

ADDENDUM 1

TECHNICAL DRAINAGE STUDY
for
Owens Apartments

July 2023

Prepared For:

Zenith Engineering
1980 Festival Plaza Dr., Ste. 450
Las Vegas, NV 89135
(702) 866-9535

Prepared By:

Reynolds Engineering Co.
1925 Village Center Cir., Ste. 150
Las Vegas, NV 89134
(702) 582-8008

Job No. 23004

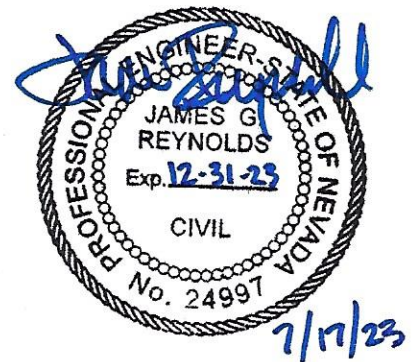
ADDENDUM 1

TECHNICAL DRAINAGE STUDY
for
Owens Apartments

July 2023

Prepared For:
Zenith Engineering
1980 Festival Plaza Dr., Ste. 450
Las Vegas, NV 89135
(702) 866-9535

Prepared By:
Reynolds Engineering Co.
1925 Village Center Cir., Ste. 150
Las Vegas, NV 89134
(702) 582-8008



Job No. 23004

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: OWENS APARTMENTS Date: 7/17/23

Location of Development: a) Descriptive (Cross Streets) North/South: LAMB BLVD
 East/West: OWENS AVE
 b) Section: 29 Township: 20 SOUTH Range: 62 EAST
 c) APN : 140-29-101-003

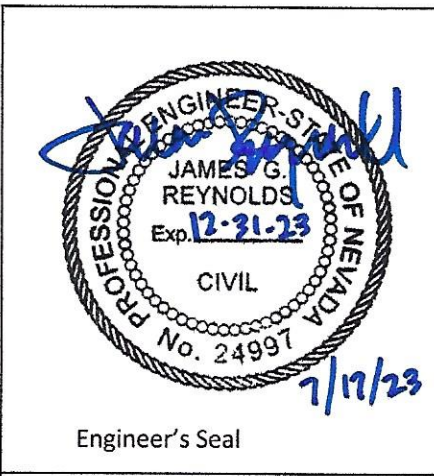
Name of Owner: OWENS 110 LLC CONTACT: KAYLEE CHO
 Telephone No.: (702) 728-1932 Fax No.: _____ E-Mail Address: KAYLEE@KAYLEELASVEGASREALTY.COM
 Address: 8925 W. FLAMINGO RD., UNIT 308 LAS VEGAS, NV 89147

Contact Person-Name: JAMES G. REYNOLDS, P.E. Telephone No.: (702) 582-8008
 * E-Mail Address: JR@REYNOLDSENGINEERING.CO ***.CO, NOT .COM*** Fax No.: _____
 Firm: REYNOLDS ENGINEERING CO.
 Address: 1925 VILLAGE CENTER CIR., STE. 150 LAS VEGAS, NV 89134

Type of Land Development/Land Disturbance Process:

<input type="checkbox"/> Rezoning	<input type="checkbox"/> Subdivision Map	<input type="checkbox"/> Clearing and Grading Only
<input type="checkbox"/> Parcel Map	<input type="checkbox"/> Planned Unit Development	<input type="checkbox"/> Other (Please specify below)
<input type="checkbox"/> Large Parcel Map	<input checked="" type="checkbox"/> Building Permit	

1. Total Owned Land Area: At Site: 2.41 ACRES Being Developed/Disturbed: 2.4 ACRES
2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? Yes** No
3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? Yes** No
4. Proposed type of development (Residential, Commercial, Etc.): COMMERCIAL
5. Approximate upstream land area which drains to the subject site: 91 ACRES
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: EXISTING DRAINAGE EASEMENTS ON ADJACENT RESIDENTIAL LOTS SOUTH OF SITE; CONSISTENT WITH HISTORICAL DRAINAGE PATTERNS
8. Briefly describe your proposed schedule for the subject project: ASAP



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

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

	Revision	Date

REFERENCE: _____ STANDARD FORM 1

REYNOLDS ENGINEERING CO.

LAS VEGAS, NEV

July 17, 2023

City of Las Vegas
Department of Public Works
Flood Control Section
495 S Main St, 1st Floor
Las Vegas, NV 89101

Attn: Albert Sung, P.E.

**Re: Technical Drainage Study Addendum 1
Owens Apartments (DS 5679)**
Reynolds Engineering Co. Job No. 23004

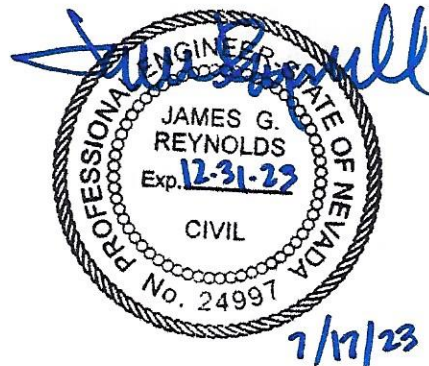
Dear Mr. Sung:

This letter certifies that all documents comprising Technical Drainage Study Addendum 1 for Owens Apartments provided on CD matches 100% of the hardcopy submittal.

Respectfully submitted,

Reynolds Engineering Co.

James G. Reynolds, P.E.
Principal Civil Engineer



REYNOLDS ENGINEERING CO.

LAS VEGAS, NEV

July 17, 2023

City of Las Vegas
Department of Public Works
Flood Control Section
495 S Main St, 1st Floor
Las Vegas, NV 89101

Attn: Albert Sung, P.E.

**Re: Technical Drainage Study Addendum 1
Owens Apartments (DS 5679)
Reynolds Engineering Co. Job No. 23004**

Dear Mr. Sung:

Reynolds Engineering Co. is in receipt of your comment letter dated June 28, 2023, for the above referenced project. A copy of the letter is provided in the Appendix of this submittal. Each comment has been retyped verbatim and addressed as follows:

Comment 1: The site is adjacent to the jurisdiction of *Clark County* located to the north side of *Owens Avenue*. The engineer/developer must coordinate with *Clark County Public Works Department (CCPW)* and incorporate any concerns for the boundary conditions along the north border. CCPW concurrence is required prior to final approval of the subject drainage study.

Response 1: Acknowledged. The study will be submitted to CCPW for concurrence following conditional approval from CLV.

Comment 2: Sheet C3.01: The 100-year flow velocity in *Owens Avenue* is erosive (5.86 ft/s). Provide erosive resistant materials in the

landscape strip between the sidewalk and the proposed flood wall in the next submittal. Revise *Detail Sections A/C5.01* and *B/C5.01* to show the erosion control materials accordingly.

Response 2: Acknowledged. 3" riprap is called out in the landscape strip along Owens Ave on the revised grading plans included with this submittal.

Comment 3: Sheet C3.02: The subject development is proposed to drain to two points of discharge at the southern property limit through two existing drainage easements in the adjacent single-family subdivision to the south. The onsite drainage is supposed to be conveyed by two 12"-PVC storm drains (each in the two drainage easements). However, the grading plan did not clearly call out any wall opening for emergency overflow in case the existing 12" pipes are clogged. Address and revise accordingly in the next submittal.

Response 3: The openings for overflow are presumed to be in the existing wall on the south property line behind the on-site wall that is to be demolished with this project. 48" x 12" openings were shown above the 12" PVC pipes in *Detail O* on *Sheet GD1* of the reference plans for East Van Buren Single Family Homes by Taney Engineering that were included in the previous submittal. The openings will be exposed when the on-site wall to the north is demolished.

A note has been added to the grading plans for the contractor to notify the engineer once the existing wall has been demolished so that the openings may be verified. If not present, or they vary from what was shown on the Taney Engineering plans, a minor update to this report that shows new sections of wall with openings will be submitted to provide for emergency overflow.

Comment 4: Provide invert elevations of the wall openings so that the maximum ponding depth can be defined in case of total clogging of the 12"-storm drains.

Response 4: The actual invert elevations of the existing wall openings are unknown (see Response 3 above). From the Taney Engineering plans, the 48"

x 12" openings shown in *Detail O* were drawn approx. two and a half courses above the inverts of the 12" PVC pipes. Assuming these were drawn approx. to scale, approx. 1.7 ft. was added to the higher of the two inverts at the pipes (87.21 ft. at the west pipe) to establish a WSE of 1788.9± ft.

This is approx. 0.5 ft. higher than the level of inundation shown on drainage plan Sheet D2 included with the previous submittal. The lowest proposed FFE of 1789.47 ft. of Building D is more than 6" above this worst-case WSE. The new limits of inundation are shown on the revised drainage plan Sheet D2 included with this submittal.

As stated in Response 3, a note has been added to the grading plans for the contractor to notify the engineer once the existing wall has been demolished so that the openings may be verified.

Comment 5: **Construction Note #17 is provided at the southern boundary of the project site which indicates flood protecting existing wall to 1789 elevation. However, it is not clear how the flood protection is applied. Provide detail in next submittal.**

Response 5: The note has been revised to specify Master Builders Solutions MasterSeal 581 waterproof cement-based coating or approved equivalent. The note has also been relocated to make clear the coating is to be applied on the north (site) side. Refer to revised grading plans included with this submittal.

Comment 6: **Label the two existing drainage easements with additional information: "Per Plat Map Book 123, Page 36".**

Response 6: The drainage easements have been labeled on the revised grading plans included with this submittal.

Comment 7: **Add the following note as Standard Note #6 to the "Las Vegas Valley Construction Site Best Management Practices Guidance" note column on the *General Notes Sheet C1.01*:**

Post-Construction BMPs (PCBMPs) / Control Measures noted on the Grading Plans are mandatory permanent regulatory stormwater pollution controls. These PCBMPs must be installed per the approved plans and must be permanently maintained.

Response 7: The note has been added to revised Sheet C1.01 included with this submittal.

If you have any questions regarding this submittal or require additional information to complete your review, please contact this office.

Respectfully submitted,

Reynolds Engineering Co.

James G. Reynolds, P.E.
Principal Civil Engineer

APPENDIX

COMMENT LETTER

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: June 28, 2023
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: Owens Apartments	COPIES TO: Reynolds Engineering Co.
Cross Streets:	SEQ of Owens Avenue & Lamb Boulevard	Owens 110 LLC
File Number:	F:\Depot\DSMemos\DS5679A.doc	Bart Anderson, P.E., DevCo
Parcel Number:	140-29-101-003	CCPW
Zoning Action:	22-0474-SDR1; 22-0474-ZON1 & 22-0474-VAR1	
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	6/7/2023	6/28/2023	See Comments Below	\$400.00	5304923: \$400
TOTAL FEES (LDDRS):				\$400.00	----

REMARKS:

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

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

1. The site is adjacent to the jurisdiction of *Clark County* located to the north side of *Owens Avenue*. The engineer/developer must coordinate with *Clark County Public Works Department (CCPW)* and incorporate any concerns for boundary conditions along the north border. CCPW concurrence is required prior to final approval of the subject drainage study.
2. **Sheet C3.01:** The 100-year flow velocity in *Owens Avenue* is erosive (5.86 ft/s). Provide erosive resistant materials in the landscape strip between the sidewalk and the proposed flood wall in the next submittal. Revise *Detail Sections A/C5.01* and *B/C5.01* to show the erosion control materials accordingly.
3. **Sheet C3.02:** The subject development is proposed to drain to two points of discharge at the southern property limit through two existing drainage easements in the adjacent single-family subdivision to the south. The onsite drainage is supposed to be conveyed by two 12"-PVC storm drains (each in the two drainage easements). However, the grading plan did not clearly call out any wall opening for emergency overflow in case the existing 12" pipes are clogged. Address and revise accordingly in the next submittal.

4. Provide invert elevations of the wall openings so that the maximum ponding depth can be defined in case of total clogging of the 12"-storm drains.
5. Construction Note #17 is provided at the southern boundary of the project site which indicates flood protecting existing wall to 1789 elevation. However, it is not clear how the flood protection is applied. Provide detail in the next submittal.
6. Label the two existing drainage easements with additional information: "Per Plat Map Book 123, Page 36".
7. Add the following note as *Standard Note #6* to the "*Las Vegas Valley Construction Site Best Management Practices Guidance*" note column on the *General Notes Sheet C1.01*:

Post-Construction BMPs (PCBMPs) / Control Measures noted on the Grading Plans are mandatory permanent regulatory stormwater pollution controls. These PCBMPs must be installed per the approved plans and must be permanently maintained.

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.

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, final approval 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

T/R/S: T20S/R62E/29
AREA N29