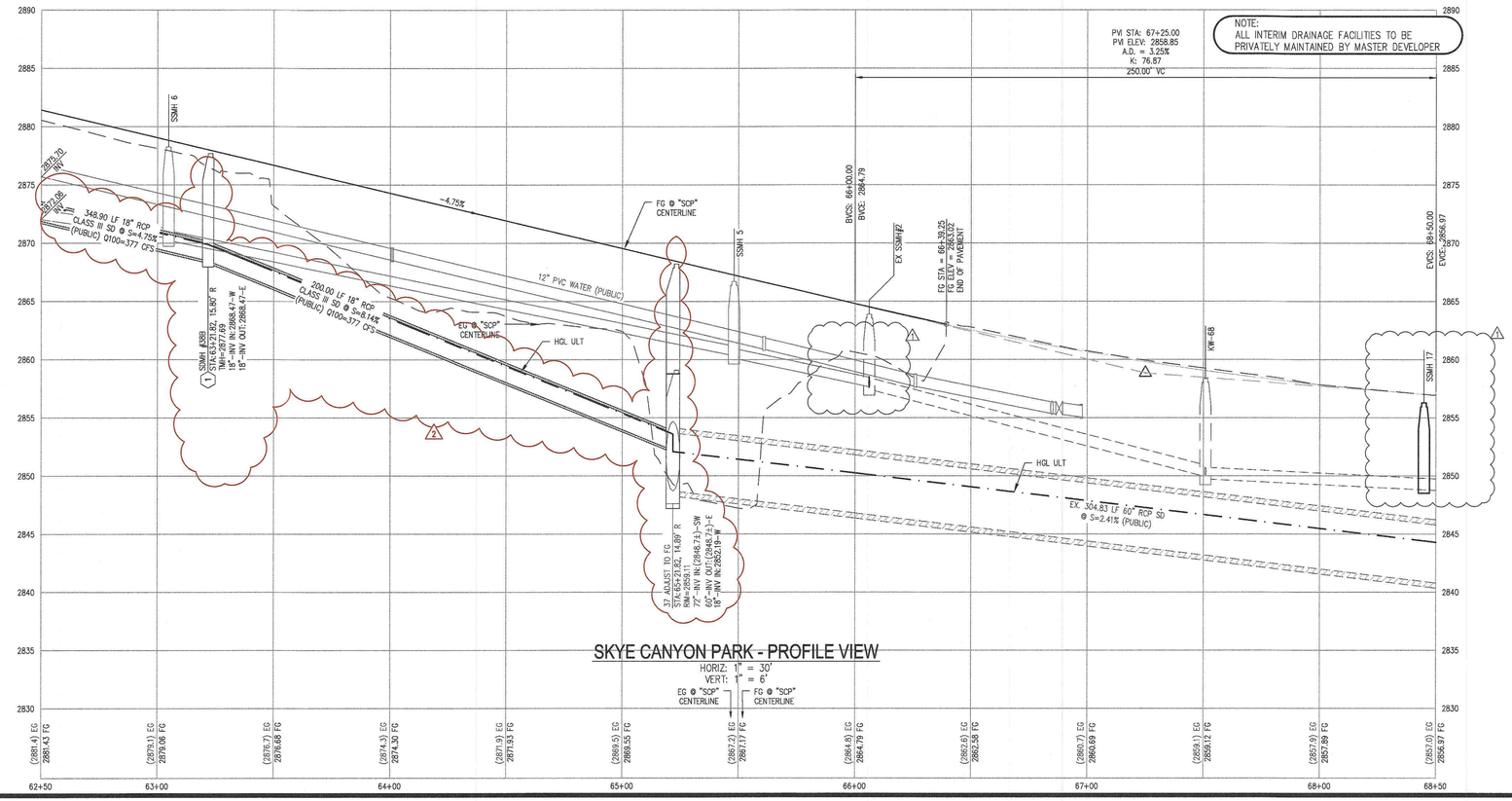
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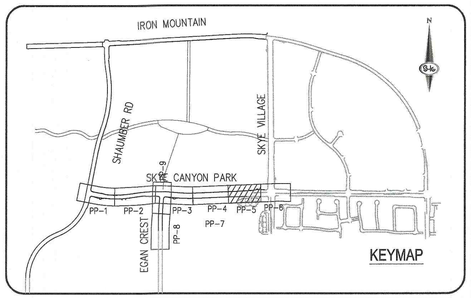
PP-04
SHEET 8 OF 46

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J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MPROV\3B-CSCU3-1609-000-PMP-SCEPP 3/11/2020 8:01 AM Emily Hay







CONSTRUCTION NOTES

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7	CONSTRUCT CONCRETE SIDEWALK (USDCCA STD. DWG. 234)
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LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

3/11/20

DERICK JARO, P.E. 16396 — DATE

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1756L DATED SEPTEMBER 27, 2002

NOTE:
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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126408 — FIRST APPROVED DATE: _____

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

FAST Call before you Underground. 1-702-432-8300 FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig Avoid cutting underground utility lines. It's costly. Call 811
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SCALE: 1"=30 FEET

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE STORM DRAIN	3/6/20	EMH		
1	RELOCATE SS STUBS	2/28/20	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SKYE CANYON PARK - "SCP" 62+50 TO "SCP" 68+50
CONSTRUCTION PLAN - PROFILE

DATE: 3/11/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

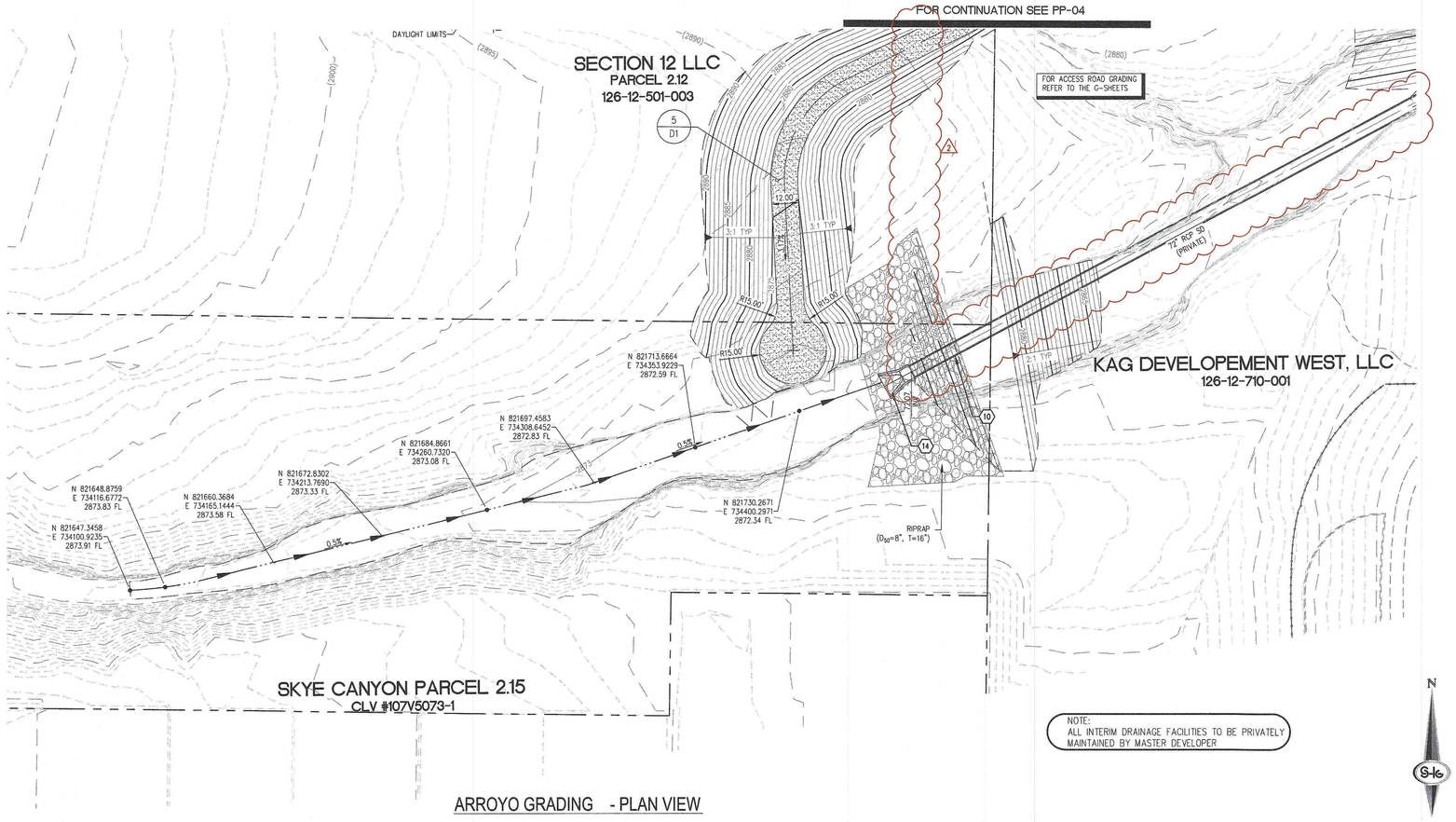
PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER – STATE OF NEVADA – DERICK D. JARO – No. 16396 – Exp: 06/30/2020 – CIVIL – 3/11/20

PP-05
SHEET 9 OF 46

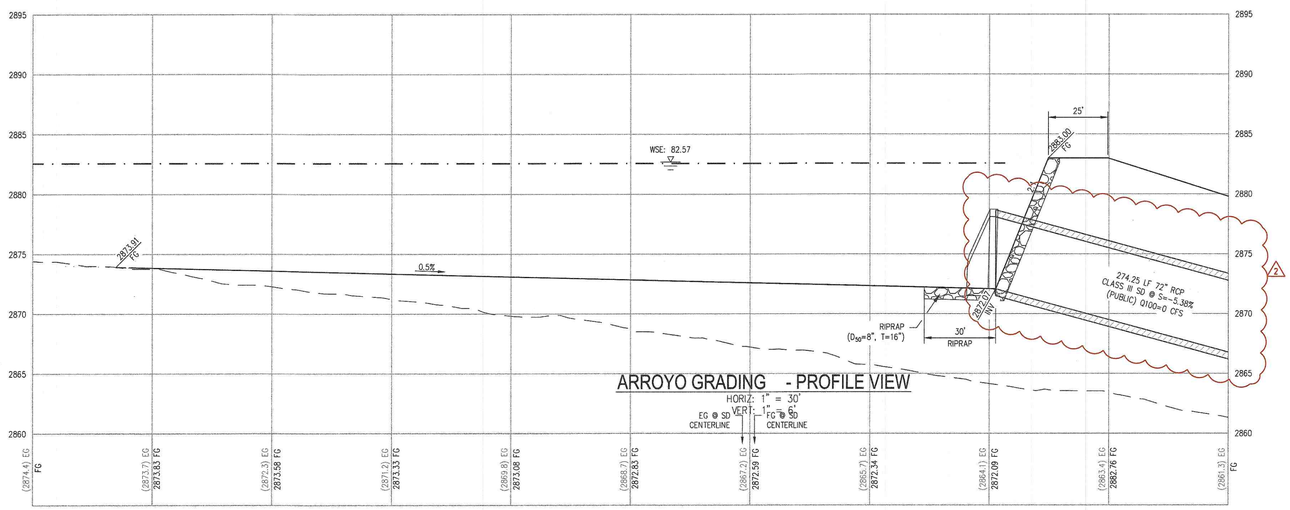
L18-02472
107V7513

A:\OLY1609-000 SKYE CANYON PHASE 3A, 3B, 3C\DWG\MARIO\A3B-CVSTOLY1609-000-PHP-SCJDWG 3/11/2020 9:01 AM Emily Hoy

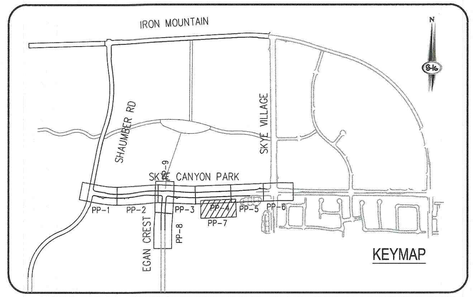


NOTE:
ALL INTERIM DRAINAGE FACILITIES TO BE PRIVATELY MAINTAINED BY MASTER DEVELOPER

ARROYO GRADING - PLAN VIEW



ARROYO GRADING - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 6'
EG @ SD CENTERLINE
FG @ SD CENTERLINE



CONSTRUCTION NOTES

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LEGEND

X — STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/10/20

FLOOD ZONE

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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126408 — FIRST APPROVED DATE: _____

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE OFFSITE STORM DRAIN	3/9/20	DMH		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SKYE CANYON PARK
CONSTRUCTION PLAN - ARROYO GRADING

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

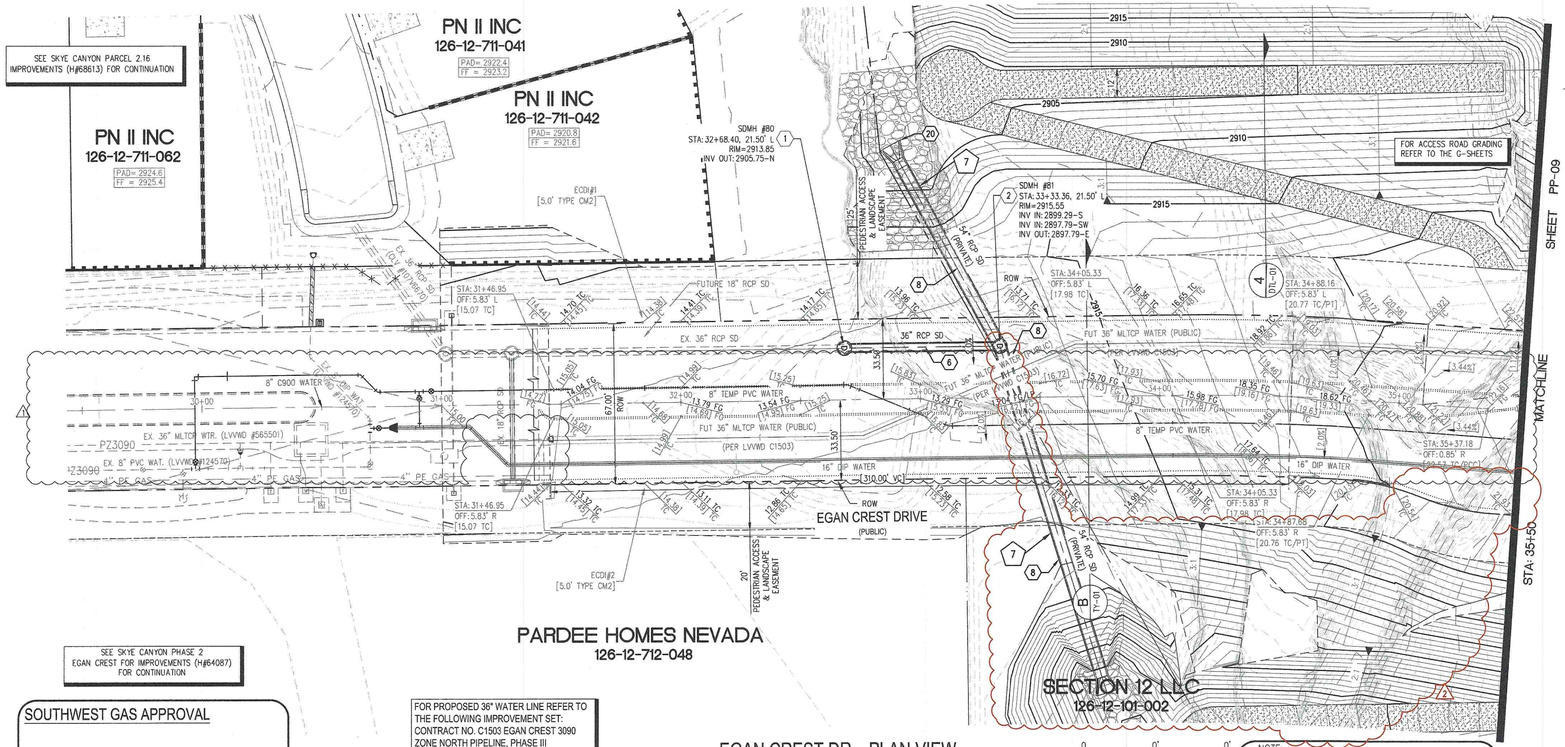
PROJECT NO.
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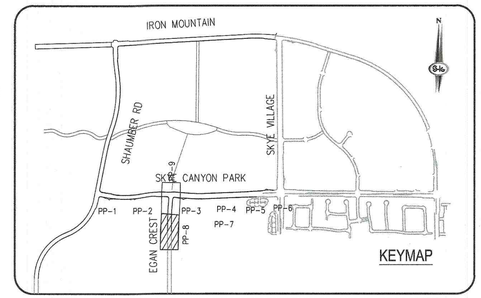
DERICK D.J. YORO — Exp. 06/30/2020 — CIVIL — No. 16396 — STATE OF NEVADA — PROFESSIONAL ENGINEER — 3/10/20

PP-07
SHEET 11 OF 46

L18-02472
107V7513

J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MPROVA\3B-CVSOLY1609-000-PHP-SCI.DWG 3/9/2020 5:24 PM Scott Booth



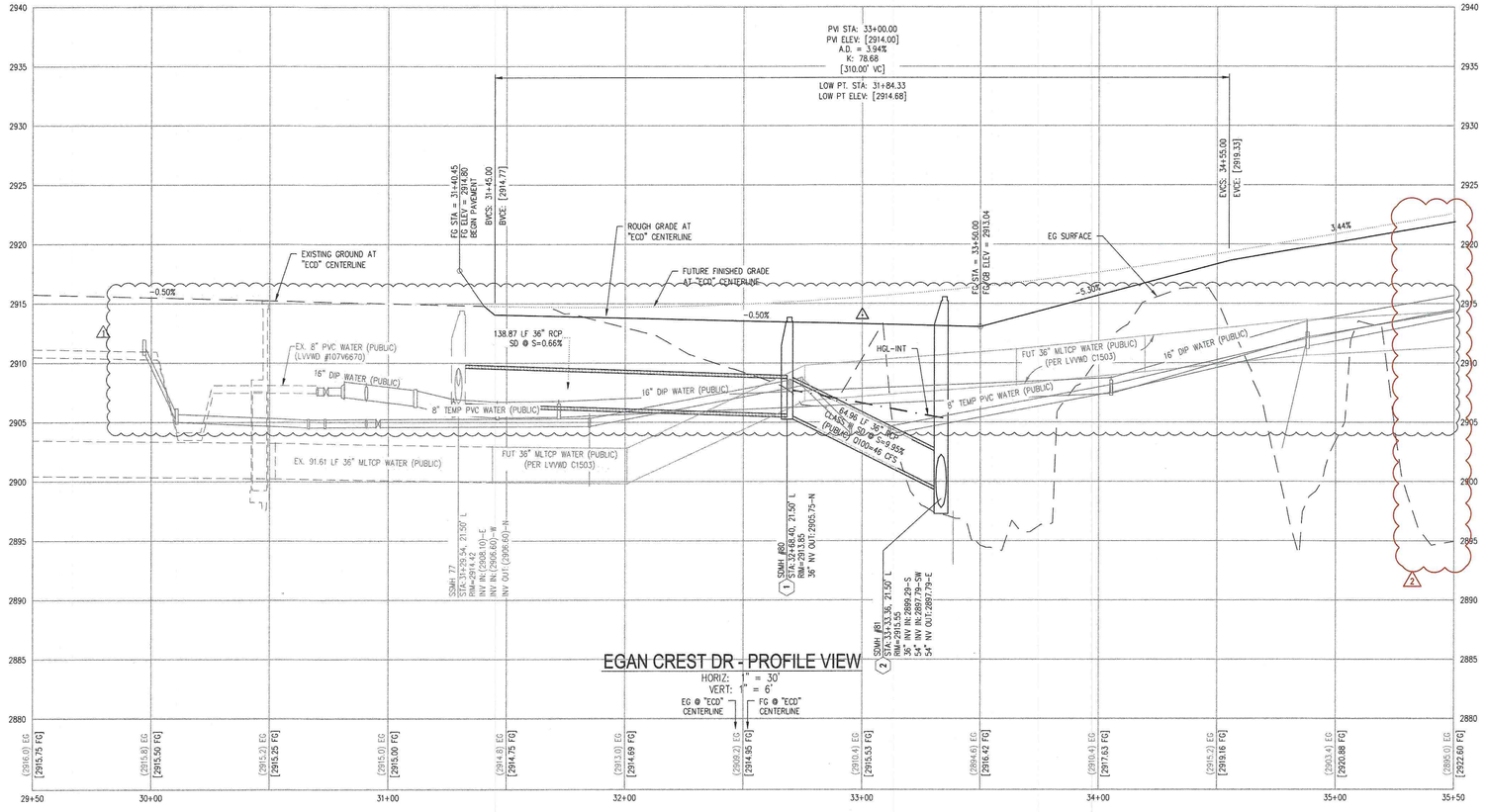


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3	INSTALL 18" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
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17	CONSTRUCT CONCRETE COLLAR (SEE DETAIL 3/DTL-01)
18	CONSTRUCT INTERIM BRICK AND MORTAR PLUG SEE DETAIL 2/DTL-01
19	INSTALL 24" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
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21	INSTALL 66" RCP END SECTION (NDOT STD. PLAN R-2.3.1) W/1" SACRIFICIAL CONCRETE PER STRUCTURAL DWGS



NOTES

1. ALL RCP SHALL BE CLASS III UNLESS OTHERWISE SHOWN.
2. ALL PIPE LENGTHS ARE MEASURED ALONG PIPE CENTERLINE TO CENTER OF MANHOLE OR INSIDE EDGE OF DI OR RCB/RCA.
3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
5. ALL PIPES ARE PUBLICLY MAINTAINED IN PUBLIC ROW.
6. ADD SPECIAL INSPECTION REQUIRED FOR PIPE SEGMENTS WITH SACRIFICIAL CONCRETE.
7. DIMENSIONS ARE TO BE BACK OF CURB, FACE OF CURB, OR FACE OF MEDIAN UNLESS OTHERWISE NOTED.
8. SEE TY-SHEETS FOR TYPICAL SECTIONS.
9. SEE UT-SHEETS FOR WATER AND SEWER PLAN AND PROFILES.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/10/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

NOTE:
PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES, SUCH AS BUT NOT LIMITED TO, THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF VEGETATION.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126408 — FIRST APPROVED DATE: _____

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

FAST Call before you UnderGround. 1-702-486-5300 REGION AND STATEWIDE SYSTEM OF TRANSPORTATION

Call before you Dig Avoid cutting underground utility lines. It's costly. Call 811 or 1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REVISE STORM DRAIN	3/9/20	DMH		
0	ADD 8" WL, REVISE 16" WATER	2/28/2020	SVB		

NINETY-FIVE MANAGEMENT LLC

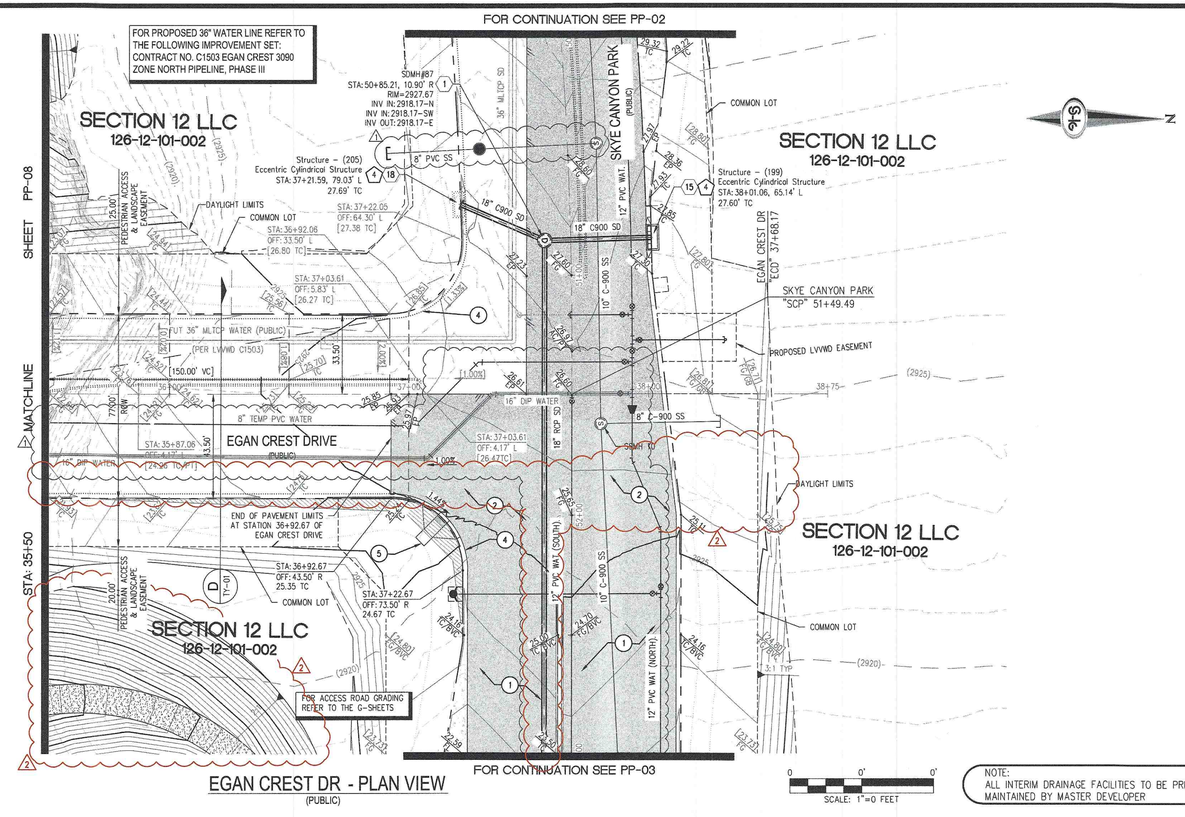
SKYE CANYON PHASE 3BC
EGAN CREST DRIVE
CONSTRUCTION PLAN - "ECD" 29+50 TO "ECD" 35+50

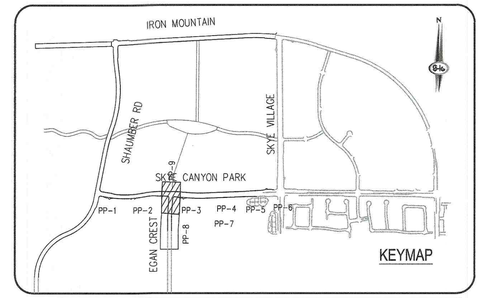
DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

DERICK D.J YORO — EXP. 06/30/2020 — CIVIL — No. 16396 — STATE OF NEVADA — PROFESSIONAL ENGINEER — 3/10/20

PP-08
SHEET 12 OF 46
L18-02472
107V7513

J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MPROV\3B-1\CIVIL\OLY1609-000-PHP-ECD.dwg 3/9/2020 5:28 PM Scott Booth





CONSTRUCTION NOTES

1	CONSTRUCT 1" UTACS OVER 4.5" PBS OVER 4" TYPE II AGGREGATE BASE (SEE TY SHEETS)
2	CONSTRUCT 1" UTACS OVER 5.5" PBS OVER 6" TYPE II AGGREGATE BASE (SEE TY SHEETS)
3	CONSTRUCT "A" TYPE ISLAND CURB (USDCCA STD. DWG. NO. 219)
4	CONSTRUCT "L" TYPE CURB AND GUTTER (USDCCA STD. DWG. NO. 216)
5	CONSTRUCT SIDEWALK RAMP (CASE II) WITH TACTILE WARNING PANEL (USDCCA STD. DWG. NO 235)
6	CONSTRUCT BUS TURN-OUT (USDCCA STD. DWG. NO. 234.1)
7	CONSTRUCT CONCRETE SIDEWALK (USDCCA STD. DWG. 234)
P	PROTECT IN PLACE (VERIFY LOCATION AND ELEVATION OF EX. IMPROVEMENT)

STORM DRAIN NOTES

1	CONSTRUCT 48" TYPE II-SD MANHOLE (USDCCA STD. DWG. NO. 405.2)
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LEGEND

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I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/10/20

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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

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FAST Call before you UnderGround. 1-702-432-6300 REPAIRS TO ANY UTILITY, SYSTEM OF TRANSPORTATION

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REMOVE STORM DRAIN & ACCESS ROAD	3/9/20	DMH		
1	ADD 8" WL, REVISE WATER	7/28/2020	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
EGAN CREST DRIVE
CONSTRUCTION PLAN - "ECD" 35+50 TO "ECD" 38+20

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

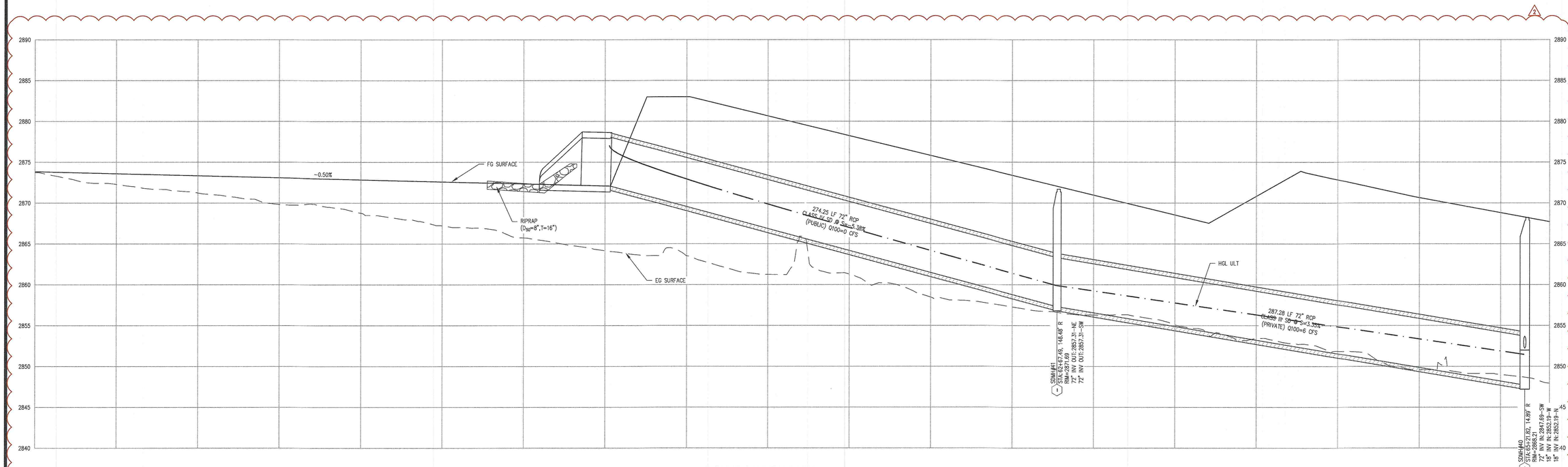
PROJECT NO.
OLY1609-000

REGISTERED ENGINEER - STATE OF NEVADA
DERICK D.J YORO
Exp. 06/30/2020
CIVIL
No. 16396
3/10/20

PP-09
SHEET 13 OF 46

L18-02472
107V7513

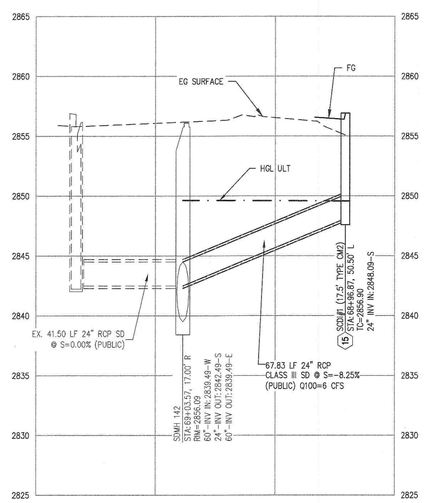
J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MPROV\3B-LV\CIVIL\1609-000-PRP-ECD.dwg 3/9/2020 5:27 PM Scott Booth



SKYE CANYON PARK
STORM DRAIN @ 65+21.82

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-05

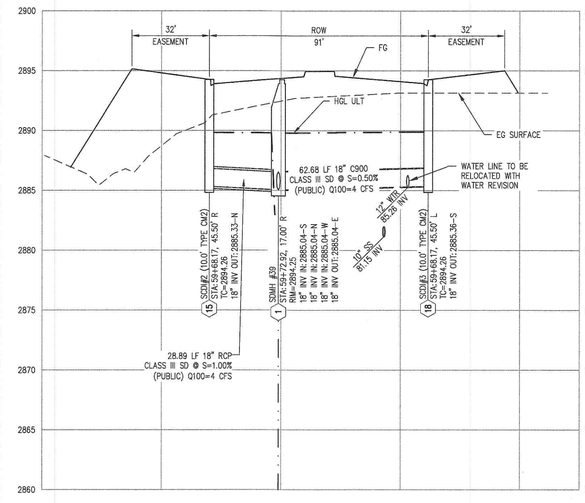
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SKYE CANYON PARK
STORM DRAIN @ 69+03.57

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-06

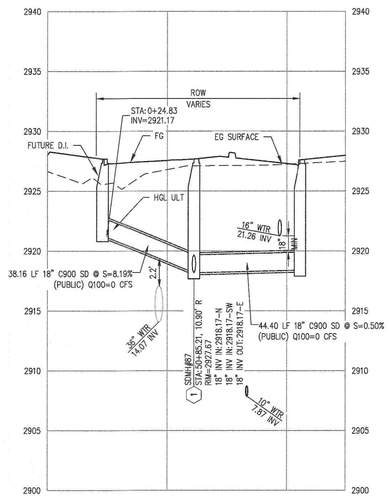
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SKYE CANYON PARK
STORM DRAIN @ 59+72.92

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-04

2



SKYE CANYON PARK
STORM DRAIN @ 50+85.21

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-03

1

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REMOVE PRO 5, MOVE PRO 4 & REV PRO 3	3/9/20	EMH		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SKYE CANYON DR & EGAN CREST
STORM DRAIN LATERALS I

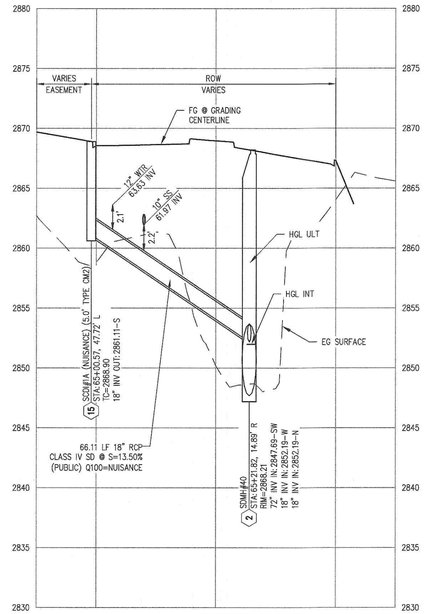
DATE: 3/10/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

DERICK D.J YORO
Exp: 06/30/2020
CIVIL
PROFESSIONAL ENGINEER - STATE OF NEVADA
No. 16396

LAT-01
SHEET 14 OF 46

L18-02472
107V7513

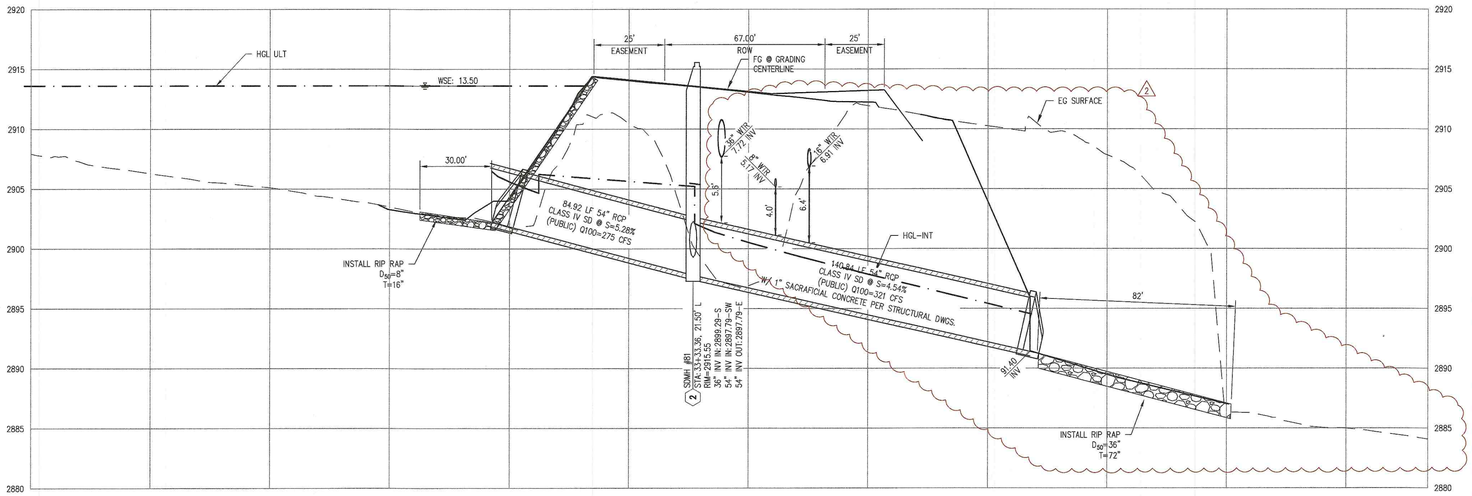
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SKYE CANYON PARK
STORM DRAIN @ 65+21.82

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET:PP-05

8



EGAN CREST DR
STORM DRAIN @ 33+33.36

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: PP-08

7

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REMOVE PROFILE 8, REVISE PROFILE 7	3/9/20	EMH		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SKYE CANYON DR & EGAN CREST
STORM DRAIN LATERALS LL

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER – STATE OF NEVADA
DERICK D. YORO
Exp. 06/30/2020
CIVIL
No. 16398
3/9/20

LAT-02
SHEET 15 OF 46
L18-02472
107V7513

J:\OLY1609-000 SKYE CANYON PHASE 3A, 3B, 3C\DWG\MARKUP\3B-CVSR\OLY1609-000-LAT.DWG 3/9/2020 4:18 PM Rhonda Miller

SECTION 12, LLC
PARCEL 2.34
126-12-101-002

SECTION 12, LLC
PARCEL 2.11T
126-12-101-002

SECTION 12, LLC
PARCEL 2.11
126-12-101-002

NOTE:
ALL INTERIM DRAINAGE FACILITIES TO BE PRIVATELY MAINTAINED BY MASTER DEVELOPER

N 821594.4821
E 733401.5310
2904.20 FG

N 821605.1943
E 733406.0310
2904.24 FG

N 821605.1943
E 733418.0310
2904.24 FG

N 821588.7700
E 733412.0310
2904.06 FG

INSTALL RIP RAP
D_{50}=8"
T=16"

INV: 2902.27

DAYLIGHT LINE

S0°00'00"E 244.88'
0.60%

S14°49'36"W 208.36'
8.30%

N 821599.2228
E 733419.2709
2904.23 FG

N 821596.1635
E 733430.8283
2904.47 FG

54" RCP SD (PRIVATE)

EGAN CREST
(PUBLIC)

S62°52'05"W 4.45'

N 821813.6522
E 733406.0310
2905.53 FG

N 821813.6522
E 733418.0310
2905.53 FG

N 821796.0550
E 733471.3281
2921.09 FG

N 821792.9456
E 733482.9183
2921.33 FG

R=21.00'
L=17.57'
Δ=47°56'22"

N 821802.7563
E 733491.2144
2922.32 FG

N 821816.8350
E 733492.3751
2922.56 FG

DAYLIGHT LINE

SKYE CANYON PARK
"SCP" 51+49.49

EGAN CREST
"EOD" 37+68.17

SKYE CANYON PARK
(PUBLIC)

18" RCP SD

36" RCP SD

SEE PP-08 AND PP-09 FOR EGAN GRADING

EGAN CREST DRIVE
(PUBLIC)

77.00' ROW

49.50'

33.50'

STORM JBOX
SAG, 30"x58.40, 21.50' L
RIM=2913.85
INV THRU: 2905.75

STORM JBOX
SAG, 53"x36", 21.50' L
RIM=2915.55
INV THRU: 2897.79

54" RCP SD (PRIVATE)

PARDEE HOMES NEVADA
126-12-712-048

N 821688.4467
E 733672.6423
2891.02 FG

S89°54'51"E 9.00'

R15.00'

R=100.00'
L=129.72'
Δ=74°19'24"

N 821812.0193
E 733672.3643
2898.97 FG

S20°07'44"E 125.24'
7.85%

N 821812.0463
E 733684.3643
2898.97 FG

N 821715.9353
E 733684.5805
2891.21 FG

N 821702.2919
E 733693.6599
2891.00 FG

N 821686.7958
E 733678.6460
0.00 FG

N 821686.7823
E 733687.6461
0.00 FG

N 821677.2142
E 733697.5837
2890.50 FG/LP

INSTALL PARTIALLY GROUTED RIP RAP
SEE DETAIL 7, SHEET D-1
D_{50}=12"
T=24"

N 821902.7038
E 733752.7610
2912.44 FG

N 821914.2501
E 733749.4925
2912.44 FG

DAYLIGHT LINE

SKYE CANYON PARK
(PUBLIC)

SEE PP-03 FOR SKYE CANYON PARK

N 821936.3934
E 733827.3672
2920.39 FG/GB

N 821924.7882
E 733830.6523
2920.39 FG/GB

N 821951.3594
E 733860.5962
2918.00 FG

N 821939.8131
E 733883.8546
2918.05 FG

91.00' ROW

45.50'

45.50'

SECTION 12, LLC
PARCEL 2.12T
126-12-101-002

SECTION 12, LLC
PARCEL 2.12
126-12-101-002

NOTE:
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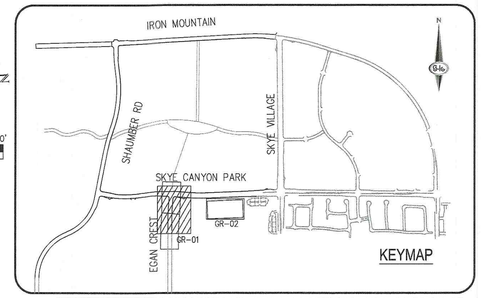
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E 733917.0939
2916.35 FG

N 821950.1406
E 733920.3378
2916.35 FG

N 821959.8724
E 733954.7166
2914.70 FG

18" RCP SD

SCALE: 1"=0 FEET



CONSTRUCTION NOTES

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13	INSTALL 42" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
14	INSTALL 72" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
15	CONSTRUCT TYPE "CM2" DROP INLET. SIZE PER PLAN (USDCCA STD. DWG. NO. 412.1 & 421)
16	CONSTRUCT NDOT TYPE IV MANHOLE PER SHEET R-4.3.2 OF NDOT "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION.
17	CONSTRUCT CONCRETE COLLAR (SEE DETAIL 3/DTL-01)
18	CONSTRUCT INTERIM BRICK AND MORTAR PLUG SEE DETAIL 2/DTL-01
19	INSTALL 24" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
20	INSTALL 54" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
21	INSTALL 66" RCP END SECTION (NDOT STD. PLAN R-2.3.1) W/1° SACRIFICIAL CONCRETE PER STRUCTURAL DWGS

NOTES

1. ALL RCP SHALL BE CLASS III UNLESS OTHERWISE SHOWN.
2. ALL PIPE LENGTHS ARE MEASURED ALONG PIPE CENTERLINE TO CENTER OF MANHOLE OR INSIDE EDGE OF DI OR RCB/RCA.
3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
5. ALL PIPES ARE PUBLICLY MAINTAINED IN PUBLIC ROW.
6. ADD SPECIAL INSPECTION REQUIRED FOR PIPE SEGMENTS WITH SACRIFICIAL CONCRETE.
7. DIMENSIONS ARE TO BE BACK OF CURB, FACE OF CURB, OR FACE OF MEDIAN UNLESS OTHERWISE NOTED.
8. SEE TY-SHEETS FOR TYPICAL SECTIONS.
9. SEE UT-SHEETS FOR WATER AND SEWER PLAN AND PROFILES.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/10/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

NOTE:
PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES, SUCH AS BUT NOT LIMITED TO, THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF VEGETATION.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126408 — FIRST APPROVED DATE: _____

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

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

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 or 1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE STORM DRAIN AND ACCESS RD (2910')	3/9/20	DMH		
1	REVISE WATER & SEWER	2/26/2020	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
EGAN CREST
GRADING SHEET I

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

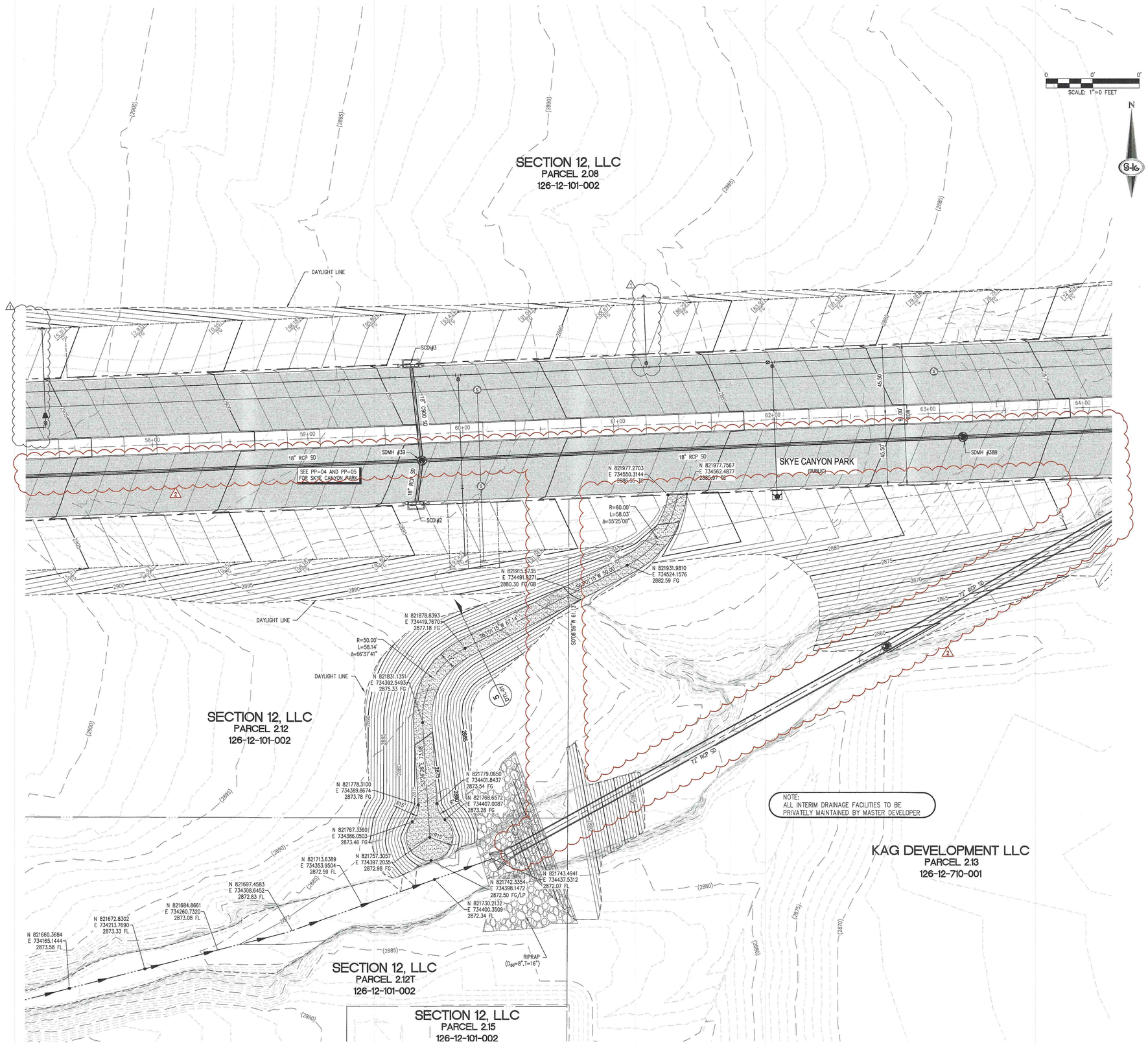
PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER - STATE OF NEVADA
DERICK D.J YORO
Exp: 06/30/2020
CIVIL
No. 16396
3/10/20

GR-01
SHEET 16 OF 46

L18-02472
107V7513

J:\OLY1609-000 SKY CANYON PHASE 3A 3B 3C\DWG\MAPPING\Civil-Cnt\SV\OLY1609-000-GRD-EGCRK.DWG 3/9/2020 4:22 PM Rhonda Miller



CONSTRUCTION NOTES

1	CONSTRUCT 1" UTACS OVER 4.5" PBS OVER 4" TYPE II AGGREGATE BASE (SEE TY SHEETS)
2	CONSTRUCT 1" UTACS OVER 5.5" PBS OVER 6" TYPE II AGGREGATE BASE (SEE TY SHEETS)
3	CONSTRUCT "A" TYPE ISLAND CURB (USDCCA STD. DWG. NO. 219)
4	CONSTRUCT "L" TYPE CURB AND GUTTER (USDCCA STD. DWG. NO. 216)
5	CONSTRUCT SIDEWALK RAMP (CASE II) WITH TACTILE WARNING PANEL (USDCCA STD. DWG. NO 235)
6	CONSTRUCT BUS TURN-OUT (USDCCA STD. DWG. NO. 234.1)
7	CONSTRUCT CONCRETE SIDEWALK (USDCCA STD. DWG. 234)
P	PROTECT IN PLACE (VERIFY LOCATION AND ELEVATION OF EX. IMPROVEMENT)

STORM DRAIN NOTES

1	CONSTRUCT 48" TYPE II-SD MANHOLE (USDCCA STD. DWG. NO. 405.2)
2	CONSTRUCT 60" TYPE III MANHOLE (USDCCA STD. DWG. NO. 406.1)
3	INSTALL 18" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
4	INSTALL 24" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
5	INSTALL 30" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
6	INSTALL 36" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
7	INSTALL 42" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
8	INSTALL 54" STORM DRAIN (USDCCA STD. DWG. NO. 503.2) (SEE PLAN FOR MATERIAL)
9	INSTALL 60" RCP (USDCCA STD. DWG. NO. 503.2)
10	INSTALL 72" RCP (USDCCA STD. DWG. NO. 503.2)
11	INSTALL 30" RCP END SECTION (NDOT STD. PLAN R-2.3.1)
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NOTES

1. ALL RCP SHALL BE CLASS III UNLESS OTHERWISE SHOWN.
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4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
5. ALL PIPES ARE PUBLICLY MAINTAINED IN PUBLIC ROW.
6. ADD SPECIAL INSPECTION REQUIRED FOR PIPE SEGMENTS WITH SACRIFICIAL CONCRETE.
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8. SEE TY-SHEETS FOR TYPICAL SECTIONS.
9. SEE UT-SHEETS FOR WATER AND SEWER PLAN AND PROFILES.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

LEGEND

(X) STORM DRAIN LATERAL # (SEE LAT SHEETS)

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-4953 ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT

DERICK YORO, P.E. 16396 — DATE 3/11/20

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (OUTSIDE THE 500-YEAR FLOOD PLAIN) ON THE FLOOD INSURANCE RATE MAP (FIRM) PANEL: 32003C1750E, DATED SEPTEMBER 27, 2002

NOTE:
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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 126408 — FIRST APPROVED DATE: _____

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

FAST. Call before you UnderGround. 1-702-632-5300. FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE STORM DRAIN AND ACCESS RD GRD'S	3/9/20	EMH		
1	UPDATE WATER	2/28/2020	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
EGAN CREST
GRADING SHEET II

DATE: 3/10/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

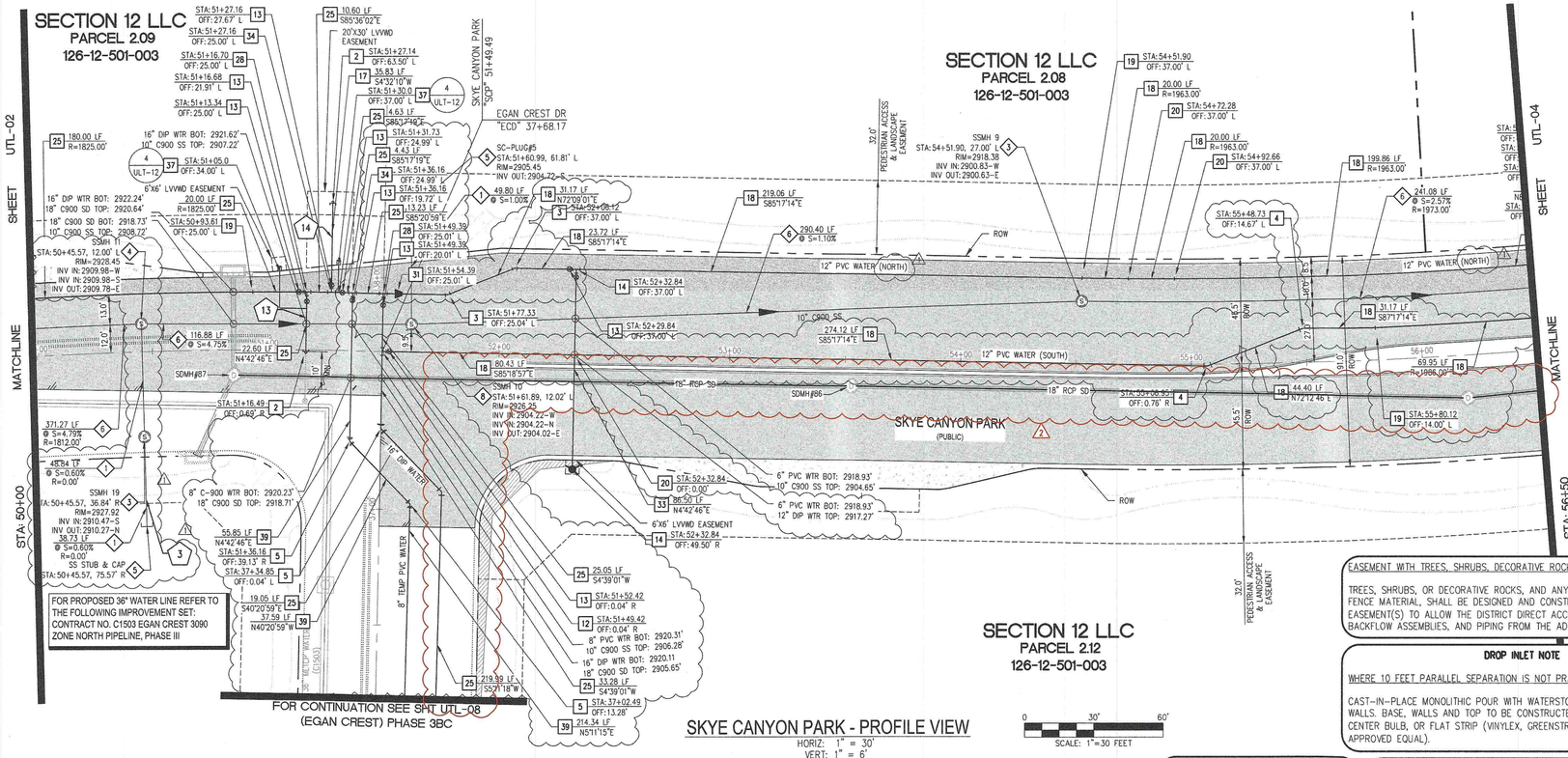
PROJECT NO.
OLY1609-000

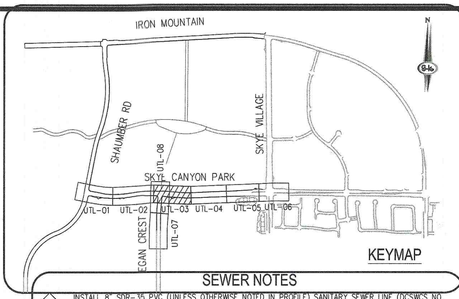
PROFESSIONAL ENGINEER – STATE OF NEVADA – DERICK D.J YORO – No. 16396 – DATE 06/30/2020 – CIVIL – 3/11/20

GR-02
SHEET 17 OF 46

L18-02472
107V7513

A:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\SURVEY\WORK\DWG\C-*\C3D\OLY1609-000-GRD-EGCRE 3/10/2020 4:14 PM Emily Hay





SEWER NOTES

1. INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
2. INSTALL 12" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
3. CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4. CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
5. INSTALL STUB AND CAP (SEE DETAIL 7 ON SHEET DTL-01)
6. INSTALL 10" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
7. REMOVE EXISTING PLUG AND CONNECT TO 8" SEWER
8. CONSTRUCT 72" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)
9. CONSTRUCT 60" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)

WATER NOTES

1. REMOVE CAP AND BLOW-OFF PER UDACS PLATE NO. 36 AND CONNECT NEW PIPE PER UDACS SECTION 3.14
2. INSTALL 2" BLOW OFF AND CAP PER UDACS PLATE NO. 36
3. INSTALL HORIZONTAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
4. INSTALL HORIZONTAL 22.50° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
5. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
6. INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
7. INSTALL VERTICAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
8. INSTALL VERTICAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
9. INSTALL VERTICAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
10. INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
11. INSTALL VERTICAL 22.50° BEND, SIZE PER PLAN W/ RESTRAIN JOINTS
12. INSTALL 12"x12" TEE (UDACS PLATE NO. 31)
13. INSTALL GATE VALVE (UDACS PLATE NO. 30 AND 39) (SEE PLAN FOR SIZE)
14. INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 40
15. INSTALL DEEP FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 41
16. INSTALL 12"x8" TEE (UDACS PLATE NO. 31)
17. INSTALL 8" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
18. INSTALL 12" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
19. INSTALL 1° HORIZONTAL DEFLECTION, PER UDACS SEC. 2.07
20. INSTALL 1° VERTICAL DEFLECTION, PER UDACS SEC. 2.07
21. INSTALL 12" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
22. INSTALL 10" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
23. INSTALL 16" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) W/ RESTRAINED JOINTS
24. INSTALL 8" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
25. INSTALL 16" DIP WATERLINE (PUBLIC) W/RESTRAIN AND BONDED JOINTS PER DETAIL 3 & 4 SHT 13
26. INSTALL 8"X8" TAPPING SLEEVE (UDACS PLATE NO. 34 AND 39)
27. INSTALL 10"X8" TEE (UDACS PLATE NO. 31)
28. INSTALL 16"X16" TEE W/RESTRAINED JOINTS
29. INSTALL 12"X8" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
30. INSTALL 12"X10" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
31. INSTALL 16"X12" REDUCER W/ RESTRAINED JOINTS
32. INSTALL 16"X12" TEE W/ RESTRAINED JOINTS
33. INSTALL 6" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
34. INSTALL 16"X8" TEE W/ RESTRAINED JOINTS
35. INSTALL 8"X16" INCREASER W/ RESTRAINED JOINTS
36. INSTALL 16"X6" TEE W/ 6" GATE VALVE W/ RESTRAINED JOINTS
37. INSTALL TYPE T TEST STATION PER DETAIL 4 ON UTL-12
38. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
39. INSTALL 8" PVC WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)

EASEMENT WITH TREES, SHRUBS, DECORATIVE ROCKS, BLOCK WALL, OR FENCE

TREES, SHRUBS, OR DECORATIVE ROCKS, AND ANY BLOCK WALL OR OTHER FENCE MATERIAL, SHALL BE DESIGNED AND CONSTRUCTED AROUND THE EASEMENT(S) TO ALLOW THE DISTRICT DIRECT ACCESS TO THE VAULT(S) BACKFLOW ASSEMBLIES, AND PIPING FROM THE ADJACENT RIGHT-OF-WAY.

DROP INLET NOTE

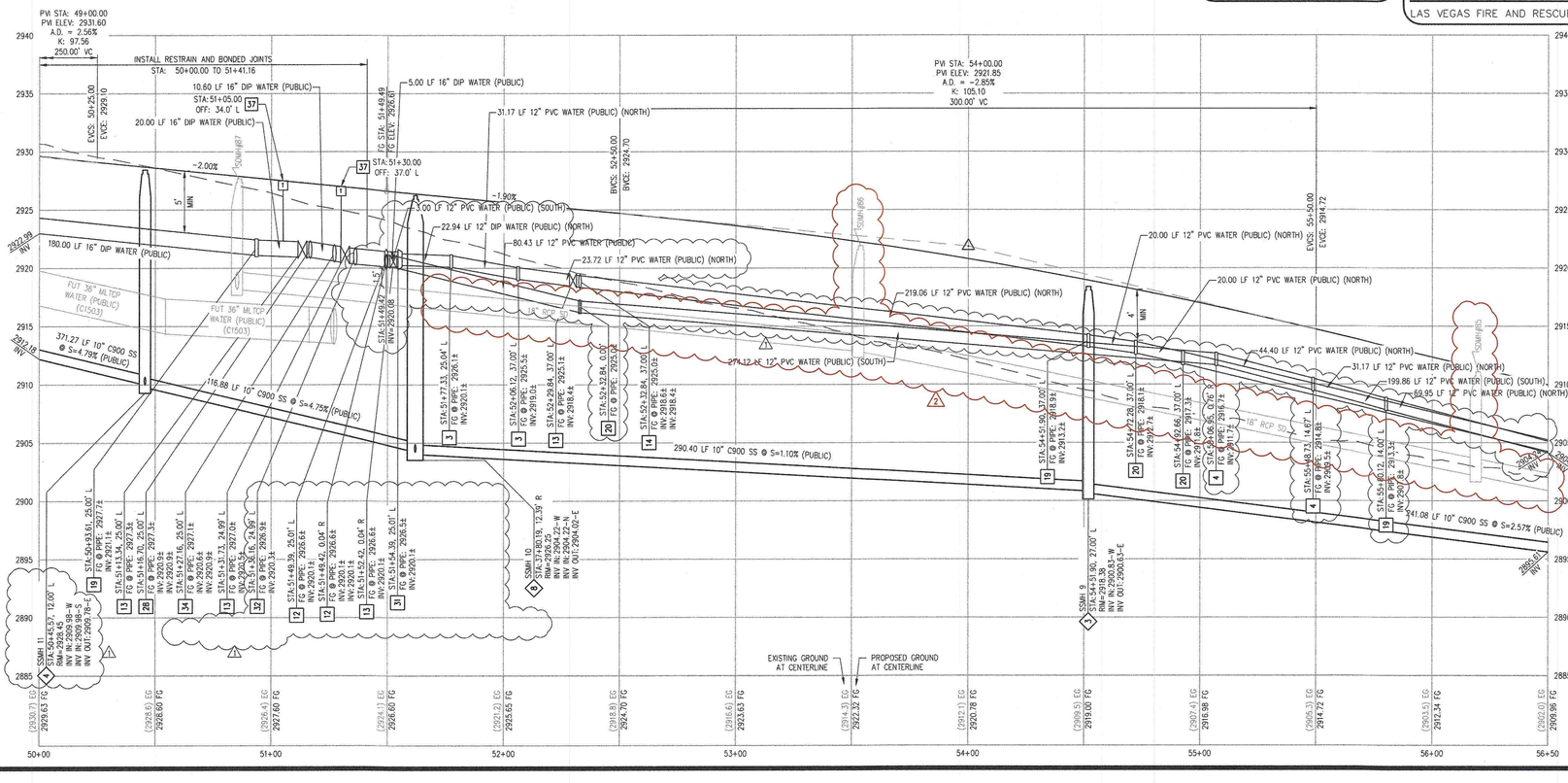
WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

MINIMUM 24" COVER PER UDACS SEC. 2.08.04 GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION (TYP)

APPROVED

LAS VEGAS FIRE AND RESCUE DATE



ADDITIONAL WATER NOTE:

1. IF LATERALS ARE NOT USED AND OR RELOCATED THE LATERAL IS TO BE ABANDONED AND ALL PIPE REMOVED FROM THE GATE VALVE TO END CAP

DISCLAIMER NOTES:

1. NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS SHOWN FOR INFORMATION ONLY. REFERENCE NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS DRAWINGS FOR CONSTRUCTION DETAILS. CONTRACTOR TO COORDINATE WITH UTILITIES FOR REMOVAL AND INSTALLATION OF FACILITIES.
2. ALL EXISTING UTILITY LOCATIONS SHOW HEREON 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. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. THE DEPTH BELOW GRADE OF THE VARIOUS UTILITIES DEPICTED ON THE PLANS VARIES THROUGHOUT THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHERE EXCAVATING AND GRADING THE SUBBASE IN THE VICINITY OF UTILITIES TO AVOID DAMAGE TO THE LATTER.
3. ALL EXISTING UTILITIES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.

LEGEND

(X) FOR SEWER AND WATER LATERAL(S) # (SEE UTL-09~ TO UTL-11 SHEETS)

WATER NOTES:

1. WATER MAIN JOINT DEFLECTION (PVC: 4" – 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
3. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
4. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
5. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
6. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
7. PROVIDE A MIN. 12" OF VERTICAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.06.
8. PROVIDE A MIN. 3' OF HORIZONTAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126408 FIRST APPROVAL DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

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

FAST Call before you UnderGround. 1-702-486-9300 FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig Avoid cutting into underground utility lines. It's costly. Call 811 or 1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REUSE STORM DRAIN IN SKYE CANYON PARK & REMOVE SD IN EGAN CREST	2/20/2020	DAH		
1	ADD 12" WATER (SOUTH) & 8" TEMP. WATER, RELOCATE 16" WATER & RELOCATE SEWER STUB	2/26/2020	SWB		

NINETY-FIVE MANAGEMENT LLC

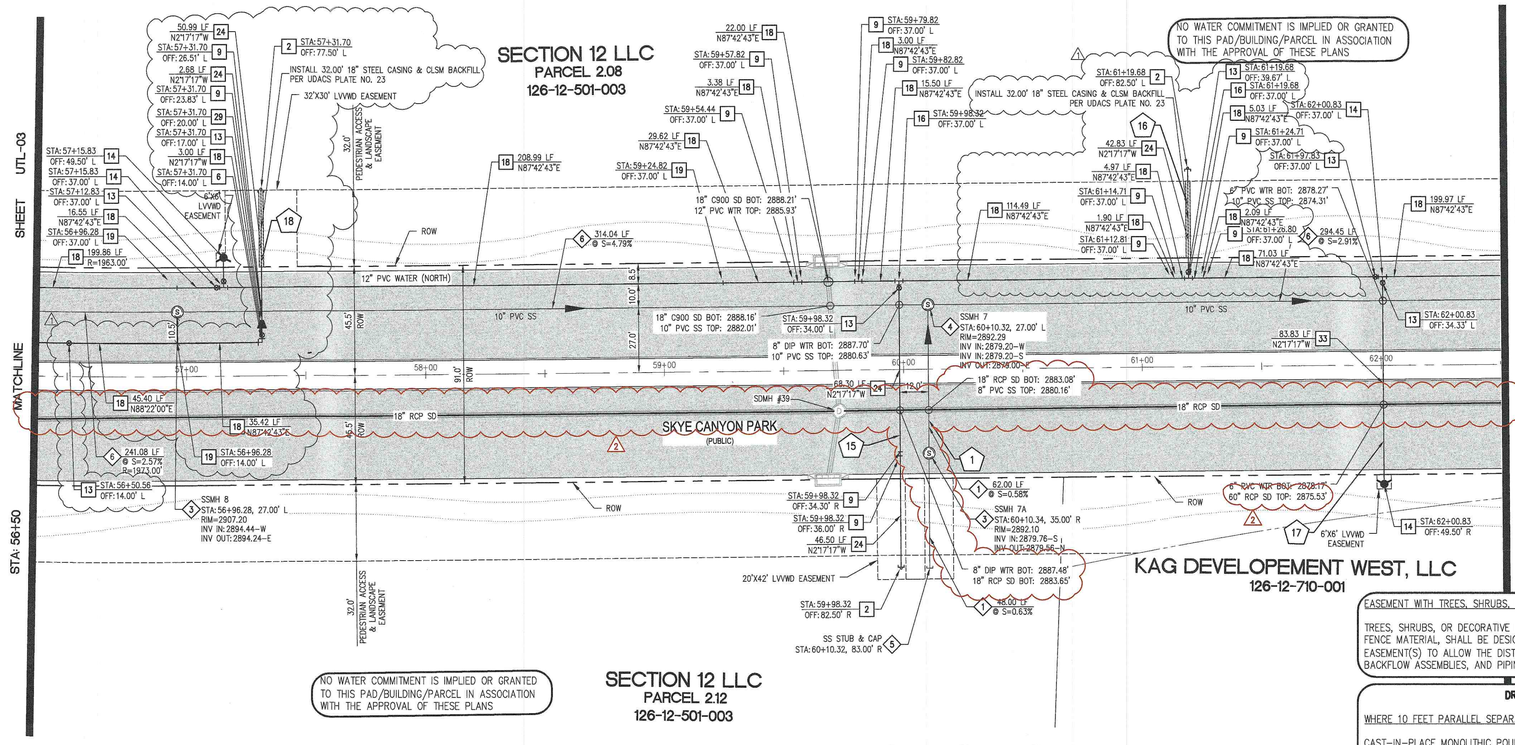
SKYE CANYON PHASE 3BC
SKYE CANYON PARK
UTL PLAN & PROFILE - "SCP" 50+00 - "SCP" 56+50

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

PROFESSIONAL ENGINEER STATE OF NEVADA DERICK D.J YORO Exp: 06/30/2020 No. 16396 CIVIL 3/10/20

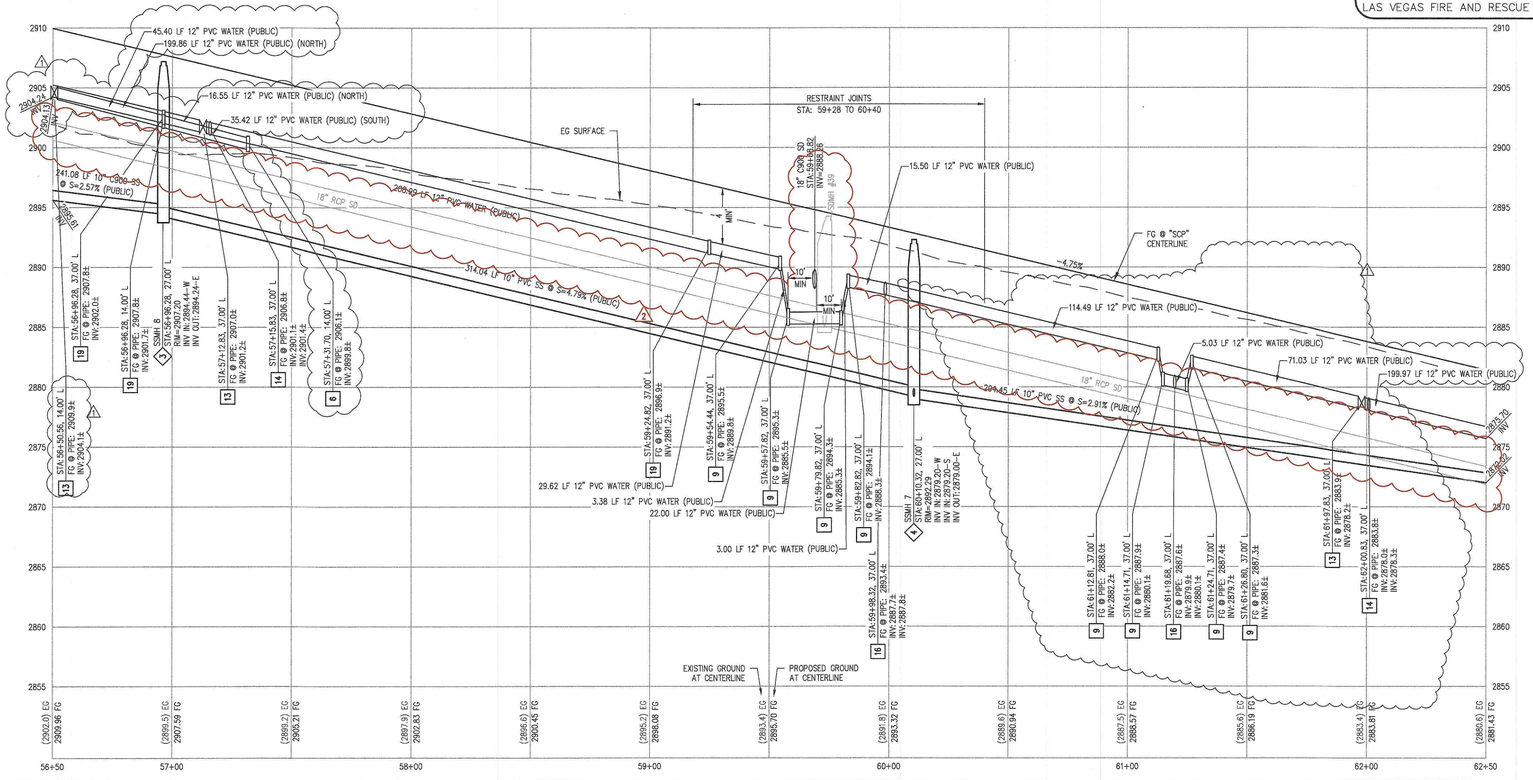
UTL-03
SHEET 21 OF 46
L18-02472
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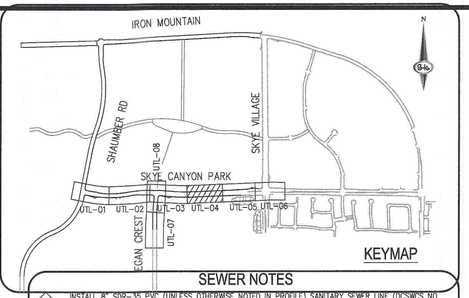
J:\OLY1609-000 SKYE CANYON PHASE 3A, 3B, 3C\DWG\MP\PDWG_SB-1\SCU\OLY1609-000-UTL-SCU.DWG 3/9/2020 8:25 PM Scott Bush



SKYE CANYON PARK - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'





SEWER NOTES

1. INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
2. INSTALL 12" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
3. CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4. CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
5. INSTALL STUB AND CAP (SEE DETAIL 7 ON SHEET DTL-01)
6. INSTALL 10" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
7. REMOVE EXISTING PLUG AND CONNECT TO 8" SEWER
8. CONSTRUCT 72" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)
9. CONSTRUCT 60" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)

WATER NOTES

1. REMOVE CAP AND BLOW-OFF PER UDACS PLATE NO. 36 AND CONNECT NEW PIPE PER UDACS SECTION 3.14
2. INSTALL 2" BLOW OFF AND CAP PER UDACS PLATE NO. 36
3. INSTALL HORIZONTAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
4. INSTALL HORIZONTAL 22.50° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
5. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
6. INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
7. INSTALL VERTICAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
8. INSTALL VERTICAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
9. INSTALL VERTICAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
10. INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
11. INSTALL VERTICAL 22.50° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
12. INSTALL 12"X12" TEE (UDACS PLATE NO. 31)
13. INSTALL GATE VALVE (UDACS PLATE NO. 30 AND 39) (SEE PLAN FOR SIZE)
14. INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 40
15. INSTALL DEEP FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 41
16. INSTALL 12"X8" TEE (UDACS PLATE NO. 31)
17. INSTALL 8" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
18. INSTALL 12" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
19. INSTALL 1" HORIZONTAL DEFLECTION, PER UDACS SEC. 2.07
20. INSTALL 1" VERTICAL DEFLECTION, PER UDACS SEC. 2.07
21. INSTALL 12" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
22. INSTALL 10" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
23. INSTALL 16" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) W/ RESTRAINED JOINTS
24. INSTALL 8" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
25. INSTALL 16" DIP WATERLINE (PUBLIC) W/RESTRAIN AND BONDED JOINTS PER DETAIL 3 & 4 SHT 13
26. INSTALL 8"X8" TAPPING SLEEVE (UDACS PLATE NO. 34 AND 39)
27. INSTALL 10"X8" TEE (UDACS PLATE NO. 31)
28. INSTALL 16"X16" TEE W/RESTRAINED JOINTS
29. INSTALL 12"X8" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
30. INSTALL 12"X10" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
31. INSTALL 16"X12" REDUCER W/ RESTRAINED JOINTS
32. INSTALL 16"X12" TEE W/ RESTRAINED JOINTS
33. INSTALL 6" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
34. INSTALL 16"X8" TEE W/ RESTRAINED JOINTS
35. INSTALL 8"X16" INCREASER W/ RESTRAINED JOINTS
36. INSTALL 16"X6" TEE W/ 6" GATE VALVE W/ RESTRAINED JOINTS
37. INSTALL TYPE 1 TEST STATION PER DETAIL 4 ON UTL-12
38. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
39. INSTALL 8" PVC WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)

EASEMENT WITH TREES, SHRUBS, DECORATIVE ROCKS, BLOCK WALL, OR FENCE

TREES, SHRUBS, OR DECORATIVE ROCKS, AND ANY BLOCK WALL OR OTHER FENCE MATERIAL, SHALL BE DESIGNED AND CONSTRUCTED AROUND THE EASEMENT(S) TO ALLOW THE DISTRICT DIRECT ACCESS TO THE VAULT(S) BACKFLOW ASSEMBLIES, AND PIPING FROM THE ADJACENT RIGHT-OF-WAY.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

MINIMUM 24" COVER PER UDACS SEC. 2.08.04 GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION (TYP)

APPROVED

LAS VEGAS FIRE AND RESCUE DATE

ADDITIONAL WATER NOTE:

1. IF LATERALS ARE NOT USED AND OR RELOCATED THE LATERAL IS TO BE ABANDONED AND ALL PIPE REMOVED FROM THE GATE VALVE TO END CAP

DISCLAIMER NOTES:

1. NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS SHOWN FOR INFORMATION ONLY. REFERENCE NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS DRAWINGS FOR CONSTRUCTION DETAILS. CONTRACTOR TO COORDINATE WITH UTILITIES FOR REMOVAL AND INSTALLATION OF FACILITIES.
2. ALL EXISTING UTILITY LOCATIONS SHOW HEREON 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. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. THE DEPTH BELOW GRADE OF THE VARIOUS UTILITIES DEPICTED ON THE PLANS VARIES THROUGHOUT THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHERE EXCAVATING AND GRADING THE SUBBASE IN THE VICINITY OF UTILITIES TO AVOID DAMAGE TO THE LATTER.
3. ALL EXISTING UTILITIES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.

LEGEND

(X) FOR SEWER AND WATER LATERAL(S) # (SEE UTL-09- TO UTL-11 SHEETS)

WATER NOTES:

1. WATER MAIN JOINT DEFLECTION (PVC, 4" – 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
3. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
4. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
5. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
6. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
7. PROVIDE A MIN. 12" OF VERTICAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.06.
8. PROVIDE A MIN. 3' OF HORIZONTAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126408 FIRST APPROVAL DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

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

FAST
Call before you UnderGround.
1-702-432-6300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 or 1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP.	APP. DATE
1	REVISE STORM DRAIN	3/9/20	EMH		
2	ADD 12" WATER (SOUTH), & 8" WATER STUB, RELOCATE WATER STUB	2/28/2020	SVB		

NINETY-FIVE MANAGEMENT LLC

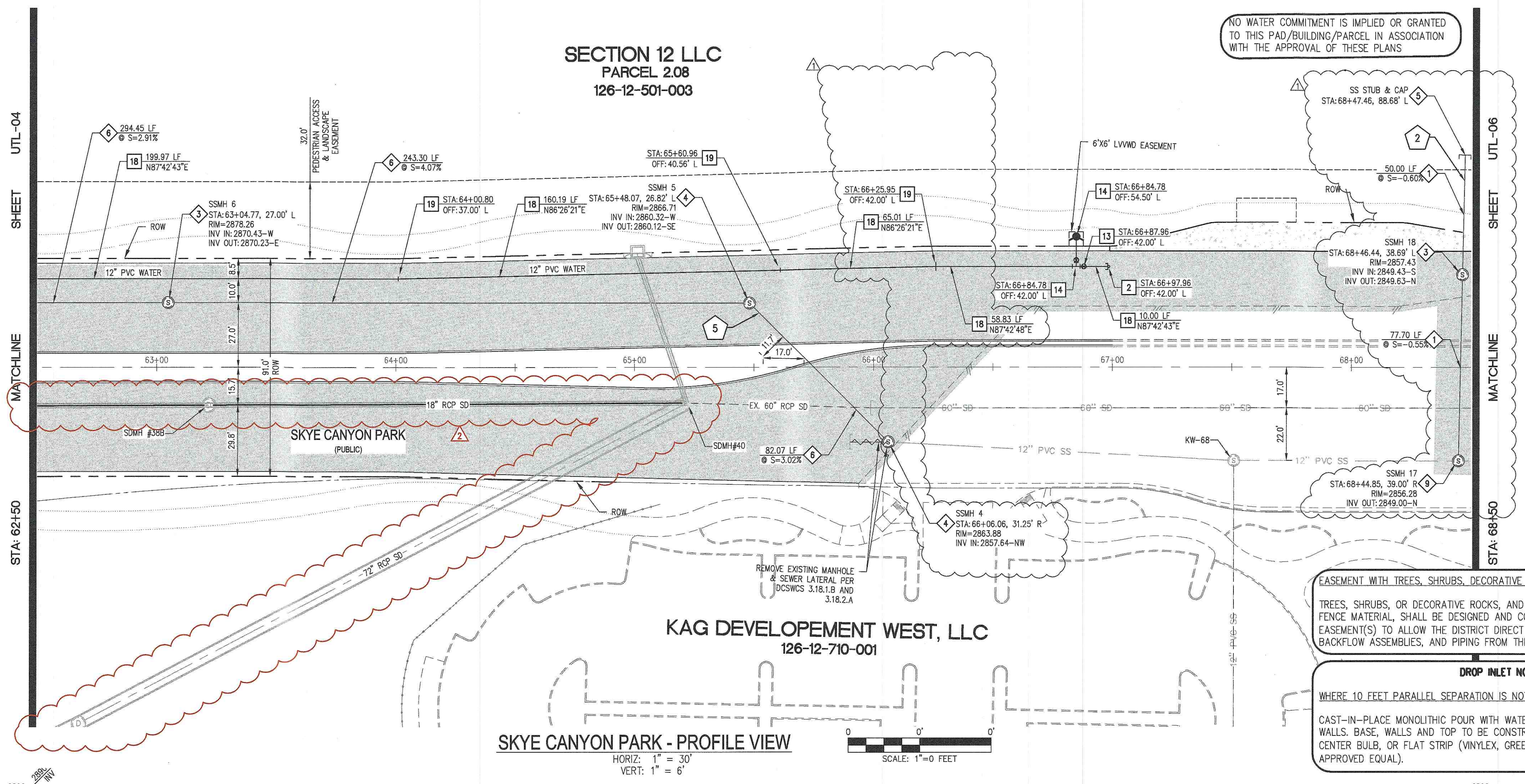
SKYE CANYON PHASE 3BC
SKYE CANYON PARK
UTL PLAN & PROFILE - "SCP" 56+50 - "SCP" 62+50

DATE: 3/10/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

DERICK D. J. YORO
Exp: 06/30/2020
CIVIL
No. 16396
PROFESSIONAL ENGINEER - STATE OF NEVADA
3/14/20

UTL-04
SHEET 22 OF 46
L18-02472
107V7513

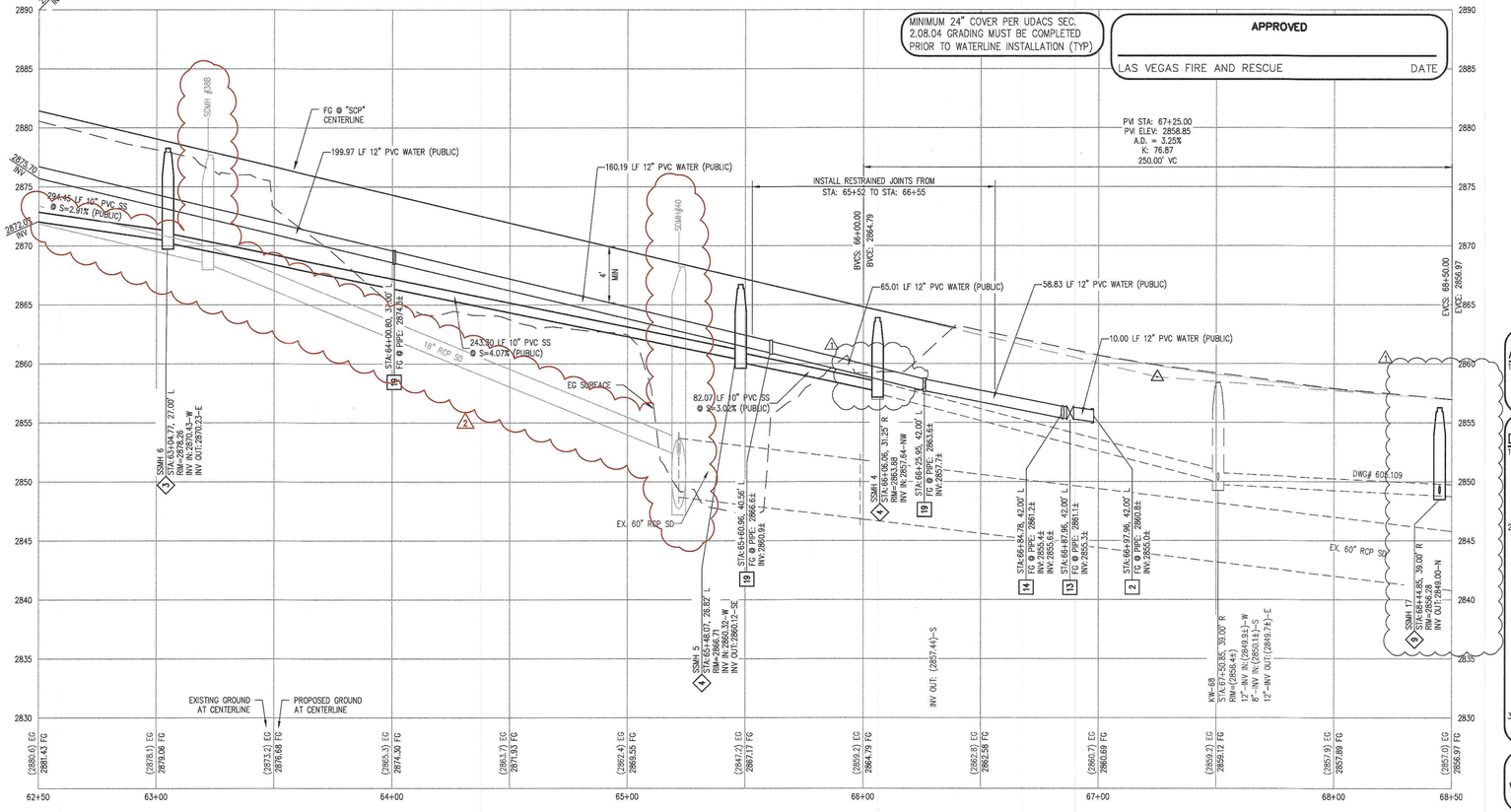
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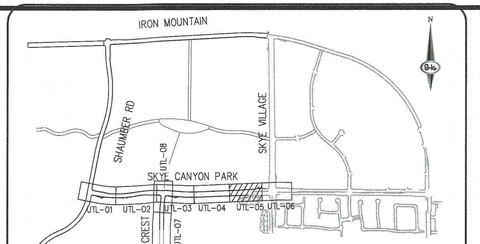


SKYE CANYON PARK - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'

SCALE: 1"=0 FEET





SEWER NOTES

1. INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
2. INSTALL 12" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
3. CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4. CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
5. INSTALL STUB AND CAP (SEE DETAIL 7 ON SHEET DTL-01)
6. INSTALL 10" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
7. REMOVE EXISTING PLUG AND CONNECT TO 8" SEWER
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9. CONSTRUCT 60" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)

WATER NOTES

1. REMOVE CAP AND BLOW-OFF PER UDACS PLATE NO. 36 AND CONNECT NEW PIPE PER UDACS SECTION 3.14
2. INSTALL 2" BLOW OFF AND CAP PER UDACS PLATE NO. 36
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4. INSTALL HORIZONTAL 22.50° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
5. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
6. INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
7. INSTALL VERTICAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
8. INSTALL VERTICAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
9. INSTALL VERTICAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
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11. INSTALL VERTICAL 22.50° BEND, SIZE PER PLAN W/ RESTRAIN JOINTS
12. INSTALL 12"X12" TEE (UDACS PLATE NO. 31)
13. INSTALL GATE VALVE (UDACS PLATE NO. 30 AND 39) (SEE PLAN FOR SIZE)
14. INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 40
15. INSTALL DEEP FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 41
16. INSTALL 12"X8" TEE (UDACS PLATE NO. 31)
17. INSTALL 8" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
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29. INSTALL 12"X8" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
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32. INSTALL 16"X12" TEE W/ RESTRAINED JOINTS
33. INSTALL 6" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
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35. INSTALL 8"X16" INCREASER W/ RESTRAINED JOINTS
36. INSTALL 16"X6" TEE W/ 6" GATE VALVE W/ RESTRAINED JOINTS
37. INSTALL TYPE T TEST STATION PER DETAIL 4 ON UTL-12
38. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
39. INSTALL 8" PVC WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)

EASEMENT WITH TREES, SHRUBS, DECORATIVE ROCKS, BLOCK WALL, OR FENCE

TREES, SHRUBS, OR DECORATIVE ROCKS, AND ANY BLOCK WALL OR OTHER FENCE MATERIAL, SHALL BE DESIGNED AND CONSTRUCTED AROUND THE EASEMENT(S) TO ALLOW THE DISTRICT DIRECT ACCESS TO THE VAULT(S) BACKFLOW ASSEMBLIES, AND PIPING FROM THE ADJACENT RIGHT-OF-WAY.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

ADDITIONAL WATER NOTE:

1. IF LATERALS ARE NOT USED AND OR RELOCATED THE LATERAL IS TO BE ABANDONED AND ALL PIPE REMOVED FROM THE GATE VALVE TO END CAP

DISCLAIMER NOTES:

1. NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS SHOWN FOR INFORMATION ONLY. REFERENCE NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS DRAWINGS FOR CONSTRUCTION DETAILS. CONTRACTOR TO COORDINATE WITH UTILITIES FOR REMOVAL AND INSTALLATION OF FACILITIES.
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3. ALL EXISTING UTILITIES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.

LEGEND

(X) FOR SEWER AND WATER LATERAL(S) # (SEE UTL-09- TO UTL-11 SHEETS)

WATER NOTES:

1. WATER MAIN JOINT DEFLECTION (PVC, 4" – 24")
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3. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
4. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
5. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
6. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
7. PROVIDE A MIN. 12" OF VERTICAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.06.
8. PROVIDE A MIN. 3' OF HORIZONTAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126408 FIRST APPROVAL DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

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

FAST
Call before you UnderGround.
1-702-432-6300
REGIONAL ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	REVISE STORM DRAIN	3/9/20	EMH		
2	RELOCATE SS STUB, REMOVE WATER STUB	2/28/2020	SNB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SKYE CANYON PARK
UTL PLAN & PROFILE - "SCP" 62+50 - "SCP" 68+50

DATE: 3/10/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

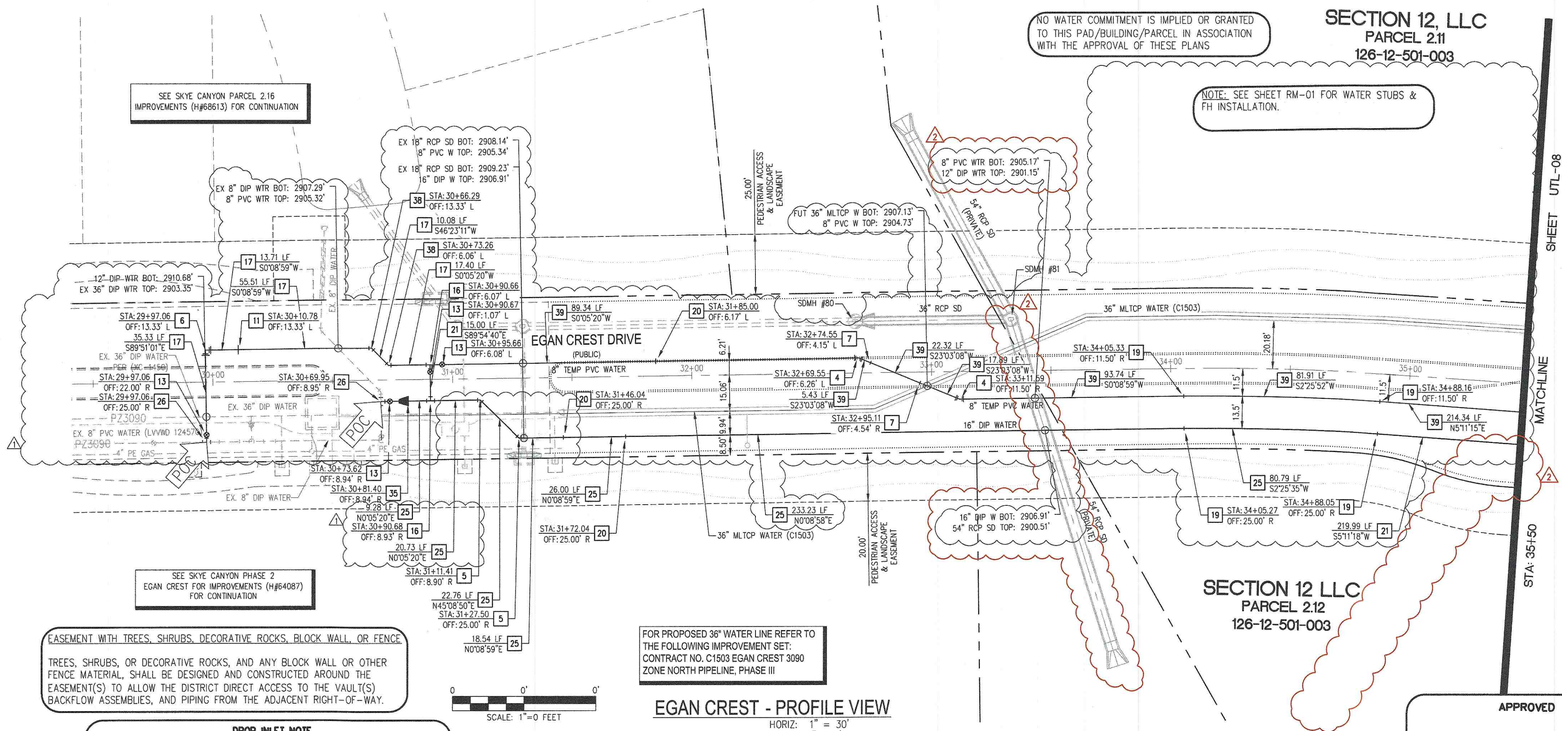
PROJECT NO.
OLY1609-000

NEVADA PROFESSIONAL ENGINEER
DERICK D.J YORO
Exp: 06/30/2020
CIVIL
No. 16396

UTL-05
SHEET 23 OF 46

L18-02472
107V7513

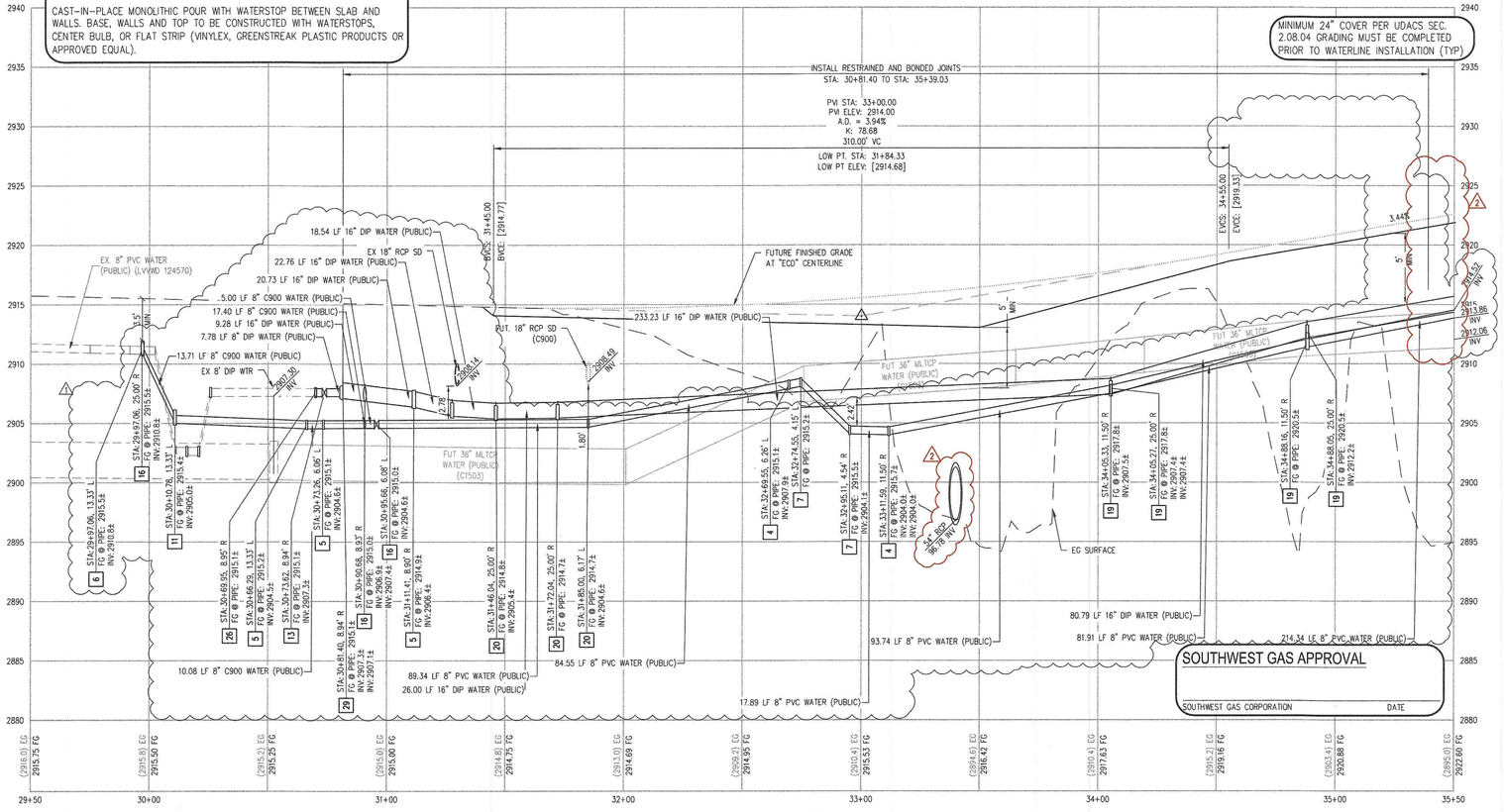
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DROP INLET NOTE

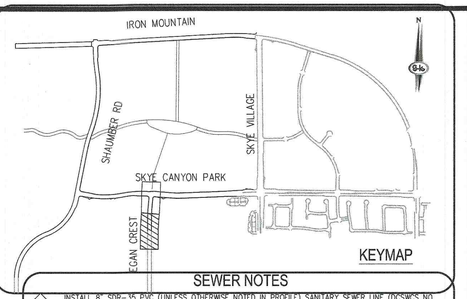
WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).



SOUTHWEST GAS APPROVAL

SOUTHWEST GAS CORPORATION DATE



SEWER NOTES

1. INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
2. INSTALL 12" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
3. CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4. CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
5. INSTALL STUB AND CAP (SEE DETAIL 7 ON SHEET DTL-01)
6. INSTALL 10" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
7. REMOVE EXISTING PLUG AND CONNECT TO 8" SEWER
8. CONSTRUCT 72" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)
9. CONSTRUCT 60" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)

WATER NOTES

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2. INSTALL 2" BLOW OFF AND CAP PER UDACS PLATE NO. 36
3. INSTALL HORIZONTAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
4. INSTALL HORIZONTAL 22.50° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
5. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
6. INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
7. INSTALL VERTICAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
8. INSTALL VERTICAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
9. INSTALL VERTICAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
10. INSTALL HORIZONTAL 90° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
11. INSTALL VERTICAL 22.50° BEND, SIZE PER PLAN W/ RESTRAIN JOINTS
12. INSTALL 12"X12" TEE (UDACS PLATE NO. 31)
13. INSTALL GATE VALVE (UDACS PLATE NO. 30 AND 39) (SEE PLAN FOR SIZE)
14. INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 40
15. INSTALL DEEP FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 41
16. INSTALL 12"X8" TEE (UDACS PLATE NO. 31)
17. INSTALL 8" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
18. INSTALL 12" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
19. INSTALL 1° HORIZONTAL DEFLECTION, PER UDACS SEC. 2.07
20. INSTALL 1° VERTICAL DEFLECTION, PER UDACS SEC. 2.07
21. INSTALL 12" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
22. INSTALL 10" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
23. INSTALL 16" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) W/ RESTRAINED JOINTS
24. INSTALL 8" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
25. INSTALL 16" DIP WATERLINE (PUBLIC) W/RESTRAIN AND BONDED JOINTS PER DETAIL 3 & 4 SHT 13
26. INSTALL 8"X8" TAPPING SLEEVE (UDACS PLATE NO. 34 AND 39)
27. INSTALL 10"X8" TEE (UDACS PLATE NO. 31)
28. INSTALL 16"X16" TEE W/RESTRAINED JOINTS
29. INSTALL 12"X8" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
30. INSTALL 12"X10" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
31. INSTALL 16"X12" REDUCER W/ RESTRAINED JOINTS
32. INSTALL 16"X12" TEE W/ RESTRAINED JOINTS
33. INSTALL 6" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
34. INSTALL 16"X8" TEE W/ RESTRAINED JOINTS
35. INSTALL 8"X16" INCREASER W/ RESTRAINED JOINTS
36. INSTALL 16"X6" TEE W/ 6" GATE VALVE W/ RESTRAINED JOINTS
37. INSTALL TYPE 1 TEST STATION PER DETAIL 4 ON UTL-12
38. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
39. INSTALL 8" PVC WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)

ADDITIONAL WATER NOTE:

1. IF LATERALS ARE NOT USED AND OR RELOCATED THE LATERAL IS TO BE ABABDONED AND ALL PIPE REMOVED FROM THE GATE VALVE TO END CAP

DISCLAIMER NOTES:

1. NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS SHOWN FOR INFORMATION ONLY. REFERENCE NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS DRAWINGS FOR CONSTRUCTION DETAILS. CONTRACTOR TO COORDINATE WITH UTILITIES FOR REMOVAL AND INSTALLATION OF FACILITIES.
2. ALL EXISTING UTILITY LOCATIONS SHOW HEREON 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. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. THE DEPTH BELOW GRADE OF THE VARIOUS UTILITIES DEPICTED ON THE PLANS VARIES THROUGHOUT THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHERE EXCAVATING AND GRADING THE SUBBASE IN THE VICINITY OF UTILITIES TO AVOID DAMAGE TO THE LATTER.
3. ALL EXISTING UTILITIES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.

LEGEND

(X) FOR SEWER AND WATER LATERAL(S) # (SEE UTL-09~ TO UTL-11 SHEETS)

WATER NOTES:

1. WATER MAIN JOINT DEFLECTION (PVC, 4" – 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
3. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
4. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
5. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
6. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
7. PROVIDE A MIN. 12" OF VERTICAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.06.
8. PROVIDE A MIN. 3' OF HORIZONTAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126408 FIRST APPROVAL DATE:
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DIG OVERHEAD
1-702-227-2929
FAST
Call before you UnderGround.
1-702-432-6300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION
Call before you Dig
Avoid cutting underground utility lines. It's easy.
Call 811
or
1-800-227-2600

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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE STORM DRAIN	3/9/20	DMH		
1	ADD 8" WL, REVISE 16" WL & REMOVE FUTURE SS	7/28/2020	SVB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
EGAN CREST DR
UTL PLAN & PROFILE - "ECD" 29+50 - "ECD" 35+50

DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000

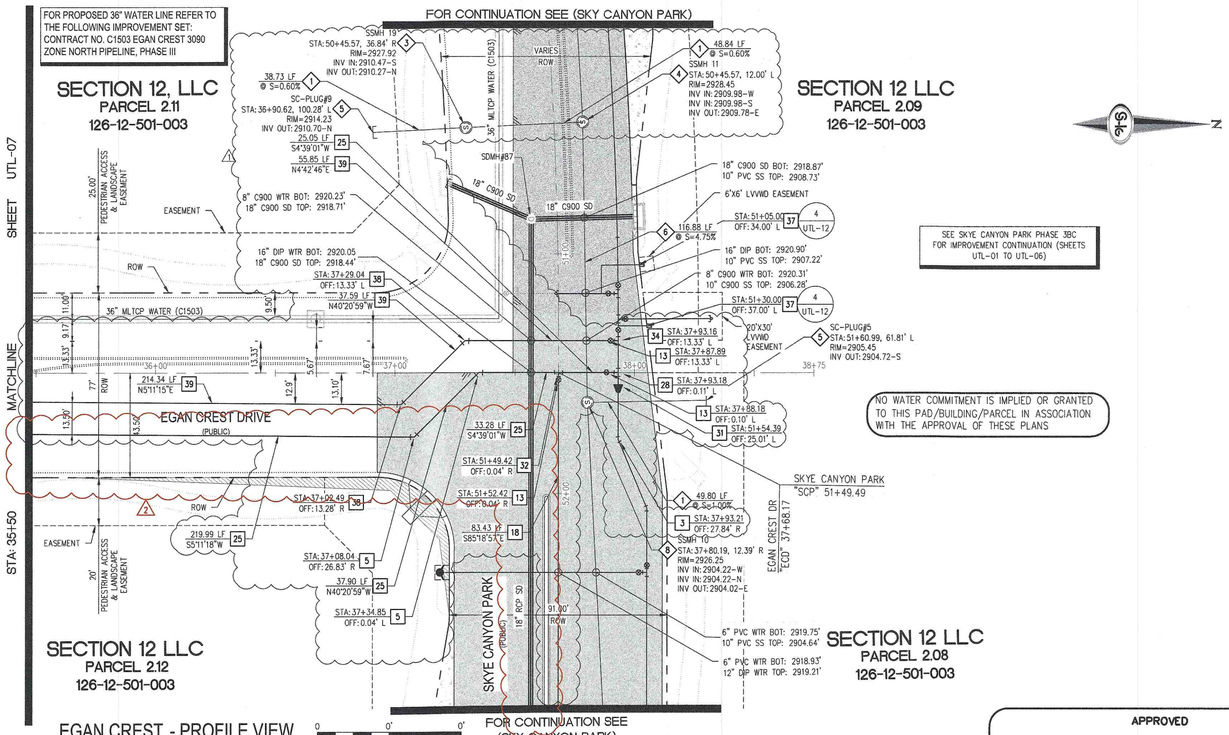
DERICK D.J YORO — Exp: 06/30/2020 — CIVIL — No. 16395 — STATE OF NEVADA — PROFESSIONAL ENGINEER
3/9/20

UTL-07
SHEET 25 OF 46

L18-02472
107V7513

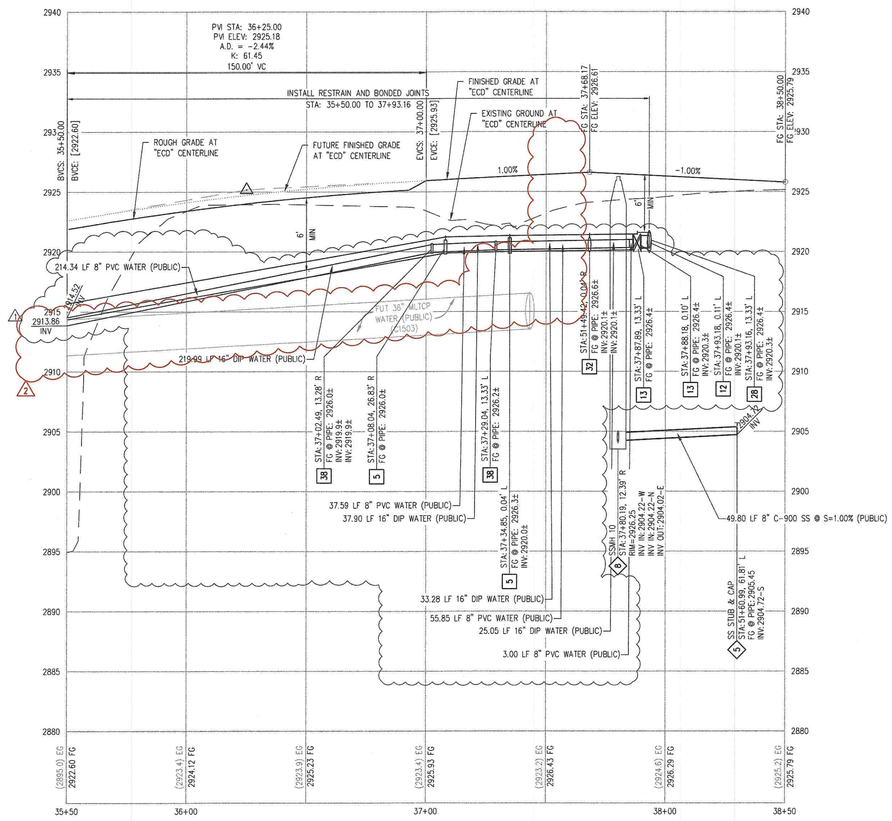
J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\APPROVED\3BC\CIVIL\OLY1609-000-UTL-ECDMC 3/9/2020 5:30 PM Scott Booth

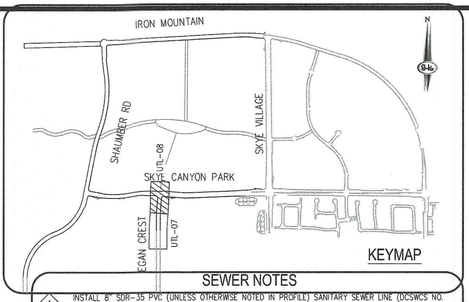
FOR PROPOSED 36" WATER LINE REFER TO THE FOLLOWING IMPROVEMENT SET:
CONTRACT NO. C1503 EGAN CREST 3090 ZONE NORTH PIPELINE, PHASE III



EGAN CREST - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'





SEWER NOTES

1. INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
2. INSTALL 12" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
3. CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4. CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
5. INSTALL STUB AND CAP (SEE DETAIL 7 ON SHEET DTL-01)
6. INSTALL 10" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
7. REMOVE EXISTING PLUG AND CONNECT TO 8" SEWER
8. CONSTRUCT 72" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)
9. CONSTRUCT 60" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)

WATER NOTES

1. REMOVE CAP AND BLOW-OFF PER UDACS PLATE NO. 36 AND CONNECT NEW PIPE PER UDACS SECTION 3.14
2. INSTALL 2" BLOW OFF AND CAP PER UDACS PLATE NO. 36
3. INSTALL HORIZONTAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
4. INSTALL HORIZONTAL 22.50° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
5. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
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37. INSTALL TYPE T TEST STATION PER DETAIL 4 ON UTL-12
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NO WATER COMMITMENT IS IMPLIED OR GRANTED TO THIS PAD/BUILDING/PARCEL IN ASSOCIATION WITH THE APPROVAL OF THESE PLANS

APPROVED

LAS VEGAS FIRE AND RESCUE DATE

MINIMUM 24" COVER PER UDACS SEC. 2.08.04 GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION (TYP)

EASEMENT WITH TREES, SHRUBS, DECORATIVE ROCKS, BLOCK WALL, OR FENCE

TREES, SHRUBS, OR DECORATIVE ROCKS, AND ANY BLOCK WALL OR OTHER FENCE MATERIAL, SHALL BE DESIGNED AND CONSTRUCTED AROUND THE EASEMENT(S) TO ALLOW THE DISTRICT DIRECT ACCESS TO THE VAULT(S) BACKFLOW ASSEMBLIES, AND PIPING FROM THE ADJACENT RIGHT-OF-WAY.

DROP INLET NOTE

WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

ADDITIONAL WATER NOTE:

1. IF LATERALS ARE NOT USED AND OR RELOCATED THE LATERAL IS TO BE ABABDONED AND ALL PIPE REMOVED FROM THE GATE VALVE TO END CAP

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LEGEND
(X) FOR SEWER AND WATER LATERAL(S) # (SEE UTL-09- TO UTL-11 SHEETS)

WATER NOTES:

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8. PROVIDE A MIN. 3' OF HORIZONTAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126408 FIRST APPROVAL DATE: 06/30/2020
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

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

FAST Call before you UnderGround. 1-702-632-5300 FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig Avoid cutting underground utility lines in county. Call 811 OR 1-800-227-2600

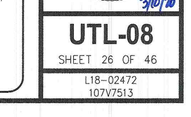
SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE STORM DRAIN	3/9/20	DMH		
1	ADD 8" W, 12" W, & REVISE 16" W & RELOCATE SEWER STUB	2/28/2020	SWB		

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
EGAN CREST DR
UTL PLAN & PROFILE - "ECD" 35+50 - "ECD" 38+20

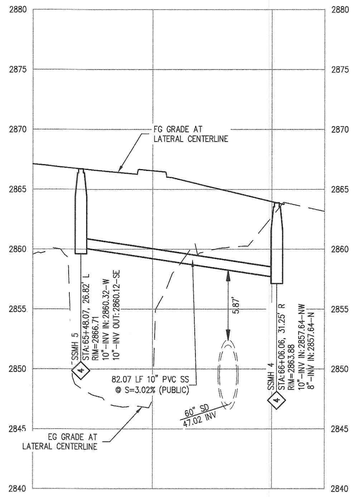
DATE: 3/9/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY
PROJECT NO.
OLY1609-000



UTL-08
SHEET 26 OF 46

L18-02472
107V7513

J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MPROV\3B-C\SHTS\OLY1609-000-UTL-ECDNC 3/9/2020 5:31 PM Scott Booth



SKYE CANYON PARK
SEWER PROFILE @ 65+48.07

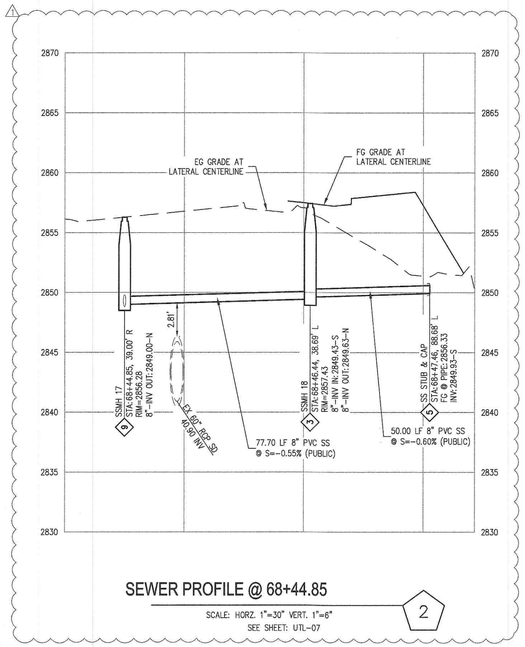
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SEE SHEET: UTL-05

5

NOT USED

SEE SHEET:

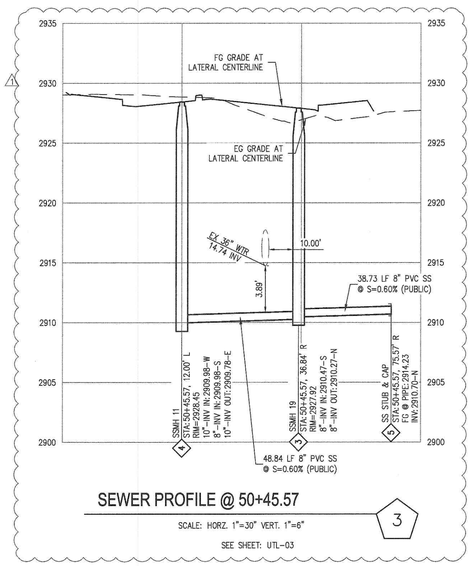
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SEWER PROFILE @ 68+44.85

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: UTL-07

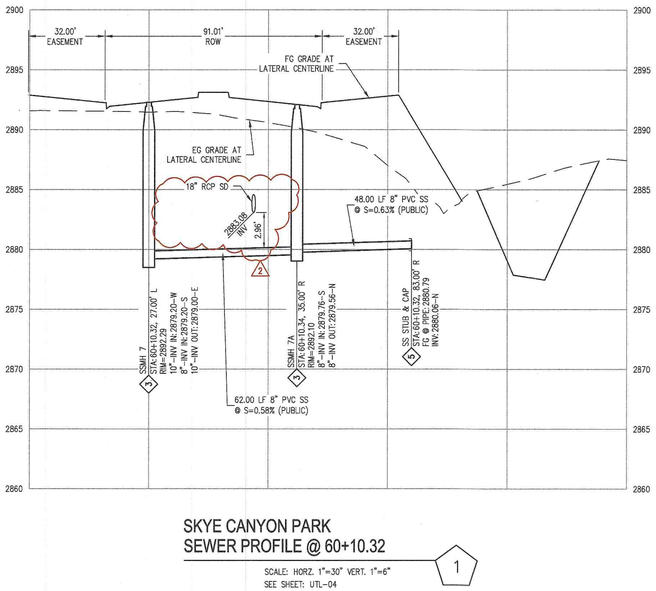
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SEWER PROFILE @ 50+45.57

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: UTL-03

3



SKYE CANYON PARK
SEWER PROFILE @ 60+10.32

SCALE: HORZ. 1"=30" VERT. 1"=6"
SEE SHEET: UTL-04

1

SEWER NOTES

1. INSTALL 8" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
2. INSTALL 12" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
3. CONSTRUCT 48" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
4. CONSTRUCT 60" SANITARY SEWER MANHOLE, SINGLE COVER 24" (DCSWCS NO. SD-1A, SD-1B AND SD-4)
5. INSTALL STUB AND CAP (SEE DETAIL 7 ON SHEET DTL-01)
6. INSTALL 10" SDR-35 PVC (UNLESS OTHERWISE NOTED IN PROFILE) SANITARY SEWER LINE (DCSWCS NO. SD-14 THROUGH SD-17)
7. REMOVE EXISTING PLUG AND CONNECT TO 8" SEWER
8. CONSTRUCT 72" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)
9. CONSTRUCT 60" SANITARY SEWER MANHOLE, W/ CORROSION PROTECTION, DUAL CONCENTRIC COVER (DCSWCS NO. SD-1A, SD-1B, SD-2, AND SD-4)

WATER NOTES

1. REMOVE CAP AND BLOW-OFF PER UDACS PLATE NO. 36 AND CONNECT NEW PIPE PER UDACS SECTION 3.14
2. INSTALL 2" BLOW OFF AND CAP PER UDACS PLATE NO. 36
3. INSTALL HORIZONTAL 11.25° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
4. INSTALL HORIZONTAL 22.50° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
5. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ RESTRAINT JOINTS
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14. INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 40
15. INSTALL DEEP FIRE HYDRANT ASSEMBLY W/6" GATE VALVE WITH TEE PER UDACS PLATE NO. 39 AND 41
16. INSTALL 12"X6" TEE (UDACS PLATE NO. 31)
17. INSTALL 8" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
18. INSTALL 12" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
19. INSTALL 1° HORIZONTAL DEFLECTION, PER UDACS SEC. 2.07
20. INSTALL 1° VERTICAL DEFLECTION, PER UDACS SEC. 2.07
21. INSTALL 12" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
22. INSTALL 10" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
23. INSTALL 16" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) W/ RESTRAINED JOINTS
24. INSTALL 8" DIP WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
25. INSTALL 16" DIP WATERLINE (PUBLIC) W/RESTRAIN AND BONDED JOINTS PER DETAIL 3 & 4 SHT 13
26. INSTALL 8"X8" TAPPING SLEEVE (UDACS PLATE NO. 34 AND 39)
27. INSTALL 10"X8" TEE (UDACS PLATE NO. 31)
28. INSTALL 16"X16" TEE W/RESTRAINED JOINTS
29. INSTALL 12"X8" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
30. INSTALL 12"X10" REDUCER W/ THRUST BLOCK PER UDACS PLATE NO. 31
31. INSTALL 16"X12" REDUCER W/ RESTRAINED JOINTS
32. INSTALL 16"X12" TEE W/ RESTRAINED JOINTS
33. INSTALL 6" PVC PRESSURE CLASS C900 WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)
34. INSTALL 16"X8" TEE W/ RESTRAINED JOINTS
35. INSTALL 8"X16" INCREASER W/ RESTRAINED JOINTS
36. INSTALL 16"X6" TEE W/ 6" GATE VALVE W/ RESTRAINED JOINTS
37. INSTALL TYPE T TEST STATION PER DETAIL 4 ON UTL-12
38. INSTALL HORIZONTAL 45° BEND, SIZE PER PLAN W/ THRUST BLOCK PER UDACS PLATE NO. 31
39. INSTALL 8" PVC WATERLINE (PUBLIC) (UDACS PLATE NO. 15 AND 17)

ADDITIONAL WATER NOTE:

1. IF LATERALS ARE NOT USED AND OR RELOCATED THE LATERAL IS TO BE ABABODONED AND ALL PIPE REMOVED FROM THE GATE VALVE TO END CAP

DISCLAIMER NOTES:

1. NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS SHOWN FOR INFORMATION ONLY. REFERENCE NV ENERGY, CENTURYLINK, AND SOUTHWEST GAS DRAWINGS FOR CONSTRUCTION DETAILS. CONTRACTOR TO COORDINATE WITH UTILITIES FOR REMOVAL AND INSTALLATION OF FACILITIES.
2. ALL EXISTING UTILITY LOCATIONS SHOW HEREON 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. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. THE DEPTH BELOW GRADE OF THE VARIOUS UTILITIES DEPICTED ON THE PLANS VARIES THROUGHOUT THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHERE EXCAVATING AND GRADING THE SUBBASE IN THE VICINITY OF UTILITIES TO AVOID DAMAGE TO THE LATTER.
3. ALL EXISTING UTILITIES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.

LEGEND

(X) FOR SEWER AND WATER LATERAL(S) # (SEE UTL-09- TO UTL-11 SHEETS)

WATER NOTES:

1. WATER MAIN JOINT DEFLECTION (PVC, 4" – 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
3. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
4. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
5. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
6. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
7. PROVIDE A MIN. 12" OF VERTICAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.06.
8. PROVIDE A MIN. 3' OF HORIZONTAL CLEARANCE BETWEEN WATER MAINS AND DRY UTILITIES PER UDACS SECTION 2.04.02

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 126408 — FIRST APPROVAL DATE: _____
LVVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL







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

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
2	REVISE STORM DRAIN & REMOVE SS	3/9/20	EMH		
1	ENCASEMENT AT CROSSING	2/28/2020	SYB		
1	REVISE DETAILS 2, 3 & 4				

NINETY-FIVE MANAGEMENT LLC

SKYE CANYON PHASE 3BC
SKYE CANYON DR & EGAN CREST
UTILITY LATERAL I

DATE: 3/10/20
DRAFTER: HF
DESIGNER: HF
CHECKED: DY

PROJECT NO.
OLY1609-000

DERICK D.J YORO — No. 16396 — STATE OF NEVADA — Exp. 06/30/2020 — CIVIL — 3/11/20

UTL-09

SHEET 27 OF 46

L18-02472
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J:\OLY1609-000 SKYE CANYON PHASE 3A 3B 3C\DWG\MPP0\OLY09-000-UTL-LATERAL 3/10/2020 4:18 PM Emily Hay