

DS #: 4053

APN: 139-34-514-009 & MORE

PROJECT: LADY LUCK RENOVATION - UPDATE

SUBMITTAL: ~~1ST~~ 5TH

SCANNED BY/DATE: _____

CHECKED BY/DATE: _____



CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM

DATE:

August 17, 2011

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:

Lady Luck Renovation - Update

COPIES TO:

Cardno WRG

Cross Streets:

SWC of Stewart Avenue & Fourth Street

CIM / Resort Gaming Group

File Number:

F:\Depot\DSMemos\DS4053E.doc

Bart Anderson, P.E., DevCo

Parcel Number:

139-34-514-009 & More

Zoning Action:

SDR-10490; SDR-15380; SUP-10491 & SUP-15382
& SDR-37946

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	8/15/2006	8/29/2006	Not Approved	\$400.00	51824: \$400
2 nd Submittal	7/15/2010	7/27/2010	Not Approved	\$100.00	148856: \$100
3 rd Submittal	8/19/2010	8/19/2010	Conditional Approval	N/C	N/C
4 th Submittal	9/21/2010	9/28/2010	Not Approved	\$400.00	153925: \$400
5 th Submittal	8/10/2011	8/17/2011	See Comments Below	N/C	N/C
TOTAL FEES (LDDRS):				\$900.00	----

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 the following conditions:

The following conditions must be fully addressed prior to the final approval of the improvement plans:

- Per SDR-37946, Condition #25: Dedicate a 10'-radius on the southwest corner of *Stewart Avenue* and *4th Street* prior to the issuance of any permits.
- Per SDR-37946, Condition #30: Contact *City Engineer's Office* (Lorrie Dunford) at 229-6272 to coordinate the development of this project with the *Stewart Avenue Phase II Project* and any other public improvement projects adjacent to this site. Comply with the recommendations of the *City Engineer*.

In an effort to increase administrative efficiency, the City of Las Vegas Public Works Department requires all soil reports, drainage studies and traffic impact analysis submittals to be accompanied by an electronic copy of the submittal. Electronic documents must be submitted with one original hard copy of the study. Electronic documents should be on a universal computer-readable digital output replicating your submittal to be used for archival or display purposes. This may be more than one file if necessary. An Indexed Portable Document Format (PDF) or Print Ready CAD file formats with a minimum of 300dpi are the desired formats, but provided it is a high quality digitized replication of the submittal, other formats may be acceptable. If figures are in color, they must be scanned in color and saved as a separate file. The new submittal requirement is effective on **July 1, 2011**. If there are any questions regarding these new requirements, please contact Robert Welch in the Flood Section at (702) 229-2177 or Rick Schroder in Traffic Engineering at (702) 229-6327.

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: T20S/R61E/34
AREA M-34

TRANSACTION REPORT

P. 01

AUG-17-2011 WED 01:45 PM

FOR: CITY OF LAS VEGAS

7023828551

SEND

DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M#	DP
AUG-17	01:44 PM	9909305	28"	2	FAX TX	OK	868	

TOTAL : 28S PAGES: 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 of a project.

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

END OF REMARKS
ays

T/R/S: T20S/R61E/34
AREA M-34

Post-It® Fax Note	7671	Date	8/17/11	# of pages	2
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Technical Drainage Study Update Addendum 1 for:

Lady Luck Renovation

Las Vegas, Nevada
August 2011

Located:
at Stewart Avenue and Fourth Street

Project #:

Cardno WRG 310934900
(DS4053-1)

Prepared for:

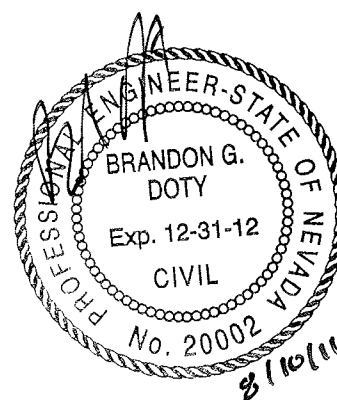
CIM/Resort Gaming Group
6922 Hollywood Blvd 9th Floor
Los Angeles, CA 90028

Prepared by:

Cardno WRG
10649 Jeffreys Street
Henderson, NV 89052

Civil Engineering
Land Planning
Land Survey
Landscape Architecture
LEED/Sustainability
Master Planning
Transportation
Water Resources

www.cardnowrg.com



HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Lady Luck Renovation Date: 8/10/11

Location of Development: a) Descriptive (Cross Streets) North/South: Fourth Street
East/West: Stewart Avenue

b) Section: 34 Township: 20 South Range: 61 East

c) APN: 139-34-501-009, 139-34-510-019, and 139-34-514-007 thru 009

Name of Owner: CIM / Resort Gaming Group

Telephone No.: (323) 860-4900 Fax No.: (323) 860-4901 E-Mail Address: jrosen@cimgroup.com

Address: 6922 Hollywood Blvd. 9th Floor Los Angeles, CA 90028

Contact Person-Name: Brandon Doty Telephone No.: (702) 990-9300

* E-Mail Address: brandon.doty@cardnowrg.com Fax No.: (702) 990-9305

Firm: Cardno WRG

Address: 10649 Jeffreys St. Henderson, NV 89052

Type of Land Development/Land Disturbance Process:

☐	Rezoning	☐	Subdivision Map	☐	Clearing and Grading Only
☐	Parcel Map	☒	Planned Unit Development	☐	Other (Please specify below)
☐	Large Parcel Map	☐	Building Permit		

1. Total Owned Land Area: At Site: 4.0 +/- AC Being Developed/Disturbed: 1.4 +/- 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

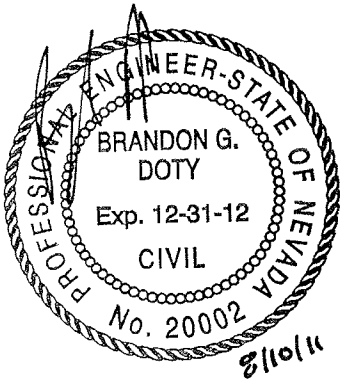
4. Proposed type of development (Residential, Commercial, Etc.): Commercial

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: Technical Drainage Study for Lady Luck Renovation (DS4053)

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Stewart Avenue

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

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

Project Name: Lady Luck Renovation		Map ID: 139- 34-501-009, 139-34-510-019, 139-34-514-007 th
Firm Name: Cardno WRG	Engineer: Brandon G. Doty, P.E.	
Address: 10649 Jeffreys Street		
City: Henderson	State: NV	Zip: 89052
Phone Number: (702) 990-9300	Fax Number: (702) 990.9305	
Property Owner: CIM/Resort Gaming Group		
Address: 6922 Hollywood Blvd 9th Floor		
City: Los Angeles	State: CA	Zip: 90028
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 (CCRFCD) 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

YES NO

☒ ☐ Design manual **Standard Form 1** with the engineer's seal and signature.

☒ ☐ Design manual Standard Form 4.

☒ ☐ 2 copies of the 24" x 36" drainage Plan.

N/A ☐ A notarized letter from the adjacent property owner(s) allowing off-site grading or discharge.

REFERENCE: **CARDNO WRG PROJECT# 310934900**

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

II. MAPS AND EXHIBITS

Yes No

- ☒ ☐ A copy of a current Flood Insurance Rate Map (FIRM) with the site delineated.
- ☒ ☐ A copy of current CCRFCD Master Plan Update Figure, (F-x), for Flood Control Facilities and Environmental areas with the site delineated.
- ☒ ☐ Off-site drainage basin maps for existing, interim and future conditions showing the existing topography, basin boundaries, concentration points, and flows in cfs.
- ☒ ☐ 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.
- ☒ ☐ Vicinity Map with local and major cross streets identified and a north arrow.

III. DRAINAGE PLANS

Yes No

- ☒ ☐ Sheet size: 24" x 36" sealed by a registered engineer in the State of Nevada.
- ☒ ☐ Minimum scale: 1" = 60'.
- ☒ ☐ Project name.
- ☒ ☐ Vicinity Map with local and major cross streets.
- ☒ ☐ Revision box.
- ☒ ☐ North arrow and bar scale.
- ☒ ☐ Engineer's/consultant's address and phone number.
- ☒ ☐ Elevation datum and benchmark.
- ☒ ☐ Legend for symbols and abbreviations.
- ☒ ☐ cut/fill scarps, where applicable.
- ☒ ☐ Street names, grades widths.
- ☒ ☐ 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

- | | | |
|-------------------------------------|-------------------------------------|---|
| ☒ | ☐ | Existing contours encompassing the site and 100 feet beyond with spot elevations for important locations, where appropriate. |
| ☒ | ☐ | Minimum finish floor elevations with top-of-curb elevations at upstream end of lot. |
| ☒ | ☐ | Proposed typical street sections. |
| ☐ | ☒ | Streets with off-set crowns. |
| ☒ | ☐ | Proposed contours or spot elevations in sufficient detail to exhibit intended drainage patterns and slopes. |
| ☒ | ☐ | Property lines. |
| ☒ | ☐ | Right-of-way lines and widths, existing and proposed. |
| ☒ | ☐ | Existing improvements and their elevations. |
| ☐ | ☒ | Delineation of proposed on-site drainage basins indicating area and 10-year and 100-year storm peak flows at basin concentration points. |
| ☐ | ☒ | Concentration points and drainage flow direction with Q_{100} and V_{100} and D_{100} in streets. |
| ☐ | ☒ | Cumulative flows, velocity, and direction of flow at upstream and downstream ends of site for the 10-year and 100-year flows. |
| ☐ | ☒ | Location and cross-section of street capacity calculations. |
| ☐ | ☒ | Cross-sectional detail for channels, including cutoff wall locations. |
| ☒ | ☐ | Existing and proposed drainage facilities, appurtenances, and connections (i.e., sidewalk, ditches, swales, storm drain systems, unimproved channels, and improved channels, and culverts, etc.) starting size, material, shape, and slope eighth plan and profile an HGL calculations. |
| ☐ | ☒ | Existing and proposed drainage easements and widths shown with sufficient detail. A cross sectional detail must be provided that shows appropriate lining and reinforcement. |
| ☐ | ☒ | 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. |
| ☐ | ☒ | Locations 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

☒ ☐ 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.

☒ ☐ Building and/or lot numbers.

☐ ☒ alignment of all existing, proposed, or future Regional Facilities adjacent to the site.

☐ ☒ limits of existing floodplain based on current FIRM of best available information; limits of proposed floodplains based on best available information.

☐ ☒ 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.

☒ ☐ Approximately elevated "humps" 6 inches above the 100 year water surface elevation at site accesses where the intent is to protect the site from the Q_{100} flows.

☒ ☐ Street slopes for perimeter and interior streets. The minimum slope is 0.4 percent.

IV. HYDROLOGIC ANALYSIS

Yes No

☐ ☐ Appropriate soil information and Soils Map for existing and future conditions with subbasins and property delineated.

☐ ☐ 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.

☐ ☐ Use of correct precipitation values in and around the McCarran Airport rainfall area.

☐ ☐ A discussion on the text of the hydrologic analysis justifying subbasin boundaries and cutoffs, supporting assumptions, and calculations.

☐ ☐ a summary table of stormwater flows showing basin area, Q_{10} and Q_{100} for both individual basins and combined basin flows, where applicable.

☐ ☐ copies of supporting technical information referenced from a previously approved study and a statement accepting these results.

☐ ☐ 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

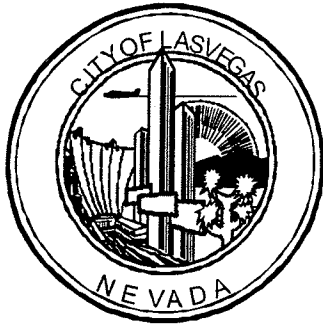
IV. HYDROLOGIC ANALYSIS (Continued)

Yes No

- | | | |
|--------------------------|--------------------------|--|
| ☐ | ☐ | Flow split calculations and supporting documentation or reference for the method of flow split calculations used. |
| ☐ | ☐ | 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. $Q_{100} d \times v < 8$. $Q_{10} d \times v < 6$ and 12 foot dry lane for rights-of-way > 80 feet. Calculations must be labeled by street name as indicated on the Grading Plan. |
| ☐ | ☐ | 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. |
| ☐ | ☐ | Appropriate hydraulic calculations for block wall openings assuming a 50 percent vertical clogging factor. (Assume the lower half of the opening is plugged). |
| ☐ | ☐ | 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. |
| ☐ | ☐ | 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 provide with 18 inches of freeboard above the Q_{100} weir height or flow depth, which ever is greater. |
| ☐ | ☐ | A complete water surface profile analysis (HEC-2, HEC-RAS, etc.) for channel flows and FEM 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 of the report. |
| ☐ | ☐ | Provide a 50 percent clogging factor in the capacity calculation for drop inlets. |
| ☐ | ☐ | 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. |
| ☐ | ☐ | The mitigation of nuisance water, both during construction and in the fully developed condition, must be addressed. |

REFERENCE:

STANDARD FORM 2



CITY OF LAS VEGAS

MINIMUM DRAINAGE STUDY CRITERIA STANDARD FORM 2 CHECKLIST SUPPLEMENT

(Revised 06/06/01)

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 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 Clark County Regional Flood Control District (CCRFCD) Hydrologic Criteria and Drainage Design Manual (Design Manual).

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.

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.)
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.

CITY OF LAS VEGAS MINIMUM DRAINAGE STUDY CRITERIA CHECKLIST

II. GRADING PLAN INFORMATION		
Yes	No	
✓		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.)
N/A		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.
N/A		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.
N/A		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.
N/A		Lots with "B and C Type Drainage" shall be required to install an underground nuisance drainage system or a 2-foot valley gutter through the lot. 16" x 24" minimum block wall openings are required for both options.
N/A		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.

CITY OF LAS VEGAS MINIMUM DRAINAGE STUDY CRITERIA CHECKLIST

- An appointment must be made to preview this checklist in conjunction with Clark County Regional Flood Control District Manual Standard Form 2 prior to the City accepting a new Drainage Study for review. The engineer may contact the Flood Control Section at 229-6541.
- Following the acceptance of the Drainage Study (meeting the minimum acceptable information above), there will be a charge of \$250 for each Drainage Study review submittal. These fees are payable at the time the Grading Permit is obtained.
- The Drainage Study must be accepted prior to submitting grading plans to the Land Development Section 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.

F:\Depot\DOCS\Memos\jbCHKLIST7.doc
6-Jun-01

August 12, 2010

Albert Sung, P. E.
Flood Control Project Engineer
City of Las Vegas
Department of Public Works
731 South Fourth Street
Las Vegas, Nevada 89101

**RE: Technical Drainage Study Update for Lady Luck Renovation
(DS4053)**

Mr. Sung:

Enclosed for your review is Addendum #1 to the above-mentioned Technical Drainage Study Update. This letter addresses the first review comments from the City of Las Vegas memorandum dated July 28, 2010. The comments are retyped below with the responses in bold.

1. Provide a copy of the zoning/planning conditions associated with this site (**SDR-37946; SDR-10490; SDR-15380; SUP-10491 & SUP-15382**) with the next submittal to verify compliance with conditions. Flood Control will not issue final approval of the drainage study without the associated zoning/planning conditions (issued by the City Council). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and submitted. **Zoning/planning conditions issued by the City Council will be provided prior to final approval.**
2. Show existing storm drain system in Fourth Street and label with City of Las Vegas recorded plan number. Show the size of the storm drain and identify all existing drop inlets with type and size. **Record plan numbers of all existing storm drains have been added accordingly.**
3. Detail section C/C4 does not match the location on the grading plan. The detail shows new concrete sidewalk while the plan shows existing concrete sidewalk. Review and revise accordingly. **A new concrete sidewalk is proposed to replace the old sidewalk and match existing "L" curb (to remain). Construction notes are added for clarity.**

4. It appears that the hotel tower finish floor elevation is high enough to provide positive drainage away to the adjacent street grade. Explain why onsite trench drain and pump systems are proposed (in two locations"?)

Onsite trench drains are provided to maintain 2% slope away from the buildings adjacent grades. Grading details and additional grades are provided.

5. It appears there is a flow line in the middle of the drive aisle behind Fourth Street. Show flow line elevation labeled at regular intervals on the grading plan and provide a cross section to verify as such.

Flow line elevations at regular intervals and cross sections are provided.

6. Provide a note on the grading plan: "all onsite storm drain systems are privately owned and to be privately maintained".

Note has been added.

7. Remove a callout of "H#35046" at the bottom right hand corner of the grading plan

Callout has been removed.

If you have any questions or need additional information regarding this study, please feel free to call us at (702) 990-9300.

Sincerely,

Cardno WRG



Brandon G. Doty, P.E.
Project Engineer

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: July 28, 2010
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: Lady Luck Renovation - Update	COPIES TO: Cardno WRG
Cross Streets:	SWC of Stewart Avenue & Fourth Street	CIM / Resort Gaming Group
File Number:	F:\Depot\DSMemos\DS4053B.doc	Bart Anderson, P.E., DevCo
Parcel Number:	139-34-514-009 & More	
Zoning Action:	SDR-10490; SDR-15380; SUP-10491 & SUP-15382 & SDR-37946	
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	8/15/2006	8/29/2006	Not Approved	\$400.00	51824: \$400
2 nd Submittal	7/15/2010	7/27/2010	See Comments Below	\$100.00	148856: \$100
TOTAL FEES (LDDRS):				\$500.00	----

REMARKS:

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

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

1. Provide a copy of the zoning/planning conditions associated with this site (SDR-37946; SDR-10490; SDR-15380; SUP-10491 & SUP-15382) with the next submittal to verify compliance with conditions. *Flood Control* will not issue final approval of the drainage study without the associated zoning/planning conditions (issued by the *City Council*). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and submitted.
2. Show existing storm drain system in *Fourth Street* and label with *City of Las Vegas* recorded plan number. Show the size of the storm drain and identify all existing drop inlets with type and size.
3. Detail section of C/C4 does not match the location on the grading plan. The detail shows new concrete sidewalk while the plan shows existing concrete sidewalk. Review and revise accordingly.
4. It appears that the hotel tower finish floor elevation is high enough to provide positive drainage away to the adjacent street grade. Explain why onsite trench drain and pump systems are proposed (in two locations)?
5. It appears that there is a flow line in the middle of the drive aisle behind *Fourth Street*. Show flow line elevation labeled at regular intervals on the grading plan and provide a cross section to verify as such.
6. Provide a note on the grading plan: "All onsite storm drain systems are privately owned and to be privately maintained".
7. Remove a callout of "H#35046" at the bottom right hand corner of the grading plan.

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

END OF REMARKS
ays

T/R/S: T20S/R61E/34
AREA M-34

Post-It® Fax Note	7671	Date	7/28/10	# of pages	2
To	Brandon Doty	From	Albert SunG		
Co./Dept.	Cardno WRG	Co.	CLV		
Phone #		Phone #	229-250		
Fax #	990-9305	Fax #			

Appendix A: Grading Plans

TRANSMITTAL



Shaping the Future

To: City of Las Vegas Date: August 10, 2011
Attn: Public Works Drainage Project: Lady Luck Renovation
Project #: 3109349000 **DS4053**
Case/File#: D2 **H39397**
Fax #: _____ Total Pages: _____
From: Joann Rubio for Rusty Schaeffer

10649 Jeffreys Street
Henderson, NV 89052
USA

Phone (702) 990-9300
Fax (702) 990-9305

www.cardnowrg.com

Transmitting Via:

☒ Messenger
☐ Other: _____

Purpose:

☒ For your approval
☐ Other: _____

Quantity	Description
1 copy	Bound Drainage Study Updates w/ Grading Plans
1 copy	of Conditional Approval

Comments:

Please contact David Logsdon at 990-9300

Thank you,

Joann Rubio, Designer

Signature: _____

C: