

DS #:

4751

APN:

125-27-101-035

PROJECT:

Vehicle Inventory List

SUBMITTAL:

1st & Supplement

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: October 8, 2015
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: Vehicle Inventory Lot	COPIES TO: LanDesign Consultants
Cross Streets:	NWQ of Azure Drive & Tenaya Way	Centennial Azure LLC
File Number:	F:\Depot\DSMemos\DS4751A.doc	Bart Anderson, P.E., DevCo
Parcel Number:	125-27-101-035	CCPW?
Zoning Action:	SDR-60787	
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 & Supplement	9/10/2015 & 10/8/2015	10/8/2015	See Comments Below	\$400.00	414167: \$400
			TOTAL FEES (LDDRS):	\$400.00	----

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.
	is conditionally approved subject to Clark County Public Works Department concurrence.

1. Label an existing storm drain system in *Azure Drive* with **City of Las Vegas** recorded drawing number on the grading plan.
2. Revise the assessor parcel number (APN) of the subject site to "APN: 125-27-101-035" on the grading plan.

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

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

END OF REMARKS

ays

T/R/S: T19S/R60E/27
AREA G-27

TECHNICAL DRAINAGE STUDY

Update for

VEHICLE INVENTORY LOT

Update to Findlay-Shack Honda (CLV 3955)

Date Prepared:
August 19, 2015

Project No:
244.10

Prepared by

The LanDesign Consultant

I N C O R P O R A T E D
L A N D D E V E L O P M E N T C I V I L E N G I N E E R S

Telephone
(702) 547-0047

1134
Castle Point
Avenue
Henderson, NV 89074

The
LanDesign
Consultant

The LanDesign Consultant

I N C O R P O R A T E D

LAND DEVELOPMENT CIVIL ENGINEERS

providing insightful solutions for land development

August 19, 2015

Mr. Albert Sung
City of Las Vegas Flood Control Department
731 S Fourth St
Las Vegas, NV 89101

Subject: Technical Drainage Study Update for Vehicle Inventory Lot and
Update to Findlay-Shack Honda (CLV 3955)

Mr. Sung:

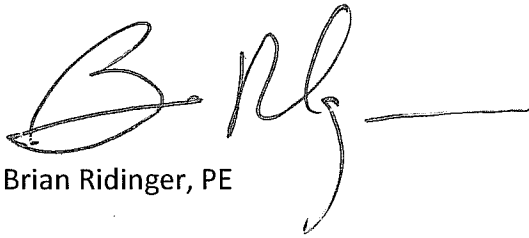
Submitted for your approval are two (2) copies of the Technical Drainage Study for subject development. Included are a DRAINAGE PLAN and GRADING PLAN for the referenced site.

The development is a temporary parking lot located on Azure Drive west of Tenya Way.

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

Sincerely

The LanDesign Consultant
I N C O R P O R A T E D



Brian Ridinger, PE

Telephone
(702) 547-0047

1134
Castle Point
Avenue
Henderson,
NV 89074

Development Planning and Feasibility

Civil Engineering

Entitlements

The
LanDesign
Consultant

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HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: VEHICLE INVENTORY LOT Date: AUGUST 19, 2015
Location of Development: a) Descriptive (Cross Streets) North/South: TENAYA WAY
East/West: AZURE DR
b) Section: 27 Township: 19 S Range: 60 E
c) APN: 125-27-101-029

Name of Owner: CENTENNIAL - AZURE LLC c/o Elisum Enterprises
Telephone No.: 702-501-6392 Fax No.: 702-605-8161 E-Mail Address: elysium_mb@hotmail.com
Address: 1408 Saintsbury Dr Las Vegas NV 89144

Contact Person-Name: Brian Ridinger Telephone No.: (702) 547-0047
* E-Mail Address: brianr@landesignconsult.com Fax No.: n/a
Firm: The LanDesign Consultant
Address: 1134 Castle Point Ave, Henderson, NV 89074

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		Temporary Vehicle inventory parking lot

1. Total Owned Land Area: At Site: 4.43 Ac Being Developed/Disturbed: 4.43 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.): Commercial
5. Approximate upstream land area which drains to the subject site: N/A
6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: _____
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Azure Drive and 215 beltway
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.

Local Entity File No.	Revision	Date

REFERENCE:

STANDARD FORM 1



CITY OF LAS VEGAS

MINIMUM DRAINAGE STUDY CRITERIA STANDARD FORM 2 CHECKLIST SUPPLEMENT

(Revised 5/18/11)

The following checklist is intended as a supplemental guide for the engineer preparing a Technical Drainage Study submittal to the City of Las Vegas. This supplement focuses on requirements specific to the City of Las Vegas. The requirements presented are in addition to the Clark County Regional Flood Control District (CCRFCD) Manual Standard Form 2. The listed items are the minimum information required prior to the City performing a review. The engineer will remain responsible to ensure the Technical Drainage Study is prepared within the guidelines as set forth in the CCRFCD Hydrologic Criteria and Drainage Design Manual (Design Manual).

An appointment must be made to preview this checklist in conjunction with CCRFCD Standard Form 2 prior to the City accepting a new drainage study for review. The engineer must contact the Flood Control Section at (702) 229-6541 to schedule a submittal appointment.

If items are not applicable for the subject site, provide N/A.

I. GENERAL REQUIREMENT		
Yes	No	
	N/A	A notarized letter from the adjacent property owner(s) allowing off-site grading. (A copy of the letter must be received prior to final acceptance of the drainage study.)
✓		Copies of all conditions of approval for development related to this property. (e.g. zoning, use permit, tentative map, etc.) Verify compliance with conditions.
✓		An electronic copy of the complete submittal is required to be submitted with <u>one</u> original hard copy of the study. Electronic documents should be on a universal computer-readable digital output device replicating your submittal. An Indexed Portable Document Format (PDF) or Print Ready CAD file formats with a minimum of 300dpi are the desired formats. If figures are in color, they must be scanned in color and saved as a separate file. PM by initial here, the engineer on record acknowledges that the electronic copy is an identical replicate of the original hard copy submitted to the City of Las Vegas.

II. GRADING PLAN INFORMATION		
Yes	No	
✓		(1) 24" X 36" copy of the Grading Plan, (including all Detail Sheets) sealed by the engineer.
✓		Proposed future and existing spot grades for top of curbs and street crowns at lot lines, grade breaks, and along curb returns on both sides of the street. Note: Proposed top of curb elevations must be provided for both sides of roadways even if only half street construction is required.
✓		Label existing topography at a minimum 5 foot elevation interval including adjacent developments, finished floor elevations of existing buildings and top of existing curbs extending 100 feet around the perimeter of the site. (*Measured from the centerline of the adjacent roadway.)

CITY OF LAS VEGAS MINIMUM DRAINAGE STUDY CRITERIA CHECKLIST

II. GRADING PLAN INFORMATION		
Yes	No	
	N/A	Proposed on-site and off-site storm drains and other flood control facilities with plan and profile sheets for public storm drains showing the class of pipe, (Class III, IV, V, etc.), design hydraulic grade line, (HGL) and 100 year storm flow. A public drainage easement must be provided over on-site storm drains conveying off-site flows. An overflow path must be provided over all storm drains.
	—	All existing and "to be constructed" walls with cross-sections showing wall type, (e.g. block wall, retaining wall, flood wall, etc.), with limits clearly defined, adjacent ground elevations. Wall heights must meet current ordinances and in no case exceed 14 feet above the adjacent property.
✓		Street slopes for both interior and perimeter streets. Note: The minimum slope for a roadway is 0.4 percent, a minimum 18-inch storm drain must be provided where minimum slopes cannot be met.
	—	Back of lot elevations and lot drainage pattern for all lots including common lots.
	—	Sites with a grade difference two feet above or below existing ground are required to have approval from City of Las Vegas Current Planning. Current Planning approval is required prior to final approval of the drainage study.
✓		On-site facilities must perpetuate flows through or around the site without significantly impacting adjacent property owners. (The project must pass flows through the site every 600 feet where the project is blocking flow paths.)
✓		This project uses a solid grouted stem wall (or approved alternate) at the back of sidewalk to provide erosion protection for landscaped areas where the depth of flow in the roadway exceeds the back of walk elevation. A corresponding cross-section detail is included.
		Commercial and Common Lot Landscape areas are not allowed to drain over the sidewalk. The grading plans show flow lines with grades and sidewalk under drains for all landscape areas draining to the public ROW.

III. Local Entity Criteria - City of Las Vegas – Manual Section 1600		
Yes	No	
	—	Concrete valley gutters are required in parking lots with slopes less than 1 percent. Slopes through cul-de-sac must be at a 1 percent minimum where flow is drained through the cul-de-sac.
	—	Ten-foot wide public drainage easements to be privately maintained are allowed for flow less than 20 cfs. The depth of flow entering the easement must be checked using the submerged weir calculation.
	—	The limits of the flood zones and the base flood elevations (BFE) must be shown on all grading plans for all developments within a Special Flood Hazard Zone A, AO, AE, etc.
	—	Minimum finish floor elevation is 6 inches above highest adjacent top of curb. Finish floor calculations must include allowances for super elevations on curves and velocity head for tee intersections.
	—	Finished floor elevations for buildings adjacent to public drainage easements must be a minimum of 18 inches above the Q100 weir of submerged weir elevation, whichever is greater.

CITY OF LAS VEGAS MINIMUM DRAINAGE STUDY CRITERIA CHECKLIST

III. Local Entity Criteria - City of Las Vegas – Manual Section 1600		
Yes	No	
	✓	Lots with "B and C Type Drainage" that drain from one lot to another through a drainage easement shall be required to install an underground nuisance drainage system or a 2-foot valley gutter. 16" x 24" minimum block wall openings are required for both options.
	✓	Bubblers are required across 80 foot and greater ROW streets. When flows exceed 10 cfs, bubblers larger than 18 inches will be required up to a maximum of 36". Inlets must be sized to match the pipe size provided.

- Contact the Flood Control Section regarding the drainage study review fee. These fees are payable at the time of submittal.
- The Drainage Study must be conditionally approved prior to submitting improvement plans to the Civil and Planning Development of the Department of Building and Safety for review.

This document is intended as an **aid** in preparing Technical Drainage Studies for the City of Las Vegas. Each study submitted is reviewed for compliance with local and regional criteria. This form is not intended to be all-inclusive and does not limit the extent of the information, calculations or exhibits which may be necessary to properly evaluate the intended land use.



**LAS VEGAS
CITY COUNCIL**

CAROLYN G. GOODMAN
MAYOR

STEVEN D. ROSS
MAYOR PRO TEM

LOIS TARKANIAN
RICKI Y. BARLOW
STAVROS S. ANTHONY
BOB COFFIN
BOB BEERS

ELIZABETH N. FRETWELL
CITY MANAGER

September 9, 2015

Mr. John Staluppi Jr.
Centennial-Azure LLC
5850 Centennial Center Blvd.
Las Vegas, Nevada 89149

**RE: SDR-60787 [PRJ-60509] -- MINOR SITE DEVELOPMENT PLAN REVIEW
ADMINISTRATIVE CYCLE - SEPTEMBER 2015**

Dear Applicant:

Your request for a Site Development Plan Review FOR A PROPOSED TEMPORARY AUTO DEALER INVENTORY STORAGE FACILITY on 4.43 acres located adjacent to the north side of Azure Drive, approximately 1,270 feet west of Tenaya Way (APN 125-27-101-035), T-C (Town Center) Zone [GC-TC (General Commercial - Town Center) Special Land Use Designation], Ward 6 (Ross) [PRJ-60509], has been considered administratively by the Department of Planning staff.

The Department of Planning has administratively **APPROVED** your request subject to the following:

Planning

1. Conformance to the approved conditions for Rezoning (Z-0076-98), Major Modification (MOD-56652), and Site Development Plan Review (SDR-56653) shall be required.
2. The interim Auto Dealer Inventory Storage use shall exist for a duration not to exceed 36 months, at which time all temporary improvements are to be removed. No renewal or extension of this time is permitted.
3. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
4. All development shall be in conformance with the site plan, landscape plan, and building elevations, date stamped 08/19/15, except as amended by conditions herein.
5. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
6. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.

CITY OF LAS VEGAS
DEPARTMENT OF PLANNING

DEVELOPMENT SERVICES CENTER
333 NORTH RANCHO DRIVE
3RD FLOOR
LAS VEGAS, NEVADA 89106

VOICE 702.229.6301

FAX 702.474.7463

TTY 7-1-1

www.lasvegasnevada.gov



/city of las vegas

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7. All City Code requirements and design standards of all City Departments must be satisfied, except as modified herein.

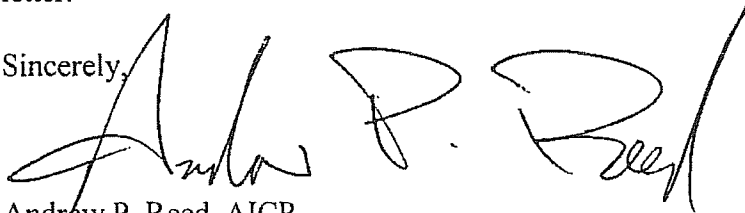
Public Works

8. Grant a Bus Shelter Easement on Azure Drive west of the proposed driveway prior to the approval of any construction drawings for this site.
9. Construct all incomplete half-street improvements on Azure Drive per Town Center Development Standards adjacent to this site concurrent with development of this site. All existing off-site improvements damaged or removed by this development shall be restored at its original location and to its original width concurrent with development of this site.
10. In accordance with code requirements of Title 13.56, remove all substandard offsite improvements, if any, and replace with new improvements meeting current City Standards concurrent with development of this site. All existing paving damaged or removed by this development shall be restored at its original location and to its original width concurrent with development of this site.
11. Unless otherwise allowed by the City Engineer, construct sidewalk on at least one side of all access drives connecting this site to the adjacent public streets concurrent with development of this site. The connecting sidewalk shall extend from the sidewalk on the public street to the first intersection of the on-site roadway network and shall be terminated on-site with a handicap ramp.
12. Meet with the Fire Protection Engineering Section of the Department of Fire Services to discuss fire requirements for the proposed use of this facility.
13. All private improvements and landscaping installed with this project shall be situated and maintained so as to not create sight visibility obstructions for vehicular traffic at all development access drives and abutting street intersections.
14. Submit an Encroachment Agreement for landscaping and private improvements in the Azure Drive public rights-of-way prior to this issuance of permits for these improvements. The applicant must carry an insurance policy for the term of the Encroachment Agreement and add the City of Las Vegas as an additionally insured entity on this insurance policy. If requested by the City, the applicant shall remove property encroaching in the public right-of way at the applicant's expense pursuant to the terms of the City's Encroachment Agreement. The installation and maintenance of all private improvements in the public right of way shall be the responsibility of the adjacent property owner(s) and shall be transferred with the sale of the property for the entire term of the Encroachment Agreement. Coordinate all requirements for the Encroachment Agreement with the Land Development Section of the Department of Building and Safety (229-4836).

15. A Drainage Plan and Technical Drainage Study must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits or submittal of any construction drawings, whichever may occur first. Provide and improve all drainageways recommended in the approved drainage plan/study. The developer of this site shall be responsible to construct such neighborhood or local drainage facility improvements as are recommended by the City of Las Vegas Neighborhood Drainage Studies and approved Drainage Plan/Study concurrent with development of this site.
16. Site development to comply with all applicable conditions of approval for Z-76-98 and all other applicable site-related actions.

This action by the Department of Planning staff on September 9, 2015 is final unless a written appeal is filed with the Director of the Department of Planning within ten days of the date of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andrew P. Reed', with a stylized flourish at the end.

Andrew P. Reed, AICP
Planning Supervisor
Case Planning Division

AR:nl

cc:

Elysium Enterprises
1408 Saintsbury Drive
Las Vegas, Nevada 89144

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL																				
DRAINAGE SUBMITTAL CHECKLIST																				
Project Name:	VEHICLE INVENTORY LOT	Map ID																		
Firm Name:	The LanDesign Consultant	Engineer: Brian Ridinger																		
Address:	1134 Castle Point Ave, Henderson, NV 89074																			
City:	Henderson	State: NV ZIP 89011																		
Phone Number:	(702) 547-0047	Fax Number:																		
Property Owner:																				
Address:																				
City:	State:	ZIP																		
Reviewed by:	Date Received:	Date Accepted for Review:																		
The following checklist is intended as a guide for the engineer preparing a Technical Drainage Study to submit to the local entity and Clark County Regional Flood Control District (if necessary). The listed items are the minimum information required prior to the entity performing a review. The engineer will remain responsible to ensure the Technical Drainage Study is prepared within the guidelines as set forth in the Clark County Regional Flood Control District (CCRFCDD) Hydrologic Criteria and Drainage Design Manual (MANUAL). This document is intended as an aid in preparing Technical Drainage Studies. Each study submitted is reviewed for compliance with local and regional criteria. This form is not intended to be all inclusive and does not limit the Extent of the information, calculations or exhibits which may be necessary to properly evaluate the intended land use. If items are not applicable for the subject site, provide N/A. I. GENERAL REQUIREMENT <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">Yes</td> <td style="width: 10%; text-align: center;">No</td> <td></td> </tr> <tr> <td style="text-align: center;">Yes</td> <td style="text-align: center;">_____</td> <td>Design Manual Standard Form 1 with the engineer's seal and signature</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">N/A</td> <td>Design Manual Standard Form 4</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td>2 copies of the 24"x36" Drainage Plan</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td>ONE COPY PROVIDED AS REQUIRED</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">N/A</td> <td>A notarized letter from the adjacent property owner(s) allowing off-site grading or discharge</td> </tr> </table>			Yes	No		Yes	_____	Design Manual Standard Form 1 with the engineer's seal and signature	_____	N/A	Design Manual Standard Form 4	_____	_____	2 copies of the 24"x36" Drainage Plan	_____	_____	ONE COPY PROVIDED AS REQUIRED	_____	N/A	A notarized letter from the adjacent property owner(s) allowing off-site grading or discharge
Yes	No																			
Yes	_____	Design Manual Standard Form 1 with the engineer's seal and signature																		
_____	N/A	Design Manual Standard Form 4																		
_____	_____	2 copies of the 24"x36" Drainage Plan																		
_____	_____	ONE COPY PROVIDED AS REQUIRED																		
_____	N/A	A notarized letter from the adjacent property owner(s) allowing off-site grading or discharge																		
REFERENCE:		STANDARD FORM 2																		

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

II. MAPS AND EXHIBITS

Yes	No	
Yes	_____	A COPY OF A CURRENT flood Insurance Rate Map (FIRM) with the site delineated.
Yes	_____	A copy of the current CCRFCD Master Plan Update Figure, (F-x), for Flood Control Facilities and Environmental areas with the site delineated.
_____	N/A	Off-site drainage basin maps for existing, interim and future conditions showing the existing Topography, basin boundaries, concentration points, and flows in cfs.
_____	N/A	On-site drainage basin maps for existing and proposed conditions showing the existing topography, basin boundaries, concentration points, and on-site and off-site flows in cfs.
Yes	_____	Vicinity Map with local and major cross streets identified and a north arrow.

III. DRAINAGE PLAN

Yes	No	
Yes	_____	Sheet size: 24"x36" sealed by a registered engineer in the State of Nevada.
Yes	_____	Minimum scale 1"=60'
Yes	_____	Project Name
Yes	_____	Vicinity Map with local and major cross streets
Yes	_____	Revision Box
Yes	_____	North arrow and bar scale
Yes	_____	Engineer's/consultant's address and phone number
Yes	_____	Elevation datum and benchmark
Yes	_____	Legend for symbols and abbreviations
Yes	_____	Cut/fill scarps, where applicable
Yes	_____	Street names, grades, widths
Yes	_____	Proposed future and existing spot grades for top of curbs and street crowns at lot lines, grade breaks, and along curb returns on both sides of the street

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

III. DRAINAGE PLAN (Continued)

Yes	No	
Yes	☐	Existing contours encompassing the site and 100 feet beyond with spot elevations for important locations, where appropriate
Yes	☐	Minimum finish floor elevations with top-of-curb elevations at the upstream end of lot
	N/A	Proposed typical street sections
	N/A	Streets with off-set crowns
Yes	☐	Proposed contours or spot elevations in sufficient detail to exhibit intended drainage patterns and slopes
Yes	☐	Property lines
Yes	☐	Right-of-way lines and widths, existing and proposed
Yes	☐	Existing improvements and their elevations
	N/A	Delineation of proposed on-site drainage basins indicating area and 10-year and 100-year storm Peak flows at basin concentration points
	N/A	Concentration points and drainage flow direction with Q_{100} and V_{100} and D_{100} in streets
	N/A	Cumulative flows, velocity, and direction of flow at upstream and downstream ends of site for The 10-year and 100-year flows
	N/A	Locations and cross-section of street capacity calculations.
	N/A	Cross-sectional detail for channels, including cutoff wall locations
Yes	☐	Existing and proposed drainage facilities, appurtenances, and connections (i.e., sidewalk, Ditches, swales, storm drain systems, unimproved and improved channels, and culverts, etc.) Stating size, material, shape, and slope with plan and profile and HGL calculations.
	N/A	Existing and proposed drainage easements and widths shown with sufficient detail. A cross sectional detail must be provided that shown appropriate lining and reinforcement
	N/A	Location and detail of existing, proposed, and future block wall openings, Minimum size is 16" X 48". Wrought iron gate is required for flows > 10 cfs
	N/A	Location and detail of flood walls illustrating depth of flow, proposed grouting height, etc.

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

III. DRAINAGE PLAN (Continued)

Yes	No	
<u>Yes</u>	<u> </u>	Perimeter retaining wall locations. All Existing and proposed walls (retaining screen and flood) must be shown with adjacent ground elevations. Flood walls with 8-inch concrete masonry unit
<u> </u>	<u>N/A</u>	Building and/or lot numbers
<u> </u>	<u>N/A</u>	Alignment of all existing, proposed, or future Regional Facilities adjacent to the site.
<u> </u>	<u>N/A</u>	Limits of existing floodplain based on current FIRM or best available information; limits of proposed floodplains based on best available information.
<u> </u>	<u>N/A</u>	For areas in Zone A, AE, AH, and AO, base flood elevations (BFEs) must be shown for each lot; BFEs may be listed on each lot, or in a table. Finish floor elevations must be a minimum of 18 inches above BFE
<u> </u>	<u>N/A</u>	Appropriately elevated "humps" 6" above the 100 year water surface elevation at site accesses where the intent is to protect the site from the Q_{100} flows
<u>Yes</u>	<u> </u>	Street slopes for perimeter and interior streets. The minimum slope is 0.4 percent

IV. HYDROLOGIC ANALYSIS

Yes	No	
<u> </u>	<u>N/A</u>	Appropriate soil information and Soils Map for existing and future conditions with sub-basins and property delineated.
<u> </u>	<u>N/A</u>	Input and output information for existing conditions from computer models (HEC-1 or TR-55). The flow routing diagram must be provided with HEC-1 models.
<u> </u>	<u>N/A</u>	Input and output information for future conditions from computer models (HEC-1 or TR-55). The flow routing diagram must be provided with HEC-1 models.
<u> </u>	<u>N/A</u>	Use of correct precipitation values in and around McCarran Airport rainfall area.
<u>Yes</u>	<u> </u>	A discussion in the text of the hydrologic analysis justifying sub-basin boundaries and cutoffs, supporting assumptions, and calculations.
<u> </u>	<u>N/A</u>	A summary table of stormwater flows showing basin area, Q_{10} and Q_{100} for both individual basins and combined basin flows, where applicable.
<u> </u>	<u>N/A</u>	Copies of supporting technical information referenced from a previously approved study and a statement accepting these results.
<u> </u>	<u>N/A</u>	On-site facilities must perpetuate flows through or around the site without significantly impacting adjacent property owners in accordance with current Nevada Drainage Law.

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

V. HYDRAULIC ANALYSIS

Yes	No	
	N/A	Flow split calculations and supporting documentation or reference for the method of flow split calculations used.
	N/A	Normal depth street flow calculations and cross section diagrams for all interior and perimeter streets. Provide "d x v" products for the Q_{100} and Q_{10} flows representing the worst case for interior and all perimeter streets. $Q_{100} \text{ d x v} \leq 8$. $Q_{10} \text{ d x v} \leq 6$ and 12 foot dry lane for rights-of-way ≥ 80 feet. Calculations must be labeled by street name as indicated on the Grading Plan.
	N/A	A summary table of interior and exterior street capacity calculations showing the street name, Q_{100} flow, slope, depth of flow, velocity and depth times velocity product and streets needing to meet 12 foot dry lane criteria.
	N/A	Appropriate hydraulic calculations for block wall openings assuming a 50 percent vertical clogging factor. (Assume the lower half of the opening is plugged.)
	N/A	Appropriate hydraulic calculations at drainage easement entrance and discharge locations to set finish floor elevations. Hydraulic calculations must include submerged weir, superelevation and tee intersection losses, where appropriate.
	N/A	Provide necessary freeboard requirements to set the finished floor elevations of all proposed buildings, 2 x depth of flow or depth of flow plus 18 inches of freeboard, whichever is less. The minimum requirement is 6 inches above adjacent upstream top of curb. Buildings adjacent to drainage easements must always be provided with 18 inches of freeboard above the Q_{100} weir height or flow depth, whichever is greater.
	N/A	A complete water surface profile analysis (HEC-2, HEC-RAS, etc.) for channel flows and FEMA Zone A flood zones. • Field survey data. • Input and output information. • Plotted cross-sections based on survey with proper encroachments. • A map showing the location of the cross-sections. • Analysis of both sub and super-critical flow segments. • A summary table and a discussion of the results in the text report.
	N/A	Provide a 50 percent clogging factor in the capacity calculation for drop inlets.
	N/A	Hydraulic calculations for culverts and storm drains. D-Load calculations must be provided for storm drain pipes in public rights-of-way, including headwater pool inundation.
Yes		The mitigation of nuisance water, both during construction and in the fully developed condition, must be addressed.

REFERENCE:

STANDARD FORM 2

II. GENERAL LOCATION AND DEVELOPMENT DESCRIPTION

The proposed project is a temporary parking lot, not to exceed 3 years, located on Azure Drive west of Tenya Way, adjacent to and east of the existing Honda Auto Dealership. The subject property is within the jurisdiction of the City Las Vegas and can be identified by Assessor's Parcel Number 125-27-101-029. A legal description for the property is as follows: A PORTION OF THE NORTH HALF (N 1/2) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 27, TOWNSHIP 19 SOUTH, RANGE 60 EAST, CITY OF LAS VEGAS, *Clark County, Nevada, M.D.M.*

The existing property is undeveloped, with frontage improvements installed along the south boundary or the right of way of Azure Drive. The characteristics could be considered graded with little to no vegetation. No off-site basins impact the proposed site with the exception of the runoff conveyed within Azure Drive. The existing site generally falls from the west to east with a portion of the north end being conveyed to the curb and gutter installed with the NV Energy substation improvements. The balance and a majority of the site is conveyed southeasterly to Azure Drive.

With the development of the temporary parking lot, landscaping shall be installed along the frontage of Azure Drive. For the most part, with the exception of the existing driveway entrance, the site shall be covered with a pervious pavement of 4 inches of recycled asphalt. The proposed grading substantially preserves the existing runoff patterns and by inspection the runoff coefficients would not change from the existing conditions. By inspection, the proposed runoff would substantially conform to the existing conditions.

To facilitate the runoff to Azure Drive, a sidewalk drain shall be installed at the southeast corner of the project. Water Quality considerations have been met by the use of the pervious pavement section over generally the entire project as the structural best management practice.

We have included Figure F-19 from CCRFCD Master Plan Update 2013. This figure indicates the project site is not located adjacent to or impacted by an existing or proposed Clark County Regional Flood Control Master Plan Facility.

Also included is a Figure showing the project site superimposed on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) panel number 1745 of 4090, map number 32003C1745 E, Clark County, Nevada and Incorporated Areas, effective September 27, 2002. The project is located within an area designated Flood Zone X, "areas outside 500-year floodplain.

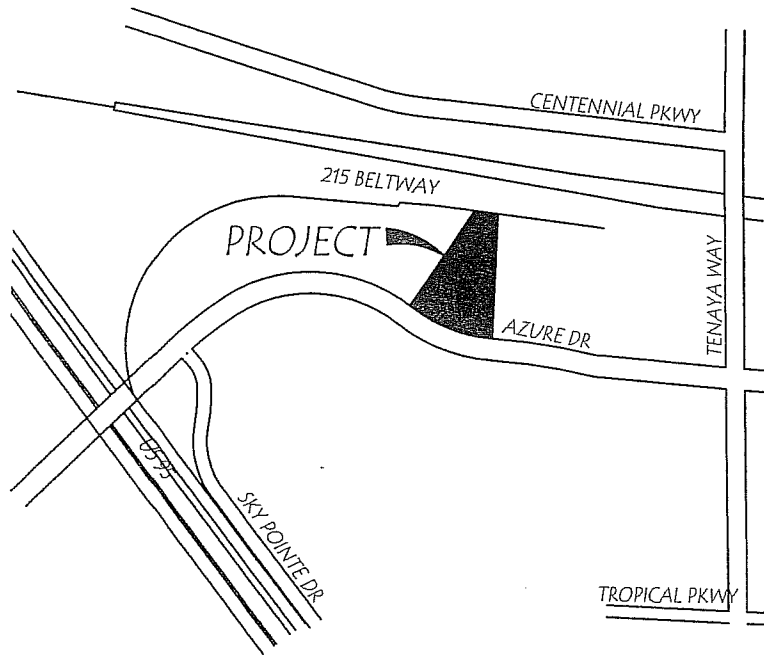
We conclude the development of the Temporary parking lot, Vehicle Inventory Lot Project, will not have an unreasonable impact on the surrounding area. The proposed development does not impact any existing or proposed Clark County Regional Flood Control District Master Plan Facilities and does not fall within a FEMA defined Special Flood Hazard Area.

The project as designed will effectively control storm water runoff for the 100-year and 10-year floods. There should be no adverse effects on upstream or downstream properties due to the

proposed development. The development preserves the historical drainage pattern of the site and vicinity. The base for this study is the GRADING PLAN, within a pocket of this report. Changes made invalidating plan assumptions or conclusions reached will require a subsequent analysis and agency review and processing.

III. APPENDIX A

- | | | |
|----|-------------|-----------------------------------|
| 1. | FIGURE 1 | VICINITY MAP |
| 2. | FIGURE F-19 | REGIONAL FLOOD CONTROL FACILITIES |
| 3. | FIGURE | FEMA MAP |



VICINITY MAP
NO SCALE



NO SCALE

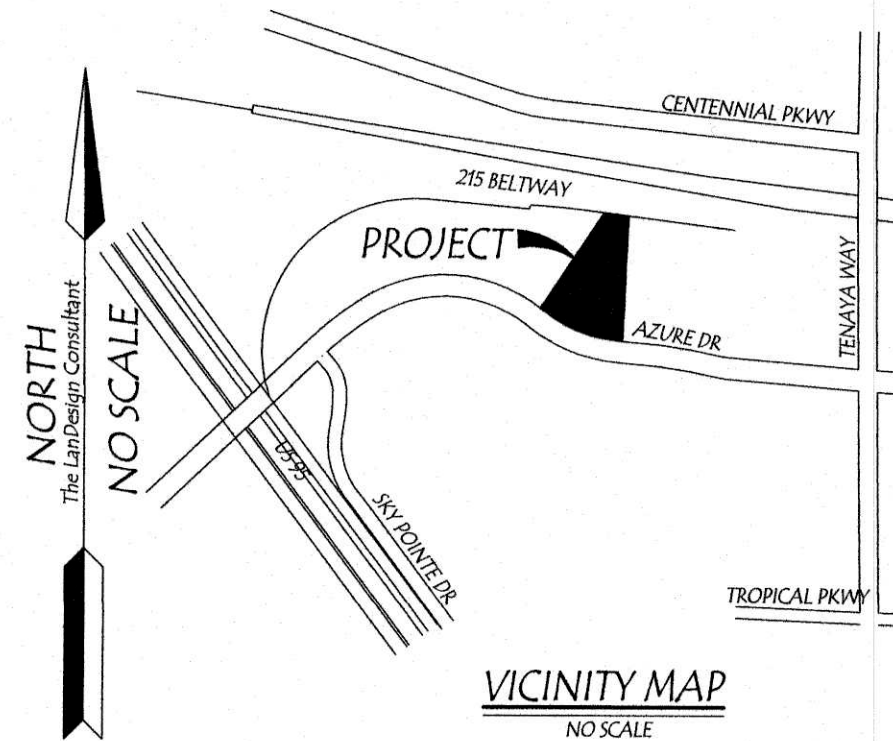
The LanDesign Consultant

I N C O R P O R A T E D

1050 Wigwam Pkwy, #110 Henderson NV 89074

VEHICLE INVENTORY LOT

FIGURE 1
VICINITY MAP



AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEMS CONDUITS, IT'S COSTLY FAST CALL BEFORE YOU UNDERGROUND 702-432-4300	AVOID HITTING OVERHEAD POWER LINES, IT'S COSTLY CALL BEFORE YOU OVERHEAD 1-702-227-2929	CALL BEFORE YOU DIG AVOID CUTTING UNDERGROUND UTILITIES, IT'S COSTLY CALL 811 OR 1-800-227-2600
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NOTE:
The LandDesign Consultant
ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS, SHOWN OR NOT SHOWN. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM RECORD INFORMATION AND ARE ONLY INTENDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY THE DEPTHS AND LOCATIONS OF ANY AND ALL RELEVANT UTILITIES PRIOR TO COMMENCING WITH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY CONFLICTS OR DISCREPANCIES, IMMEDIATELY.

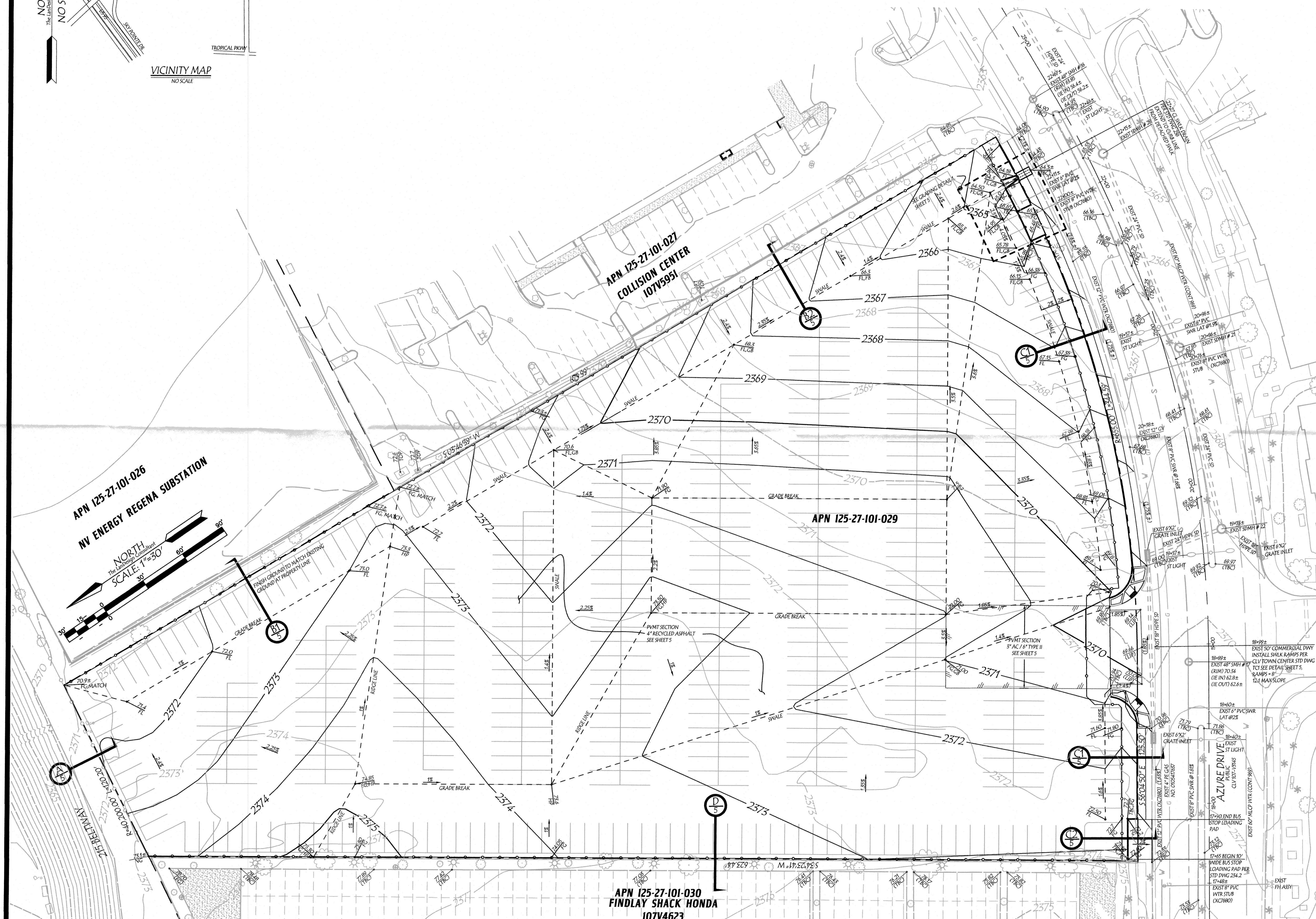
FLOOD ZONE

THE PROJECT IS LOCATED WITHIN AN FLOOD ZONE X
PER FIRM MAP NO. 52005C1745 E EFFECTIVE SEPTEMBER 27, 2002

GEOTECHNICAL REPORT

ALL GRADING OPERATIONS SHALL CONFORM WITH THE SOILS REPORT AS
PREPARED FOR THIS PROJECT BY: WESTERN TECHNOLOGIES

REPORT NO.: 4124/D070 DATED: 9.30.14 & ADM 118.26.15



BENCHMARK

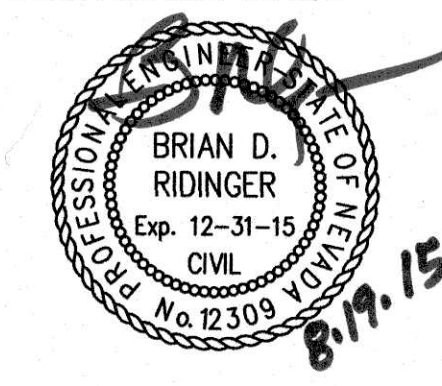
CITY OF LAS VEGAS BENCHMARK NO. BLV90 22W4
A RIVET AND PLATE IN THE TOP OF CURB AT THE NORTHEAST
CORNER OF BUFFALO DRIVE AND DEER SPRINGS ROAD.
NAVD 88 ELEVATION = 728.504 METERS
OR 2390.10 FEET
CONVERSION:
1 METER * (3957/1200) = 1 US SURVEY FOOT

BASIS OF BEARING

SOUTH 84°06'56" EAST, BEING THE BEARING OF THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., AS SHOWN IN FILE 89 OF SURVEYS, PAGE 03, OFFICIAL RECORDS OF CLARK COUNTY, NEVADA

GRADING PLAN

ENGINEERS SEAL
FOR REVIEW ONLY



JOB NUMBER: 244.10
DATE: August 19, 2015
FILENAME: _____
XREF FILES: _____
XREF FILES: _____
XREF FILES: _____

VEHICLE INVENTORY LOT

SHEET 4
OF 5
The
Land Design
Consultant

[illegible]

