

DS #: 4566

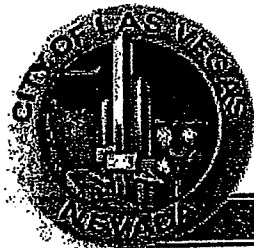
APN: 163-06-816-036

PROJECT: Village Square Rehab and Modernization

SUBMITTAL: 1st

SCANNED BY/DATE: _____

CHECKED BY/DATE: _____





CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		August 21, 2012
TO: Land Development Services Department of Public Works		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT: Drainage Study for: Village Square Rehab and Modernization		COPIES TO: Slater Hanifan Group
Cross Streets:	NWC of Sahara Blvd. & Fort Apache Road	Sentinel Development
File Number:	F:\Depot\DSMemos\DS4566A.doc	Bart Anderson, P.E., DevCo
Parcel Number:	163-06-816-036	
Zoning Action:	SDR-45538	
FEMA Flood Zone	YES NO X	
Proposed Storm Drain	YES NO X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	8/20/2012	8/21/2012	See Comments Below	\$400.00	293203: \$400
			TOTAL FEES (LDDRS):		----

REMARKS:

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

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

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

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

END OF REMARKS

ays

T/R/S: T21S/R60E/06
AREA Q-06

*** FAX TX REPORT ***

TRANSMISSION OK

JOB NO. 4637
 DESTINATION ADDRESS 2845399
 PSWD/SUBADDRESS
 DESTINATION ID
 ST. TIME 08/21 14:16
 USAGE T 00' 47
 PGS. 1
 RESULT OK

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM

DATE:

August 21, 2012

TO:

Land Development Services
 Department of Public Works

FROM:

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

SUBJECT:

Drainage Study for:

Village Square Rehab and Modernization

COPIES TO:

Slater Hanifan Group

Cross Streets:

NWC of Sahara Blvd. & Fort Apache Road

Sentinel Development

File Number:

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Bart Anderson, P.E., DevCo

Parcel Number:

163-06-816-036

Zoning Action:

SDR-45538

FEMA Flood Zone

YES

NO

X

Proposed Storm Drain

YES

NO

X

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TOTAL FEES (LDDRS):					----

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HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Village Square rehab and modernization Date: August 17, 2012
Location of Development: a) Descriptive (Cross Streets) North/South: FT Apache Road
East/West: Sahara Avenue
b) Section: 06 Township: 21 Range: 60
c) APN : 163-06-816-036

Name of Owner: Sentinel Development
Telephone No.: 949-582-1948 Fax No.: 949-582-1339 E-Mail Address: _____
Address: 27741 Crown Valley Pkwy #200, Mission Viejo CA 92691

Contact Person-Name: Ray Fredericksen, P.E. Telephone No.: 702-284-5300
* E-Mail Address: rfredericksen@shg-inc.com Fax No.: 702-284-5399
Firm: Slater Hanifan Group
Address: 5740 S. Arville Street #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		On-Site Improvements

1. Total Owned Land Area: At Site: 9.48 Ac Being Developed/Disturbed: 7.0 AC
2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ Yes** ☒ No
3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☐ Yes** ☒ No
4. Proposed type of development (Residential, Commercial, Etc.): On-site asphalt, curb & Gutter Improvements
5. Approximate upstream land area which drains to the subject site: 3 acres
6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: TDS Update for Wellington Plaza - Pod P plus many other
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: south in Sahara Ave and east into Fort Apache Rd
8. Briefly describe your proposed schedule for the subject project: As soon as possible



Engineer's Seal

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

*New Required Field

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

	Revision	Date
Local Entity File No. _____		

REFERENCE:

STANDARD FORM 1



August 16, 2012

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

Attn: Mr. Albert Sung
Flood Control

Re: Update to the Technical Hydrology Study for Wellington Commercial Subdivision
a.k.a. Village Square

Dear Mr. Sung:

This letter along with the attached Grading Plans and Appendix will serve as an update to the original hydrologic study for Wellington Commercial Subdivision. Specifically, this update will address the revisions made to the interior parking lot and some on-site curb and gutter. No building finish floor elevations were revised through the course of this revision. A small amount of on-site valley gutter was relocated with the enclosed grading plans. The main intent of this revision to the site was to switch the parking lot striping and drive aisle configurations to accommodate vehicles better. Some exterior modifications to the building elevations are being made but again no changes to building finish floor elevations will be done.

The previous grading plan for this site in the area where the valley gutter was revised is called Pad P and a drainage study update was performed by VTN for this area. The approval letter and grading plans are included in the back cover. Again, no changes to the building finish floors were made; however the existing valley gutter was removed and a new valley gutter proposed just shifted to the north. The approved plans show a storm water flow of 3 cfs during the 10-year storm event and 6 cfs during the 100-year storm event through the site in this area. A Flow Master section in this area is included in the appendix to show the existing finish floors will not be impacted by this change. The result shows the water surface elevation will 1.66 feet below the adjacent finish floor.

An existing 30-ft easement dedicated with the Pad P plans conveys the offsite flows through the site to the entrance road then south to Sahara. The drainage pattern for basin ONP2 has not been altered or impacted.

The parking lot changes made within on-site basin ONP1, have not impacted or altered the existing drainage patterns. The construction involves removing the existing landscape islands, diamonds, modifying some curb in front of stores, and restriping the parking lot. Then constructing new landscape islands/diamonds to direct traffic in new patterns. The parking lot will remain the same elevations and will receive a new seal coat and parking lot striping.

In summary, this update is intended to show that the proposed improvements to the interior parking lot, as identified on the enclosed grading plans as well as the on-site basin map, shows no significant changes to the existing drainage patterns. The historic discharge points remain the unchanged. The method of storm water traversing the site remains unchanged. All existing drainage easements will remain unchanged.

The proposed grading plan will provide the necessary flow path for the offsite flows that need to be perpetuated across the site. The building finish floor elevations will remain the same as previously approved through their respective technical drainage study reviews. This revision to the parking lot will in no way have an adverse impact on the overall drainage patterns of the site.

If you have any questions and/or comments related to this Site Review, please do not hesitate to contact me at (702) 284-5300.

Sincerely,
Slater Hanifan Group

A handwritten signature in blue ink, appearing to read "Ray Fredericksen", with a stylized flourish at the end.

Ray Fredericksen, P.E.
Project Manager

APPENDIX A

Drainage Exhibits

j:\psc1201 village square\dwg\improv\psc1201-00cvt.dwg 8/17/2012 10:15 AM Ray Frederickson

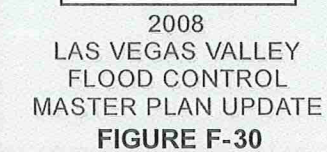


S-I-G **SLATER HANIFAN GROUP**
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

VILLAGE SQUARE
-
VICINITY MAP

DATE: 08/16/12
DRAFTER: RFF
DESIGNER: RFF
CHECKED: RFF

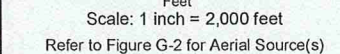
PROJECT NO.
PSC1201
VIC
SHEET 1 OF 1



LEGEND

LEGEND

- | Remove & Replace/Parallel Facilities | |
|--|--|
| Category A | Category B |
|  Channel |  Channel |
|  Stormdrain |  Stormdrain |
|  Crossing |  Crossing |



ID / River Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
APDG 0000	E	ANGEL PARK - DURANGO	2600	842	C38B	ALLGOW3	0.79	0.70
0060	E	84" RCP	1901	374	38A	ALLGOW3	0.35	0.96
APMD 0027	E	ANGEL PARK - MIDDLE BRANCH	170	6048	C11A-3*	ALLGOW4	11.31	3.00
0030	E	1: 12' X 10' and 2: 12' X 2' RCBC @ Canyon Run	7000	6048	C11A-3*	ALLGOW4	11.31	3.00
0132	E	Natural Wash	120	6048	C11A-3*	ALLGOW4	11.31	1.00
0133	E	2: 12'x10' RCBC @ Hualapai	3015	6048	C11A-3*	ALLGOW4	11.31	3.00
APNO 0000	E	ANGEL PARK NORTH		9199	ANGLPKIN	ALLGOW5	21.99	
0001	P1	1,400 ac-ft Angel Park Detention Basin		9199	ANGLPKIN	ALLGOW5	21.99	
APP1 0000	E	ANGEL PARK - PECCOLE 1	2982	442	PIC-B	ALLGOW3	0.44	2.40
0056	E	72" RCP	1385	442	PIC-B	ALLGOW3	0.44	2.40
APP2 0000	E	ANGEL PARK - PECCOLE 2	4793	2004	C57B-1	ALLGOW3	1.93	2.10
		Grass Chnl 10'W 5'D 2:1 SS						
APSO 0000	E	ANGEL PARK - SOUTH BRANCH	2506	4628	CC57B-4	ALLGOW3	5.24	1.62
0020	E	2: 12' X 12' RCB	350	4628	CC57B-4	ALLGOW3	5.24	1.80
0050	E	2: 12' X 12' RCBC @ Rampart	209	4628	CC57B-4	ALLGOW3	5.24	1.84
0067	E	Natural Wash	8300	2384	C57B-2	ALLGOW3	2.67	2.10
0204	E	Natural Wash	326	2056	C12B	ALLGOW3	2.00	2.66
0205	E	2: 8' X 8' RCBC @ Hualapai	2380	2056	C12B	ALLGOW3	2.00	3.46
0254	E	Natural Wash	190	1932	C12A	ALLGOW3	1.74	3.00
0255	E	2: 8' X 8' RCBC @ Town Center Dr.	140	1932	C12A	ALLGOW3	1.74	3.00
		24' X 12' RCAC @ Town Center Dr.						
FLBF 0152	E	FLAMINGO WASH - BUFFALO	3460	814	CLF11	FLAM3A	4.29	0.32
0228	E	10' X 7' RCB	1330	746	CLF9	FLAM3A	0.94	1.00
0252	E	96" RCP	170	746	CLF9	FLAM3A	0.94	1.00
0258	E	9' X 6' RCB	1140	746	CLF9	FLAM3A	0.94	0.50
0278	E	96" RCP	2640	506	LF8	FLAM3A	0.51	0.50
0328	E	90" RCP	660	506	LF8	FLAM3A	0.51	0.30
FLDI 0000	E	DESERT INN DRAIN	190	1145	CLF4	FLAM3A	1.38	2.71
0004	E	9' X 6' RCB	2670	1145	CLF4	FLAM3A	1.38	1.00
0050	E	96" RCP	1390	1145	CLF4	FLAM3A	1.38	1.65
0075	E	90" RCP	1010	874	CLF3	FLAM3A	0.94	1.87
0095	E	84" RCP	200	874	CLF3	FLAM3A	0.94	1.87
0100	E	96" RCP	190	277	LF1	FLAM3A	0.37	1.86
0105	E	72" RCP	2510	277	LF1	FLAM3A	0.37	1.85
FLDR 0179	E	DURANGO COLLECTOR	1810	260	CUFS23	FLAM3A	0.45	1.21
FLDY 0000	E	FLAMINGO WASH - DARBY STORM DRAIN	100	558	CLF24	FLAM3A	0.76	0.25
0002	E	84" RCP	50	558	CLF24	FLAM3A	0.76	0.25
0004	E	10' X 3' RCB	680	558	CLF24	FLAM3A	0.76	2.80
0013	E	60" RCP	560	558	CLF24	FLAM3A	0.76	1.79
FLLA 0227	E	FLAMINGO WASH - LATERAL (FLAMINGO/RAINBOW)	1360	640	CLF28	FLAM3B	1.03	0.40
0254	E	93" RCP	2730	403	CLF27	FLAM3A	1.54	0.40
0305	E	90" RCP		1556	CLF25	FLAM3A	1.03	
0306	E	1,556 cfs PMF Spillway						
0308	E	30" RCP with 18" Orifice Outlet	160	29	DIDB	FLAM3A	1.03	0.43
0322	E	62 ac-ft Desert Inn Detention Basin	744		CLF25	FLAM3A	1.03	
0345	E	81" RCP	1370	224	LF25	FLAM3A	0.27	0.50
0369	E	81" RCP	1340	224	LF25	FLAM3A	0.27	0.50
0379	E	72" RCP	670					0.50
	E	66" RCP	1320					0.50
FLMN 0000	E	FLAMINGO WASH - MONTESSOURI NORTH STORM DRAIN	1340	558	CLF24	FLAM3A	0.76	0.50
0025	E	78" RCP	1330	558	CLF24	FLAM3A	0.76	0.50
0050	E	72" RCP	500	372	LF23	FLAM3A	0.38	0.50

ID / River Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%)**
FLMN 0060	E	FLAMINGO WASH - MONTESSOURI NORTH STORM DRAIN 54" RCP	800	372	LF23	FLAM3A	0.38	0.50
0075	E	48" RCP	30	372	LF23	FLAM3A	0.38	0.50
FLMS 0000	E	FLAMINGO WASH - MONTESSOURI SOUTH STORM DRAIN 54" RCP	630					0.52
FLSM 0000	E	SPRING MOUNTAIN DRAIN 60" RCP	4590	116	CLF10W	FLAM3A	2.84	2.50
0083	E	36" RCP	570	86	LAKEDB	FLAM3A	2.62	1.90
0086	E	36" RCP Outlet	90	86	LAKEDB	FLAM3A	2.62	
0087	E	143 ac-ft Lakes Detention Basin		1976	CLF7	FLAM3A	2.62	
0088	P1	Upgrade to 165 ac-ft Lakes Detention Basin		1976	CLF7	FLAM3A	2.62	
0100	E	12' X 8' RCB	310	1976	CLF7	FLAM3A	2.62	1.25
0125	E	96" RCP	3040	750	CLF6N	FLAM3A	0.87	0.80
0180	E	90" RCP	2350	526	LF5	FLAM3A	0.49	0.50
GOSO 0297	E	GOWAN SOUTH FACILITIES 12' X 7' RCB	2124	1825	CW1BB-C	ALLGOW3	2.14	1.60
0336	E	12' X 7' RCB	602	1593	C1-WESTC	ALLGOW3	1.84	3.40
0352	E	2: 8' X 5' RCB	2740	1374	C1-DUCHC	ALLGOW3	1.60	0.73
0404	E	2: 8' X 4' RCB	2660	1125	C1-ALTAC	ALLGOW3	1.32	0.80
0455	E	2: 12' X 4' RCB	350	665	C1-HOLMC	ALLGOW3	0.81	0.30
0462	E	12' X 4' RCB	1330	665	C1-HOLMC	ALLGOW3	0.81	0.30
GOWC 0000	E	GOWAN SOUTH FACILITIES - WEST CLIFF 24" RCP	5400	257	1-WEST-C	ALLGOW3	0.24	1.67
LCCH 0438	E	LAS VEGAS CREEK CHANNEL 60" RCP	1090	162	CLC01-C	SW3	1.20	1.60
0458	E	60" RCP	1060	162	CLC01-C	SW3	1.20	1.60
0478	E	60" RCP	1110	162	CLC01-C	SW3	1.20	0.55
0499	E	42" RCP Outlet	660	85	RAINBWDB	SW3	1.11	1.88
0512	E	45 ac-ft Rainbow Detention Basin		970	RAINBWIN	SW3	1.11	
0513	P3	Upgrade to 102 ac-ft Rainbow Detention Basin		970	RAINBWIN	SW3	1.11	
0518	E	60" RCP Connector Pipe Under Rainbow Blvd	670	970	RAINBWIN	SW3	1.11	1.85
LCLO 0000	P3	LAS VEGAS CREEK - LORENZI 7' X 6' RCB	445	265	DAL00A	SW3	0.41	3.37
0008	P3	7' X 6' RCB	2415	265	DAL00A	SW3	0.41	0.40
0054	P3	7' X 5' RCB	250	265	DAL00A	SW3	0.41	1.00
MEAL 0160	E	MEADOWS ALTA 36" RCP	2600	331	CUS	SW3	0.56	1.25
0209	P3	48" RCP	2500	150	DCR2	SW3	0.41	1.70
0256	P3	38" X 60" HERCP	81	150	DCR2	SW3	0.41	1.48
0258	P3	48" RCP	275	150	DCR2	SW3	0.41	4.07
MECH 0310	E	EXTENSION OF MEADOWS / CHARLESTON 24" RCP	1000	32	OAKEYOT	SW3	1.88	1.43
0323	E	15" RCP Outlet	200	32	OAKEYOT	SW3	1.88	
0324	E	201 ac-ft Oakley Detention Basin		1652	OAKEYIN	SW3	1.88	
0334	E	11' X 6' RCB	200	573	C5-OAK-C	SW3	0.56	0.50
0337	E	9' X 6' RCB	520	573	C5-OAK-C	SW3	0.56	0.50
0338	E	10' X 8' RCB	2060	1131	C3A-OAKC	SW3	1.32	1.62
0351	E	90" RCP	1350	573	C5-OAK-C	SW3	0.56	0.50
0378	E	10' X 8' RCB	745	1131	C3A-OAKC	SW3	1.32	2.00
0380	E	66" RCP	385	352	3-HOLM-C	SW3	0.33	2.00
0387	E	66" RCP	300	403	3A-OAK-C	SW3	0.43	3.08
0390	E	83" X 53" RCP	50	352	3-HOLM-C	SW3	0.33	2.00
0400	E	10' X 6' RCB	1890	823	C3-ELP-C	SW3	0.88	1.43
0405	E	66" RCP	1390	403	3A-OAK-C	SW3	0.43	1.00
0410	E	66" RCP	182	352	3-HOLM-C	SW3	0.33	2.00
0420	E	66" RCP	1410	352	3-HOLM-C	SW3	0.33	2.00
MECN 0123	P1	MEADOWS - CHARLESTON 8' X 6' RCB	5200	821	CCH09-C	SW3	0.72	1.64
0223	P1	6' X 5' RCB	2700	422	CCH05-C	SW3	0.34	2.04

ID / River Mile	Status	Facility Description	Length (ft.)	Flow (cfs)	HEC-1 Node	HEC-1 Model	Tributary Area (sq.mi.)	Channel Slope (%) **
RRFA		RED ROCK - FORT APACHE COLLECTOR						
0105	E	78" RCP	1330	463	CUFR22	FLAM3A	0.77	0.94
0130	E	66" RCP	690	331	UFR21	FLAM3A	0.51	0.93
0143	E	48" RCP	1330	331	UFR21	FLAM3A	0.51	2.54
RRHU		RED ROCK - HUALAPAI COLLECTOR						
0015	E	10' X 10' RCB	560	1199	CUFR13N	FLAM3A	1.52	1.30
0025	E	11' X 5.5' RCAP	3310	1199	CUFR13N	FLAM3A	1.52	1.30
0079	E	8' X 6' RCB	2650	981	CUFR11	FLAM3A	1.09	1.30
0129	E	7' X 6' RCB	2630	842	CUFR10	FLAM3A	0.82	1.20

* The HEC-1 node shown identifies the controlling concentration point for the associated facility and is located upstream of this facility due to decreasing peak flow with increasing tributary area caused by storm distribution transitions, depth area reduction factors, or attenuation of flow from routing.

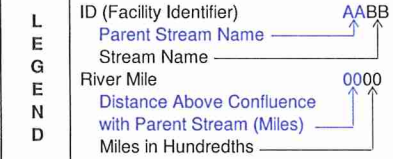
** As-built or design slopes were used when available. All other slopes are based on existing topography. The user should verify the facility slope listed prior to performing any facility specific analysis.

^ For parallel facilities, the existing facility flow equals its normal depth capacity, and the proposed parallel facility flow equals the remaining flow (i.e., HEC-1 Node flow = existing facility normal depth capacity + proposed parallel facility flow).



2008 LAS VEGAS VALLEY
FLOOD CONTROL
MASTER PLAN UPDATE

FACILITY INVENTORY
FIGURE F - 30



Existing Facility..... E
Proposed or Modified Facility..... P
Contingency Level
Category B..... P0
Master Plan..... P1
Preliminary Design..... P2
Design..... P3
Bottom Width..... W
Depth..... D
Side Slope, H:V..... SS

Construction Features
Cast in Place Concrete Pipe..... CIPCP
Corrugated Metal Arch Pipe Culvert..... CMAP
Corrugated Metal Pipe Culvert..... CMPC
High Density Polyethylene..... HDPE
Horizontal Elliptical Reinforced Concrete Pipe..... HERCP
Reinforced Concrete Arch Pipe..... RCAP

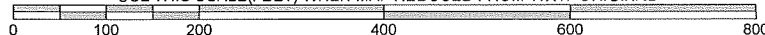
Reinforced Concrete Arch Culvert..... RCAC
Reinforced Concrete Box..... RCB
Reinforced Concrete Box Culvert..... RCBC
Reinforced Concrete Pipe..... RCP
Reinforced Concrete Pipe Culvert..... RCPC
Storm Sewer Pipe..... SSP



NOTES

This map is compiled from official records, including surveys and deeds, but only contains the information required for assessment. See the recorded documents for more detailed legal information.

USE THIS SCALE (FEET) WHEN MAP REDUCED FROM 11X17 ORIGINAL

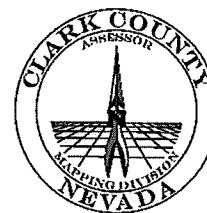


BOOK T21S R60E

SEC.	6
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MAP	S 2 SE 4
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163-06-8



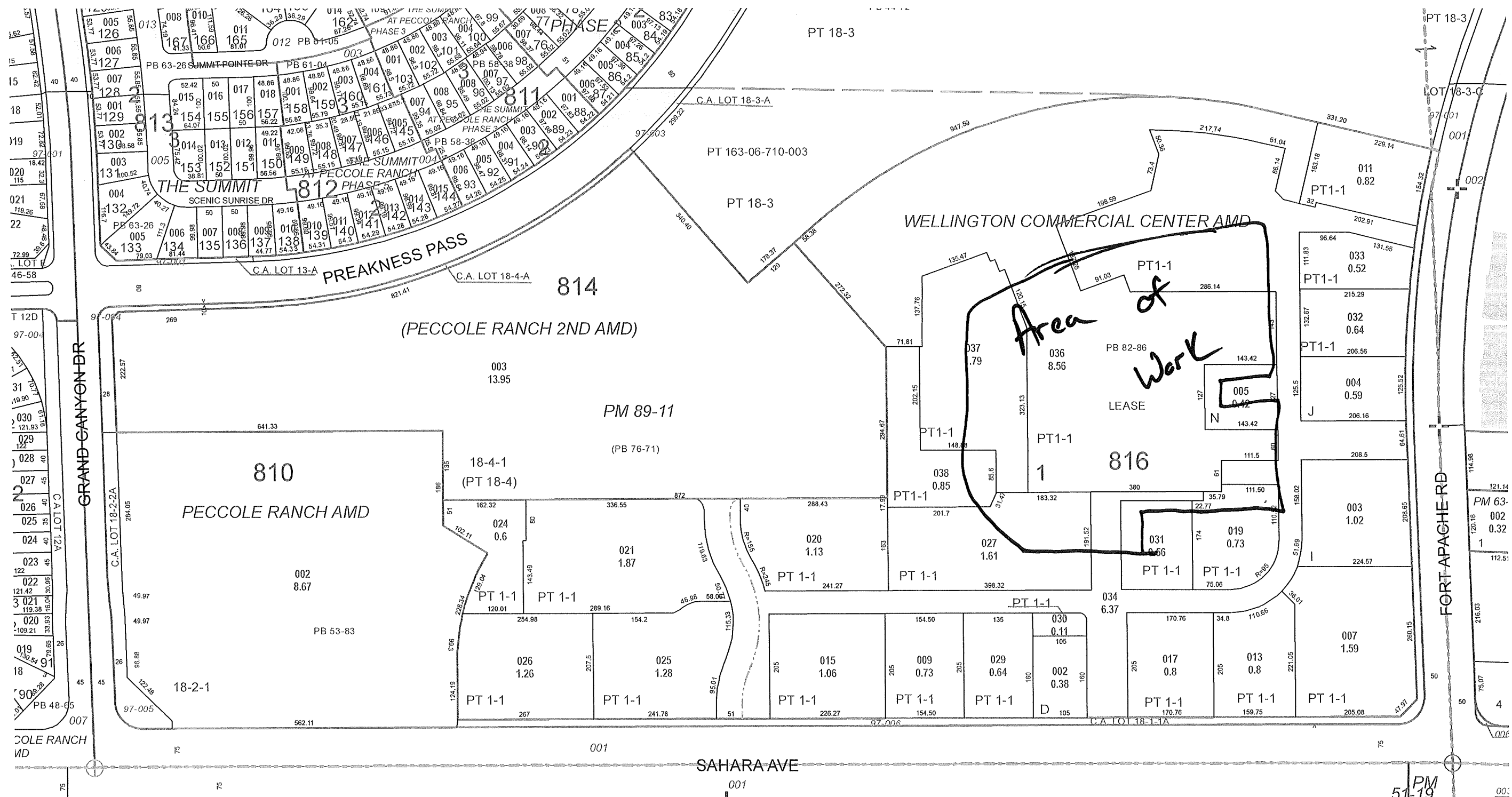
	PARCEL BOUNDARY		CONDOMINIUM UNIT	001 ROAD PARCEL NUMBER
	SUB BOUNDARY		AIR SPACE PCL	001 PARCEL NUMBER
	PM/LD BOUNDARY		RIGHT OF WAY PCL	1.00 ACREAGE
	ROAD EASEMENT		SUB-SURFACE PCL	202 PARCEL SUB/SEQ NUMBER
	MATCH / LEADER LINE			PB 24-45 PLAT RECORDING NUMBER
	HISTORIC LOT LINE			5 BLOCK NUMBER
	HISTORIC SUB BOUNDARY			5 LOT NUMBER
	HISTORIC PMLD BOUNDARY			GL5 GOV. LOT NUMBER
	SECTION LINE			

127	126	125	124
136	137	138	139
165	164	163	162
174	175	176	177

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

8	4	8	4
5	1	5	1
6	2	6	2
7	3	7	3
8	4	8	4
5	1	5	1

Scale: 1" = 200'	Rev: 06/25/2012
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TAX DIST 200

APPENDIX B

FlowMaster Section

Section A Q100

Worksheet for Irregular Channel

Project Description	
Worksheet	Section A
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data	
Channel Slope	0.16300 ft/ft
Discharge	6.00 cfs

Options	
Current Roughness Method	Modified Lotter's Method
Open Channel Weighting Method	Modified Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Manning's Coefficient	0.014
Water Surface Elevation	12.59 ft
Elevation Range	12.41 to 14.25
Flow Area	2.1 ft ²
Wetted Perimeter	19.39 ft
Top Width	19.30 ft
Actual Depth	0.18 ft
Critical Elevation	12.63 ft
Critical Slope	0.005957 ft/ft
Velocity	2.93 ft/s
Velocity Head	0.13 ft
Specific Energy	12.72 ft
Froude Number	1.58
Flow Type	Supercritical

EX.
FF WSE
 $14.25 - 12.59 = 1.66'$
2 OK

Roughness Segments		
Start Station	End Station	Manning's Coefficient
0+00.00	0+12.50	0.016
0+12.50	0+15.50	0.013
0+15.50	0+71.00	0.016

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00.00	13.01
0+00.00	12.51
0+12.50	12.46
0+13.58	12.41
0+15.50	12.46
0+58.00	13.93
0+71.00	14.25

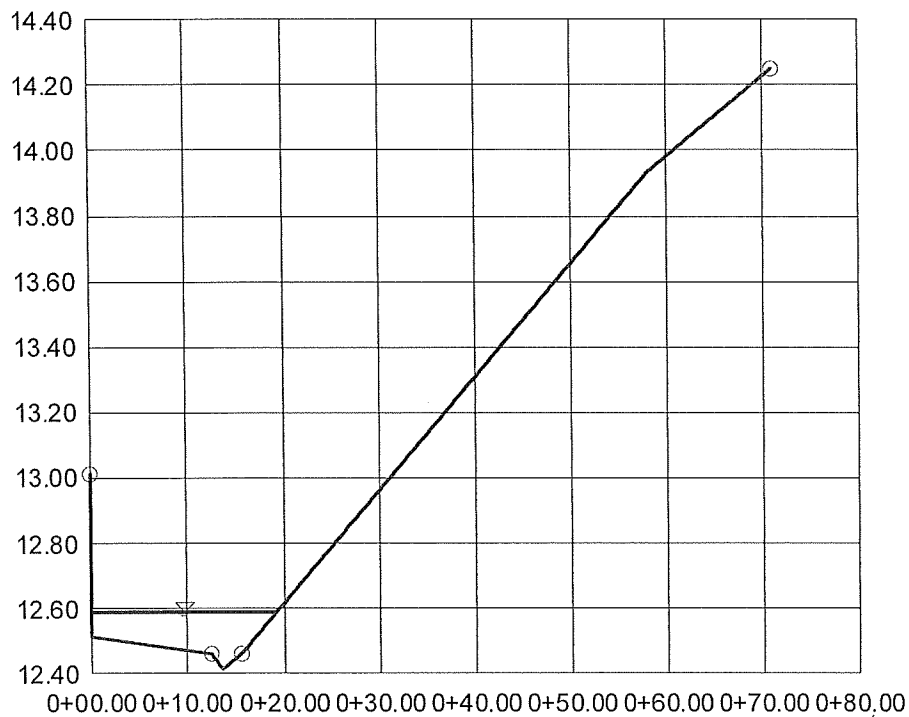
Section A Q100 **Cross Section for Irregular Channel**

Project Description

Worksheet	Section A
Flow Element	Irregular Chan
Method	Manning's For
Solve For	Channel Depth

Section Data

Mannings Coefficient	0.014
Channel Slope	0.016300 ft/ft
Water Surface Elev	12.59 ft
Elevation Range	12.41 to 14.25
Discharge	6.00 cfs



V:33.333333
H:1
NTS

APPENDIX C

Approval Letters

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		July 16, 2004 <i>AS</i>
TO: Land Development Services Department of Public Works		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for:	
	Wellington Commercial Center – Parcel P	
Cross Streets:	NWC of Fort Apache Road & Sahara Ave.	COPIES TO:
File Number:	F:\Depot\DSMemos\DS3603A.doc	VTN, Nevada
Parcel Number:	163-06-816-027	Triple Five Development
Zoning Action:		Bart Anderson, P.E., DevCo
FEMA Flood Zone	YES	NO
		X
Proposed Storm Drain	YES	NO
		X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Transaction #
1 st Submittal	6/28 & 7/15/2004	7/16/2004	See Comments Below	\$100.00	6567: \$100
TOTAL FEES (LDDRS):				\$100.00	---

REMARKS:

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

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

1. The proposed public drainage easement (privately maintained) must be dedicated and recorded by the City prior to the final approval of improvement plans.

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

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

END OF REMARKS

ays

T/R/S: T21S/R60E/06
AREA Q-06

5065-01

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: January 31, 2003
TO: Land Development Services Department of Public Works		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT: Drainage Study for: Retail Building & Underground Parking Garage (Wellington Commercial Center)		COPIES TO: VTN Nevada
Cross Streets:	NWC Sahara Avenue & Fort Apache Road	Triple Five Nevada Development
File Number:	F:\Depot\DSMemos\DS3245B.doc	Bart Anderson, P.E., DEVCO
Parcel Number:	163-06-816-019	
Zoning Action:		
FEMA Flood Zone:	YES NO X	
Proposed Storm Drain:	YES NO X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID G.R. No.
1 st Submittal	12/13/2002	12/27/2002	Not Acceptable	\$250.00	96116: \$250
2 nd Submittal	1/15 & 1/30/2003	1/31/2003	See Comments Below	\$250.00	97541: \$250
TOTAL FEES (LDDRS):				\$500.00	----

REMARKS:

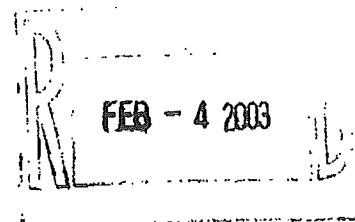
The Drainage Study for the subject project has been reviewed and:

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

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

END OF REMARKS
ays/rac

T/R/S: T21S/R60E/06
AREA Q-06



5065-8

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		May 4, 1999
TO:		FROM:
Land Development Services Department of Public Works		Dennis W. Stransky, P.E. Flood Control Project Manager Department of Public Works
SUBJECT: Drainage Study for: Triple Five Office Bldg. @ Wellington Commercial Center		COPIES TO:
Cross Streets Sahara & Fort Apache)		VTN Nevada
FILE NO.: \\KHAN\food\Depot\DSMEMOS\DS1926K.doc		Triple Five Nevada
FEMA Flood Zone	YES No X	Cheri Edelman, P. E., DevCo
Proposed Storm Drain	YES No X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1 st Submittal	10/09/96	10/22/96	Not Accepted	\$250.00
2 nd Submittal	11/01/96	11/12/96	Not Accepted	\$250.00
3 rd Submittal	12/04/96	12/09/96	Acceptable in Concept	\$250.00
4 th Submittal	04/09/97	04/15/97	Conditionally Accepted	\$100.00
5 th Submittal	07/03/97	07/08/97	Conditionally Accepted	\$100.00
6 th submittal	03/11/98	03/17/98	Not Accepted	\$100.00
7 th submittal	04/03/98	04/10/98	Accepted	\$100.00
8 th submittal	04/28/98	05/05/98	Accepted	\$100.00
9 th Submittal	09/22/98	09/23/98	Conditionally Accepted	\$100.00
10 th Submittal	12/04/98	12/16/98	Acceptable in Concept	\$100.00
11 th Submittal	04/28/99	05/04/99	See Comments Below	\$100.00
			TOTAL FEES:	\$1,550.00

REMARKS:11th Submittal (Update 6, revised plan)

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

X	is acceptable in concept subject to conformance to all CLV standards and following conditions:
	must be resubmitted or supplemented including the following:
	must have Clark County Regional Flood Control District concurrence

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

END OF REMARKS

ssn

T/R/S: 21S/60E/06

AREA Q-06

PLANS SENT TO LAND DEVELOPMENT yes *ssn* (initial)

5065-2

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		July 27, 1999
TO: Land Development Services Department of Public Works		FROM: Dennis W. Stransky, P.E. Flood Control Project Manager Department of Public Works
SUBJECT:	Drainage Study for:	COPIES TO:
	Parcel S - Young Israel Wellington Commercial Subdivision	VTN Nevada
Cross Streets:	Sahara and Fort Apache	Triple Five Nevada
FILE NO.	\\khan\flood\Depot\DSMEMOS\DS2517A.doc	Cheri Edleman, P.E. DEVCO
Parcel Number:	163-06-810-003	
Zoning Action:		
FEMA Flood Zone	YES No X	
Proposed Storm Drain	YES No X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1st Submittal	7/16/99	7/27/99	Accepted	\$100.00
TOTAL FEES				\$100.00

REMARKS: Wellington Commercial Subdivision - Phase 2, Parcel S, Young Israel
1st Submittal, Update #7 to the Master Study.

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

X	is acceptable in concept subject to conformance to all City standards and the following conditions.
	Must be resubmitted or supplemented including the following:
	Must have Clark County Regional Flood Control District concurrence

1. The grading at the northeast corner of the site must be revised to convey the flows through the proposed 2-foot curb opening shown per the Parcel R plans (DS2308). It is our understanding that a blanket drainage easement exists across the Parcel R site to allow these flows.

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

PLANS SENT TO LAND DEVELOPMENT Yes (initial)

END OF REMARKS
PBJ

T/R/S: 21/60/6
AREA Q06

W.O. #5065-4

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		September 23, 1998
TO:		FROM:
Land Development Services Department of Public Works		Dennis W. Stransky, P.E. Flood Control Project Manager Department of Public Works
SUBJECT:		COPIES TO:
Wellington Commercial Center Sahara and Fort Apache		VTN Nevada Triple Five Nevada Cheri Edleman, P. E., DEVCO
FILE NO:	F:\Depot\DSMEMOS\DS19261.doc	
FEMA Flood Zone	YES	No X
Proposed Storm Drain	YES	No X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1st Submittal	10/09/96	10/22/96	Not Accepted	\$250.00
2nd Submittal	11/01/96	11/12/96	Not Accepted	\$250.00
3rd Submittal	12/04/96	12/09/96	Acceptable in Concept	\$250.00
4th Submittal	04/09/97	04/15/97	Conditional Acceptance	\$100.00
5th Submittal	07/03/97	07/08/97	Conditional Acceptance	\$100.00
6 th submittal	03/11/98	03/17/98	Not Accepted	\$100.00
7 th submittal	4/03/98	4/10/98	Accepted	\$100.00
8 th submittal	4/28/98	5/5/98	Accepted	\$100.00
9 th Submittal	9/22/98	9/23/98	See Comments Below	\$100.00
TOTAL FEES				\$1350.00

REMARKS:8th Submittal (Update 3)

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

X	is acceptable in concept subject to conformance to all City standards and the following conditions.
	must be resubmitted or supplemented including the following:
	must have Clark County Regional Flood Control District concurrence

- The following comments are from the previous memo and must be addressed in future submittals.
- All of the grading plan sheets must be provided with match lines for the adjoining sheets. The numbering of the sheets should be such that the phases of the development can be identified and will correspond.*
- Two of the details shown on Sheet G1 of 6 for phase 4 are numbered as A/G1 and A/G2, the rest of the details are not numbered and are not referenced on the grading plan sheets. The Details should be numbered consistently.*

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

PLANS SENT TO LAND DEVELOPMENT yes (initial)

END OF REMARKS

dws

T/R/S: 21S/60E/06

AREA Q-06

W.D.# 5065

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		May 5, 1998
TO:		FROM:
Land Development Services Department of Public Works		Dennis W. Spansky, P.E. Flood Control Project Manager Department of Public Works
SUBJECT: Wellington Commercial Center Sahara and Fort Apache		COPIES TO:
FILE NO. F:\Depot\DSMEMOS\DS1926H.doc		VTN Nevada Triple Five Nevada Cheri Edleman, P. E., DEVCO
FEMA Flood Zone	YES No X	
Proposed Storm Drain	YES No X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1st Submittal	10/09/96	10/22/96	Not Accepted	\$250.00
2nd Submittal	11/01/96	11/12/96	Not Accepted	\$250.00
3rd Submittal	12/04/96	12/09/96	Acceptable in Concept	\$250.00
4th Submittal	04/09/97	04/15/97	Conditional Acceptance	\$100.00
5th Submittal	07/03/97	07/08/97	Conditional Acceptance	\$100.00
6 th submittal	03/11/98	03/17/98	Not Accepted	\$100.00
7 th submittal	4/03/98	4/10/98	Accepted	\$100.00
8 th submittal	4/28/98	5/5/98	See Comments Below	\$100.00
TOTAL FEES				\$1250.00

REMARKS:

8th Submittal (Update 3)

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

☒	is acceptable in concept subject to conformance to all City standards and the following conditions.
☐	must be resubmitted or supplemented including the following:
☐	must have Clark County Regional Flood Control District concurrence

- All of the grading plan sheets must be provided with match lines for the adjoining sheets. The numbering of the sheets should be such that the phases of the development can be identified and will correspond.
- Two of the details shown on Sheet G1 of 6 for phase 4 are numbered as A/G1 and A/G2, the rest of the details are not numbered and are not referenced on the grading plan sheets. The Details should be numbered consistently.

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

PLANS SENT TO LAND DEVELOPMENT yes (initial)

END OF REMARKS
dws

T/R/S: 21S/60E/06
AREA Q-06

W.O. #5065-2

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: April 10, 1998
TO: Land Development Services Department of Public Works		FROM: Dennis W. Stransky, P.E. Flood Control Project Manager Department of Public Works
SUBJECT: Wellington Commercial Center Sahara and Fort Apache		COPIES TO: VTN Nevada Triple Five Nevada John McNellis, P.E.
FILE NO.	F:\Depot\DSMEMOS\DS1926G.doc	
FEMA Flood Zone	YES	No X
Proposed Storm Drain	YES	No X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1st Submittal	10/09/96	10/22/96	Not Accepted	\$250.00
2nd Submittal	11/01/96	11/12/96	Not Accepted	\$250.00
3rd Submittal	12/04/96	12/09/96	Acceptable in Concept	\$250.00
4th Submittal	04/09/97	04/15/97	Conditional Acceptance	\$100.00
5th Submittal	07/03/97	07/08/97	Conditional Acceptance	\$100.00
6 th submittal	03/11/98	03/17/98	Not Accepted	\$100.00
7 th submittal	4/03/98	4/10/98	See Comments Below	\$100.00
TOTAL FEES				\$1150.00

REMARKS:

7th Submittal (Update 3)

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

☒	is acceptable in concept subject to conformance to all City standards and the following conditions.
☐	must be resubmitted or supplemented including the following:
☐	must have Clark County Regional Flood Control District concurrence

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

PLANS SENT TO LAND DEVELOPMENT yes (initial)

END OF REMARKS
dws

T/R/S: 21S/60E/06
AREA Q-06

W.O.# 5065

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		July 16, 1997 JUL 18 1997
TO: Diane Phomninh, P.E. Land Development Services Department of Public Works		FROM: Dennis W. Stransky, P.E. Flood Control Project Manager Department of Public Works
SUBJECT: Drainage Study for "Wellington Commercial Center" FILE NO. H:\DEPOT\DS\DS1926E.DOC		COPIES TO: VTN Nevada Triple Five Nevada John McNellis, P.E.
FEMA Flood Zone	YES No X	
Proposed Storm Drain	YES No X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1st Submittal	10/09/96	10/22/96	Not Acceptable	\$250.00
2nd Submittal	11/01/96	11/12/96	Not Acceptable	\$250.00
3rd Submittal	12/04/96	12/09/96	Acceptable in Concept	\$250.00
4th Submittal	04/09/97	04/15/97	Conditional Acceptance	\$100.00
5th Submittal	07/03/97	07/08/97	See Comments Below	\$100.00
TOTAL FEES				\$950.00

REMARKS:

5th Submittal (Update 2)

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

X	is acceptable in concept subject to conformance to all City standards and the following conditions.
	must be resubmitted or supplemented including the following:
	must have Clark County Regional Flood Control District concurrence

- The study is acceptable for the purpose of recording the Commercial Subdivision Map. A technical update to this study must be provided for each parcel as they develop.
- The 20-foot public drainage easement shown on the Grading and Drainage Map must be granted by the Commercial Subdivision Map.
- If it is not existing, the private access road must be granted as a Public Drainage Easement to be Privately Maintained.

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

PLANS SENT TO LAND DEVELOPMENT yes (initial)

END OF REMARKS

ssn

T/R/S: 21S/60E/06

AREA Q-06

5065

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: April 18, 1997
TO: Dan Bender Land Development Services Department of Public Works		FROM: Dennis W. [Signature], P.E. Flood Control Project Manager Department of Public Works
SUBJECT: Drainage Study for "Wellington Commercial Center" FILE NO. H:\DEPOT\DS\DS1928D.DOC		COPIES TO: VTN Nevada Triple Five Nevada John McNellis, P.E.
FEMA Flood Zone:	YES No X	
Proposed Storm Drain:	YES No X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1st Submittal	10/09/96	10/22/96	Not Acceptable	\$250.00
2nd Submittal	11/01/96	11/12/96	Not Acceptable	\$250.00
3rd Submittal	12/04/96	12/09/96	Acceptable	\$250.00
4th Submittal	04/09/97	04/15/97	See Comments Below	\$100.00
TOTAL FEES				\$850.00

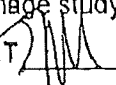
REMARKS:4th Submittal (Update)

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

☒	is acceptable in concept subject to conformance to all City standards and the following conditions.
☐	must be resubmitted or supplemented including the following:
☐	must have Clark County Regional Flood Control District concurrence

- The proposed Public Drainage Easement along the northern edge of the site must be revised so the easement includes the flow path of the water which is generally in the valley gutter. The easement should be 25 feet wide measured from the face of the curb adjacent to the Theater building to the northern edge of the easement up to the eastern end of the building. Beyond the building to the east the easement must be centered over the flow path.
- The "Public Drainage Easements to be Privately Maintained" must be shown on the grading plan must be granted by separate document prior to the issuance of any grading permits.
- The block wall openings from Wellington Meadows Apartments must be identified and labeled on the grading plans. The existing flowline elevations at these locations must also be shown on the grading plan.
- Technical updates will be required for each Future Pad as they develop.

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

PLANS SENT TO LAND DEVELOPMENT  (Initial)END OF REMARKS
gamT/R/S: 21S/60E/06
AREA Q-08

5065

CITY OF LAS VEGAS		DATE:	DEC 11 1996
INTER-OFFICE MEMORANDUM		December 10, 1996	
TO: Dan Bender Land Development Services Department of Public Works		FROM: Dennis W. Stransky, P.E. Flood Control Project Manager Department of Public Works	
SUBJECT: Drainage Study for "Wellington Commercial Center"		COPIES TO: VTN Nevada ✓ Triple Five Nevada John McNellis, P.E.	
FILE NO.	H:\DEPOT\SDS\SDS1926C.DOC		
FEMA Flood Zone	YES	No	X
Proposed Storm Drain	YES	No	X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES
1st Submittal	10/09/96	10/22/96	Not Acceptable	\$250.00
2nd Submittal	11/01/96	11/12/96	Not Acceptable	\$250.00
3rd Submittal	12/04/96	12/09/96	See Comments Below	\$250.00
TOTAL FEES				\$750.00

REMARKS:3rd Submittal (Addendum 2)

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

☒	is acceptable in concept subject to conformance to all City standards and the following conditions.
☐	must be resubmitted or supplemented including the following:
☐	must have Clark County Regional Flood Control District concurrence

- The response to previous comment No. 1 is incorrect. A technical update to this study will be required for each pad as they develop. Since minimum finished floors are established and site drainage concerns have been addressed, the updates will generally consist of a letter stamped by the engineer and two stamped copies of the grading plan. The letter must address any deviations from the current study and provide calculations etc. to support any claims made in the update.
- The engineer indicates that the Point C2 and the new Point C have been added to Figure 2. Neither one of these 2 points were found. It should be noted that concentration points and flow rates must be shown at the discharge of each drainage basin on Figure 2.

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

PLANS SENT TO LAND DEVELOPMENT no (initial)

END OF REMARKS

ssn

T/R/S: 21S/60E/06

AREA Q-06

APPENDIX D

Reference Maps

Grading Plans

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The horizontal datum was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NGS12
National Geodetic Survey
SSM-3, #9202
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this FIRM was provided in digital format by the Clark County GIS Management Office (GISMO).

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contain authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

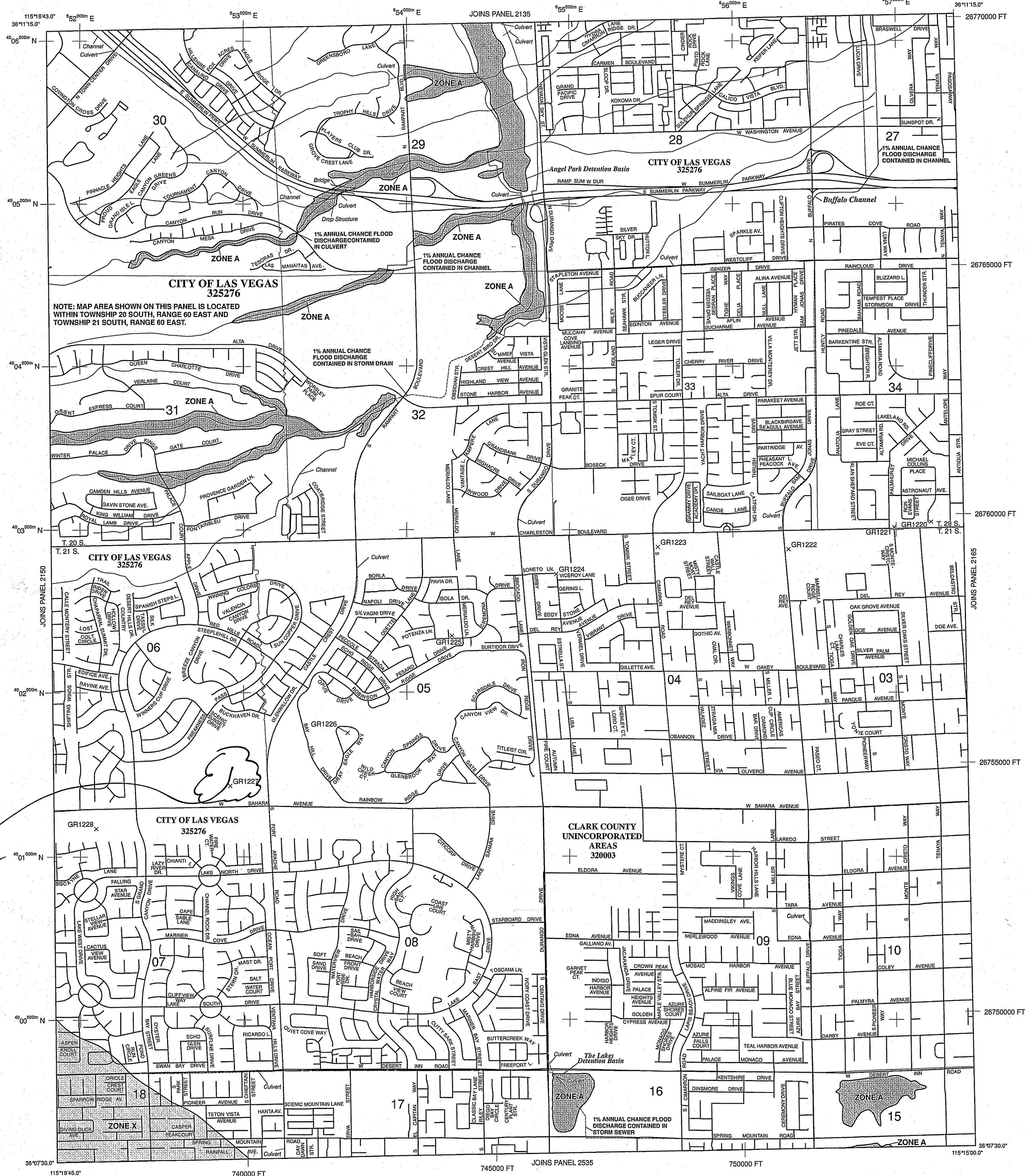
For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

The Digital Flood Insurance Rate Map (DFIRM) was produced through a unique partnership between Clark County and the Federal Emergency Management Agency (FEMA). Clark County has developed a long-term approach of floodplain management to decrease the costs associated with flooding. This is demonstrated by the Clark County commitment to share and maintain floodplain layers within their Geographic Information System Management Office (GISMO).

This DFIRM reflects several innovative features. These include:
+ Southern Nevada GIS-Cooperation among local government agencies throughout Clark County. The foundation of cooperation is the GIS Interlocal Agreements formed between fourteen regional participants. In part, the agreements specify that the Clark County GIS Management Office (GISMO) will be responsible for maintaining a GIS data warehouse and associated Southern Nevada GIS metadata.

+ The GISMO's responsibilities go beyond maintaining the GIS data warehouse. GISMO also maintains the Street Centerline Database used by 911 dispatch services. This centerline database serves as the basemap for this DFIRM.

DIGITAL DATA AVAILABILITY: <http://www.co.clark.nv.us/celt/gismo/gismo.htm>



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain area that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Base Flood Elevation line and value; elevation in feet*
(EL 967)

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

Cross section line

Traverse line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)

1000-foot Universal Transverse Mercator grid ticks, zone 11

5000-foot grid ticks: Nevada State Plane coordinate system, east zone (NAD 83)

Bench mark (see explanation in Notes to Users section of this FIRM panel)

River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

EFFECTIVE DATE OF THIS PANEL

November 16, 2011 -to reflect updated topographic information, to change floodway, to add Base Flood Elevations, to update corporate limits, to change Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to delete Special Flood Hazard Areas, to change zone designations, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

NORTH

MAP SCALE 1" = 1000'

500 0 500 1000 2000 FEET
500 0 500 1000 2000 METERS

PANEL 2145F

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

PANEL 2145 OF 4090

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

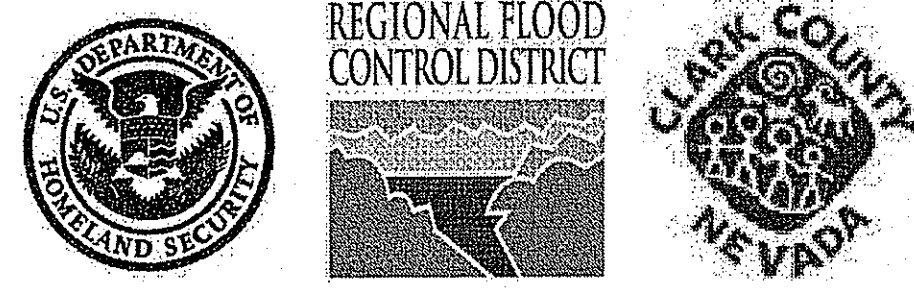
COMMUNITY	NUMBER	PANEL	SUFFIX
CLARK COUNTY	320003	2145	F
LAS VEGAS, CITY OF	325276	2145	F

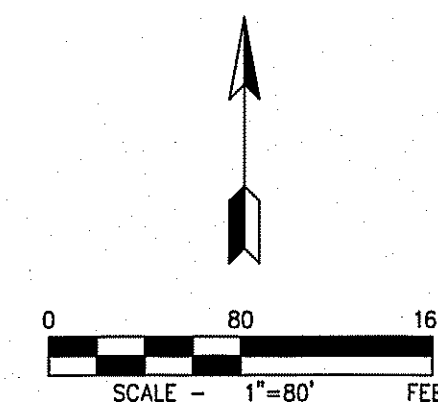
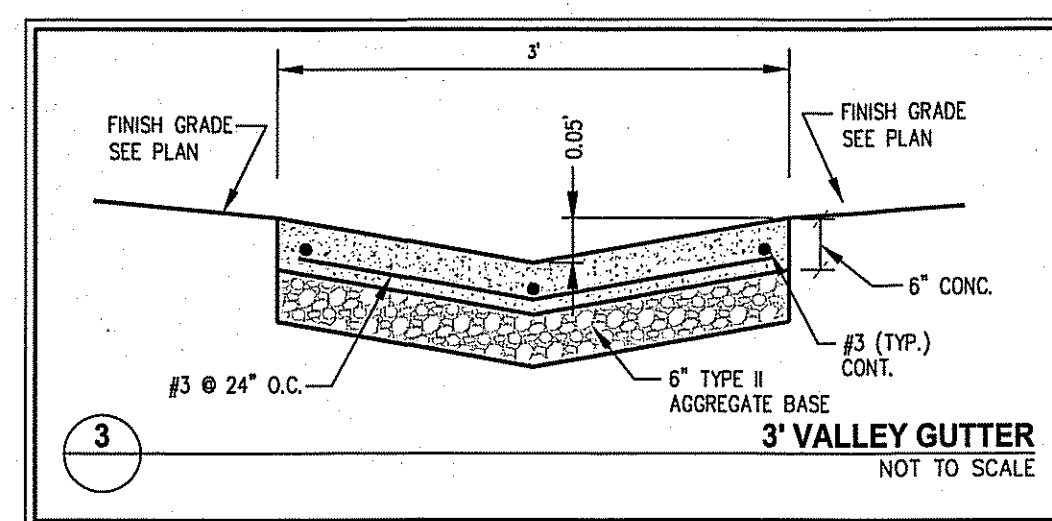
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
32003C2145F

MAP REVISED
NOVEMBER 16, 2011

Federal Emergency Management Agency



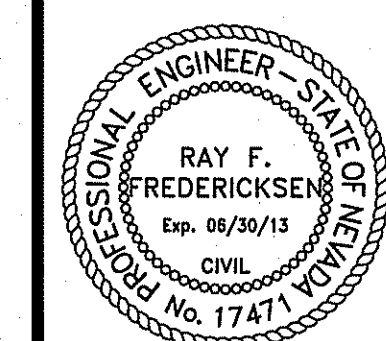


**SLATER
HANFAN
GROUP**
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300
FAX (702) 284-5399

[illegible]

VILLAGE SQUARE
ON-SITE DEVELOPED
BASIN MAP

### ### ### ###	
DATE:	8/16/12
DRAFTER:	RFF
DESIGNER:	RFF
CHECKED:	RFF
PROJECT NO.	
PSC1201.000	



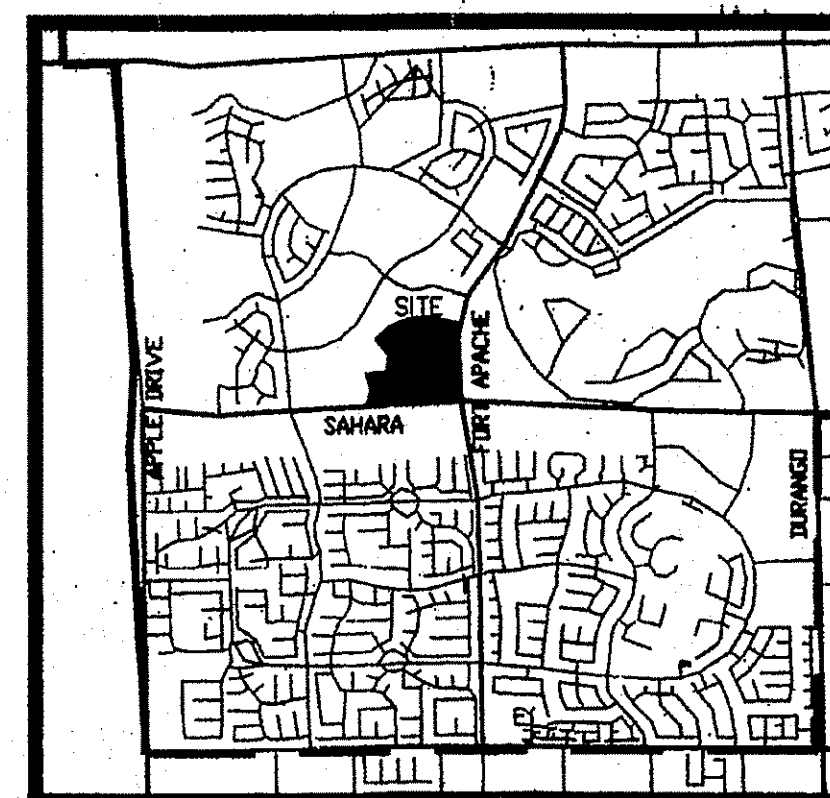
CLV BENCHMARK: 1LV06 6SSE6
RIVET & PLATE IN TOP OF CURB,
9501 W. SAHARA AVENUE
NORTH CURB LINE.
ELEVATION = 860.8792 METER
= 2824.40 FEET (NAVD 88)

BEING A PORTION OF THE SOUTH HALF OF
THE SOUTHEAST QUARTER OF SECTION 6,
AND A PORTION OF THE SOUTH HALF OF
THE SOUTHWEST QUARTER OF SECTION 5,
TOWNSHIP 21 SOUTH, RANGE 60 EAST, M.D.M.,
CITY OF LAS VEGAS, CLARK COUNTY, NEVADA

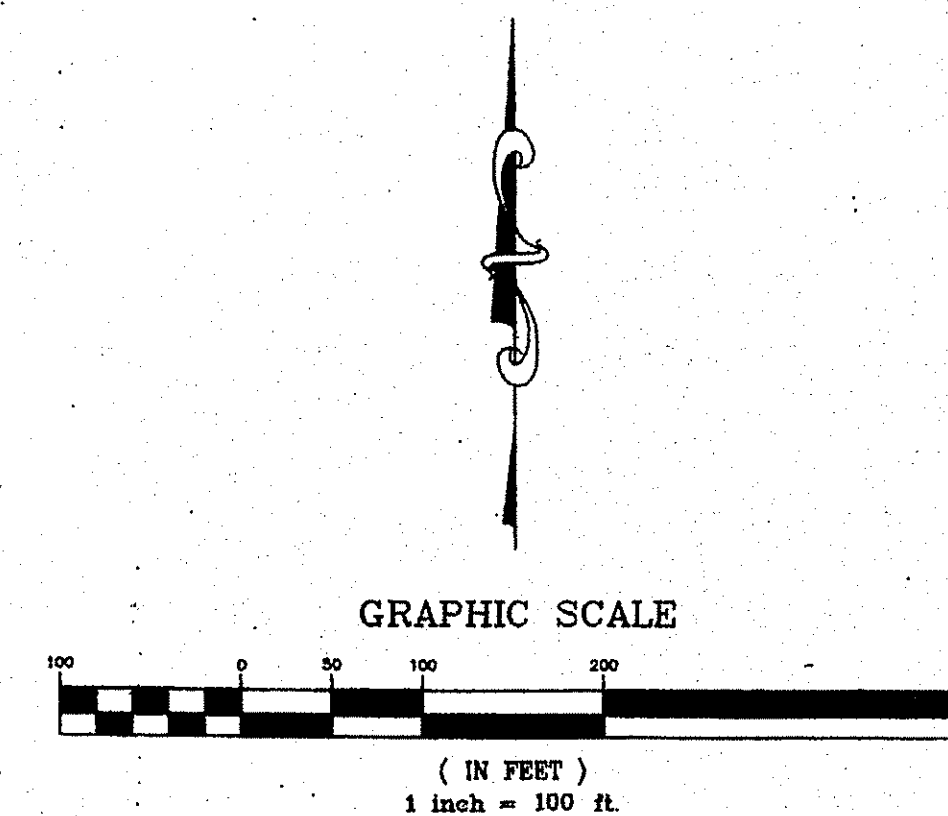
OWNER/DEVELOPER
TRIPLE FIVE DEVELOPMENT GROUP CENTRAL,
LTD.
P.O. BOX 371208
LAS VEGAS, NEVADA 89137
(702) 277-6654

TABULATION

EXISTING ZONING	C-1
PROPOSED ZONING	C-1
GROSS ACREAGE	31.74 ACRES
TOTAL NO. LOTS	1

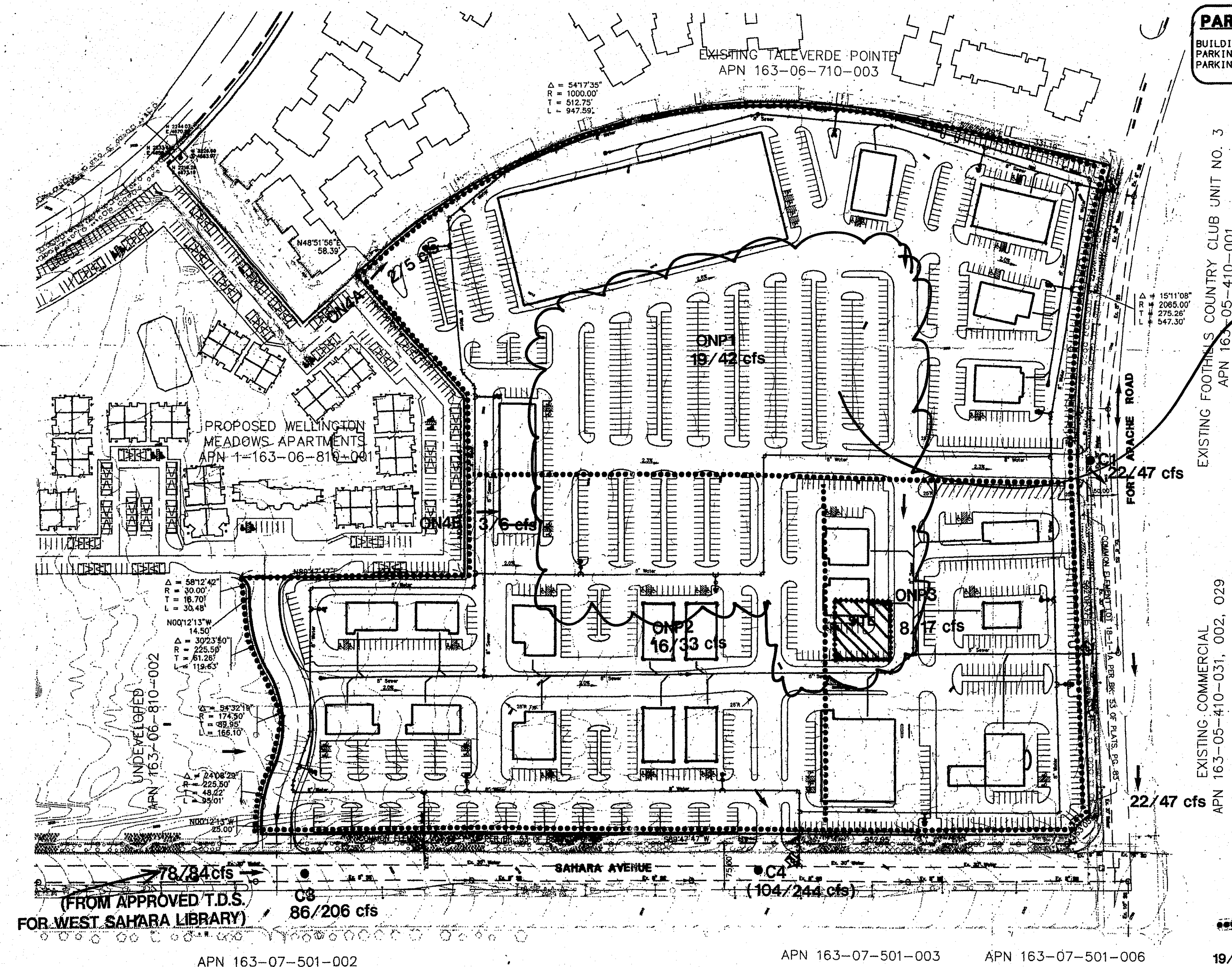


VICINITY MAP



BUILDING SQUARE FOOTAGE = 207,100± S.F.
PARKING @ 1: 400 S.F. = 518 SPACES
PARKING PROVIDED = 1,564± SPACES

THE PROPOSED DEVELOPMENT SHOWN HEREON IS CONCEPTUAL IN NATURE AND IS SUBJECT TO CHANGE OR MODIFICATION AS THE SITE DEVELOPES.



1. ALL IMPROVEMENTS SHALL CONFORM TO THE UNIFORM STANDARDS AND SPECIFICATIONS FOR CLARK COUNTY AREA, NEVADA.

2. UTILITY SERVICES PROVIDED AS FOLLOWS:

WATER.....LAS VEGAS VALLEY WATER DISTRICT
ELECTRIC.....NEVADA POWER COMPANY
GAS.....SOUTHWEST GAS CORPORATION
SEWER.....CITY OF LAS VEGAS
SOLID WASTE DISPOSAL.....SILVER STATE DISPOSAL SERVICE
TELEPHONE.....SPRINT CENTRAL - NEVADA

3. UTILITY EASEMENTS TO BE DEDICATED TO RESPECTIVE AGENCIES.

4. SEWER CONTRIBUTION = 0.08 MGD AVG. / 0.24 MGD PEAK

5. BUILDING SETBACKS TO COMPLY WITH ALL APPLICABLE ORDINANCES

6. STORM WATER TO SURFACE DRAIN ON STREETS.

7. THIS DEVELOPMENT IS SHOWN IN ITS ENTIRETY ON THIS TENTATIVE MAP AND IS A PORTION OF ANY MASTER PLANNED AREA.

8. THIS DEVELOPMENT DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD ZONE AS DESIGNATED BY PANEL NO. 32003 C2145 D, AUGUST 1995.

9. ALL INTERIOR SEWER AND WATER MAINS ARE 8" UNLESS OTHERWISE SHOWN.

..... BASIN BOUNDARY
 ONP3 BASIN NAME
 19/42 cfs Q10-YR/Q100-YR FLOW
 → FLOW PATH
 ●C4 COMBINED POINTS
 SITE BOUNDARY

FIGURE 6

REFERENCE

TRIPLE FIVE DEVELOPMENT

CITY OF LAS VEGAS

vtn nevada

TITLE : DEVELOPED ON-SITE BASIN MAP

PROJECT
WELLINGTON COMMERCIAL CENTER
A COMMERCIAL SUBDIVISION

WO NO. **5065**

BY **VCI**

VOL
 2/12/28

DATE 8/12/96

SCALE	HORIZ.	1
	VERT.	

SHEET

OF 1

Refused

Avoid cutting underground utility lines. It's costly.

**Call
before you
Dig**

1-800-227-2600

EXISTING GAS TO BE SHUT OFF PRIOR TO EXCAVATION

Area Beings
Revised
*UG Beings Moved

CLV BENCHMARK #OLV10-BSSE6
RIVET & PLATE IN TOP OF CURB AT NORTHEAST
CORNER OF SAHARA AND WELLINGTON MEADOWS
AT 8500 WEST SAHARA AVENUE.
ELEVATION = 860.209 METERS (NAVD 88)
= 2822.20 FEET (NAVD88).

SOUTH 89°47'47" WEST, BEING SOUTH LINE OF THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 6, TOWNSHIP 21 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY A MAP OF PECCOLE RANCH, ON FILE IN THE OFFICE OF THE CLARK COUNTY RECORDER IN BOOK 44 OF PLATS, PAGE 72

1. CONTRACTORS SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREIN. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATIONS.
CALL BEFORE YOU DIG: 1 (800) 222-2800.

1. ALL GRADING AND SITE PREPARATION SHALL CONFORM TO THE REQUIREMENTS OF THE GEOTECHNICAL INVESTIGATION PREPARED BY THE TERRACON CONSULTANTS. (E-02-878)
DATED DECEMBER 24, 2002

1. ASPHALT PAVING & BASE SECTION SHALL BE APPROVED BY THE GEOTECH ENGINEER.

1. ALL ELEVATIONS SHOWN HEREIN WITHIN THE LANDSCAPED AREAS ARE FINAL FINISH GRADES AND DO NOT ALLOW FOR THE ADDITION OF LANDSCAPING MATERIAL AT TOP OF FINISH GRADES. ROUGH GRADE UNDERCUTS MUST BE APPROVED BY THE DEVELOPER.

1. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS.
1. SEE FINAL MAP FOR EXACT BEARINGS AND DISTANCES.

1. ALL WORK PERFORMED OUTSIDE OF THE PROJECT BOUNDARY AND ON PRIVATE PROPERTY SHALL NOT BE PERFORMED UNTIL WRITTEN PERMISSION AND EASEMENT HAVE BEEN OBTAINED FROM THE OFF SITE OWNER.

1. CONSTRUCT A MINIMUM 2.5 FEET RADIUS AT BACK OF CURB ADJACENT TO PARKING SPACES, USED AT ALL INTERSECTIONS.

1. ALL WALKWAYS SHALL BE PLACED AT EVERY PARKING SPACE THAT FRONTS A PEDESTRIAN WALKWAY AND/OR A LANDSCAPE AREA.

1. UNLESS OTHERWISE NOTED THE ENTIRE ON SITE STORM DRAIN SYSTEM, WATER SYSTEMS AND SANITARY SEWER SHALL BE PRIVATELY OWNED AND MAINTAINED.

1. ALL POSSIBLE ROUTES SHALL BE CONSTRUCTED PER THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) A-117.1, 1992.

- ① CONSTRUCT 24" TYPE I CURB AND GUTTER PER STD DWG NO 218.
- ② CONSTRUCT TYPE A CURB PER STD DWG 219.
- ③ CONSTRUCT ACCESSIBLE CURB RAMP PER ANSI A117.1, FIGURE B4.7.5, AND CORNER RAMP FOR ADA FACILITIES COMPLIANCE WORKBOOK SUPPLEMENT 3-1894. SEE DETAILS ON SHEET GO.
- ④ CONSTRUCT CONCRETE WALK PER STD DWG 234, 242 & 218. WALK SHALL BE 5.0' WIDE UNLESS SPECIFIED OTHERWISE ON THE PLANS.
- ⑤ PAINTED ACCESS ROUTE MARKINGS PER ANSI A-117.1 AND THE CITY OF LAS VEGAS REGULATIONS.
- ⑥ INSTALL R1-1 30" STOP SIGN AND PAINTED LINE WALK PER CITY LAS VEGAS STANDARDS.
- ⑦ PAYING REMOVAL SAW CUT LINE. MATCH WITH NEW PAYING.
- ⑧ MATCH EXIST CURB WITH NEW CONSTRUCTION.
- ⑨ CONSTRUCT RETAINING WALL PER THE CITY OF LAS VEGAS STANDARDS AND SPECIFICATIONS. WALLS THAT EXCEED 5' HEIGHT REQUIRE A SPECIFIC STRUCTURAL DESIGN.
- ⑩ CONSTRUCT 36" WIDE X 6" THICK CONCRETE CROSS GUTTER DRAINAGE SWALE PER THE DETAIL ON SHEET GO.
- ⑪ INSTALL CONCRETE WHEEL STOPS PER CITY STANDARDS AND SPECIFICATIONS. ALSO SEE ARCHITECTURAL SITE PLAN FOR ACCESSIBILITY DETAILS.
- ⑫ CONSTRUCT ACCESSIBLE RAMP PER CABO/ANSI A117.1, FIGURE B4.8.2 AND B4.8.3.

- (A) SEE ARCHITECTURAL DRAWINGS FOR TRASH ENCLOSURE PLAN AND DETAILS. MAXIMUM 1% SLOPE ON TRASH ENCLOSURE SLAB.
- (B) SEE ARCHITECTURAL AND LANDSCAPE PLANS FOR DETAILS OF OPEN SPACE AREAS.
- (C) EXISTING 30" PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED. SEE BOOK 902225, DOCUMENT NUMBER 00908
- (D) [REDACTED]
- (E) DEEPEINED FOOTINGS OR STEM WALLS. SEE ARCHITECTURAL AND STRUCTURAL BUILDING PLANS.
- (F) 20' WIDE NO BUILD EASEMENT SHALL BE DEDICATED BY SEPARATE DOCUMENT (MINIMUM 10' FROM PROPOSED BUILDING).
- (G) PROPOSED CURBS SHALL BE SET TO MATCH EXISTING SITE IMPROVEMENTS (PAVING, CROSS GUTTERS, CURBS ETC). CONTRACTOR SHALL CONTACT DESIGN ENGINEER PRIOR TO ANY CONSTRUCTION IF THE PROPOSED IMPROVEMENTS CREATE A DESIGN CONFLICT WITH THE EXISTING SITE CONDITIONS.

This grading plan is a part of drainage study which was approved on 7/15/64 and approved on 7/15/64. Page 1

REFERENCE

TRIPLE FIVE NEVADA DEVELOPMENT CORP.

GRADING PLAN
PAD P RETAIL BUILDING

TITLE
WELLINGTON VILLAGE SQUARE

DRAWN BY:

DESIGNED BY: _____ 2004 _____

CHECKED BY: IKJ _____ 2004 _____

SEAL
PROFESSIONAL ENGINEER-S
IAN K.
JOHNSTON
CIVIL 171516
EXPIRES 6-30-01

Sheet 008
6 OF 7 SHEETS
DRAWING NO. 2

1008 0000 1008 0000

Call
before you
OVERHEAD
1-702-593-6111

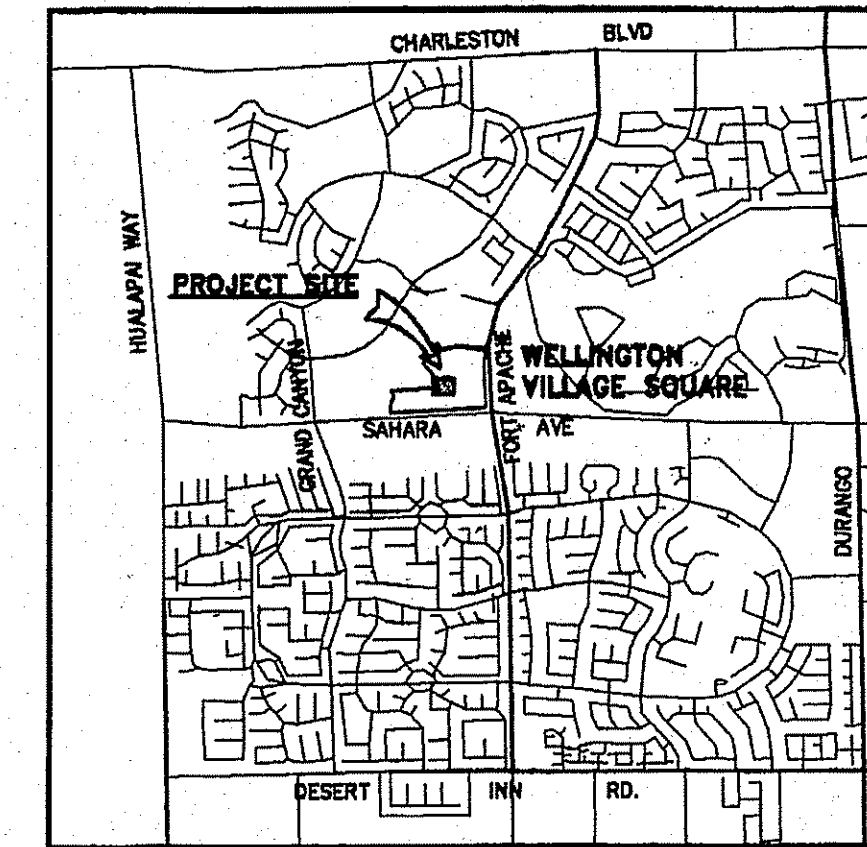
Call
before you
Dig
1-800-227-2600

BENCHMARK

CLV BENCHMARK #01V10-6556
RIVET & PLATE IN TOP OF CURB AT NORTHEAST
CORNER OF SAHARA AND WELLINGTON MEADOWS
AT 9500 WEST SAHARA AVENUE.
ELEVATION = 860.209 METERS (NAV88)
= 2822.20 FEET (NAV88).

BASIS OF BEARINGS

SOUTH 89°47'47" WEST, BEING SOUTH LINE OF THE SOUTHEAST
QUARTER (SE 1/4) OF SECTION 6, TOWNSHIP 21 SOUTH, RANGE 60
EAST, N.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA
AS SHOWN BY A MAP OF PECCOLE RANCH, ON FILE IN THE OFFICE
OF THE CLARK COUNTY RECORDER IN BOOK 44 OF PLATS, PAGE 72



VICINITY MAP

DRAINAGE LEGEND

- ONIE EXISTING ONLINE BASIN NAME
ON10 DEVELOPED ONSITE BASIN NAME
FM-2 FLOW MASTER SECTION
NAME AND LOCATION
Q10/Q100 FLOW VALVE DURING THE
10/100 YEAR STORM EVENT, CFS.
Q100 FLOW DURING THE 100 YEAR
STORM EVENT (CFS)
D100 DEPTH OF FLOW DURING THE
100 YEAR STORM EVENT (FT)
V100 VELOCITY OF FLOW DURING THE
100 YEAR STORM EVENT (FPS)
BASIN DELINEATION
FLOW DIRECTION
OFFSITE FLOW FROM WELLINGTON
MEADOWS APARTMENTS

CONSTRUCTION ITEMS

- CONSTRUCT 24" TYPE L CURB AND GUTTER
PER STD DWG NO 216.
- CONSTRUCT TYPE A CURB PER STD DWG 216.
- CONSTRUCT ACCESSIBLE CURB RAMP PER ANSI A117.1,
FIGURE B4.7.6, AND CORNER RAMP PER ADA FACILITIES
COMPLIANCE WORKBOOK SUPPLEMENT 3-1994. SEE
DETAILS ON SHEET 00.
- CONSTRUCT CONCRETE WALK PER STD DWG 234,
235 & 216. WALK SHALL BE 5.0' WIDE UNLESS
SHOWN OTHERWISE ON THE PLANS.
- APPLY PAINTED ACCESS ROUTE MARKINGS PER ANSI
A-117.1 AND THE CITY OF LAS VEGAS REGULATIONS.
- INSTALL R1-1 30" STOP SIGN AND PAINTED LIMIT
LINE PER CITY LAS VEGAS STANDARDS.
- PAVING REMOVAL SAW CUT LINE. MATCH WITH
NEW PAVING.
- MATCH EXIST CURB WITH NEW CONSTRUCTION.
- CONSTRUCT RETAINING WALL PER THE CITY OF
LAS VEGAS STANDARDS AND SPECIFICATIONS.
WALLS THAT EXCEED 6' HEIGHT REQUIRE A
SPECIFIC STRUCTURAL DESIGN.
- CONSTRUCT 36" WIDE X 8" THICK CONCRETE
CROSS GUTTER DRAINAGE SWALE PER THE
DETAIL ON SHEET 00.
- INSTALL CONCRETE WHEEL STOPS PER CITY STANDARDS
AND SPECIFICATIONS. ALSO SEE ARCHITECTURAL SITE
PLAN AND ACCESSIBILITY DETAILS.
- CONSTRUCT ACCESSIBLE RAMP PER CARO/ANSI
A117.1, FIGURE B4.8.2 AND B4.8.3.

COORDINATION ITEMS

- SEE ARCHITECTURAL DRAWINGS FOR TRASH
ENCLOSURE PLAN AND DETAILS. MAXIMUM
1% SLOPE ON TRASH ENCLOSURE SLAB.
- SEE ARCHITECTURAL AND LANDSCAPE PLANS FOR
DETAILS OF OPEN SPACE AREAS.
- EXISTING 36" PUBLIC DRAINAGE EASEMENT TO
BE PRIVATELY MAINTAINED.
BOOK 990225, DOCUMENT NUMBER 00908
- PROPOSED PUBLIC DRAINAGE EASEMENT TO BE
PRIVATELY MAINTAINED. SEE PLAN FOR WIDTH
(30' MINIMUM). PROPOSED EASEMENT SHALL
BE DEDICATED BY SEPARATE DOCUMENT.
- DEEPEENED FOOTINGS OR STEM WALLS. SEE
ARCHITECTURAL AND STRUCTURAL BUILDING PLANS.
- 20' WIDE NO BUILD EASEMENT SHALL BE DEDICATED
BY SEPARATE DOCUMENT (MINIMUM 10' FROM
SEPARATE BUILDING).
- PROPOSED CURBS SHALL BE SET TO MATCH EXISTING
SITE IMPROVEMENTS (PAVING, CROSS GUTTERS, CURBS
ETC). CONTRACTOR SHALL CONTACT DESIGN ENGINEER
PRIOR TO ANY CONSTRUCTION IF THE PROPOSED
IMPROVEMENTS CREATE A DESIGN CONFLICT WITH THE
EXISTING SITE CONDITIONS.

GRAPHIC SCALE
1" = 20'

I CERTIFY THAT THIS GRADING PLAN IS
IN CONFORMANCE WITH THE CITY OF LAS VEGAS
DRAINAGE STUDY ON 11/16/04 and approved
OF LAS VEGAS FOR THIS PROJECT.

This grading plan is a
part of drainage study
#3603 which was received

Page 2 of 2
DR

REFERENCE

TRIPLE FIVE NEVADA DEVELOPMENT CORP
9910 WEST SAHARA SUITE 200
LAS VEGAS, NEVADA 89117
702-242-9337 FAX 702-380-5148
2727 SOUTH RAINBOW BOULEVARD LAS VEGAS, NEVADA 89102-5148
PH (702) 873-7550 FAX (702) 382-2597
PLANNERS • LAND SURVEYORS

DRAINAGE PLAN
PAD P RETAIL BUILDING
WELLINGTON VILLAGE SQUARE
AT PECCOLE RANCH

SHEET	2004
DRAWN BY:	2004
DESIGNED BY:	2004
CHECKED BY:	2004
PROJECT NO:	2004
SCALE:	1" = 20'
DATE:	11/16/04
DRAWING NO.	2004

VILLAGE SQUARE

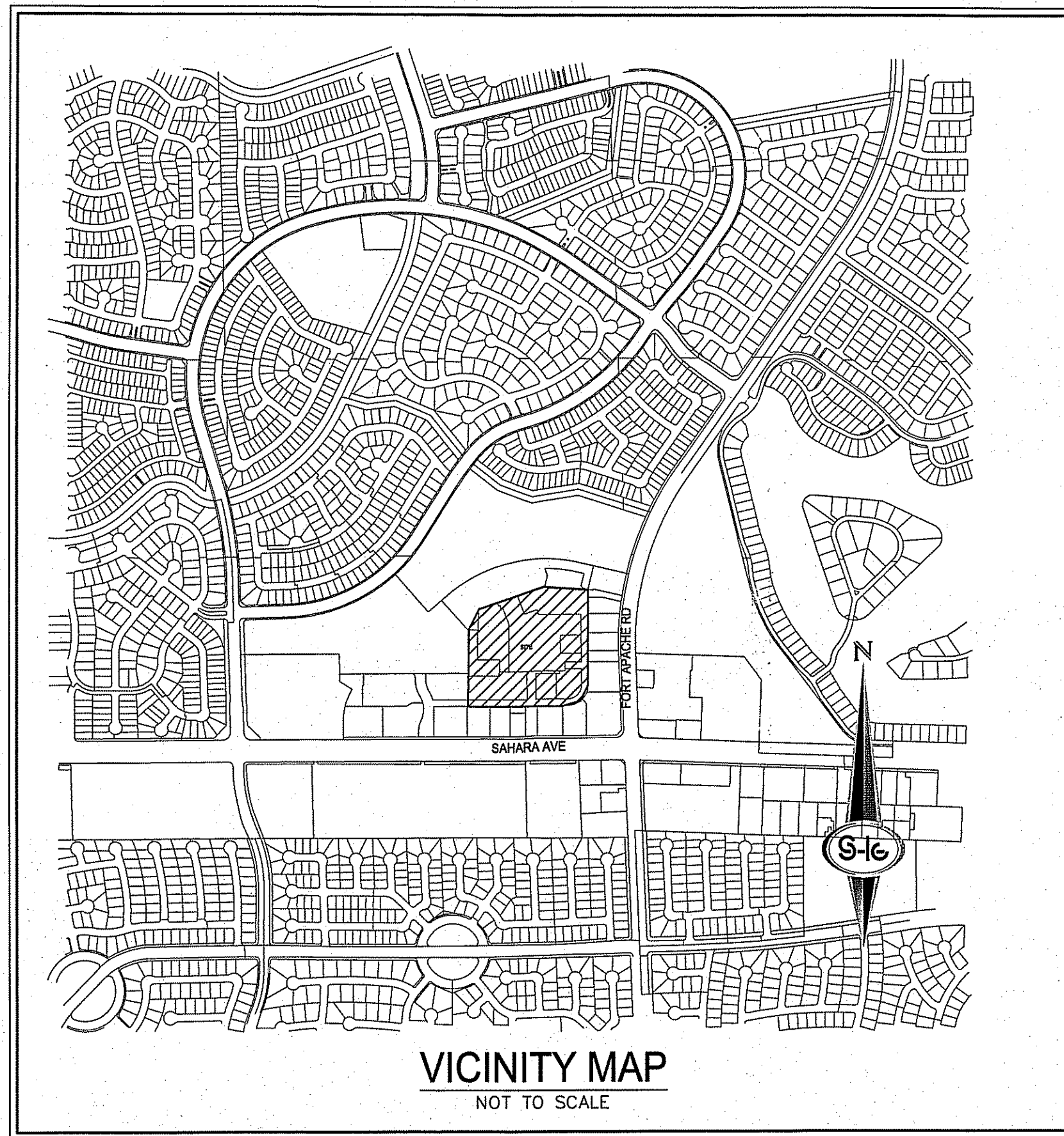
A COMMERCIAL SUBDIVISION

APN 163-06-816-036

LEGAL DESCRIPTION

A COMMERCIAL SUBDIVISION. BEING LOT 18-1-1 AS SHOWN ON THE 2ND AMENDED MAP OF PECCOLE RANCH (BOOK 76, PAGE 71) AND LOT 18-4-2 OF PARCEL MAP; FILE 89, PAGE 11, LOCATED IN A PORTION OF SECTION 6, TOWNSHIP 21 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

CONTAINING 9.48 ACRES, MORE OR LESS.



SHEET INDEX		
NO	SHEET	TITLE
1	C-1	COVER SHEET
2	C-2	GENERAL NOTES AND QUANTITIES
3	DM-1	DEMOLITION PLAN
4	G-1	GRADING PLAN I
5	G-2	GRADING PLAN II
6	H-1	HORIZONTAL CONTROL PLAN I
7	H-2	HORIZONTAL CONTROL PLAN II
8	UT-1	UTILITY PLAN
9	T-1	TRAFFIC AND FIRE CONTROL PLAN

FEMA FLOOD ZONE DESIGNATION

THE PROJECT SITE IS LOCATED ON FLOOD INSURANCE RATE MAP (FIRM) PANEL 32003C2145F, DATED NOVEMBER 16, 2011. THE SITE IS CURRENTLY LOCATED WITHIN A FEMA DESIGNATED ZONE X. A ZONE X IS DESCRIBED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

PROJECT INFORMATION	
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ZONING:	C-1
ACREAGE:	9.48
NO. OF LOTS:	1
LOCATION:	LAS VEGAS, NV
APN 163-06-816-036	

BENCHMARK

CITY OF LAS VEGAS BENCHMARK QLV105SWW6
BEING A RIVET AND PLATE IN TOP OF CURB AT NORTHEAST CORNER OF FORT APACHE AND
CANYON LAKES APARTMENTS ENTRANCE.
NAVD88 ELEVATION OF 2792.83 FEET.

BASIS OF BEARING

NORTH 89°47'47" EAST, BEING THE SOUTH LINE OF THE SOUTHEAST QUARTER (SE $\frac{1}{4}$) OF SECTION 6, TOWNSHIP 21 SOUTH, RANGE 60 EAST, M.D.M. ALSO BEING THE CENTERLINE OF "SAHARA AVENUE", AS SHOWN BY MAP THEREOF IN FILE 89, PAGE 11 OF PARCEL MAPS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

OWNER

SENTINEL DEVELOPMENT
27741 CROWN VALLEY PKWY #200
MISSION VIEJO, CA 92691
PH (949) 582-1948
FX (949) 582-1339

DEVELOPER

SENTINEL DEVELOPMENT
27741 CROWN VALLEY PKWY #200
MISSION VIEJO, CA 92691
PH (949) 582-1948
FX (949) 582-1339

ENGINEER

SLATER HANIFAN GROUP
5740 S. ARVILLE ST SUITE 216
LAS VEGAS, NV 89118
PH (702) 284-5300
FX (702) 284-5399

APPROVALS

DAVID BOWERS, PE, PTCE, PE # 16736 CITY ENGINEER	DATE
APPROVAL OF THESE PLANS BY THE CITY ENGINEER IS LIMITED TO THOSE IMPROVEMENTS CONSTRUCTED IN THE DEDICATION OF RIGHT-OF-WAY, AND/OR 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 NEDADA.	
DGUG RANKIN, ACP PLANNING MANAGER	DATE
THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE CITY OF LAS VEGAS PLANNING DEPARTMENT.	

NOTE

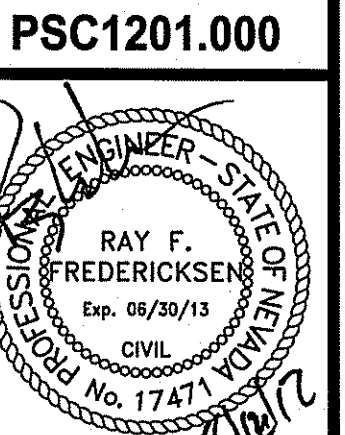
NOTE: ALL LAND SURFACE AREA DISTURBANCES OVER 1 ACRE REQUIRE A STORMWATER DISCHARGE PERMIT ISSUED BY THE N.J. NADA DISPOSITION AND ENVIRONMENTAL PROTECTION (NDEP). A PHASED CONSTRUCTION UNIT IN A CONTIGUOUS SUBDIVISION IS CONSIDERED UNDER CONSTRUCTION UNTIL ALL STRIPPED SURFACE AREAS HAVE BEEN COVERED BY PAVING, BUILDING CONSTRUCTION OR PLANTING. A STORMWATER DISCHARGE PERMIT APPLICATION AND ASSOCIATED INFORMATION MAY BE DOWNLOADED FROM THE WEBSITE: <http://www.nj.gov/dep/water/stormwater/permits.htm>. PROJECTS THAT DISTURB MORE THAN ONE ACRE OF LAND MUST SUBMIT TO NDEP A "NOTICE OF INTENT" FOR INCLUSION UNDER STORMWATER PERMIT NO. NJ1000000 ALONG WITH THE APPROPRIATE FILLING FEE.

[illegible]

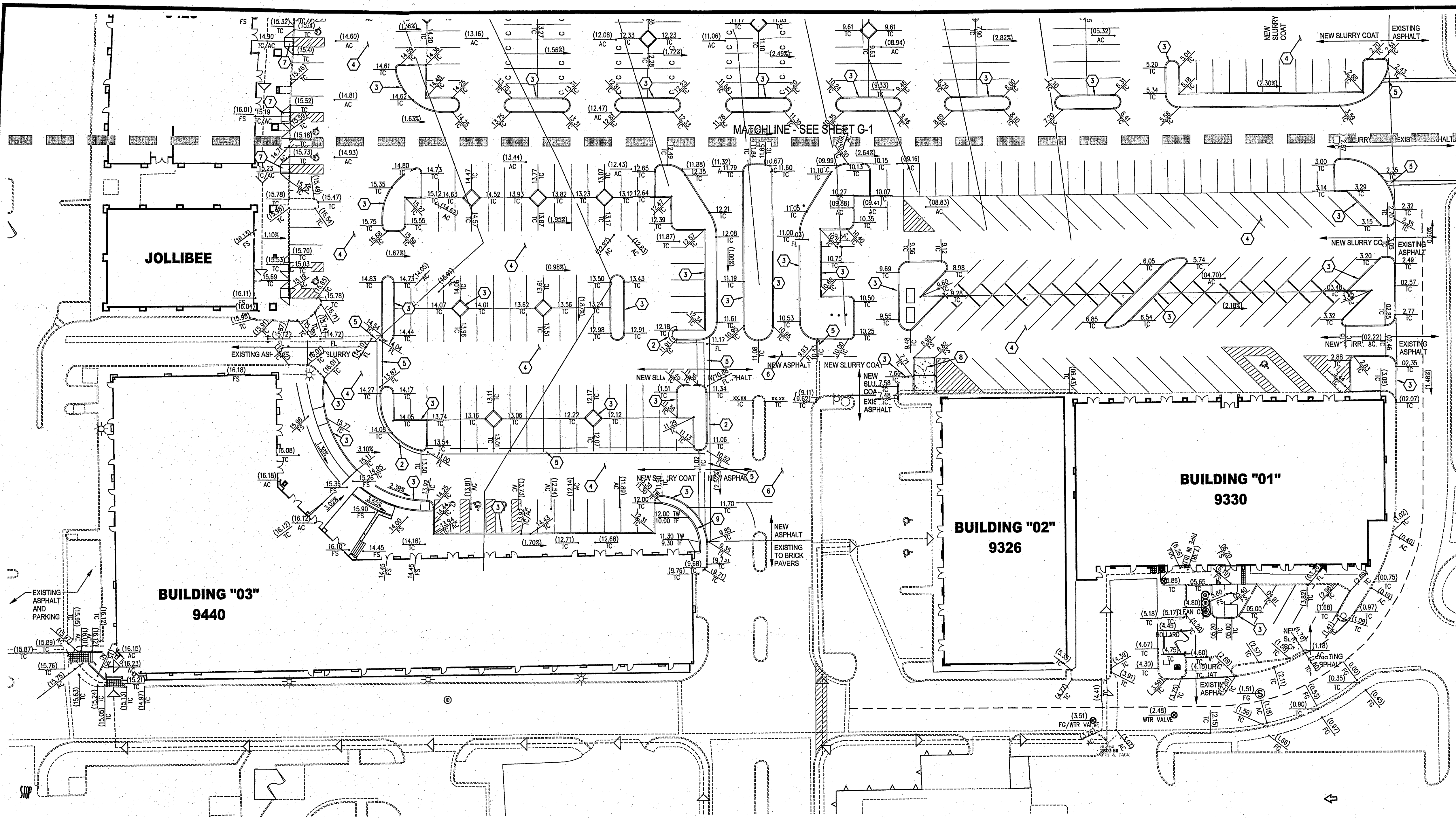
VILLAGE SQUARE
100% SUBMITTAL COVER SHEET

20
60

DATE:	06/20/12
AFTER:	RF
SIGNER:	RF
CHECKED:	RF
PROJECT NO.	



C-1
SHEET 1 OF 9
CLV #



GENERAL NOTES

1. FINAL GRADES ADJACENT TO STRUCTURES SHALL BE IN CONFORMANCE WITH IBC 2006, SECTION 2304.11.2.2.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
3. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
4. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
5. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
6. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
7. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL.
8. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLACING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
9. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXISTS) WITHIN THE SIGHT VISIBILITY ZONES.
10. PRIVATE STREETS ARE PUBLIC UTILITY EASEMENTS. PUBLIC SEWER EASEMENTS AND PUBLIC DRAINAGE EASEMENTS TO BE PRIVATELY MAINTAINED BY THE HOA.

DISCLAIMER NOTE

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

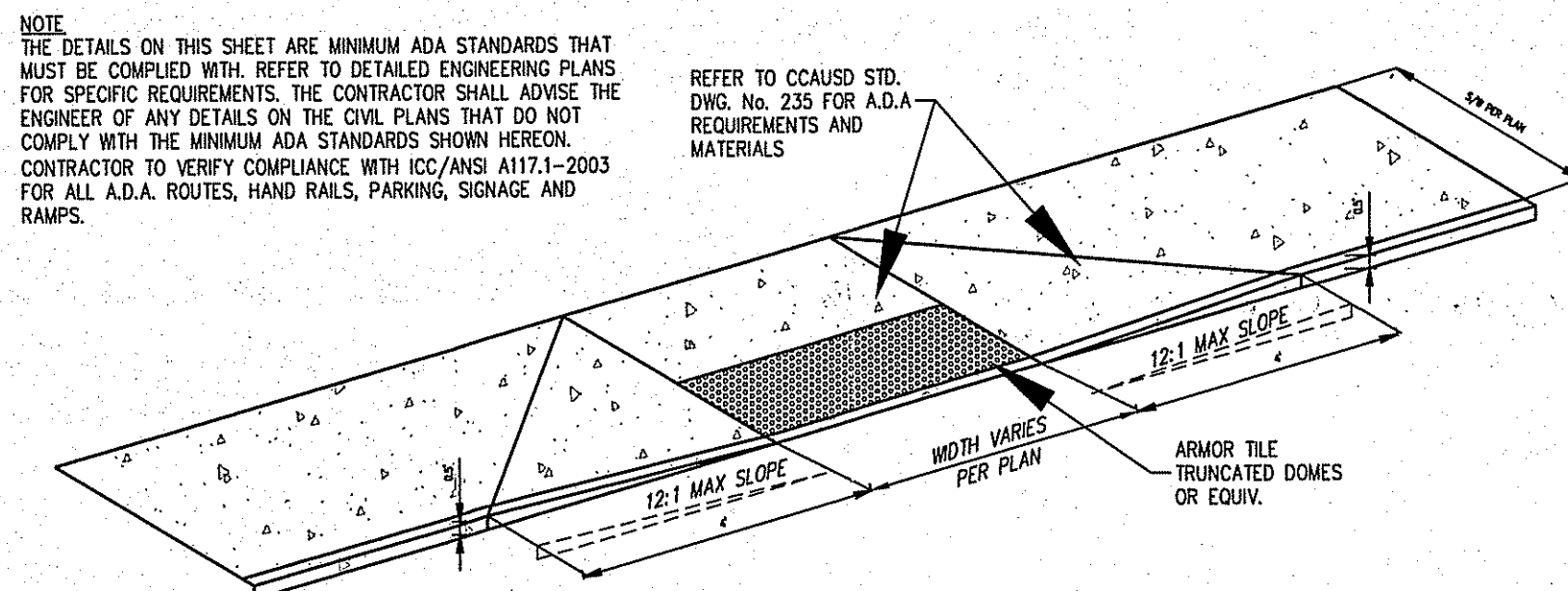
GRADING NOTES

1. EXISTING HANDICAP RAMP TO REMAIN
2. INSTALL "L" TYPE CURB AND GUTTER PER CCAUSD #216
3. INSTALL "A" TYPE CURB PER DETAIL 2 THIS SHEET
4. CONTRACTOR TO SLURRY SEAL EXISTING PAVEMENT PATCH SECTION TO MATCH EXISTING PAVEMENT SECTION.
5. CONSTRUCT 3-FT CONCRETE VALLEY GUTTER PER DETAIL 3, THIS SHEET
6. INSTALL SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES PER CCAUSD NO. 235
7. INSTALL SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES PER CCAUSD NO. 235
8. INSTALL CONCRETE PAD FOR TRASH ENCLOSURE. SEE ARCHITECTURAL PLAN FOR DETAILS
9. CONSTRUCT RETAINING WALL. SEE ARCHITECTURAL PLAN FOR DETAILS. SEE STRUCTURAL ENGINEER'S PLANS FOR DESIGN

SEE SHEET C-2 FOR LEGEND AND GENERAL NOTES

LEGEND

	BOUNDARY LINE
	ROADWAY CENTERLINE
	RIGHT-OF-WAY
	PROPERTY LINE
	EASEMENT LINE
	CURB AND GUTTER
	EXISTING CURB AND GUTTER
	FUTURE CURB AND GUTTER
	GRADE BREAK LINE
	FLOWLINE
	EDGE OF PAVEMENT (EP)
	PROPOSED ELEVATION
	EXISTING ELEVATION
	FUTURE ELEVATION
	EXISTING CONTOUR (5-FT)
	EXISTING CONTOUR (1-FT)
	PROPOSED PAD AND FINISHED FLOOR ELEVATION
	EXISTING PAD ELEVATION
	PRIVATE STREETLIGHT
	EXISTING STREETLIGHT
	PROPOSED FIRE HYDRANT ASSEMBLY
	EXISTING FIRE HYDRANT ASSEMBLY
	SIGHT VISIBILITY ZONE
	WROUGHT IRON FENCE
	PONY WALL
	RETAINING WALL
	DECORATIVE PERIMETER WALL
	DECORATIVE PERIMETER RETAINING WALL



CONDITION "D" - PERSPECTIVE

NOTE
THE DETAILS ON THIS SHEET ARE MINIMUM ADA STANDARDS THAT MUST BE COMPLIED WITH. REFER TO DETAILED ENGINEERING PLANS FOR SPECIFIC REQUIREMENTS. THE CONTRACTOR SHALL ADVISE THE ENGINEER OF ANY DETAILS ON THE CIVIL PLANS THAT DO NOT COMPLY WITH THE MINIMUM ADA STANDARDS SHOWN HEREON. CONTRACTOR TO VERIFY COMPLIANCE WITH ICC/ANSI A117.1-2003 FOR ALL ADA ROUTES, HAND RAILS, PARKING, SIGNAGE AND RAMPS.

REFER TO CCAUSD STD. DWG. NO. 235 FOR A.D.A. REQUIREMENTS AND MATERIALS

BENCHMARK
CITY OF LAS VEGAS BENCHMARK 0LV1055WWS
BEING A RIVET AND PLATE IN TOP OF CURB AT NORTHEAST CORNER OF FORT APACHE AND CANYON LAKES APARTMENTS ENTRANCE.
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FLOOD CERTIFICATION
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED FLOOD STUDY DS # _____ ON FILE AT CITY OF LAS VEGAS FOR THE SUBJECT PROJECT.

RAY F. FREDERICKSEN, P.E. 17471

DATE

SLATER HANFAN GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5309

DATE	BY	APP. DATE	DESCRIPTION	NO.

CITY OF LAS VEGAS, NV

VILLAGE SQUARE
100% SUBMITTAL
GRADING PLAN II

DATE: 06/20/12

DRAFTER: RF

DESIGNER: RF

CHECKED: RF

PROJECT NO.

PSC1201.000

PROFESSIONAL ENGINEER - STATE OF NEVADA
RAY F. FREDERICKSEN
Exp. 06/30/13
CIVIL
No. 17471
6/14/12

G-2

SHEET 5 OF 9

CLV #

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call
811
OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

Call before you do Underground
Avoid hitting underground traffic signal systems and street light system conduits. It's costly.
Call
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS
AND
1-702-432-5300
LAS VEGAS AREA
COMPUTERIZED TRAFFIC SYSTEM

Call before you do Overhead
Avoid hitting overhead power lines. It's costly.
Call
1-702-227-2929

I:\pvc1201\ village square\pvc1201-000-grad.dwg 8/12/2012 2:58 PM Ercan Bolcan