

DS #:

5394

APN:

162-06-510.001 & 162-06-512-002

PROJECT:

Shoppers at Hyde Park

SUBMITTAL:

2nd

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: January 27, 2021
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: Shoppes at Hyde Park	COPIES TO: Lochsa Engineering
Cross Streets:	SEC of Charleston Blvd. & Arville Avenue	Carpi Enterprises LLC
File Number:	F:\Depot\DSMemos\DS5394B.doc	Bart Anderson, P.E., DevCo
Parcel Number:	162-06-510-001 & 162-06-512-002	CCRFCD
Zoning Action:	20-0154-SDR1 & 20-0154-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	12/10/2020 & 12/21/2020	1/4/2021	Not Approved	\$400.00	4097684: \$400
2 nd Submittal	1/19/2021	1/27/2021	See Comments Below	\$400.00	4135601: \$400
TOTAL FEES (LDDRS):				\$800.00	----

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

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

Please note that effective March 15, 2019, the CCRFCD adopted new requirements for drainage study concurrence submittal. Follow the link below for specific guidance.

<http://gustfront.ccrfcd.org/LandDev/LandDev.aspx>

Please note that effective April 6, 2020, only electronic submittals to the CCRFCD will be accepted for regional concurrence. Contact cwang@regionalflood.org for direction.

2. Label the finished floor elevation of an existing building adjacent to the south of the alley on 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: T21S/R61E/06

AREA R-06

**Addendum to the
Technical Drainage Study
For
Shoppes at Hyde Park
(NEC of Charleston Blvd & Arville St.)**

Lochsa Job No. 201092

JANUARY 2021

Prepared for:

Carpi Enterprises LLC
1913 S. 16th Street
Las Vegas, NV 89104
Janice Carpi

Prepared by:

Lochsa Engineering
6345 South Jones Boulevard, Suite 100
Las Vegas, Nevada 89118
(702) 365-9312

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Shoppes at Hyde Park Date: January 14, 2021

Location of Development: a) Descriptive (Cross Streets) North/South: Arville St.
 East/West: Charleston Blvd.

b) Section: 6 Township: 21 South Range: 61 East

c) APN : 162-06-510-001/002

Name of Owner: Carpi Enterprises LLC

Telephone No.: (804)833-8052 Fax No.: _____ E-Mail Address: janice.carpi@gamil.com

Address: 1913 S. 16th Street Las Vegas, NV 89104

Contact Person-Name: CHRIS BLAKE, E.I. Telephone No.: (702) 365-9312

* E-Mail Address: CHRIS.BLAKE@LOCHSA.COM Fax No.: (702) 365-9317

Firm: LOCHSA ENGINEERING

Address: 6345 S JONES BLVD., SUITE 100 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	

- Total Owned Land Area: At Site: 2.69 ACRES (+/-) Being Developed/Disturbed: 2.69 ACRES (+/-)
- Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ Yes** ☒ No
- Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☒ Yes** ☐ No
- Proposed type of development (Residential, Commercial, Etc.): Commercial buildings with parking addition
- Approximate upstream land area which drains to the subject site: 400 ACRES (+/-)
- Has the site drainage been evaluated in the past? ☐ YES ☒ NO If yes, please identify documentation: _____
- If known, please briefly identify the proposed discharge point(s) of runoff from the site: North to Charleston Boulevard
- Briefly describe your proposed schedule for the subject project: ASAP



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

January 14, 2021

Albert Sung, P.E.
City of Las Vegas Public Works Department
(Flood Control Division)
333 North Rancho Drive
Las Vegas, NV 89106

Subject: **Addendum to the Technical Drainage Study for the Shoppes at Hyde Park**
Lochsa Job No. 201092

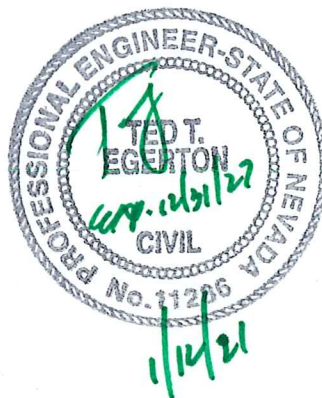
Mr. Sung:

This letter certifies that all items provided on the **Addendum to the Technical Drainage Study for The Shoppes at Hyde Park** electronic submittal matches the paper version bound into the study.

Respectfully submitted,

LOCHSA ENGINEERING

Ted Egerton, P.E.



COMMENT LETTER

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: January 4, 2021
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: Shoppes at Hyde Park		COPIES TO: Lochsa Engineering
Cross Streets:	SEC of Charleston Blvd. & Arville Avenue		Carpi Enterprises LLC
File Number:	F:\Depot\DSMemos\DS5394A.doc		Bart Anderson, P.E., DevCo
Parcel Number:	162-06-510-001 & 162-06-512-002		CCRFCD
Zoning Action:	20-0154-SDR1 & 20-0154-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	12/10/2020 & 12/21/2020	1/4/2021	See Comments Below	\$400.00	4097684: \$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 or crosses an existing or proposed *Clark County Regional Flood Control District* (CCRFCD) master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study.

Please note that effective March 15, 2019, the CCRFCD adopted new requirements for drainage study concurrence submittal. Follow the link below for specific guidance.

<http://gustfront.ccrfcd.org/LandDev/LandDev.aspx>

Please note that effective April 6, 2020, only electronic submittals to the CCRFCD will be accepted for regional concurrence. Contact cwang@regionalflood.org for direction.

2. The subject development consists of two parcels. A reversionary map must be recorded prior to the final improvement plans approval. Provide proof of a reversionary map has been applied to the City in the next submittal.
3. There are existing buildings in the subject site. Provide a *Demolition Plan* to clearly identify what buildings are to be demolished and what buildings or features need to remain in the next submittal.

4. In the *Onsite Existing and Developed Conditions Drainage Maps* (DR1 and DR2): It appears that there shall be a flow split at the southern alley in *Arville Avenue* during a rainfall event. Provide a flow split calculation and revise the 10-year/100-year flows in the alley and double check the proposed finished floor elevation of the buildings adjacent to the alley per criteria accordingly.
5. The anticipated 100-year flow in *Charleston Boulevard* is erosive and above and beyond the sidewalk. The proposed berm in *Charleston Boulevard* as shown in *Detail Section D/C6.01* has to provide erosion protection measures on the side facing the street. Review and revise the plan, detail and the construction note accordingly.
6. A solid grout stem wall is proposed behind the sidewalk in *Charleston Boulevard* east of the proposed main entrance driveway. A sidewalk underdrain is proposed to convey the onsite flow to *Charleston* for discharge. The anticipated 100-year onsite flow from *Basin ND1* is 8cfs. It appears that the proposed single sidewalk underdrain is not capable of conveying the flow. Address and resolve in the next submittal.
7. As a continuation of the above comment, what about during a worst case scenario that the proposed sidewalk underdrain(s) are totally clogged, has an emergency overflow path been provided to protect the onsite buildings? Address and resolve in the next submittal.
8. The proposed hump in the driveway at *Arville Avenue* is not adequate. The hump has to provide a minimum of six inches of freeboard. Address and resolve in the next submittal.
9. A proposed berm adjacent to *Building B* in *Arville Avenue* appears to not covering the whole frontage of the building. Extend the berm to cover the whole building fronting *Arville Avenue* for major storm event flood protection.
10. It is curious for the reviewer that *Proposed Buildings B* and *C* are found in the improvement plans, however, no *Building A* is to be found anywhere? Is there any special reasoning?

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/R61E/06
AREA R-06

January 13, 2021

Albert Sung, P.E.
City of Las Vegas Public Works Department
Flood Control Division
495 S. Main Street
Las Vegas, NV 89101

Subject: **Addendum to the Technical Drainage Study for Shoppes at Hyde Park**
CLV DS5394A
Parcel Number 162-06-510-001 & 162-06-512-002
Lochsa Job #201092

Dear Albert Sung,

Lochsa Engineering is in receipt of your comment letter for the above referenced project. In response to your comments, the following responses are being offered:

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

Please note that effective March 15, 2019, the CCRFCD adopted new requirements for drainage study concurrence submittal. Follow the link below for specific guidance.

<http://gustfront.ccrfcd.org/LandDev/LandDev.aspx>

Please note that effective April 6, 2020, only electronic submittals to the CCRFCD will be accepted for regional concurrence. Contact cwang@regionalflood.org for direction.

Response 1: Noted.

2. The subject development consists of two parcels. A reversionary map must be recorded prior to the final improvement plans approval. Provide proof of a reversionary map has been applied to the City in the next submittal.

Response 2: Noted. Per our email conversation with Albert Sung (CLV Drainage) on January 11, 2021, we agreed to provide our Preliminary Final Map for his files and the approved Tentative Map Letter for the One-Lot Commercial Subdivision for the site. He agreed that this would suffice for the time being. The email correspondence has been included within the submittal.

Also, the requested note in the email correspondence for the 1-lot subdivision will be added on the Final Map for the common drainage rights.

3. There are existing buildings in the subject site. Provide a *Demolition Plan* to clearly identify what buildings are to be demolished and what buildings or features need to remain in the next submittal.

Response 3: Noted. A Demo Plan has been provided within the submittal.

4. In the *Onsite Existing and Developed Conditions Drainage Maps* (DR1 and DR2): It appears that there shall be a flow split at the southern alley in *Arville Avenue* during a rainfall event. Provide a flow split calculation and revise the 10-year/100-year flows in the alley and double check the proposed finished floor elevation of the buildings adjacent to the alley per criteria accordingly.

Response 4: Noted. We have provided a flow split calculation at the southern alley way in Arville Avenue. We have provided a hydraulic section across Arville Avenue (Section 5) at the center of the alley way and we have provided another hydraulic section (Section 6) across the alley way at the upstream side of the Building 'B'. To determine the flow split values, we matched the specific energy elevation in the alley way with the WSE in Arville Avenue. We had to keep adjusting the discharge values until they matched elevations.

The total flow discharging north along Arville Avenue is 51.80cfs and 107.20cfs in the 10yr and 100yr storm events respectively.

For the 10yr storm event, the flow split calculation shows that 35.80cfs will continue north along Arville and 16cfs will split east in the alley way.

For the 100yr storm event, the flow split calculation shows that 73.00cfs will continue north along Arville and 34.20cfs will split east in the alley way.

With these revised flows, we have revised the hydraulic section 1 for Arville Avenue (10yr / 100yr storm) to show the new depths and velocities. Revised hydraulic calculations with the revised flow rates have been provided. These have been adjusted on the Interim / Developed Drainage Plan (Figure DR2).

We have provided a hydraulic section 7 calculation within the alley way along the south boundary of the Site. A total 100yr flow of 35.20cfs (34.20cfs split flow + ND2 flow (1cfs)) was utilized for the section. The calculation shows the 100yr depth to be 0.48ft. within the alley way. In that being said, we are not able to provide FFs to meet double 100yr flow depth at the back emergency doors. However, after speaking with Albert Sung (CLV Drainage), he was fine with our FF's having 3-inches (0.25ft) of freeboard above the 100yr flow depth (0.48ft). Therefore, our FF elevations are a minimum of 0.73ft (0.48ft + 0.25ft) above the adjacent FL elevations at the door entrances. However, please note that the far west door entrance has a FF = 78.15ft. The south adjacent FL elevation = 77.61ft. So to achieve the 3-inch freeboard, we have provided a 6-inch 'A' curb along the south part of the concrete landing just outside the door entrance of the Mechanical Room.

See the provided calculations and the revised Plans and drainage exhibits.

5. The anticipated 100-year flow in *Charleston Boulevard* is erosive and above and beyond the sidewalk. The proposed berm in *Charleston Boulevard* as shown in *Detail Section D/C6.01* has to provide erosion protection measures on the side facing the street. Review and revise the plan, detail and the construction note accordingly.

Response 5: Noted. We have provided a riprap calculation based on the 100yr velocity within Charleston Blvd. The riprap calculation shows 13-inch riprap is needed for erosion protection along the berm embankment that is facing the street. The Plans and construction note have been revised.

6. A solid grout stem wall is proposed behind the sidewalk in *Charleston Boulevard* east of the proposed main entrance driveway. A sidewalk underdrain is proposed to convey the onsite flow to *Charleston* for discharge. The anticipated 100-year onsite flow from *Basin ND1* is 8cfs. It appears that the proposed single sidewalk underdrain is not capable of conveying the flow. Address and resolve in the next submittal.

Response 6: We have provided a SW Underdrain capacity calculation. A 2ft SW Underdrain has the capacity to convey 7.77cfs, which is nearly 8cfs. However, we have proposed two side by side SW underdrains. This design will provide an emergency over flow path if one of the SW underdrains were to get clogged.

If both SW Underdrains were 100% clogged, flow will pond and overtop the SW Underdrains and spill north into Charleston Blvd. Please note there is a 6ft wide opening (4ft width of two SW underdrains and 1ft extra on each side = 6ft) of the proposed flood wall where the two sidewalk Underdrains are located. The flood wall begins and ends at each side of the Sidewalk Underdrains from the east and west. Therefore, there is nothing blocking the flow from ponding and spilling north into Charleston Blvd.

7. As a continuation of the above comment, what about during a worst case scenario that the proposed sidewalk underdrain(s) are totally clogged, has an emergency overflow path been provided to protect the onsite buildings? Address and resolve in the next submittal.

Response 7: Please see response to Comment #6. If both SW Underdrains were 100% clogged, flow will pond and overtop the SW Underdrains and spill north into Charleston Blvd. Please note there is a 6ft wide opening (4ft width of two SW underdrains and 1ft extra on each side = 6ft) of the proposed flood wall where the two sidewalk Underdrains are located. The flood wall begins and ends on each side of the SW Underdrains from the east and west. Therefore, there is nothing blocking the flow from ponding and spilling north into Charleston Blvd. See revised Plans.

8. The proposed hump in the driveway at *Arville Avenue* is not adequate. The hump has to provide a minimum of six inches of freeboard. Address and resolve in the next submittal.

Response 8: Noted. The revised 100yr flow depth within *Arville Ave.* is 0.91ft. Due to the site constraints, Albert agreed that our driveway hump just needed to be above the 100yr WSE on each side of the driveway. The proposed hump in the driveway has a freeboard of 0.15ft on the south and 0.30ft on the north. See revised plans.

9. A proposed berm adjacent to *Building B* in *Arville Avenue* appears to not covering the whole frontage of the building. Extend the berm to cover the whole building fronting *Arville Avenue* for major storm event flood protection.

Response 9: Per my phone discussion with Albert Sung (CLV Drainage), I notified him that the berm we proposed initially could not be extended further north to protect the entire building. This was due to the area being used for water utilities. To accommodate this issue, in the initial submittal we called out to provide a flood proof membrane on the remainder of the outside of the building since there are no doors in the area.

However, Albert requested we do a stem wall against the building wall instead for flood protection. So we have provided a 2 course high stem wall against the building wall to provide flood protection from a major storm event. The 16-inch (2 courses) high stem wall protects the building more than double the 100yr flow depth from *Arville Avenue*.

10. It is curious for the reviewer that *Proposed Buildings B* and *C* are found in the improvement plans, however, no *Building A* is to be found anywhere? Is there any special reasoning?

Response 10: We initially were showing a Proposed Building 'A' in the northwest corner of the site. Once the design was near completion, the Owner decided to eliminate the building. We didn't feel the need to re-label buildings since the design was done. It is possible a future update will show that proposed Building 'A'. So no special reasoning.

If you have any questions or comments, please do not hesitate to contact our office at your earliest convenience.

Sincerely,
LOCHSA ENGINEERING


Chris Blake, EI
Hydrologist



COMMENT #2

EMAIL CORRESPONDENCE

Chris Blake

From: Chris Bolton
Sent: Tuesday, January 12, 2021 2:29 PM
To: Chris Blake
Subject: FW: DS5394A-Hyde Park Question

Christopher J. Bolton, Project Manager



O: (702) 365-9312
6345 S. Jones Blvd., Suite 100
Las Vegas, Nevada
www.lochsa.com

Celebrating
25 Years in
Business
1995-2020

From: Albert Sung <YSung@LasVegasNevada.GOV>
Sent: Monday, January 11, 2021 7:20 AM
To: Chris Bolton <Chris.Bolton@lochsa.com>
Subject: RE: DS5394A-Hyde Park Question

Hi Chris,

That will suffice the condition on my end!

Please make sure the following note is in the Tentative and Final Map of the 1-lot subdivision.

"THIS 1-LOT COMMERCIAL SUBDIVISION SHALL PROVIDE PERPETUAL INTERSITE COMMON DRAINAGE RIGHTS ACROSS ALL EXISTING AND FUTURE PARCEL LIMITS."

Thanks!

Albert Y. Sung
Project Engineer
Public Works Dept. / Flood Control
(702) 229-6541
333 N. Rancho Dr. 7th Floor
Las Vegas, NV 89106



lasvegasnevada.gov



Your opinion is important! Click [here](#) to take a short survey.

From: Chris Bolton <Chris.Bolton@lochsa.com>
Sent: Friday, January 8, 2021 9:54 AM
To: Albert Sung <YSung@LasVegasNevada.GOV>
Cc: Chris Blake <Chris.Blake@lochsa.com>; Brian Balanis <Brian.Balanis@lochsa.com>
Subject: DS5394A-Hyde Park Question

CAUTION: This email originated from an **External Source**. Please **use caution** before opening attachments, clicking links, or responding to this email. **Do not sign-in with your City of Las Vegas account credentials.**

Thank you for taking time to discuss the your drainage review comments yesterday afternoon. I had an additional question for you with regards to comment #2 (see below):

2. The subject development consists of two parcels. A reversionary map or final improvement plans approval. Provide proof of a reversionary map or in the next submittal.

We have spoken to our survey team and we can provide a Final Map for your files however this is not submitted until our improvement plans have been submitted to the City. We have also received approval for a Tentative Map a One-Lot Commercial Subdivision for the site. I have attached the TM Approval Letter for reference. Please let me know if this will address your comment.

I appreciate your help.

Thanks

Christopher J. Bolton, Project Manager



O: (702) 365-9312
6345 S. Jones Blvd., Suite 100
Las Vegas, Nevada
www.lochsa.com

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TENTATIVE MAP APPROVAL LETTER



**LAS VEGAS
CITY COUNCIL**

CAROLYN G. GOODMAN
Mayor

STAVROS S. ANTHONY
Mayor Pro Tem

MICHELE FIORE

CEDRIC CREAR

BRIAN KNUDSEN

VICTORIA SEAMAN

OLIVIA DÍAZ

SCOTT D. ADAMS
City Manager

DEPARTMENT OF PLANNING

ROBERT SUMMERFIELD
DIRECTOR

**DEVELOPMENT
SERVICES CENTER**

333 N. RANCHO DRIVE
3RD FLOOR
LAS VEGAS, NV 89106
702.229.6301 | VOICE
702.474.7463 | FAX
711 | TTY



cityoflasvegas
lasvegasnevada.gov

November 12, 2020

Ms. Janice Carpi/Bill Carpi
Carpi Enterprises, LLC
1913 S. 16th Street
Las Vegas, Nevada 89104

RE: 20-0211-TMP1

PLANNING COMMISSION MEETING OF NOVEMBER 10, 2020

Dear Applicant:

The Planning Commission at a regular meeting held on *November 10, 2020* voted to **APPROVE** a request for a Tentative Map FOR A ONE-LOT COMMERCIAL SUBDIVISION on 2.69 acres at the southeast corner of Charleston Boulevard and Arville Street (APNs 162-06-510-001 and 002), C-1 (Limited Commercial) Zone, Ward 1 (Knudsen).

This approval is subject to the following conditions:

Planning

1. Approval of the Tentative Map shall be for no more than four (4) years. If a Final Map is not recorded on all or a portion of the area embraced by the Tentative Map within four (4) years of the approval of the Tentative Map, this action is void.
2. Tentative Map (TMP-71647) is hereby expunged.
3. Street names must be provided in accordance with the City's Street Naming Regulations.
4. A fully operational fire protection system, including fire apparatus roads, fire hydrants and water supply, shall be installed and shall be functioning prior to construction of any combustible structures.
5. The Final Map shall contain a note granting perpetual common access and parking across the entire subdivision.
6. All development is subject to the conditions of City Departments and State Subdivision Statutes.

Public Works

7. Per condition #16 of 20-0154-SDR1, dedicate appropriate right-of-way or grant appropriate roadway, sewer, and drainage easements on the Final Map for a bus turn out lane/deceleration lane acceptable to the City Traffic Engineer, meeting the intent of Clark County Standard Drawing #234.4 for a bus stop on Charleston Boulevard. No construction is required at this time. Additionally, grant an appropriate Bus Shelter Pad Easement to the Regional Transportation Commission (RTC). On the Final Map, grant a Traffic Signal Chord Easement at the southeast corner of Charleston Boulevard and Arville Street as well as a 5-foot Roadway Easement along Charleston Boulevard for future pedestrian improvements.
8. Per condition #17 of 20-0154-SDR1, the sidewalks along Charleston Boulevard and Arville Street adjacent to this site shall meet Public Right of-Way Accessibility Guidelines (PROWAG) in accordance with code requirements of Title 13.56.040 to the satisfaction of the City Engineer concurrent with development of this site. Remove all substandard public street improvements and unused driveway cuts adjacent to this site, and replace with new improvements meeting current City Standards concurrent with development of this site, except as amended by conditions herein. Construct all incomplete half street improvements (sidewalk and paving) on Arville Street and the public alley adjacent to this site 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.
9. Per condition #23 of 20-0154-SDR1, a Traffic Impact Analysis must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits, submittal of any construction drawings or the recordation of a Map subdividing this site, whichever may occur first. Comply with the recommendations of the approved Traffic Impact Analysis prior to occupancy of the site. The Traffic Impact Analysis shall also include a section addressing Standard Drawings #234.1 #234.2 and #234.3 to determine additional right-of-way requirements for bus turnouts adjacent to this site, if any; dedicate all areas recommended by the approved Traffic Impact Analysis. All additional rights of way required by Standard Drawing #201.1 for exclusive right turn lanes and dual left turn lanes shall be dedicated prior to or concurrent with the commencement of on site development activities unless specifically noted as not required in the approved Traffic Impact Analysis. Phased compliance will be allowed if recommended by the approved Traffic Impact Analysis. No recommendation of the approved Traffic Impact Analysis, nor compliance therewith, shall be deemed to modify or eliminate any condition of approval imposed by the Planning Commission or the City Council on the development of this site.

10. Per condition #24 of 20-0154-SDR1, 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, grading permits or the recordation of a Final Map, 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.
11. The approval of all Public Works related improvements shown on this Tentative Map is in concept only. Specific design and construction details relating to size, type and/or alignment of improvements, including but not limited to street, sewer and drainage improvements, shall be resolved prior to approval of the construction plans by the City. No deviations from adopted City Standards shall be allowed unless specific written approval for such is received from the City Engineer prior to the recordation of a Final Map or the approval of subdivision related construction plans, whichever may occur first. Approval of this Tentative Map does not constitute approval of any deviations. If such approval cannot be obtained, a revised Tentative Map must be submitted showing elimination of such deviations. Roadway locations and parcel entries are schematic and final studies and engineering improvements designs. Geometric design of Parcel entry points must be approved through the development review of each parcel.
12. Site development to comply with all applicable conditions of approval of Site Development Plan Review 20-0154-SDR1 and any other site related actions.

This action by the Planning Commission on **November 10, 2020** is final unless a written appeal is filed with the City Clerk within seven days of the date of the Planning Commission's decision as allowed by code or there is a review action filed by the City Council within the same time period. For additional information on appeals or review requests submitted please access <https://www.lasvegasnevada.gov/Business/Permits-Licenses/Building-Permits/Permit-Application-Status>, or contact the Department of Planning and Development at 702.229.6301 after **November 17, 2020**. No building permits or business licenses related to these items shall be issued prior to the expiration of the required seven day waiting period, or until any filed appeal is resolved pursuant to LVMC Title 19.18.

Sincerely,



Eric McCammond
Senior Management Analyst
Case Planning Division

20-0211-TMP1 - Page Four
November 12, 2020

EM:nl

cc:

Mr. Brian Balanis
Lochsa Engineering
6345 S. Jones Boulevard, Ste. 100
Las Vegas, Nevada 89118

PRELIMINARY FINAL MAP

OWNER’S CERTIFICATE AND DEDICATION

WE, CARPI ENTERPRISES A NEVADA LIMITED LIABILITY COMPANY, DO HEREBY CERTIFY THAT WE ARE THE OWNERS OF PARCEL OF LAND WHICH IS SHOWN UPON THE PLAT OF:

COMMERCIAL CENTER SEC (A COMMERCIAL SUBDIVISION)

WE HEREBY CONSENT TO THE PREPARATION AND RECORDATION OF THE PLAT AND DO HEREBY OFFER AND DEDICATE ALL PUBLIC RIGHTS-OF-WAY, STREETS (EXCEPT PRIVATE STREETS) AND GRANT THE PUBLIC EASEMENTS AS SPECIFICALLY INDICATED AND OUTLINED HEREON TO CLARK COUNTY, NEVADA, ITS SUCCESSORS AND ASSIGNS FOR THE USE OF THE PUBLIC.

FURTHERMORE, THE ABOVE NAMED OWNERS OF THE WITHIN PLATTED LANDS, DOES HEREBY GRANT AND CONVEY TO THE NEVADA POWER COMPANY, A NEVADA CORPORATION D/B/A NV ENERGY, COX COMMUNICATIONS LAS VEGAS, INC., SOUTHWEST GAS CORPORATION, LAS VEGAS VALLEY WATER DISTRICT, AND CENTRAL TELEPHONE COMPANY D/B/A CENTURYLINK, JOINTLY AND SEVERALLY, AND TO THEIR SUCCESSORS AND ASSIGNS A PERMANENT EASEMENT AS SHOWN HEREON AS ALL AREAS NOT OCCUPIED BY ANY BUILDING STRUCTURE FOR THE CONSTRUCTION, MAINTENANCE, OPERATION AND FINAL REMOVAL AND/OR ABANDONMENT OF STREET LIGHTS, FIRE HYDRANTS AND UNDERGROUND POWER, TELEPHONE, GAS LINES, WATER LINES, SEWER LINES AND APPURTENANCES AND EQUIPMENT PADS, TOGETHER WITH THE RIGHTS OF INGRESS THERETO AND EGRESS THEREFROM.

CARPI ENTERPRISES, A NEVADA LIMITED LIABILITY COMPANY

FOR: _____ DATE _____
AS: _____

CERTIFICATE OF ACKNOWLEDGEMENT

STATE OF NEVADA }
COUNTY OF CLARK } SS
THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON _____, 20____,
BY _____ AS _____
OF CARPI ENTERPRISES, A NEVADA LIMITED LIABILITY COMPANY

NOTARY PUBLIC
MY APPOINTMENT EXPIRES: _____

UTILITY / AGENCIES APPROVALS

WE, THE HEREIN NAMED UTILITY COMPANIES AND AGENCIES, APPROVE THE GRANT OF THE DESIGNATED EASEMENTS.

LAS VEGAS VALLEY WATER DISTRICT _____ DATE _____
BY: _____

SOUTHWEST GAS CORPORATION _____ DATE _____
BY: _____

NEVADA POWER COMPANY, A NEVADA CORPORATION, D/B/A NV ENERGY _____ DATE _____
BY: _____

CENTRAL TELEPHONE COMPANY, D/B/A CENTURY LINK _____ DATE _____
BY: _____

COX COMMUNICATION OF LAS VEGAS, INC. _____ DATE _____
BY: _____

RECORDER’S NOTE

ANY SUBSEQUENT CHANGES TO THIS MAP SHOULD BE EXAMINED AND MAY BE DETERMINED BY REFERENCE TO THE COUNTY RECORDER'S CUMULATIVE MAP INDEX. NRS 278.5695

ZONING ADMINISTRATOR APPROVAL

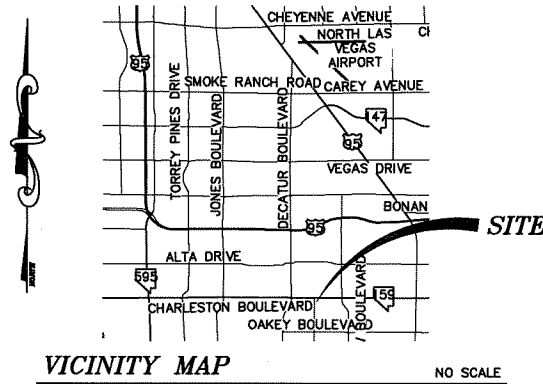
THIS IS TO CERTIFY THAT THE CLARK COUNTY ZONING ADMINISTRATOR APPROVED AND ACCEPTED ON BEHALF OF THE PUBLIC, THIS MAP AND ANY PARCELS OF LAND OFFERED FOR DEDICATION AND EASEMENTS GRANTED FOR PUBLIC USE IN CONFORMITY WITH THE TERMS OF THE OFFER OF DEDICATION SHOWN HEREON.

APPROVED BY THE CLARK COUNTY ZONING ADMINISTRATOR IN CONFORMITY WITH THE TENTATIVE MAP AND ALL CONDITIONS OF APPROVAL.

TINA GARRISON-BERNUDEZ _____ DATE _____
FOR THE ZONING ADMINISTRATOR

FINAL MAP OF
COMMERCIAL CENTER SEC

A PORTION OF BLOCK 2 OF HINSON HEIGHTS, BOOK 2, PAGE 82 IN THE OFFICE OF COUNTY RECORDER OF CLARK COUNTY, NEVADA



LEGAL DESCRIPTION

LOTS FIFTEEN (15) AND SIXTEEN (16) IN BLOCK TWO (2) OF HINSON HEIGHTS AS SHOWN BY MAP THEREOF ON FILE IN BOOK 2 OF PLATS, PAGE 82 IN THE OFFICE OF THE COUNTY RECORDER OF CLARK COUNTY NEVADA.

EXCEPTING THEREFROM, THE INTEREST IN THE SOUTHERLY TWENTY-FIVE FEET (25') OF SAID LAND AS CONVEYED TO THE COUNTY OF CLARK FOR ALLEY PURPOSES BY THAT CERTAIN DEED RECORDED JULY 14, 1954 AS DOCUMENT NO. 15025 OF OFFICIAL RECORDS, CLARK COUNTY, NEVADA RECORDS.

THE WESTERLY SEVENTY-FIVE FEET (75') OF LOT TWO (2) IN BLOCK TWO (2) OF HINSON HEIGHTS AS SHOWN BY MAP THEREOF ON FILE IN BOOK 2 OF PLATS, PAGE 82 IN THE OFFICE OF THE COUNTY RECORDER OF CLARK COUNTY, NEVADA.

EXCEPTING THEREFROM, THE INTEREST IN THE SOUTHERLY TWENTY-FIVE FEET (25') OF SAID LAND AS CONVEYED TO THE COUNTY OF CLARK FOR ALLEY PURPOSES BY THAT CERTAIN DEED RECORDED JULY 14, 1954 AS DOCUMENT NO. 15025 OF OFFICIAL RECORDS, CLARK COUNTY, NEVADA RECORDS.

AREA IS 2.75 ACRES.

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS AND LAS VEGAS HIGH ELEVATION ZONES, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

ZONE: LAS VEGAS ELEVATION ZONE

DATUM (REFERENCE FRAME): NAD 1983(2011) EPOCH 2010.0

SYSTEM: NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

PROJECTION: TRANSVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORIGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.00 M (656,166.6667 FEET US)
EASTING AT CENTRAL MERIDIAN: 100,000.00 M (328,083.3333 FEET US)
SCALE FACTOR ON CENTRAL MERIDIAN: 1.0001 (EXACT)

NOTES:
1. ALL DISTANCES AND BEARINGS SHOWN HEREON ARE PROJECTED (GRID) VALUES BASED ON THE PRECEDING PROJECTION DEFINITION. THE PROJECTION WAS DEFINED SUCH THAT PROJECTED (GRID) DISTANCES ARE EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.
2. GRID BEARING SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARING DUE TO MERIDIAN CONVERGENCE.

NOTES:

EASEMENTS FOR PRIVATE UTILITIES, PRIVATE DRAINAGE, TOGETHER WITH THE RIGHTS OF PRIVATE VEHICULAR AND PEDESTRIAN INGRESS/EGRESS AND PARKING ON ALL AREAS NOT OCCUPIED BY BUILDINGS TO BE RESERVED AND GRANTED FOR ALL DEVELOPMENT PARCELS CREATED WITHIN THIS MAP.

LAS VEGAS VALLEY WATER DISTRICT NOTES

MAINTENANCE WORK ON FACILITIES LOCATED WITHIN UTILITY EASEMENTS GRANTED BY THIS MAP AND OWNED AND/OR OPERATED BY THE UTILITIES (BOTH FRANCHISE AND MUNICIPAL) MAY INCLUDE THE PLACEMENT OF AN ASPHALT OR CONCRETE PATCH AS APPLICABLE. NO EFFORT WILL BE MADE TO REPLACE OR MATCH ANY DECORATIVE SURFACE, LANDSCAPE FEATURE, OR ANY OTHER IMPROVEMENTS DISTURBED AS A RESULT OF THE MAINTENANCE ACTIVITIES OF THE UTILITIES OR THEIR AUTHORIZED REPRESENTATIVES.

RECORDATION OF THIS SUBDIVISION MAP WILL ESTABLISH A LIMITED WATER COMMITMENT FROM THE LAS VEGAS VALLEY WATER DISTRICT AS FOLLOWS:

LOT/BLOCK	ACRE-FEET/YEAR
1	1.0

REFERENCE MAPS/DOCS

① PARCEL MAP BOOK 2, P. 82 PLS 361

SURVEYOR’S CERTIFICATE

I, GLEN J. DAVIS, A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NEVADA, DO HEREBY CERTIFY:

- THIS IS A TRUE AND ACCURATE REPRESENTATION OF THE LANDS SURVEYED UNDER MY DIRECT SUPERVISION AT THIS INSTANCE OF: CARPI ENTERPRISES, A NEVADA LIMITED LIABILITY COMPANY
- THE LANDS SURVEYED LIE WITHIN SECTION 6, TOWNSHIP 21 SOUTH, RANGE 61 EAST, M.D.M., CLARK COUNTY, NEVADA AND THE SURVEY WAS COMPLETED ON DECEMBER 14, 2020.
- THIS PLAT COMPLIES WITH THE APPLICABLE STATE STATUTES AND ANY LOCAL ORDINANCES IN EFFECT ON THE DATE THAT THE GOVERNING BODY GAVE ITS FINAL APPROVAL.
- THE MONUMENTS DEPICTED ON THE PLAT ARE OF THE CHARACTER SHOWN, OCCUPY THE POSITIONS INDICATED AND ARE OF SUFFICIENT NUMBER AND DURABILITY.

GLEN J. DAVIS
PROFESSIONAL LAND SURVEYOR
NEVADA CERTIFICATE NO. 11825
CERTIFICATE EXPIRES: DECEMBER 31, 2020



DISTRICT BOARD OF HEALTH CERTIFICATE

THIS FINAL MAP IS APPROVED BY THE SOUTHERN NEVADA HEALTH DISTRICT THIS APPROVAL CONCERNS SEWAGE DISPOSAL, WATER POLLUTION, WATER QUALITY AND WATER SUPPLY FACILITIES AND IS PREDICATED UPON PLANS FOR A PUBLIC WATER SUPPLY AND COMMUNITY SYSTEM FOR DISPOSAL OF SEWAGE.

BY: _____ DATE _____
SOUTHERN NEVADA HEALTH DISTRICT

DIVISION OF WATER RESOURCES

THIS FINAL MAP IS APPROVED BY THE DIVISION OF WATER RESOURCES OF THE DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES CONCERNING WATER QUANTITY SUBJECT TO THE REVIEW OF APPROVAL ON FILE IN THIS OFFICE.

BY: _____ DATE _____
DIVISION OF WATER RESOURCES

COUNTY SURVEYOR’S CERTIFICATE

I, DUSTIN L. CROWTHER, COUNTY SURVEYOR FOR CLARK COUNTY, NEVADA, DO HEREBY CERTIFY THAT ON THIS _____ DAY OF _____, 20____, I DID EXAMINE THE FINAL MAP OF:

COMMERCIAL CENTER SEC (A COMMERCIAL SUBDIVISION)

THAT THE MAP, AS SHOWN HEREON, IS TECHNICALLY CORRECT, AND THAT IF THE MONUMENTS HAVE NOT BEEN SET, A PROPER PERFORMANCE BOND OR OTHER FINANCIAL ASSURANCE HAS BEEN DEPOSITED GUARANTEEING THEIR SETTING ON OR BEFORE THE DAY OF _____, 20____

DUSTIN L. CROWTHER, PLS
CLARK COUNTY SURVEYOR
NEVADA CERTIFICATE NO. 19869

BENEFICIARY STATEMENT

BENEFICIARIES TO RECORD BY SEPARATE DOCUMENT (IF APPLICABLE)

S-4016	NFM-
FINAL MAP FOR COMMERCIAL CENTER SEC	
A PORTION OF BLOCK 2 OF HINSON HEIGHTS, BOOK 2, PAGE 82 IN THE OFFICE OF COUNTY RECORDER OF CLARK COUNTY, NEVADA	
	LOCHSA SURVEYING 6345 SOUTH JONES BLVD., SUITE 200 LAS VEGAS, NEVADA 89118 PHONE: 702-365-9312 FAX: 702-365-9317
NO. _____ FILED AT THE REQUEST OF LOCHSA SURVEYING	
DATE: _____ TIME _____ FILE _____ PAGE _____ OF SURVEYS OFFICIAL RECORDS BOOK NO. _____	
CLARK COUNTY, NEVADA RECORDS DEBBIE CONWAY, COUNTY RECORDER	
FEE _____ DEPUTY _____ BOOK _____ PAGE _____	

FINAL MAP OF COMMERCIAL CENTER SEC

A PORTION OF BLOCK 2 OF HINSON HEIGHTS, BOOK 2, PAGE 82 IN THE OFFICE OF COUNTY RECORDER OF CLARK COUNTY, NEVADA

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS AND LAS VEGAS HIGH ELEVATION ZONES, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

ZONE: LAS VEGAS ELEVATION ZONE

DATUM (REFERENCE FRAME): NAD 1983(2011) EPOCH 2010.0

SYSTEM: NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

PROJECTION: TRANSVERSE MERCATOR

STANDARD PARALLEL (AND LATITUDE OF GRID ORIGIN): 36°15'00"N

LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W

NORTHING AT GRID ORIGIN: 200,000.00 M (656,166.6667 FEET US)

EASTING AT CENTRAL MERIDIAN: 100,000.00 M (328,083.3333 FEET US)

SCALE FACTOR ON CENTRAL MERIDIAN: 1.0001 (EXACT)

NOTES:

1. ALL DISTANCES AND BEARINGS SHOWN HEREON ARE PROJECTED (GRID) VALUES BASED ON THE PRECEDING PROJECTION DEFINITION. THE PROJECTION WAS DEFINED SUCH THAT PROJECTED (GRID) DISTANCES ARE EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.

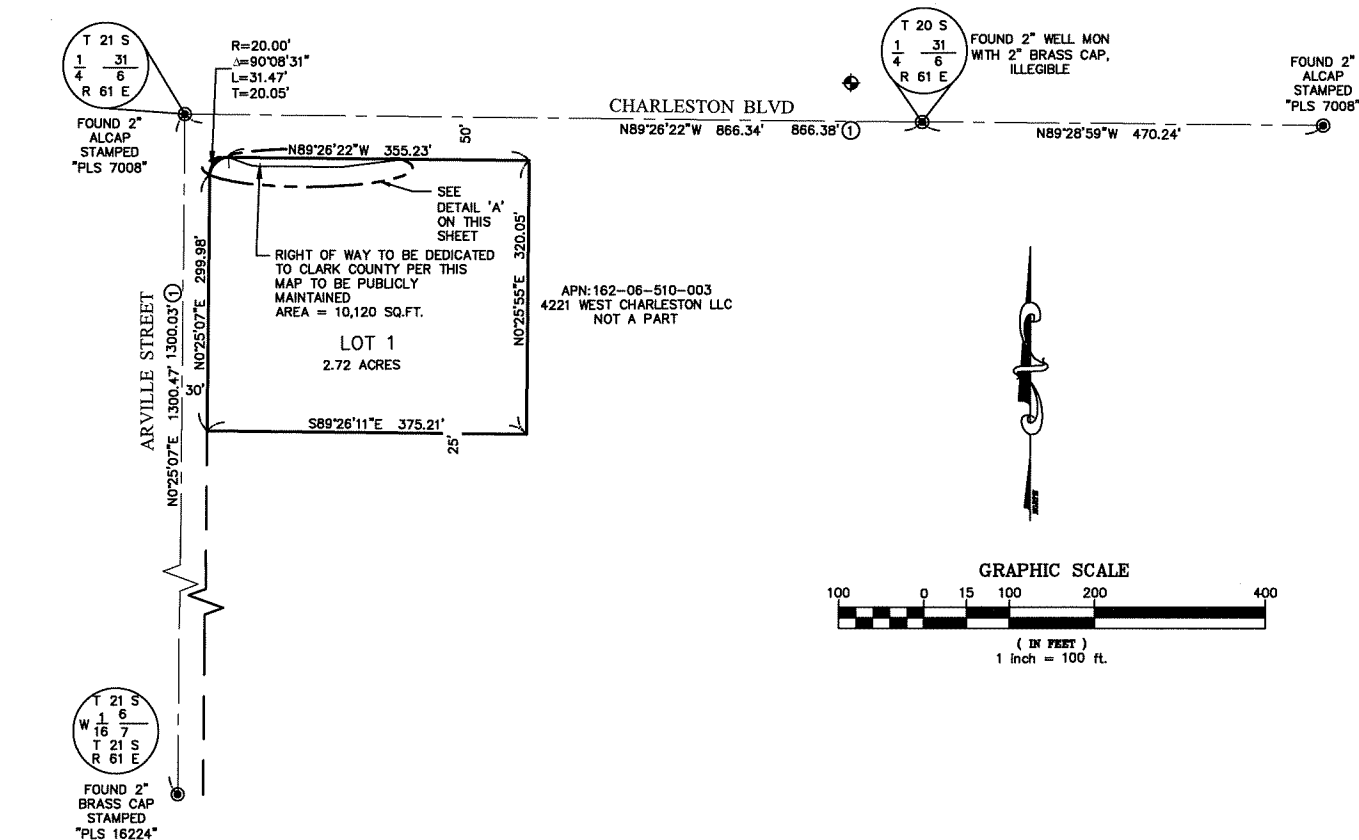
2. GRID BEARING SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARING DUE TO MERIDIAN CONVERGENCE.

LEGEND

---	SUBJECT PROPERTY BOUNDARY LINE
---	STREET CENTERLINE
---	PARCEL TIE LINE
---	RADIAL BEARING
---	ADJOINER'S PROPERTY LINE
---	RIGHT-OF-WAY LINE
---	SECTIONAL LINE
---	LOT LINE
---	EASEMENT LINE
+	BENCHMARK
●	FOUND MONUMENT AS NOTED
APN	ASSESSOR'S PARCEL NUMBER
ALCAP	ALUMINUM CAP
②	REFERENCE MAP NUMBER

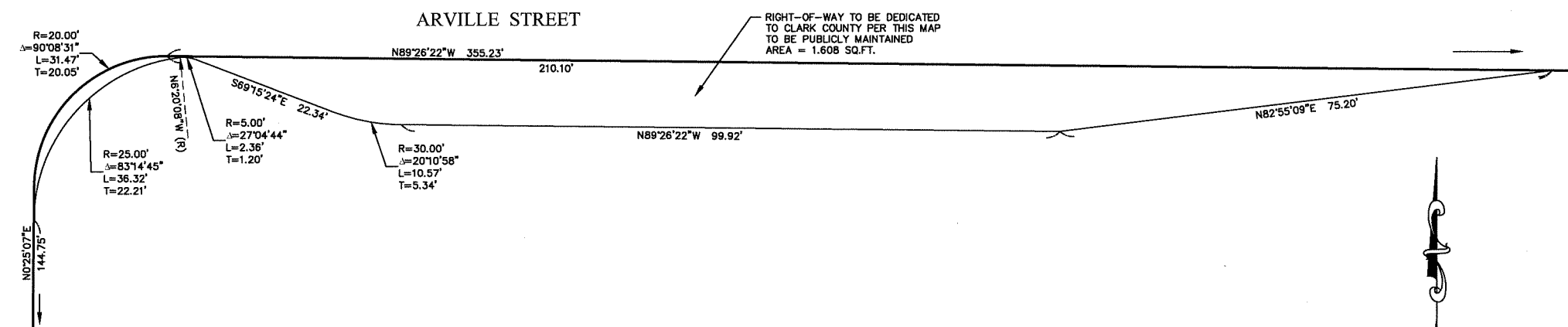
REFERENCE MAPS/DOCS

① PARCEL MAP BOOK 2, P. 82 PLS 361



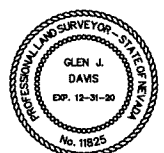
SURVEY ANALYSIS

SCALE: 1"=100'



DETAIL "A"

SCALE: 1"=10'

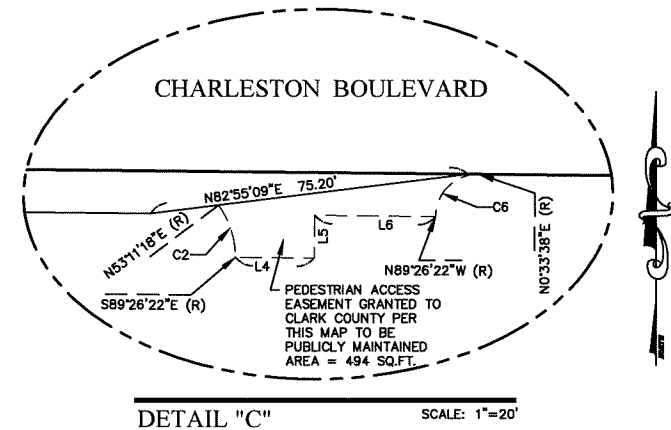
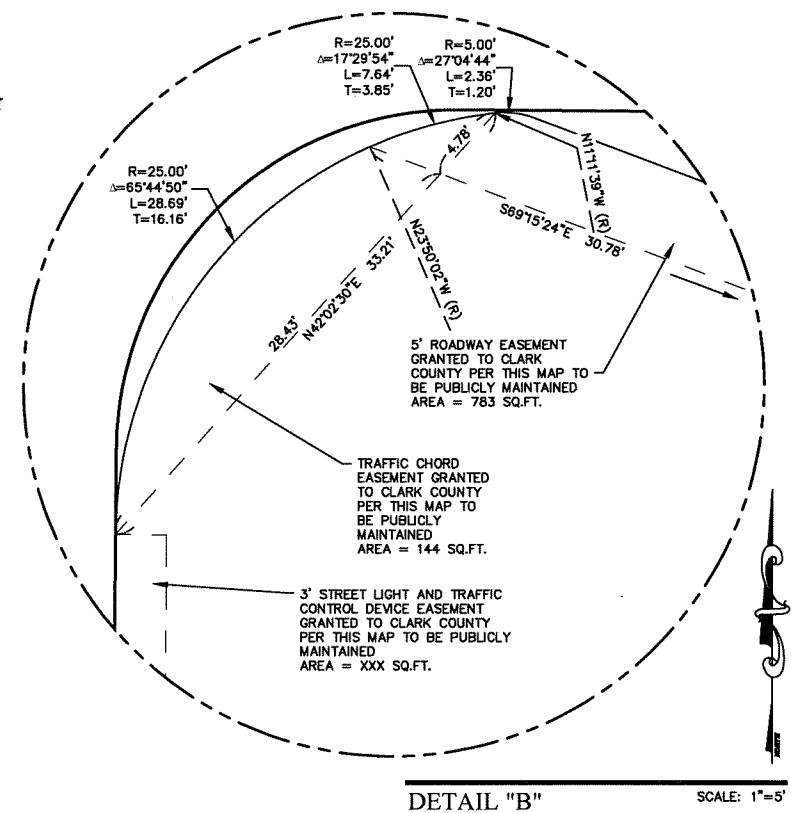
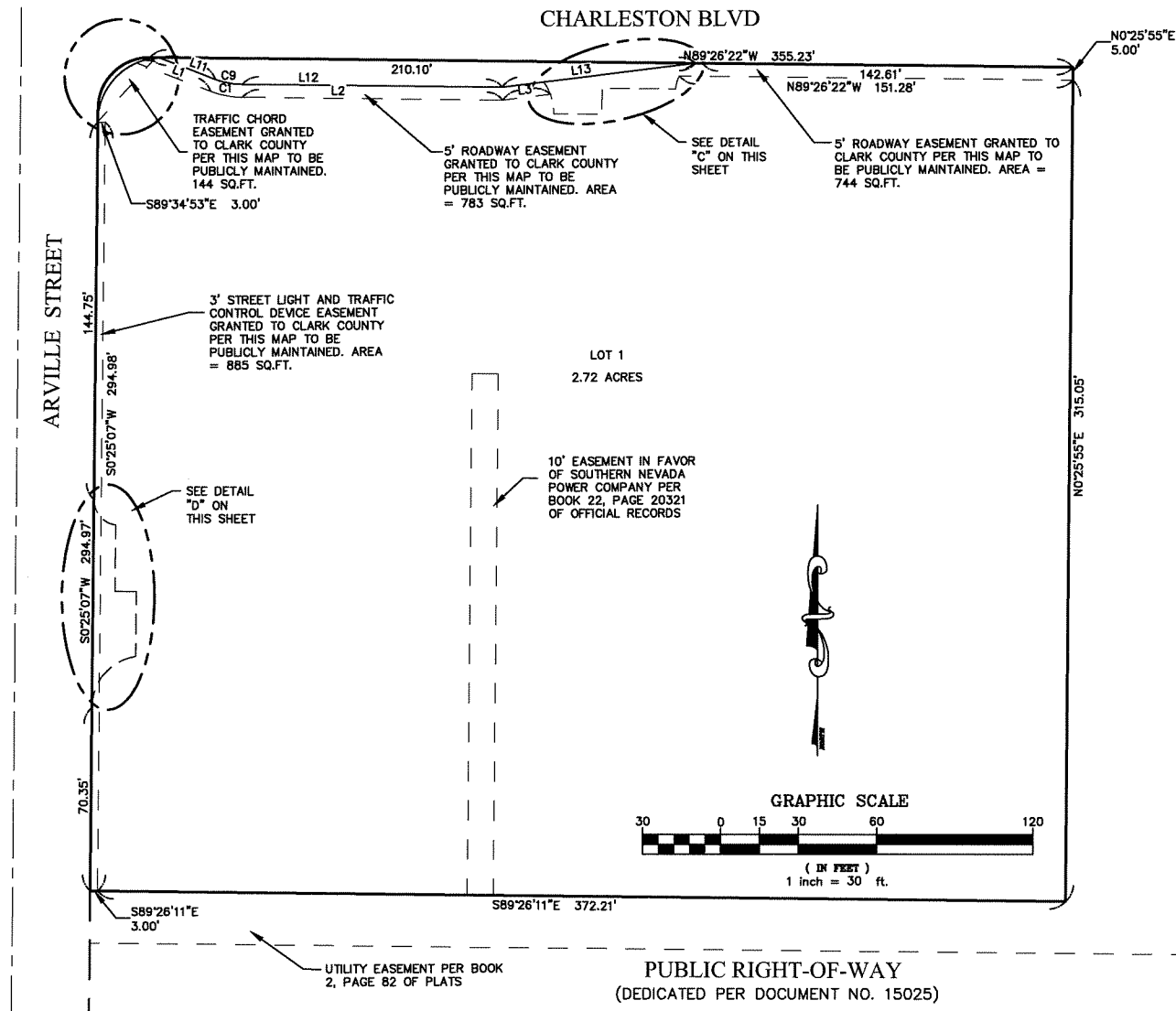


SHEET 2 OF 3

FILE PAGE

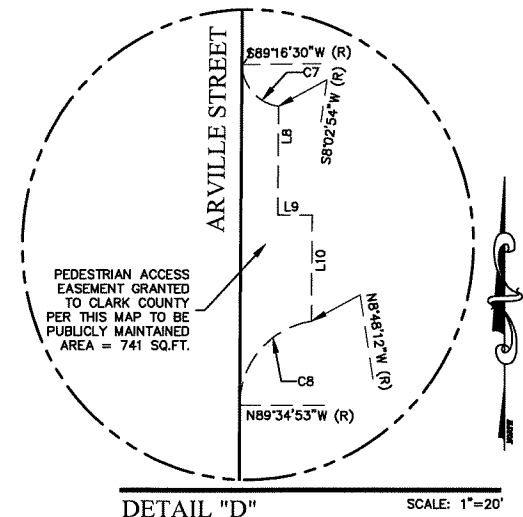
FINAL MAP OF
COMMERCIAL CENTER SEC

A PORTION OF BLOCK 2 OF HINSON HEIGHTS, BOOK 2, PAGE 82 IN THE OFFICE OF COUNTY RECORDER OF CLARK COUNTY, NEVADA



Line Table		
Line #	Direction	Length
L1	S69°15'24"E	30.78'
L2	S89°26'22"E	100.25'
L3	N82°55'09"E	18.44'
L4	N89°26'22"W	18.50'
L5	S00°33'36"W	10.00'
L6	N89°26'22"W	28.50'
L8	S00°25'07"W	25.52'
L9	S89°34'53"E	8.12'
L10	S00°25'07"W	24.90'
L11	S69°15'24"E	22.34'
L12	N89°26'22"W	99.92'
L13	N82°55'09"E	75.20'

Curve Table			
Curve #	Radius	Delta	Length
C1	35.00'	20°10'58"	12.33'
C2	20.00'	37°22'20"	13.05'
C6	10.00'	90°00'00"	15.71'
C7	10.00'	81°13'36"	14.18'
C8	20.00'	80°46'41"	28.20'



BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS AND LAS VEGAS HIGH ELEVATION ZONES, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

ZONE: LAS VEGAS ELEVATION ZONE

DATUM (REFERENCE FRAME): NAD 1983(2011) EPOCH 2010.0

SYSTEM: NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

PROJECTION: TRANSVERSE MERCATOR

STANDARD PARALLEL (AND LATITUDE OF GRID ORIGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.00 M (656,166.6667 FEET US)
EASTING AT CENTRAL MERIDIAN: 100,000.00 M (328,083.3333 FEET US)
SCALE FACTOR ON CENTRAL MERIDIAN: 1.0001 (EXACT)

NOTES:

1. ALL DISTANCES AND BEARINGS SHOWN HEREON ARE PROJECTED (GRID) VALUES BASED ON THE PRECEDING PROJECTION DEFINITION. THE PROJECTION WAS DEFINED SUCH THAT PROJECTED (GRID) DISTANCES ARE EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.

2. GRID BEARING SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARING DUE TO MERIDIAN CONVERGENCE.

LEGEND

- SUBJECT PROPERTY BOUNDARY LINE
- STREET CENTERLINE
- PARCEL TIE LINE
- RADIAL BEARING
- ADJOINER'S PROPERTY LINE
- RIGHT-OF-WAY LINE
- SECTIONAL LINE
- LOT LINE
- EASEMENT LINE



COMMENT #4

10yr / 100yr Flow Split Calculations

(Arville & Alley Way)

Alley Way (10yr) - Split Flow Worksheet for Irregular Channel

— Section 6

Project Description	
Worksheet	Alley Way (10yr) - Split Flow
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data	
Slope	.006231 ft/ft
Discharge	16.00 cfs

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

Results	
Mannings Coefficient	0.016
Water Surface Elev.	77.88 ft
Elevation Range	77.52 to 77.71
Flow Area	5.8 ft ²
Wetted Perimeter	25.53 ft
Top Width	25.00 ft
Actual Depth	0.36 ft
Critical Elevation	77.88 ft
Critical Slope	0.006231 ft/ft
Velocity	2.74 ft/s
Velocity Head	0.12 ft
Specific Energy	78.00 ft
Froude Number	1.00
Flow Type	Supercritical

Amount of 10yr Flow splitting east into alley way

V_{10}

matches Arville W.S.E.

Calculation Messages:
Water elevation exceeds lowest end station by 0.36099602 ft.

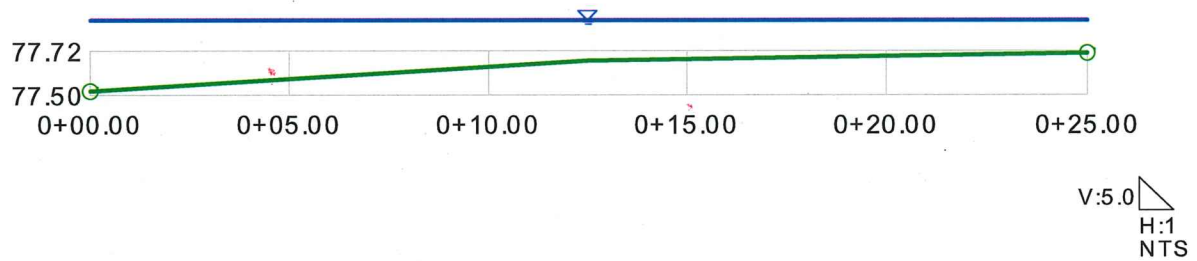
Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00.00	0+25.00	0.016

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00.00	77.52
0+12.50	77.68
0+25.00	77.71

Alley Way (10yr) - Split Flow **Cross Section for Irregular Channel**

Project Description	
Worksheet	Alley Way (10yr) - Split F
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.016
Slope	0.006231 ft/ft
Water Surface Elev.	77.88 ft
Elevation Range	77.52 to 77.71
Discharge	16.00 cfs



Split Flow - Arville (10year) Worksheet for Irregular Channel

- Section 5

Project Description	
Worksheet	Split Flow - Arville (10year)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data	
Slope	.003000 ft/ft
Discharge	35.80 cfs

← Amount of 10yr Flow continuing north in Arville St.

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

Results	
Mannings Coefficient	0.014
Water Surface Elev.	78.00 ft
Elevation Range	77.08 to 78.36
Flow Area	12.2 ft ²
Wetted Perimeter	33.07 ft
Top Width	32.04 ft
Actual Depth	0.92 ft
Critical Elevation	77.95 ft
Critical Slope	0.004383 ft/ft
Velocity	2.93 ft/s
Velocity Head	0.13 ft
Specific Energy	78.13 ft
Froude Number	0.84
Flow Type	Subcritical

Matches the specific energy elev. in Alley Way

V₁₀

Calculation Messages:

Water elevation exceeds lowest end station by 0.31762106 ft.
Flow is divided.

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00.00	0+02.00	0.013
0+02.00	0+48.00	0.016
0+48.00	0+59.00	0.013

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00.00	78.36
0+00.50	78.36
0+00.50	77.86
0+02.00	77.99
0+02.00	78.03
0+25.00	78.13
0+48.00	77.25

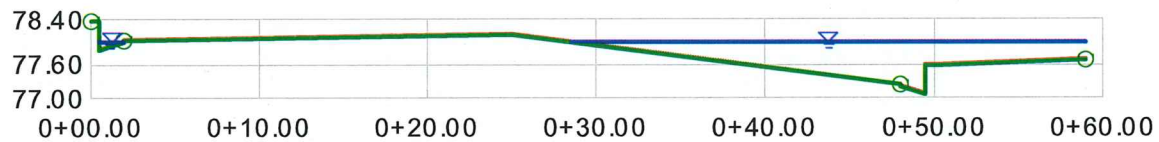
Split Flow - Arville (10year)
Worksheet for Irregular Channel

Natural Channel Points	
Station (ft)	Elevation (ft)
0+48.00	77.21
0+49.50	77.08
0+49.50	77.58
0+50.00	77.58
0+59.00	77.68

Split Flow - Arville (10year) **Cross Section for Irregular Channel**

Project Description	
Worksheet	Split Flow - Arville (10year)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.014
Slope	0.003000 ft/ft
Water Surface Elev.	78.00 ft
Elevation Range	77.08 to 78.36
Discharge	35.80 cfs



V:3.33333333
H:1
NTS

Alley Way (100yr) - Split Flow Worksheet for Irregular Channel

— Section 6

Project Description	
Worksheet	Alley Way (100yr) - Split Flow
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data	
Slope	.005348 ft/ft
Discharge	34.20 cfs

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

Results	
Mannings Coefficient	0.016
Water Surface Elev.	78.03 ft
Elevation Range	77.52 to 77.71
Flow Area	9.7 ft ²
Wetted Perimeter	25.84 ft
Top Width	25.00 ft
Actual Depth	0.51 ft
Critical Elevation	78.03 ft
Critical Slope	0.005348 ft/ft
Velocity	3.53 ft/s
Velocity Head	0.19 ft
Specific Energy	78.23 ft
Froude Number	1.00
Flow Type	Supercritical

critical slope

Amount of Flow that
splits east into Alley Way

V₁₀₀

matches Arville W.S.E.

Calculation Messages:
Water elevation exceeds lowest end station by 0.5149492 ft.

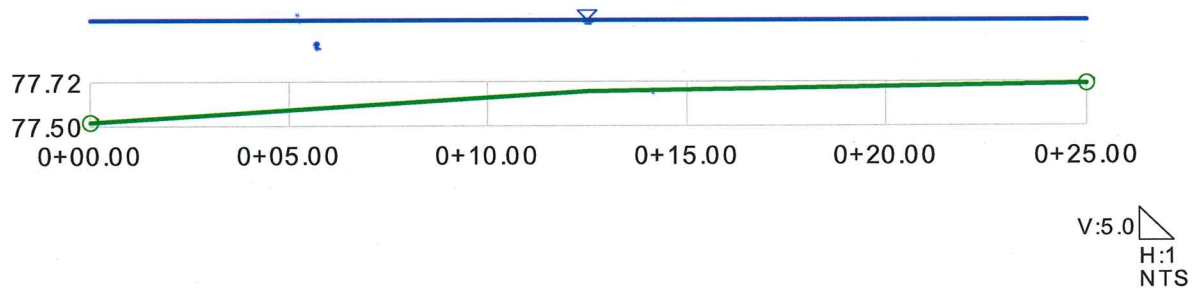
Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00.00	0+25.00	0.016

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00.00	77.52
0+12.50	77.68
0+25.00	77.71

Alley Way (100yr) - Split Flow Cross Section for Irregular Channel

Project Description	
Worksheet	Alley Way (100yr) - Split I
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.016
Slope	0.005348 ft/ft
Water Surface Elev.	78.03 ft
Elevation Range	77.52 to 77.71
Discharge	34.20 cfs



Split Flow - Arville (100year) Worksheet for Irregular Channel

— Section 5

Project Description	
Worksheet	Split Flow - Arville (100year)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data	
Slope	003000 ft/ft
Discharge	73.00 cfs

Amount of Flow continuing North

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

Results	
Mannings Coefficient	0.014
Water Surface Elev.	78.23 ft
Elevation Range	78.08 to 78.36
Flow Area	23.5 ft ²
Wetted Perimeter	60.02 ft
Top Width	58.50 ft
Actual Depth	1.15 ft
Critical Elevation	78.19 ft
Critical Slope	0.004147 ft/ft
Velocity	3.11 ft/s
Velocity Head	0.15 ft
Specific Energy	78.38 ft
Froude Number	0.86
Flow Type	Subcritical

matches the specific energy in Alley Way

V₁₀₀

Calculation Messages:
Water elevation exceeds lowest end station by 0.54700031 ft.

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00.00	0+02.00	0.013
0+02.00	0+48.00	0.016
0+48.00	0+59.00	0.013

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00.00	78.36
0+00.50	78.36
0+00.50	77.86
0+02.00	77.99
0+02.00	78.03
0+25.00	78.13
0+48.00	77.25
0+48.00	77.21

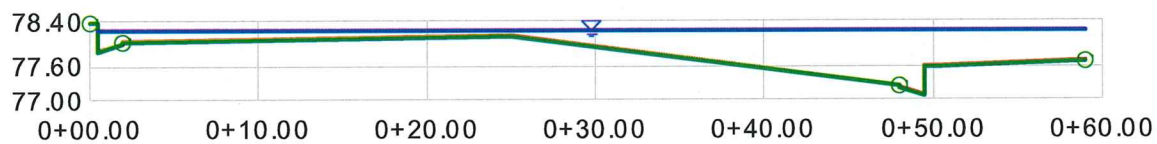
Split Flow - Arville (100year)
Worksheet for Irregular Channel

Natural Channel Points	
Station (ft)	Elevation (ft)
0+49.50	77.08
0+49.50	77.58
0+50.00	77.58
0+59.00	77.68

Split Flow - Arville (100year) **Cross Section for Irregular Channel**

Project Description	
Worksheet	Split Flow - Arville (100ye
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.014
Slope	0.003000 ft/ft
Water Surface Elev.	78.23 ft
Elevation Range	77.08 to 78.36
Discharge	73.00 cfs



V:3.33333333
H:1
NTS

Revised 10yr / 100yr Arville Normal Depth Calculations

**Section 1 - Arville - 10year
Worksheet for Irregular Channel**

- Exist. / Developed

Project Description	
Worksheet	Section 1 - Arville - 10yr
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data	
Slope	.004000 ft/ft
Discharge	35.80 cfs

Ref. Flow + BASIN ARV (3) - Flow split (16) =
(48.8)

35.8 cfs

Options	
Current Roughness Method	Overlotter's Method
Open Channel Weighting Method	Overlotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.015
Water Surface Elev.	77.31 ft
Elevation Range	77.55 to 77.60
Flow Area	13.9 ft ²
Wetted Perimeter	50.56 ft
Top Width	49.50 ft
Actual Depth	0.76 ft
Critical Elevation	77.28 ft
Critical Slope	0.005576 ft/ft
Velocity	2.58 ft/s
Velocity Head	0.10 ft
Specific Energy	77.41 ft
Froude Number	0.86
Flow Type	Subcritical

← d₁₀

← V₁₀

$$.76 \times 2.58 = 1.96 < 6 \text{ OK}$$

Calculation Messages:
Water elevation exceeds lowest end station by 0.25866997 ft.

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00.00	0+02.00	0.013
0+02.00	0+48.00	0.016
0+48.00	0+50.00	0.013

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00.00	77.60
0+00.50	77.60
0+00.50	77.10
0+02.00	77.23
0+02.00	77.27
0+25.00	77.08
0+48.00	76.72
0+48.00	76.68

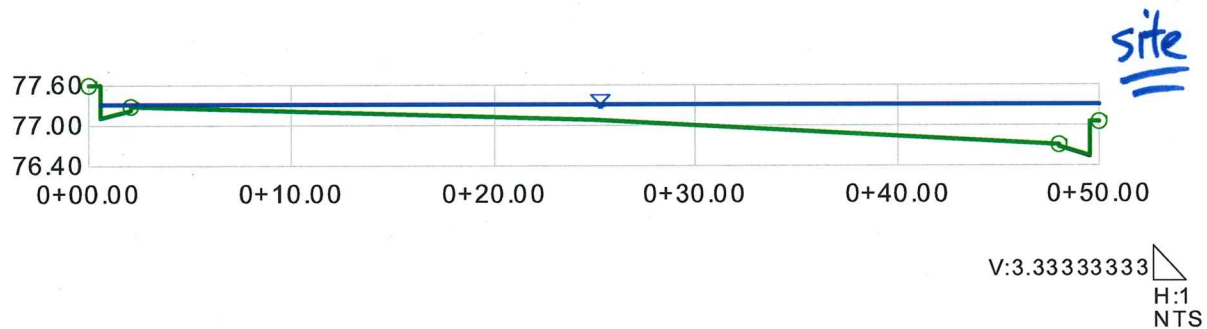
Section 1 - Arville - 10year Worksheet for Irregular Channel

Natural Channel Points	
Station (ft)	Elevation (ft)
0+49.50	76.55
0+49.50	77.05
0+50.00	77.05

Section 1 - Arville - 10year Cross Section for Irregular Channel

Project Description	
Worksheet	Section 1 - Arville - 10yr
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.015
Slope	0.004000 ft/ft
Water Surface Elev.	77.31 ft
Elevation Range	76.55 to 77.60
Discharge	35.80 cfs



**Section 1 - Arville - 100year
Worksheet for Irregular Channel**

Exist. / Developed

Project Description	
Worksheet	Section 1 - Arville - 100yr
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data	
Slope	0.004000 ft/ft
Discharge	73.00 cfs

← Ref. Flow (102.2) + ARV(5) - Flow split (34.2) =

73cfs

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

Results	
Mannings Coefficient	0.016
Water Surface Elev.	77.46 ft
Elevation Range	77.55 to 77.60
Flow Area	21.5 ft ²
Wetted Perimeter	50.87 ft
Top Width	49.50 ft
Actual Depth	0.91 ft
Critical Elevation	77.44 ft
Critical Slope	0.004946 ft/ft
Velocity	3.40 ft/s
Velocity Head	0.18 ft
Specific Energy	77.64 ft
Froude Number	0.91
Flow Type	Subcritical

← d_{100}

← V_{100}

$.91 \times 3.40 = \underline{3.09} < 8 \text{ OK} \checkmark$

Calculation Messages:
Water elevation exceeds lowest end station by 0.41302853 ft.

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00.00	0+02.00	0.013
0+02.00	0+48.00	0.016
0+48.00	0+50.00	0.013

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00.00	77.60
0+00.50	77.60
0+00.50	77.10
0+02.00	77.23
0+02.00	77.27
0+25.00	77.08
0+48.00	76.72
0+48.00	76.68

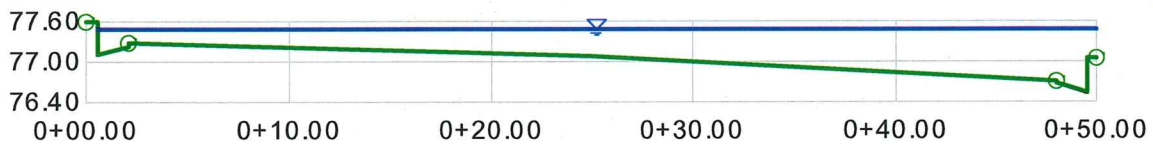
Section 1 - Arville - 100year Worksheet for Irregular Channel

Natural Channel Points	
Station (ft)	Elevation (ft)
0+49.50	76.55
0+49.50	77.05
0+50.00	77.05

Section 1 - Arville - 100year **Cross Section for Irregular Channel**

Project Description	
Worksheet	Section 1 - Arville - 100y
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.016
Slope	0.004000 ft/ft
Water Surface Elev.	77.46 ft
Elevation Range	76.55 to 77.60
Discharge	73.00 cfs



V:3.33333333
H:1
NTS

100yr Alley Way Normal Depth Calculation

Alley Way (100yr) Worksheet for Irregular Channel - Section

Project Description	Alley Way (100yr) - Sect
Worksheet	Irregular Channel
Flow Element	Manning's Formula
Method	Channel Depth
Solve For	

Input Data
Slope 0.017000 ft/ft
Discharge 35.20 cfs

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

Results	0.016
Mannings Coefficient	77.84 ft
Water Surface Elev.	78.15
Elevation Range	77.36 to 78.15
Flow Area	6.8 ft ²
Wetted Perimeter	24.61 ft
Top Width	24.45 ft
Actual Depth	0.48 ft
Critical Elevation	77.97 ft
Critical Slope	0.005269 ft/ft
Velocity	5.15 ft/s
Velocity Head	0.41 ft
Specific Energy	78.25 ft
Froude Number	1.72
Flow Type	Supercritical

Calculation Messages:
Water elevation exceeds lowest end station by 0.14941166 ft.

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00.00	0+35.00	0.016

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00.00	78.15
0+06.00	78.03
0+22.00	77.36
0+35.00	77.69

split flow (34.20) + ND2(1) = 35.2 cfs

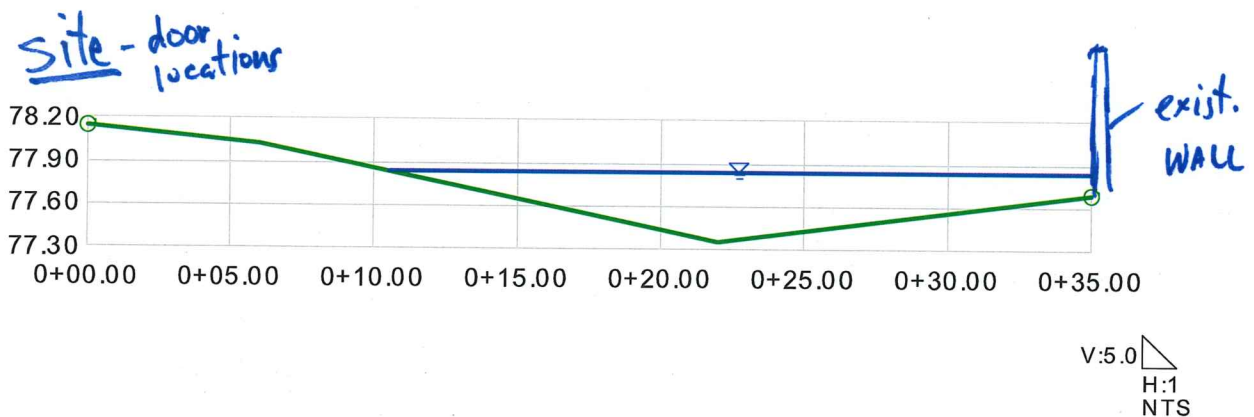
.48 x 5.15 = 2.47 < 8 OK

Project Engineer
FlowMa

Alley Way (100yr) Cross Section for Irregular Channel

Project Description	
Worksheet	Alley Way (100yr) - Sect
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.016
Slope	0.017000 ft/ft
Water Surface Elev.	77.84 ft
Elevation Range	77.36 to 78.15
Discharge	35.20 cfs



COMMENT #5

Riprap sizing for Berm

Shoppes at Hydepark

Date: January, 2021

Calculated By: CB

Equation 734, Section 405.4.6 of the 1999 Hydrologic Criteria and Drainage Design Manual

$$V = 3(d_{50}^{0.5})(S_s - 1) / (S^{0.17})$$

V = Mean channel velocity in fps;

S = Longitudinal channel slope in feet per foot

S_s = Specific gravity of rock (minimum S_s = 2.50)

d₅₀ = Mean stone size in ft, rock size in for which 50% (by weight) of the riprap is smaller

Solve for d₅₀:

$$d_{50} = [V(S^{0.17}) / (3(S_s - 1))]^2$$

V = 11.1 fps <<<< From Flow Master Street Section '2' for Charleston Blvd.

S = 0.0110 ft/ft

S_s = 2.65

d₅₀ = 1.09 ft

13.02 inches

* d₅₀ = 13-inch Riprap is being proposed

(Velocity)

COMMENT #6

2ft Sidewalk Underdrain Capacity Worksheet for Rectangular Channel

Project Description	
Worksheet	2ft Sidewalk Underdrain Capacity
Flow Element	Rectangular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Mannings Coeff	0.013
Slope	.020000 ft/ft
Depth	0.50 ft
Bottom Width	2.00 ft ← width

Results	
Discharge	7.77 cfs
Flow Area	1.0 ft ²
Wetted Perim	3.00 ft
Top Width	2.00 ft
Critical Depth	0.78 ft
Critical Slope	0.005766 ft/ft
Velocity	7.77 ft/s
Velocity Head	0.94 ft
Specific Energ	1.44 ft
Froude Numbr	1.94
Flow Type	Supercritical

← capacity of 1 SW underdrain (can convey nearly the entire 100yr Flow from Basin ND1 of 8cfs)

However, a second SW underdrain has been proposed for an emergency overflow path.

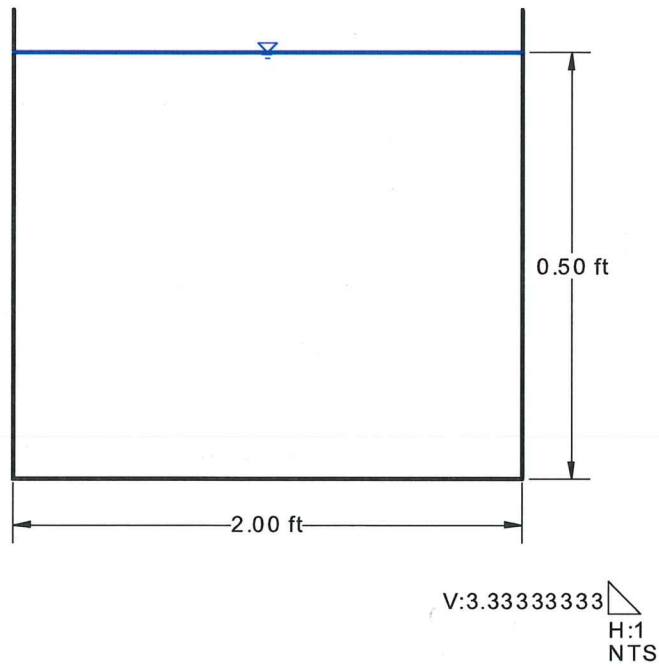
2ft Sidewalk Underdrain Capacity Cross Section for Rectangular Channel

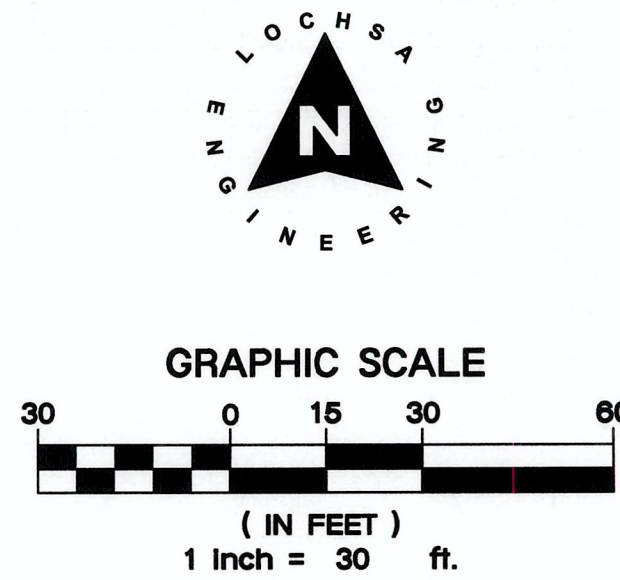
Project Description

Worksheet	2ft Sidewalk Underdrain Capacity
Flow Element	Rectangular Channel
Method	Manning's Formula
Solve For	Discharge

Section Data

Mannings Coeff	0.013
Slope	0.020000 ft/ft
Depth	0.50 ft
Bottom Width	2.00 ft
Discharge	7.77 cfs





- ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH "CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS (C.C.A.U.S.D.)" LATEST EDITION AND/OR REGULATING ENTITY HAVING JURISDICTION.

- 1 REMOVE AND DISPOSE OF EX. AC PAVEMENT
- 2 REMOVE AND DISPOSE OF EX. CONCRETE WALKWAY
- 3 REMOVE AND DISPOSE OF EX. STRUCTURE, MATERIALS AND ASSOCIATE UTILITIES
- 4 REMOVE EX. BOLLARDS
- 5 PROTECT IN PLACE
- 6 EX. UTILITY TO BE REMOVED/RELOCATED PER UTILITY, PLUMBING, AND IRRIGATION PLANS
- 7 REMOVE CURB AND GUTTER
- 8 EX. GAS LINE, PROTECT IN PLACE (USE EXTREME CAUTION)
- 9 POWER POLES/OVERHEAD LINES TO BE REMOVED/RELOCATED BY OTHERS
- 10 EX. CONCRETE RAMP TO BE REMOVED
- 11 EX. BUMPER BLOCKS TO BE REMOVED
- 12 SOUTHWEST GAS EQUIPMENT TO BE REMOVED/RELOCATED BY OTHERS
- 13 ELECTRICAL VAULT EQUIPMENT TO BE REMOVED/RELOCATED BY OTHERS
- 14 REMOVE AND DISPOSE OF EXISTING PAN DRIVEWAY
- 15 REMOVE/RELOCATE STREETLIGHTS PER HORIZONTAL CONTROL PLAN
- 16 REMOVE AND DISPOSE EXISTING LANDSCAPING PER LANDSCAPING PLAN
- 17 REMOVE EXISTING SIGN

NOTE

- ALL EXISTING ON-SITE UTILITIES TO BE REMOVED AS PER STANDARDS
- ALL EXISTING ABOVE GROUND UTILITIES NOT BEING REMOVED/RELOCATED TO BE ADJUSTED TO FINISH GRADE AS REQUIRED

LEGEND

-  EX. CONCRETE SIDEWALK TO BE REMOVED
 EX. BUILDING AND/OR STRUCTURE TO BE REMOVED
 EX. PAVEMENT TO BE REMOVED
 EX. CURB AND GUTTER TO BE REMOVED

SOUTHWEST GAS CORPORATION	
SOUTHWEST GAS CORPORATION	DATE
UID:	
APPROVED FOR CONSTRUCTION	
LAS VEGAS VALLEY WATER DISTRICT PLANNING AND ENGINEERING SERVICES	
PROJECT #	FIRST APPROVED DATE.
LVWD00 APPROVED FIRE FLOW: TOTAL 2000 GPM/ONSITE 2000 GPM	

UTILITY NOTE:

LOCHSA ENGINEERING ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS PLAN ARE FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES, INCLUDING BUT NOT LIMITED TO, THE WATER, FIRE, SANITARY SEWER, STORM SEWER, TELEPHONE, POWER, GAS, AND IRON AND STEEL PIPE LINES. PRIOR TO ANY MAJOR CONSTRUCTION, IF CONFLICT EXISTS IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE PROJECT ARCHITECT, OWNER'S REPRESENTATIVE AND THE PROJECT ENGINEER IMMEDIATELY.

Call before you Dig
Avoid cutting underground utility lines. It's costly.



FAST
before
Underground

**CALL BEFORE
YOU DO
OVERHEAD**



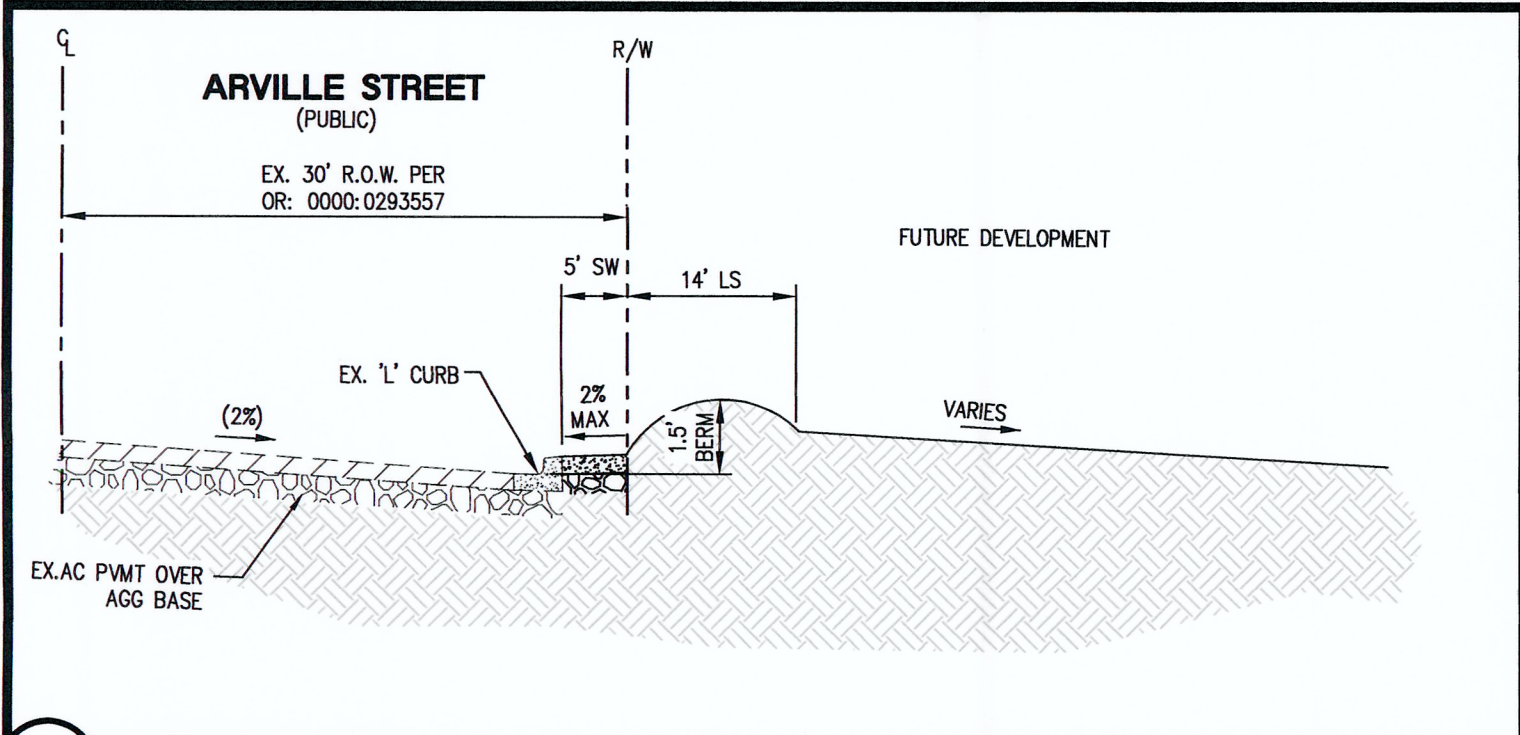
SEAL
PROFESSIONAL ENGINEER-STATE OF NEVADA
TED C.
EGERTON
EXP. 12-31-22
CIVIL
No. 11286

January 13, 2021

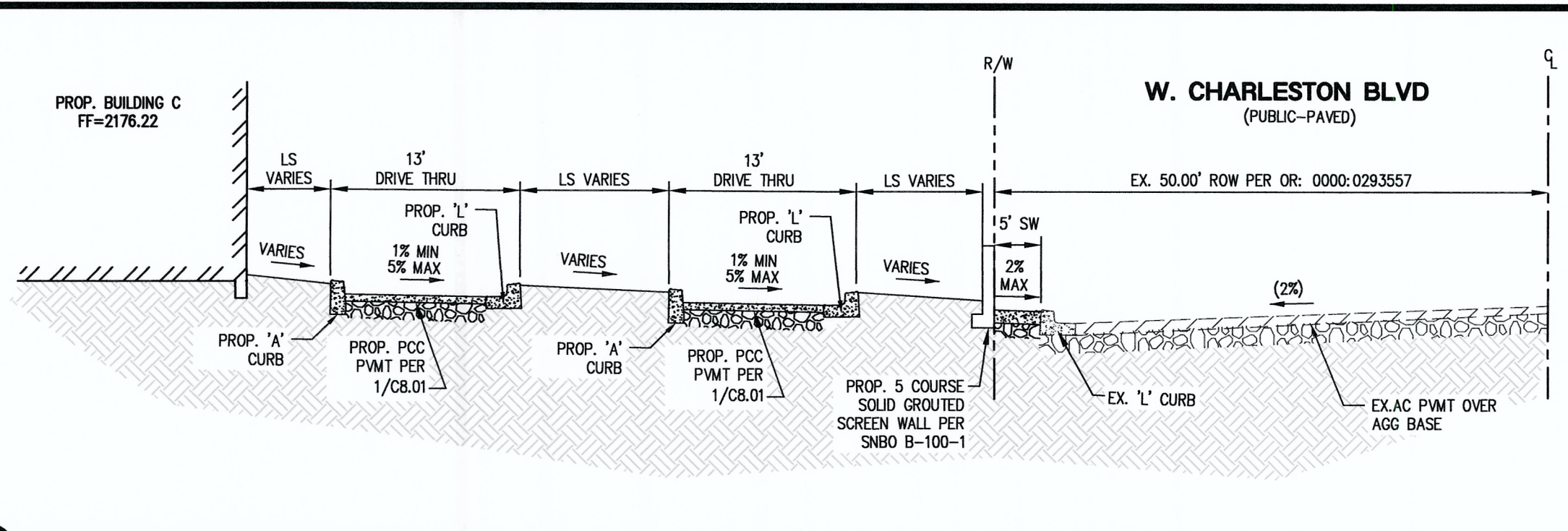
SHEET No.
C2.01
SHEET **3** OF **8**
OFFSITE HTE No.

CL OR SURVEY LINE	EASEMENT LINE	DESCRIPTION:	BUILDING OUTLINE	EDGE OF PAVEMENT	"A" TYPE CURBS	"L" TYPE CURBS	WALLS	CONTOUR LINES	AC PAVEMENT	CONCRETE	SPOT ELEVATIONS	SIGNS	MANHOLE W/ DESCRIPTION	MANHOLE DESCRIPTIONS ① = SANITARY SEWER ② = STORM DRAIN ③ = ELECTRICAL ④ = TELEPHONE	FIRE HYDRANTS	GATE VALVES	REDUCERS	CLEAN OUTS	UTILITY BOX OR VAULT	60' ROW LED STREETLIGHTS	80' ROW LED STREETLIGHTS	100' ROW LED STREETLIGHTS	INTERSECTION STREETLIGHTS
PROPERTY LINE	SAWTOOTH LINE	EXISTING:						(2210)			(12.34)		⑤	⑤		⊗		○					
ROW LINE	SCARP LINE	PROPOSED:						(2210)			(12.34)		⑤	⑤		⊗		○					

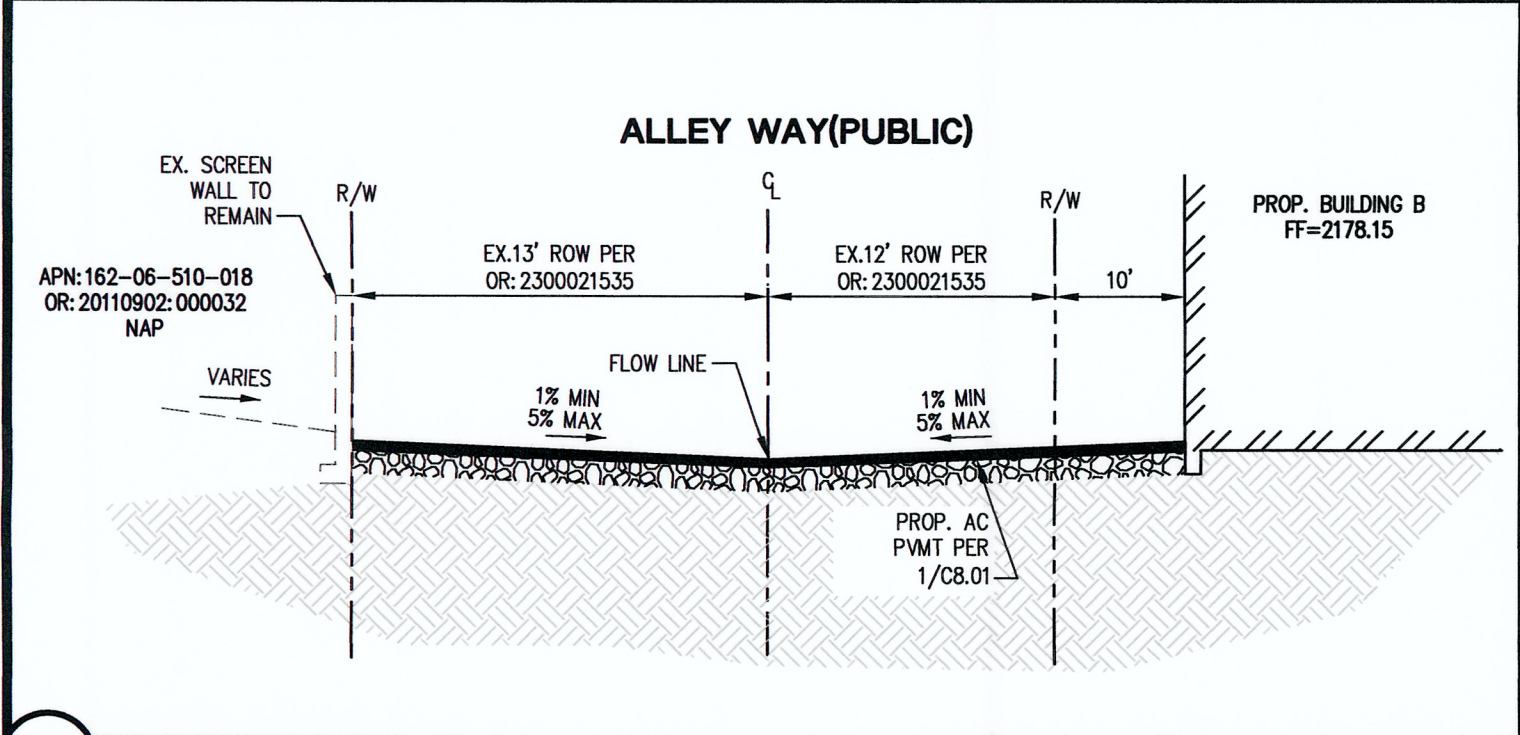
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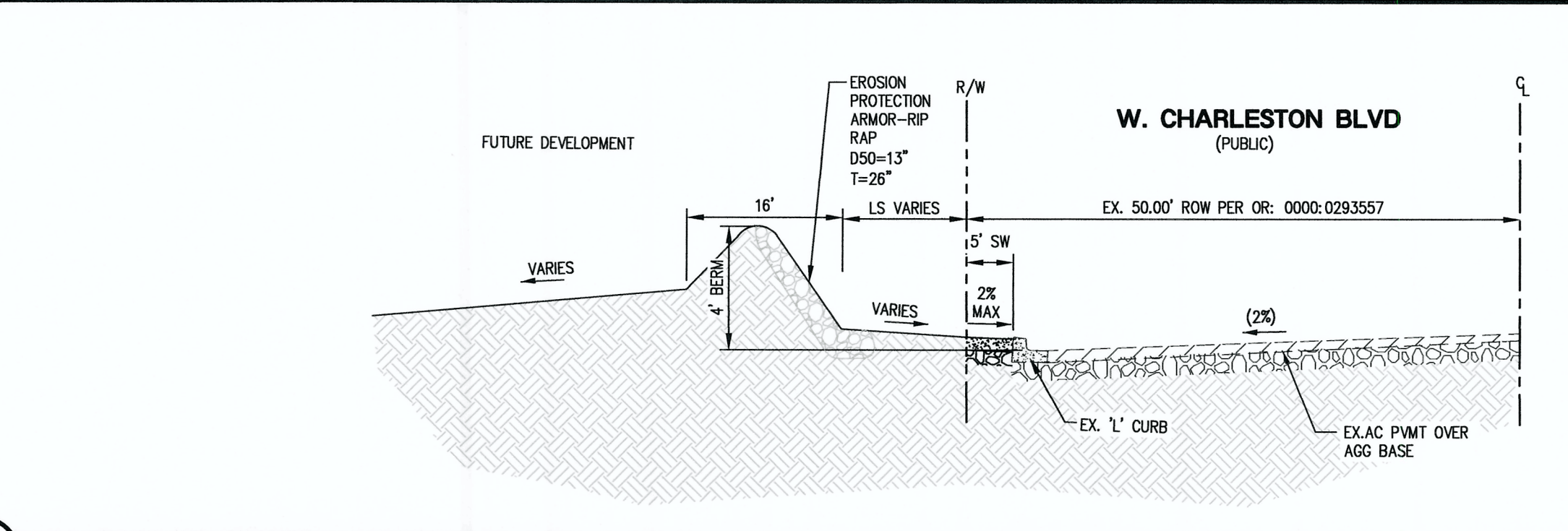
A SECTION-ARVILLE NOT TO SCALE



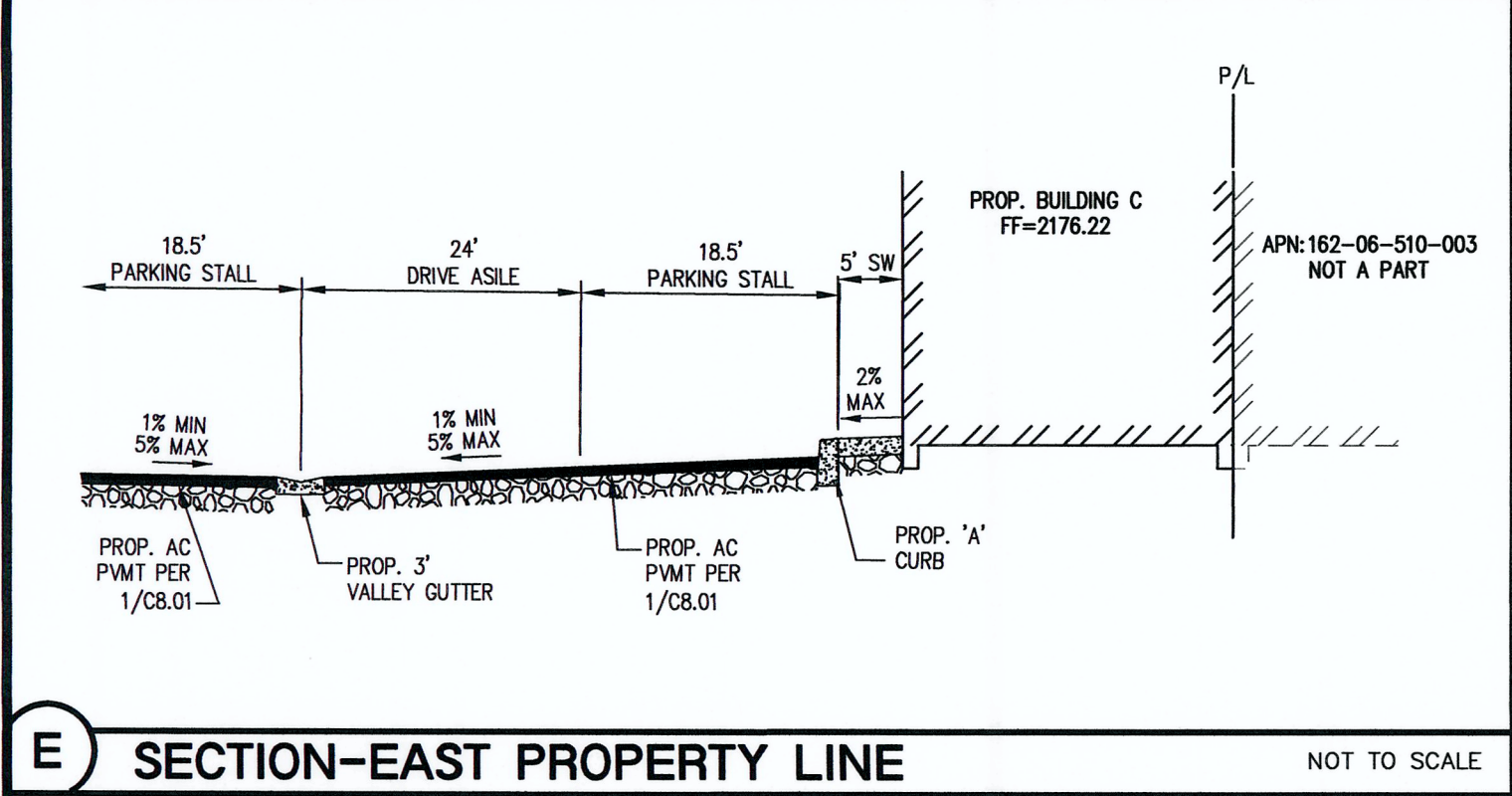
B SECTION-CHARLESTON NOT TO SCALE



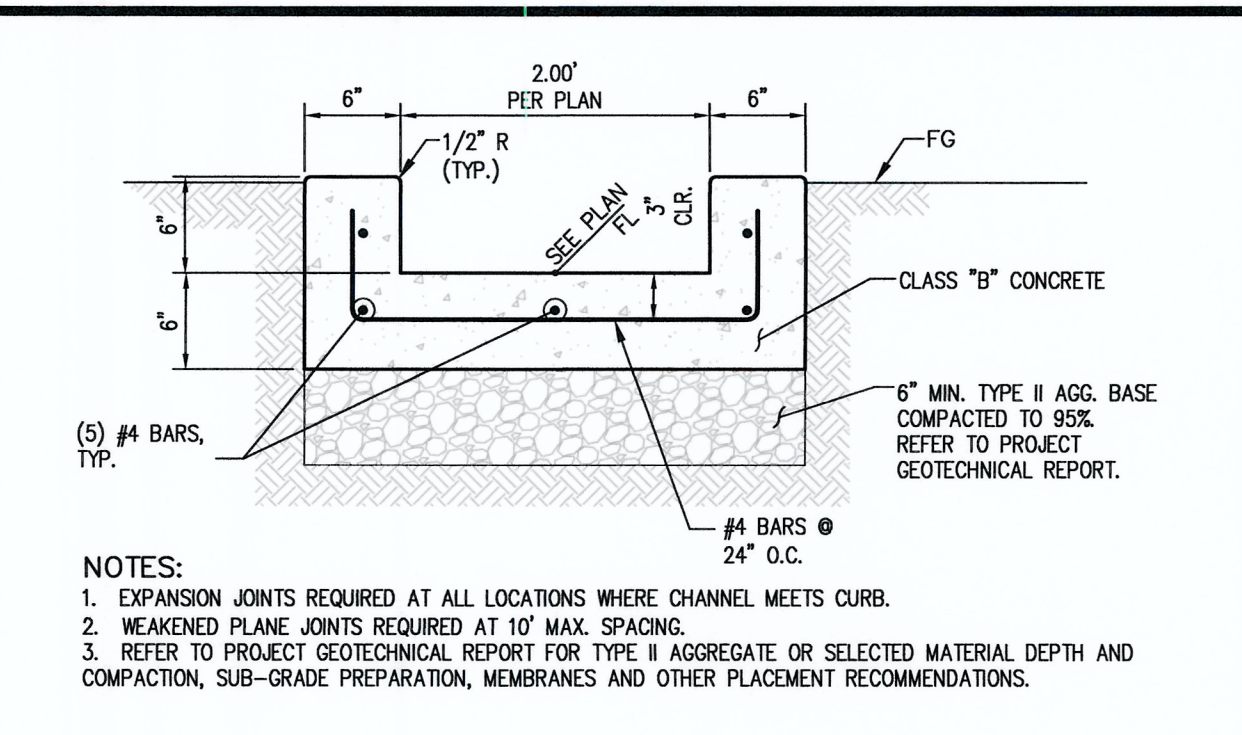
C SECTION-ALLEY NOT TO SCALE



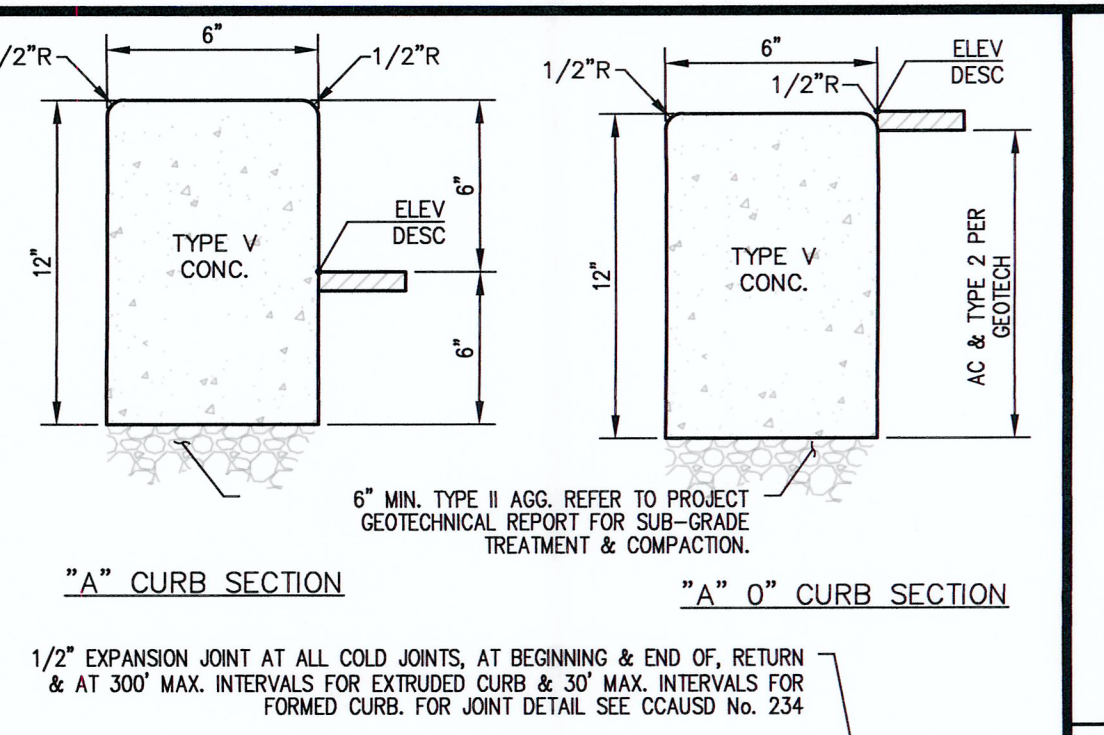
D SECTION-CHARLESTON NOT TO SCALE



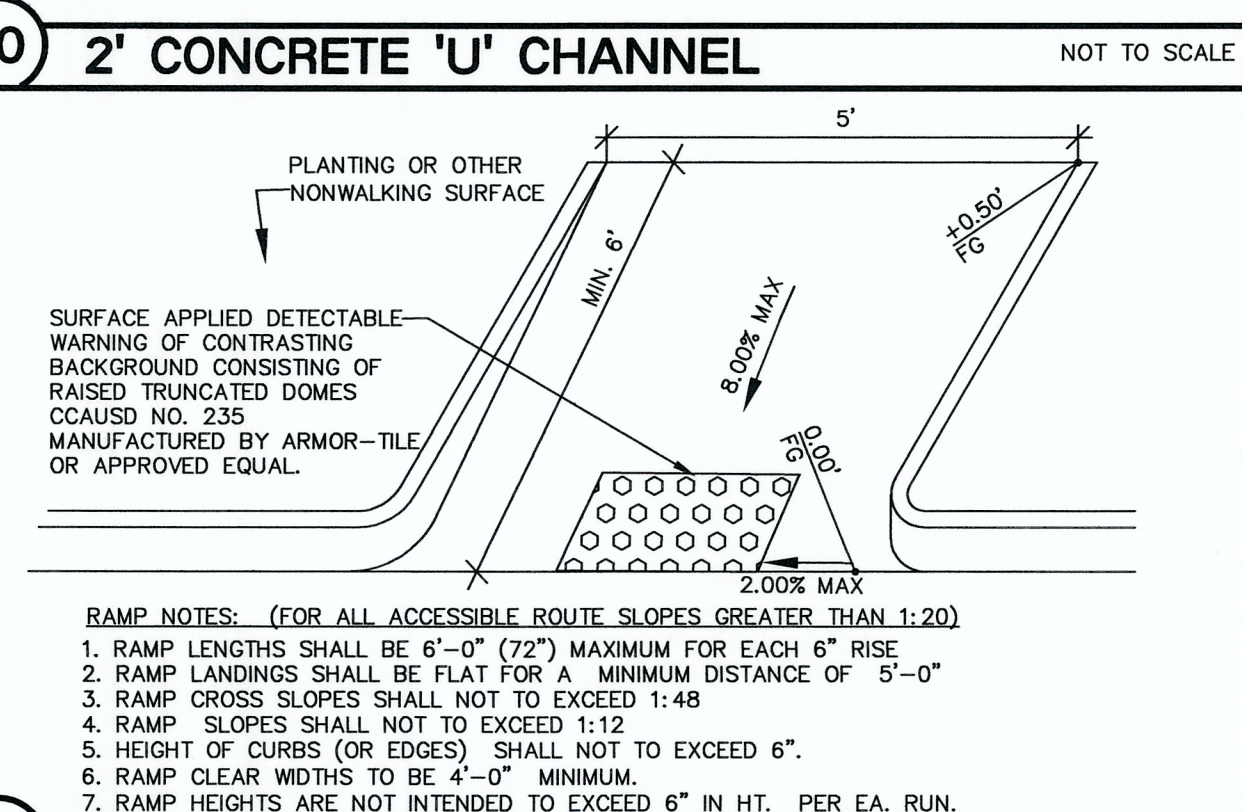
E SECTION-EAST PROPERTY LINE NOT TO SCALE



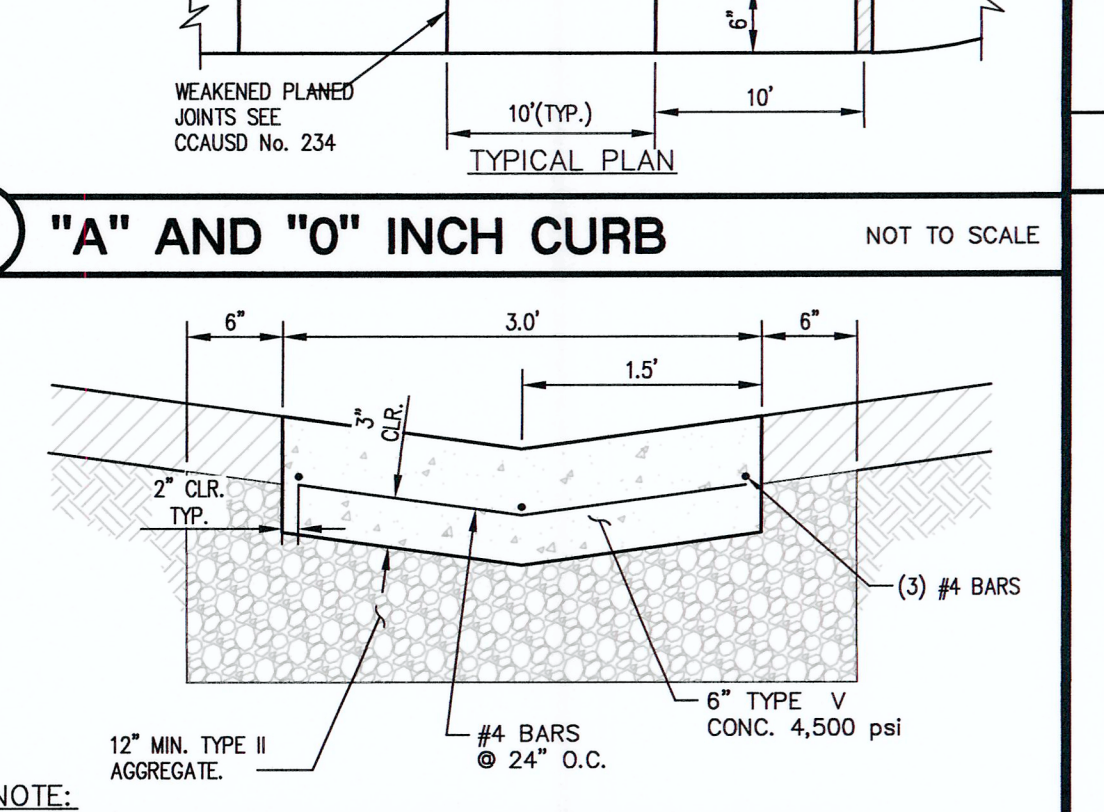
10 2' CONCRETE 'U' CHANNEL NOT TO SCALE



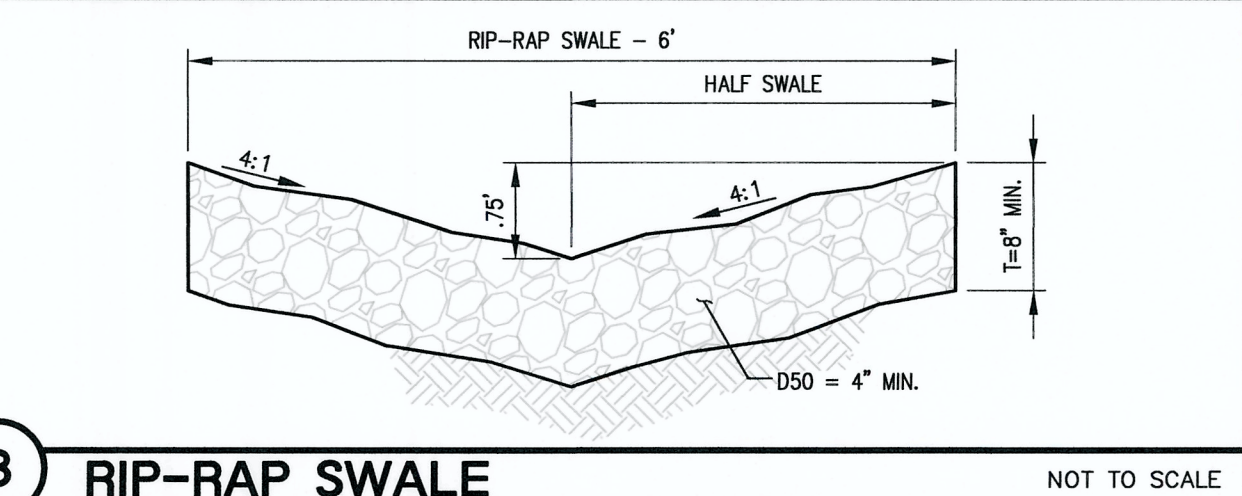
5 "A" AND "O" INCH CURB NOT TO SCALE



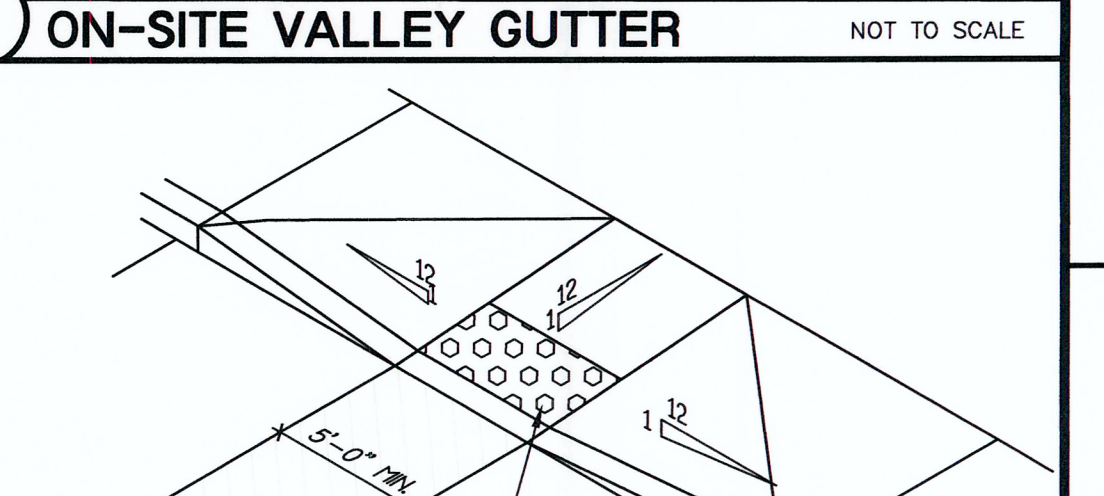
9 ON-SITE RAMP NOT TO SCALE



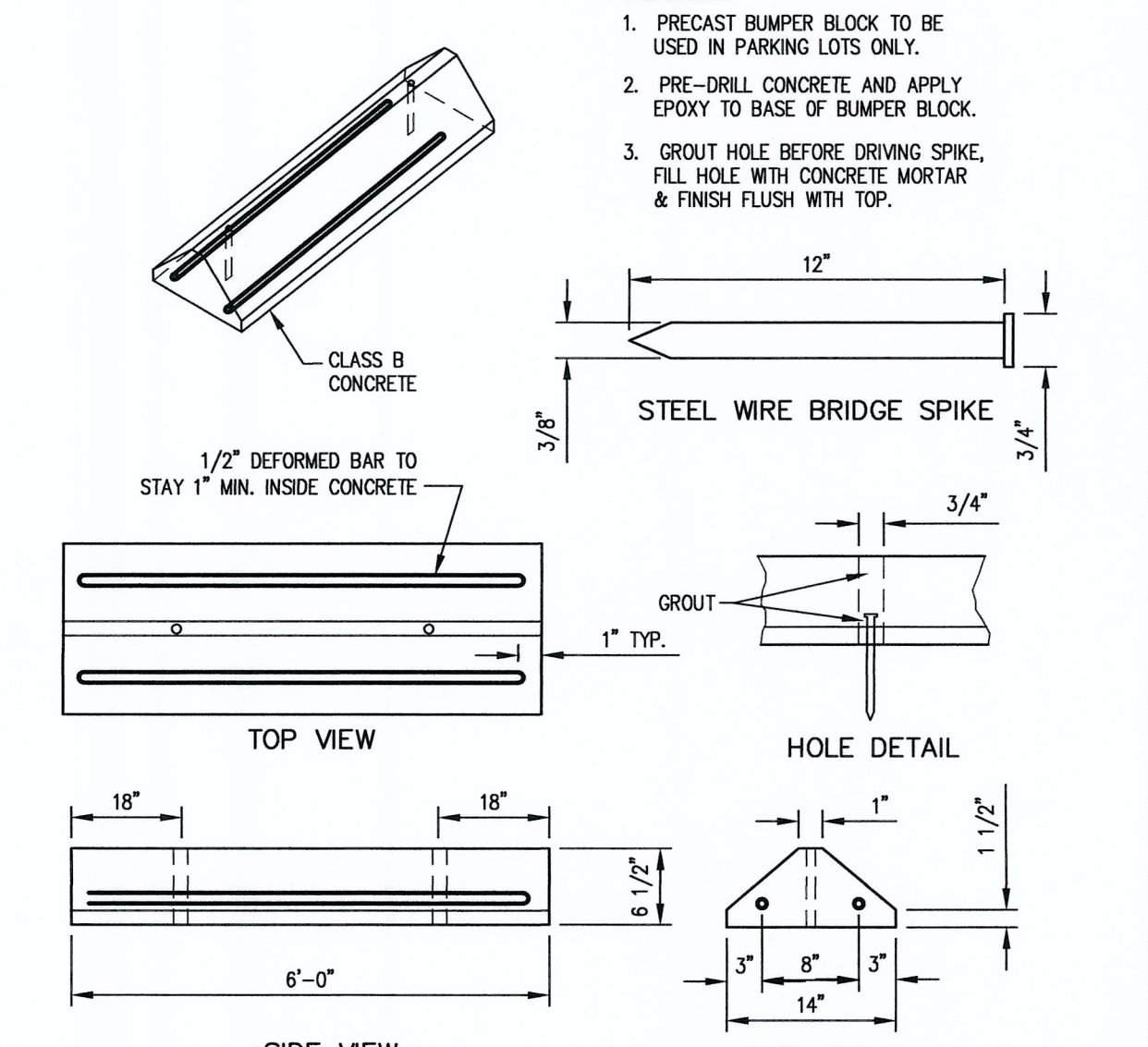
4 ON-SITE VALLEY GUTTER NOT TO SCALE



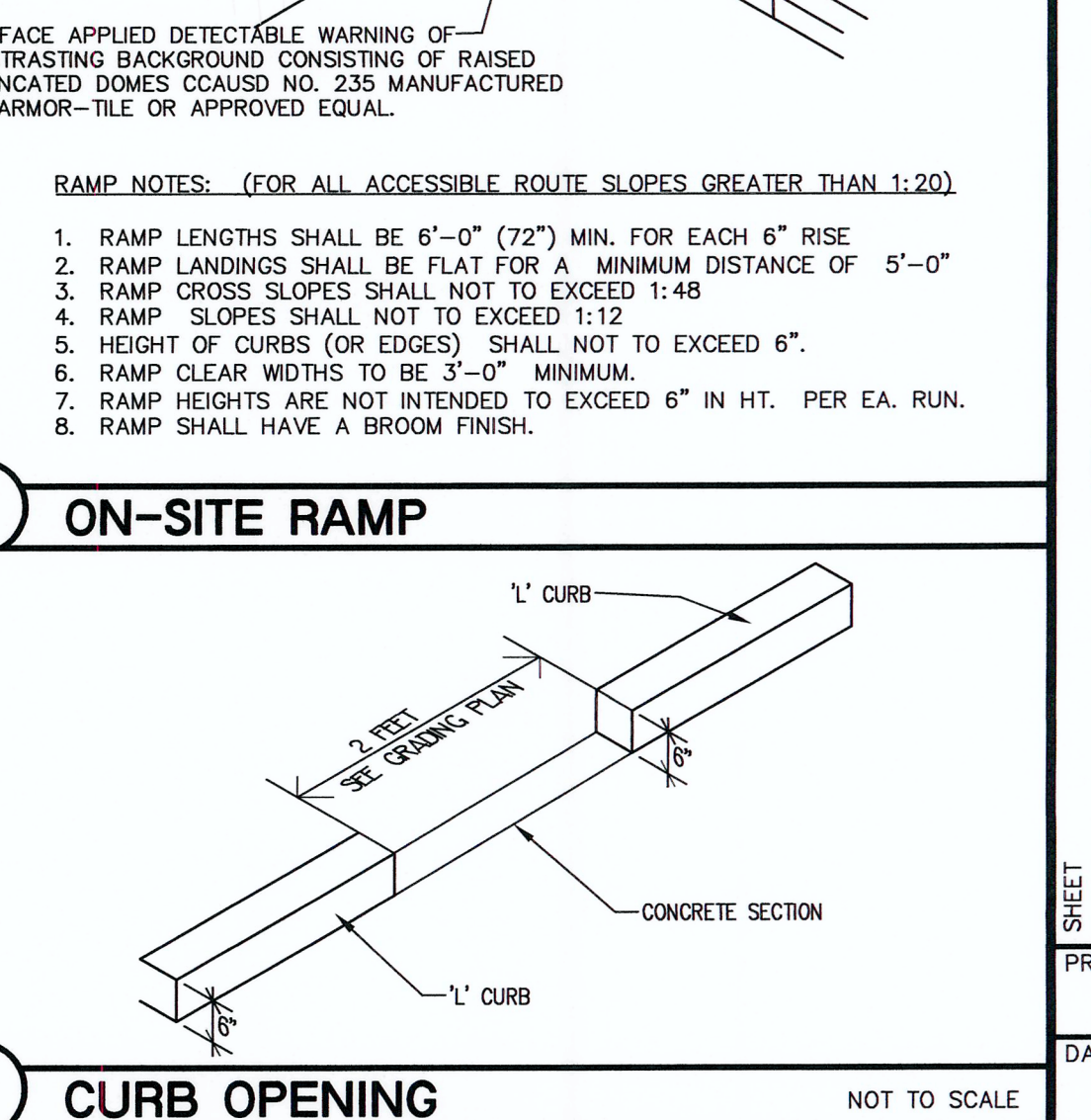
8 RIP-RAP SWALE NOT TO SCALE



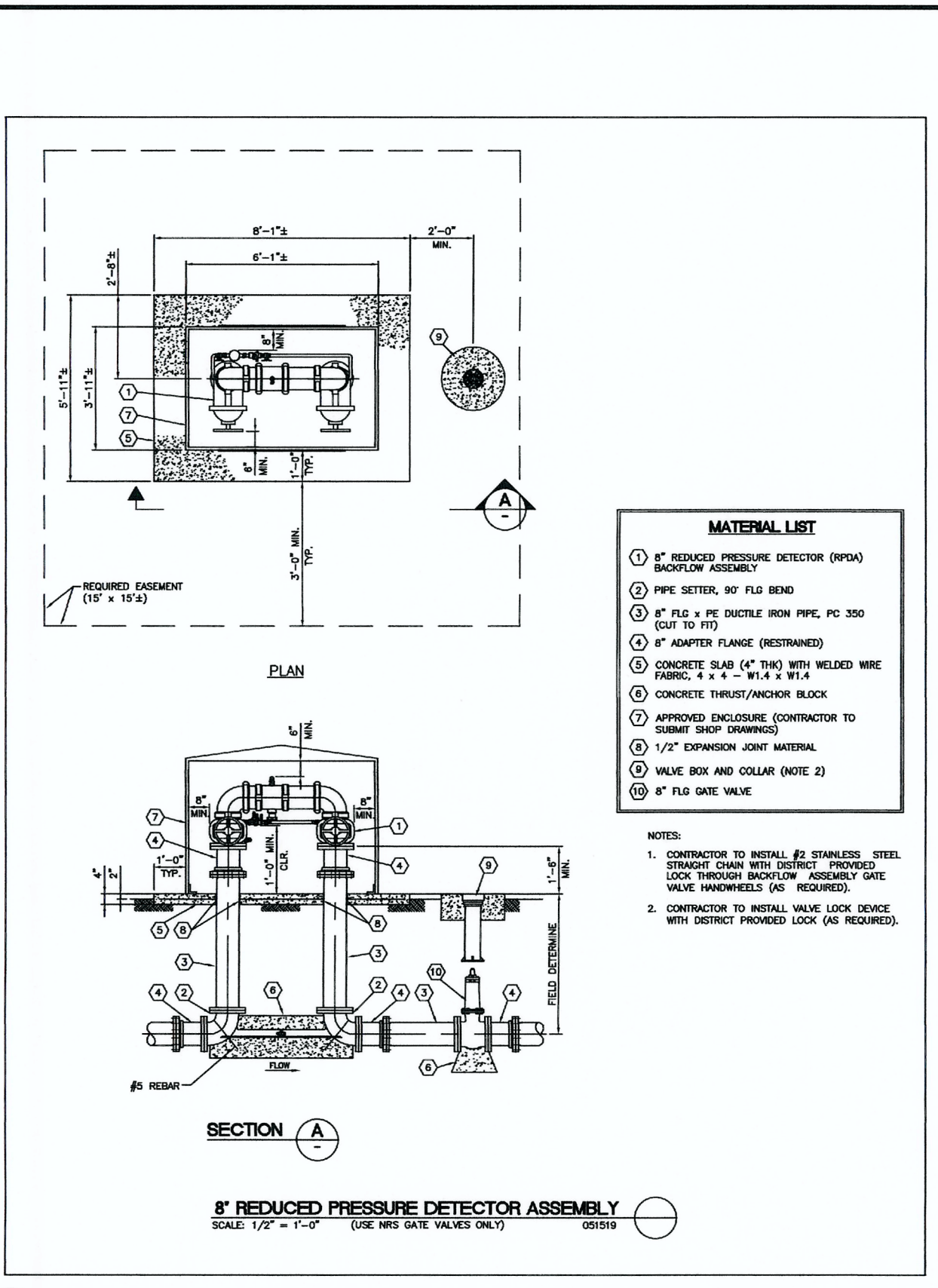
3 ON-SITE RAMP NOT TO SCALE



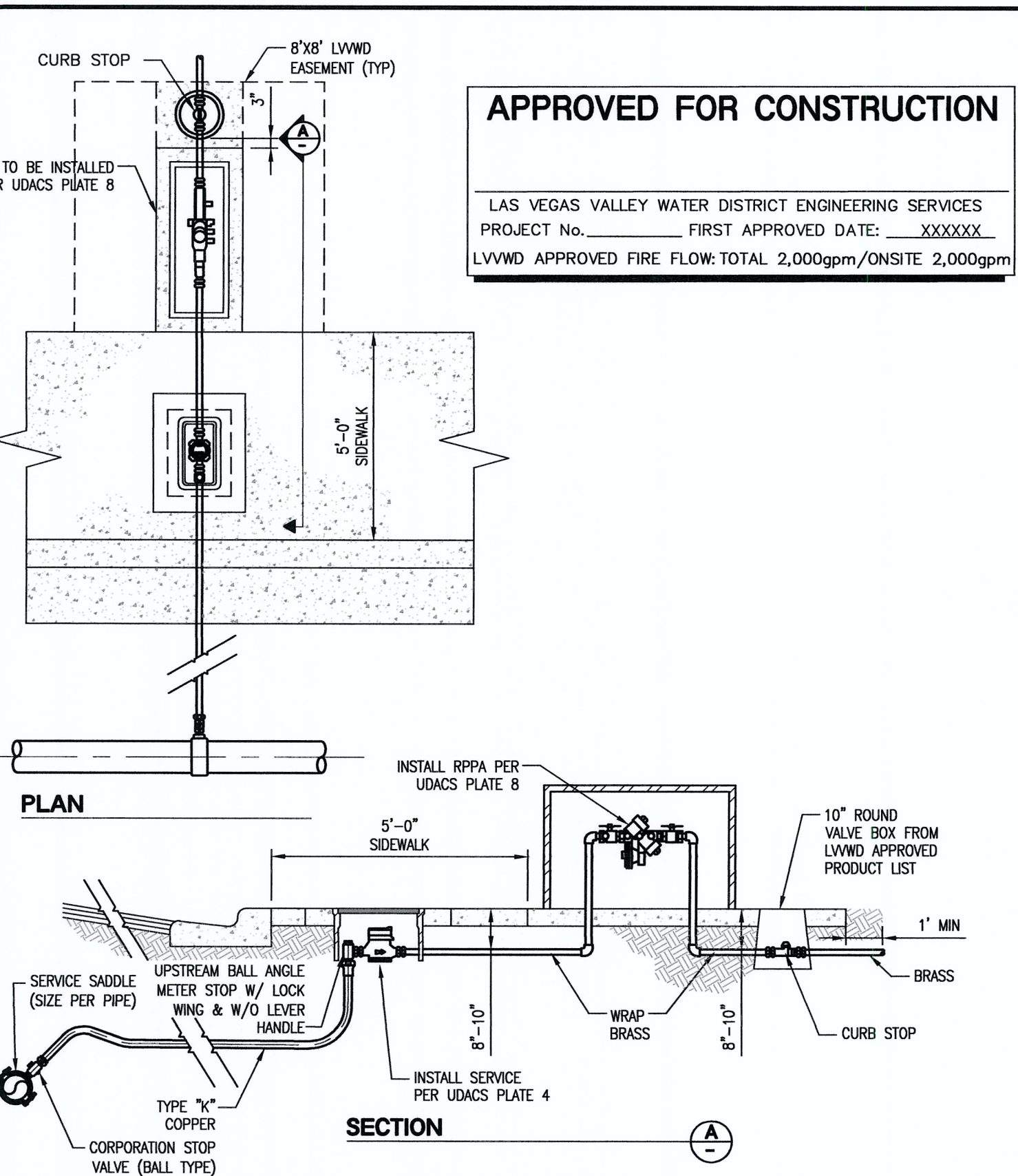
7 BUMPER BLOCK / WHEEL STOP NOT TO SCALE



2 CURB OPENING NOT TO SCALE



11 METER AND BACKFLOW DETAILS NOT TO SCALE



6 CURB TRANSITION NOT TO SCALE

THICKNESS SCHEDULE

TRAFFIC AREA	A ASPHALT/CONCRETE	B BASE COURSE
AUTOMOBILE PARKING	2"	5"
MAIN CORRIDORS AND TRUCK ACCESS	3"	8"
CONCRETE SURFACE	6"	4"

GEOTECHNICAL REPORT

PREPARED BY: NOVA GEOTECHNICAL
PROJECT No.: G-20-103
DATE: JULY 22, 2020

1 PAVEMENT SECTIONS NOT TO SCALE

Lochsa Engineering

6345 South Jones Blvd.
Suite 100
Las Vegas, NV 89118
Phone (702) 365-9312
Fax (702) 365-9317
www.lochsa.com

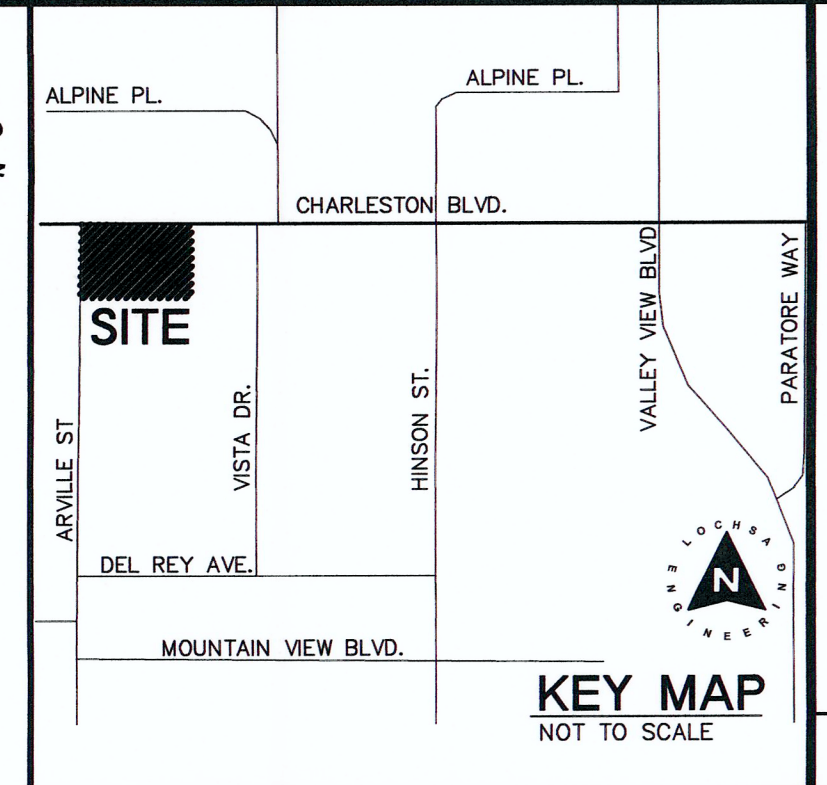
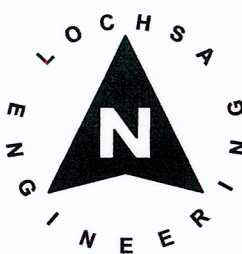
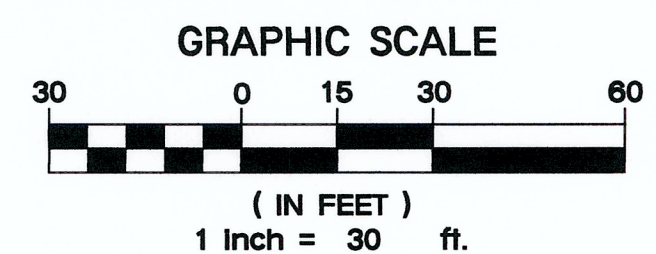
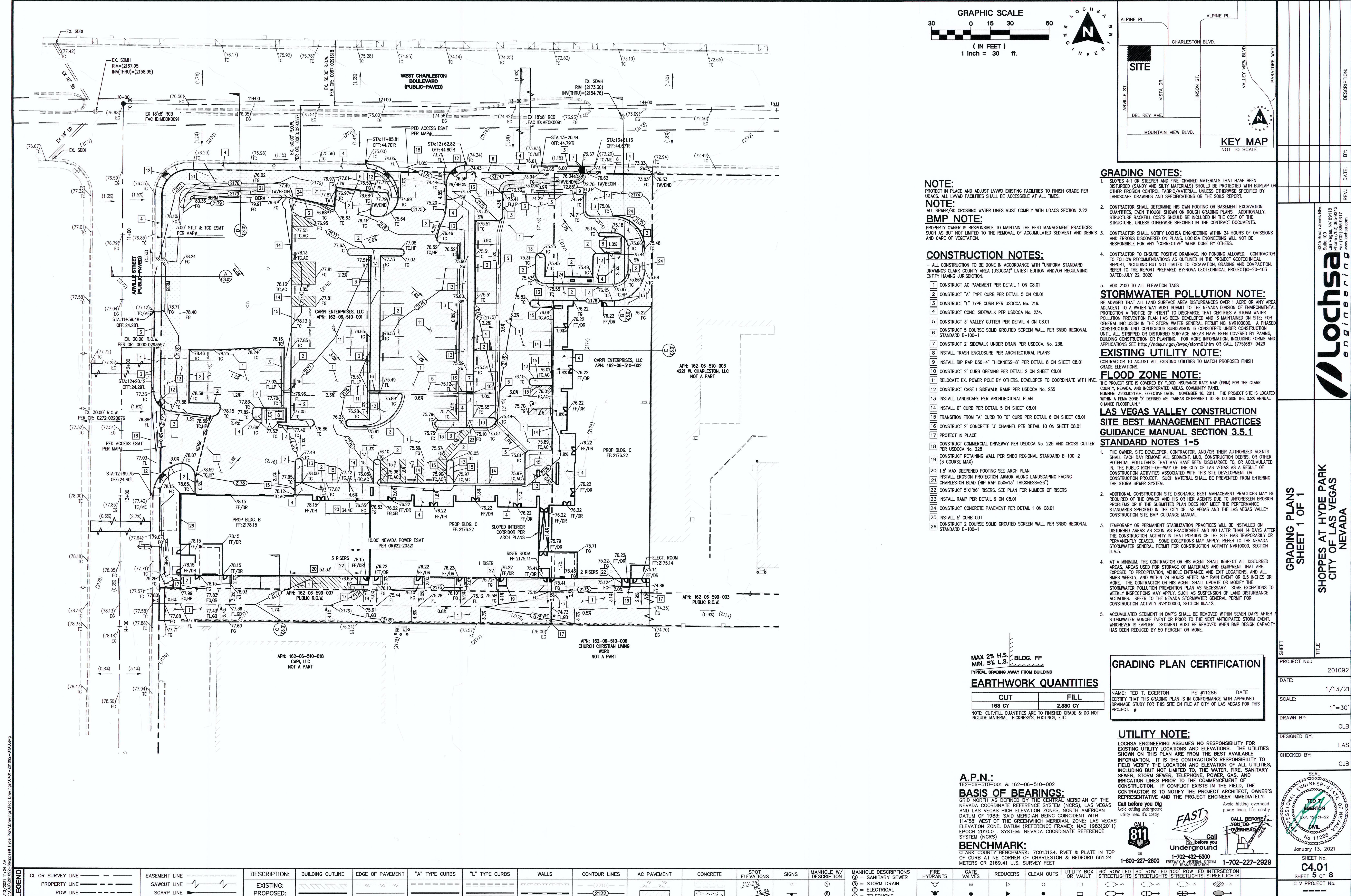
DETAIL SHEETS
SHEET 1 OF 1

SHOPS AT HYDE PARK
CITY OF LAS VEGAS
NEVADA

PROJECT No.: 201092
DATE: 1/13/21
SCALE: NTS
DRAWN BY: GLB
DESIGNED BY: LAS
CHECKED BY: CJB

SEAL
REGISTERED ENGINEER - STATE OF NEVADA
EDY EBERSON
EXPIRATION DATE: 12-31-22
NO 11286
January 13, 2021

SHEET No.: C8.01
CLV PROJECT No.: 8 of 8



NOTE:
PROTECT IN PLACE AND ADJUST LVMWD EXISTING FACILITIES TO FINISH GRADE PER UDACS. ALL LVMWD FACILITIES SHALL BE ACCESSIBLE AT ALL TIMES.

NOTE:
ALL SEWER/SO CROSSING WATER LINES MUST COMPLY WITH UDACS SECTION 2.22

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

CONSTRUCTION NOTES:
ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH "UNIFORM STANDARD DRAINAGE CLARK COUNTY AREA (USDOCA)" LATEST EDITION AND/OR REGULATING ENTITY HAVING JURISDICTION.

- CONSTRUCT AC PAVEMENT PER DETAIL 1 ON C8.01
- CONSTRUCT "A" TYPE CURB PER DETAIL 5 ON C8.01
- CONSTRUCT "L" TYPE CURB PER USDOCA No. 216.
- CONSTRUCT CONC. SIDEWALK PER USDOCA No. 234.
- CONSTRUCT 3" VALLEY GUTTER PER DETAIL 4 ON C8.01
- CONSTRUCT 5' COURSE SOLID GROUTED SCREEN WALL PER SNBO REGIONAL STANDARD B-100-1
- CONSTRUCT 2" SIDEWALK UNDER DRAIN PER USDOCA No. 236.
- INSTALL TRASH ENCLOSURE PER ARCHITECTURAL PLANS
- INSTALL RIP RAP D50=4" THICKNESS=8" PER DETAIL 8 ON SHEET C8.01
- CONSTRUCT 2" CURB OPENING PER DETAIL 2 ON SHEET C8.01
- RELOCATE EX. POWER POLE BY OTHERS. DEVELOPER TO COORDINATE WITH NVE.
- CONSTRUCT CASE 1 SIDEWALK RAMP PER USDOCA No. 235
- INSTALL LANDSCAPE PER ARCHITECTURAL PLAN
- INSTALL 0" CURB PER DETAIL 5 ON SHEET C8.01
- TRANSITION FROM "A" CURB TO "O" CURB PER DETAIL 6 ON SHEET C8.01
- CONSTRUCT 2" CONCRETE "V" CHANNEL PER DETAIL 10 ON SHEET C8.01
- PROTECT IN PLACE
- CONSTRUCT COMMERCIAL DRIVEWAY PER USDOCA No. 225 AND CROSS GUTTER PER USDOCA No. 226
- CONSTRUCT RETAINING WALL PER SNBO REGIONAL STANDARD B-100-2 (3 COURSE MAX)
- 1.5' MAX DEEPENED FOOTING SEE ARCH PLAN
- INSTALL EROSION PROTECTION ARMOR ALONG LANDSCAPING FACING CHARLESTON BLVD (RIP RAP D50=1 1/2" THICKNESS=26")
- CONSTRUCT 5"x16" RISERS. SEE PLAN FOR NUMBER OF RISERS
- INSTALL RAMP PER DETAIL 9 ON C8.01
- CONSTRUCT CONCRETE PAVEMENT PER DETAIL 1 ON C8.01
- INSTALL 5' CURB CUT
- CONSTRUCT 2' COURSE SOLID GROUTED SCREEN WALL PER SNBO REGIONAL STANDARD B-100-1

STORMWATER POLLUTION NOTE:
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 STORM WATER POLLUTION PREVENTION PLAN HAS BEEN DEVELOPED AND IS MAINTAINED ON SITE. FOR GENERAL INCLUSION IN THE STORM WATER GENERAL PERMIT NO. NV100000. PHASED CONSTRUCTION UNIT 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.gov/permits/ndep/ndep/ndep.htm> OR CALL (775)687-9429

EXISTING UTILITY NOTE:
CONTRACTOR TO ADJUST ALL EXISTING UTILITIES TO MATCH PROPOSED FINISH GRADE ELEVATIONS.

FLOOD ZONE NOTE:
THE PROJECT SITE IS COVERED BY FLOOD INSURANCE RATE MAP (FIRM) FOR THE CLARK COUNTY, NEVADA, AND INCORPORATED AREAS, COMMUNITY PANEL NUMBER: 3200321270F, EFFECTIVE DATE: NOVEMBER 16, 2011. THE PROJECT SITE IS LOCATED WITHIN A FEMA ZONE "X" DEFINED AS: "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN."

LAS VEGAS VALLEY CONSTRUCTION SITE BEST MANAGEMENT PRACTICES GUIDANCE MANUAL SECTION 3.5.1 STANDARD NOTES 1-5

- THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHT-OF-WAY OF THE CITY OF LAS VEGAS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIAL SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
- ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN THE CITY OF LAS VEGAS AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
- TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NV100000, SECTION III.A.5.
- AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPs WEEKLY, AND WITHIN 24 HOURS AFTER ANY RAIN EVENT OR 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NV100000, SECTION III.A.12.
- ACCUMULATED SEDIMENT IN BMP'S SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

MAX 2% H.S.
MIN. 5% L.S.
BLDG. FF
TYPICAL GRADING AWAY FROM BUILDING

EARTHWORK QUANTITIES

CUT	FILL
168 CY	2,880 CY

NOTE: CUT/FILL QUANTITIES ARE TO FINISHED GRADE & DO NOT INCLUDE MATERIAL THICKNESS, FOOTINGS, ETC.

GRADING PLAN CERTIFICATION

NAME: TED T. EGERTON PE #11286 DATE: 12-31-21
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT CITY OF LAS VEGAS FOR THIS PROJECT. #

UTILITY NOTE:

LOCHSA ENGINEERING ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS PLAN ARE FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES, INCLUDING BUT NOT LIMITED TO, THE WATER, FIRE, SANITARY SEWER, STORM SEWER, TELEPHONE, POWER, GAS, AND IRRIGATION LINES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. IF CONFLICT EXISTS IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE PROJECT ARCHITECT, OWNER'S REPRESENTATIVE AND THE PROJECT ENGINEER IMMEDIATELY.

Call before you Dig
Avoid hitting overhead power lines. It's costly.

FAST
Call before you Dig
Underground

CALL BEFORE YOU DIG
1-702-432-5300
1-800-227-2800
1-702-227-2929

A.P.N.:

162-06-510-001 & 162-06-510-002

BASIS OF BEARINGS:

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS AND LAS VEGAS HIGH ELEVATION ZONES, NORTH AMERICAN DATUM OF 1983. SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN, ZONE: LAS VEGAS ELEVATION ZONE, DATUM (REFERENCE FRAME): NAD 1983(2011) EPOCH 2010.0. SYSTEM: NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

BENCHMARK:

CLARK COUNTY BENCHMARK: 7C013154. RVET & PLATE IN TOP OF CURB AT NE CORNER OF CHARLESTON & BEDFORD 661.24 METERS OR 2169.41 U.S. SURVEY FEET

CL OR SURVEY LINE	EASEMENT LINE	DESCRIPTION:	BUILDING OUTLINE	EDGE OF PAVEMENT	"A" TYPE CURBS	"L" TYPE CURBS	WALLS	CONTOUR LINES	AC PAVEMENT	CONCRETE	SPOT ELEVATIONS	SIGNS	MANHOLE W/ DESCRIPTION	MANHOLE DESCRIPTIONS	FIRE HYDRANTS	GATE VALVES	REDUCERS	CLEAN OUTS	UTILITY BOX OR VAULT	60" ROW LED STREETLIGHTS	80" ROW LED STREETLIGHTS	100" ROW LED STREETLIGHTS	INTERSECTION STREETLIGHTS
PROPERTY LINE	SAWCUT LINE	EXISTING:						(2120)			(12.34)		⊙	⊙ = SANITARY SEWER ⊙ = STORM DRAIN ⊙ = ELECTRICAL ⊙ = TELEPHONE		⊙	▶	○	□	○	○	○	○
ROW LINE	SCARP LINE	PROPOSED:						(2122)			(12.34)		⊙										

1/12/2023 11:24 AM
C:\Users\james\OneDrive\Documents\Las Vegas\Grading\Rev Drawings\SGF-201002-0000.dwg
James Lochsa
1/12/2023 11:24 AM

6345 South Jones Blvd.
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Las Vegas, NV 89118
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GRADING PLANS
SHEET 1 OF 1

SHOPS AT HYDE PARK
CITY OF LAS VEGAS
NEVADA

PROJECT No.: 201092

DATE: 1/13/21

SCALE: 1"=30'

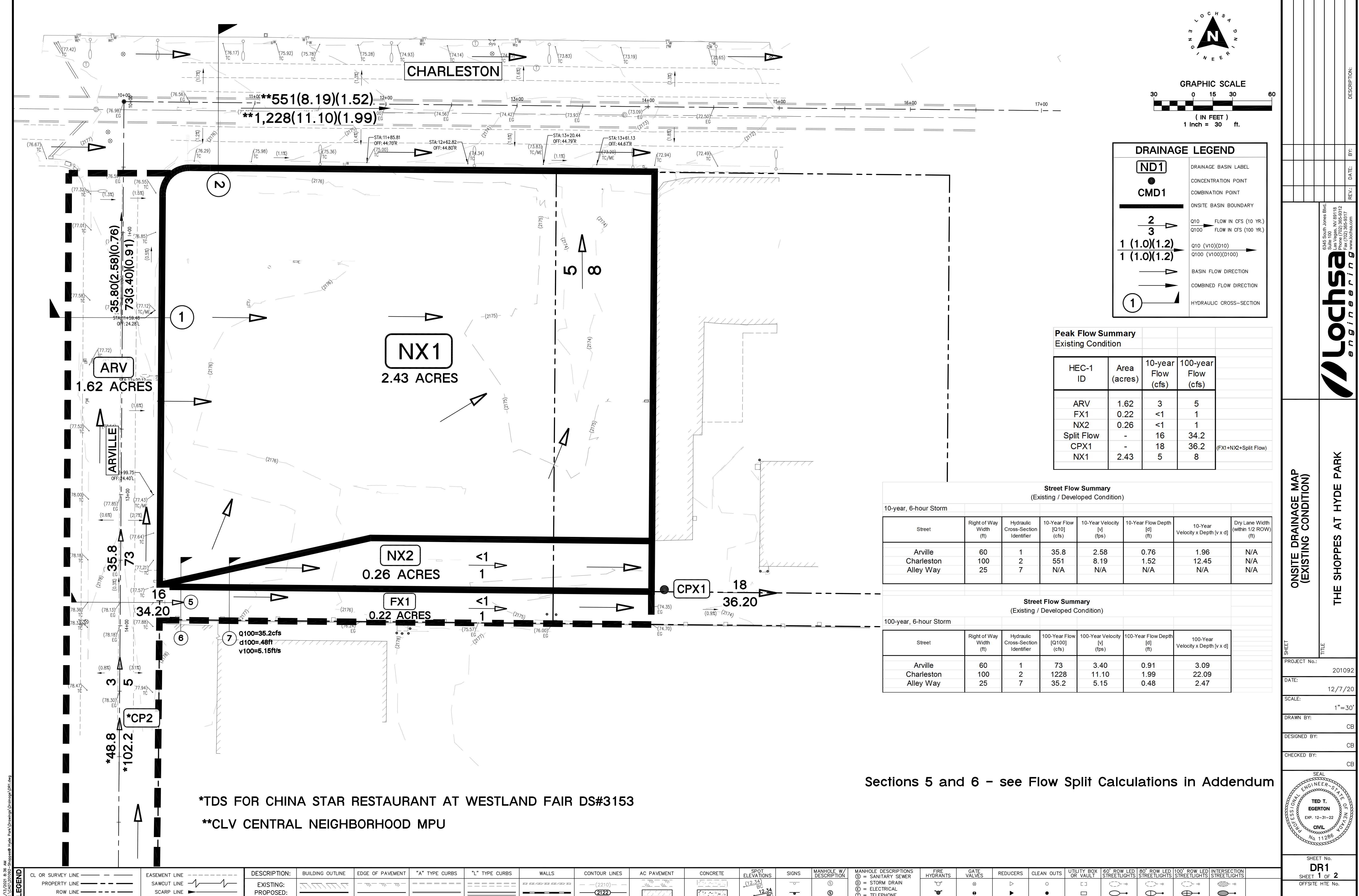
DRAWN BY: GLB

DESIGNED BY: LAS

CHECKED BY: CJB

SEAL
PROFESSIONAL ENGINEER-STATE OF NEVADA
TED T. EGERTON
Exp. 12-31-21
CIVIL
No. 11286
January 13, 2021

SHEET No.
C4.01
SHEET 6 OF 8
CLV PROJECT No.



DRAINAGE LEGEND

ND1
●
CMD1

2
3
1 (1.0)(1.2)
1 (1.0)(1.2)

1

DRAINAGE BASIN LABEL
CONCENTRATION POINT
COMBINATION POINT
ON-SITE BASIN BOUNDARY
Q10 FLOW IN CFS (10 YR.)
Q100 FLOW IN CFS (100 YR.)
Q10 (V10)(D10)
Q100 (V100)(D100)
BASIN FLOW DIRECTION
COMBINED FLOW DIRECTION
HYDRAULIC CROSS-SECTION

Peak Flow Summary
Existing Condition

HEC-1 ID	Area (acres)	10-year Flow (cfs)	100-year Flow (cfs)
ARV	1.62	3	5
FX1	0.22	<1	1
NX2	0.26	<1	1
Split Flow	-	16	34.2
CPX1	-	18	36.2
NX1	2.43	5	8

(FX1+NX2+Split Flow)

Street Flow Summary
(Existing / Developed Condition)

10-year, 6-hour Storm

Street	Right of Way Width (ft)	Hydraulic Cross-Section Identifier	10-Year Flow [Q10] (cfs)	10-Year Velocity [v] (fps)	10-Year Flow Depth [d] (ft)	10-Year Velocity x Depth [v x d]	Dry Lane Width (within 1/2 ROW) (ft)
Arville	60	1	35.8	2.58	0.76	1.96	N/A
Charleston	100	2	551	8.19	1.52	12.45	N/A
Alley Way	25	7	N/A	N/A	N/A	N/A	N/A

Street Flow Summary
(Existing / Developed Condition)

100-year, 6-hour Storm

Street	Right of Way Width (ft)	Hydraulic Cross-Section Identifier	100-Year Flow [Q100] (cfs)	100-Year Velocity [v] (fps)	100-Year Flow Depth [d] (ft)	100-Year Velocity x Depth [v x d]
Arville	60	1	73	3.40	0.91	3.09
Charleston	100	2	1228	11.10	1.99	22.09
Alley Way	25	7	35.2	5.15	0.48	2.47

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ONSITE DRAINAGE MAP
(EXISTING CONDITION)

THE SHoppes AT HYDE PARK

SHEET PROJECT No.: 201092
DATE: 12/7/20
SCALE: 1" = 30'
DRAWN BY: CB
DESIGNED BY: CB
CHECKED BY: CB

SEAL
PROFESSIONAL ENGINEER-STATE OF NEW YORK
TED T. EGERTON
EXP. 12-31-22
CIVIL
No. 11286

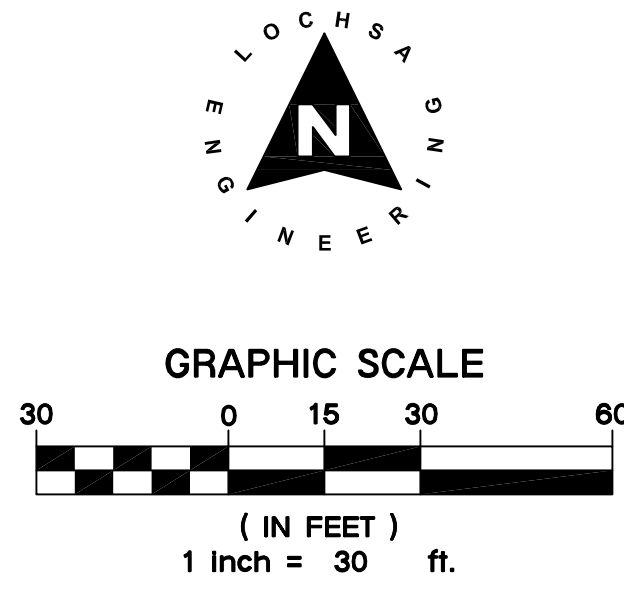
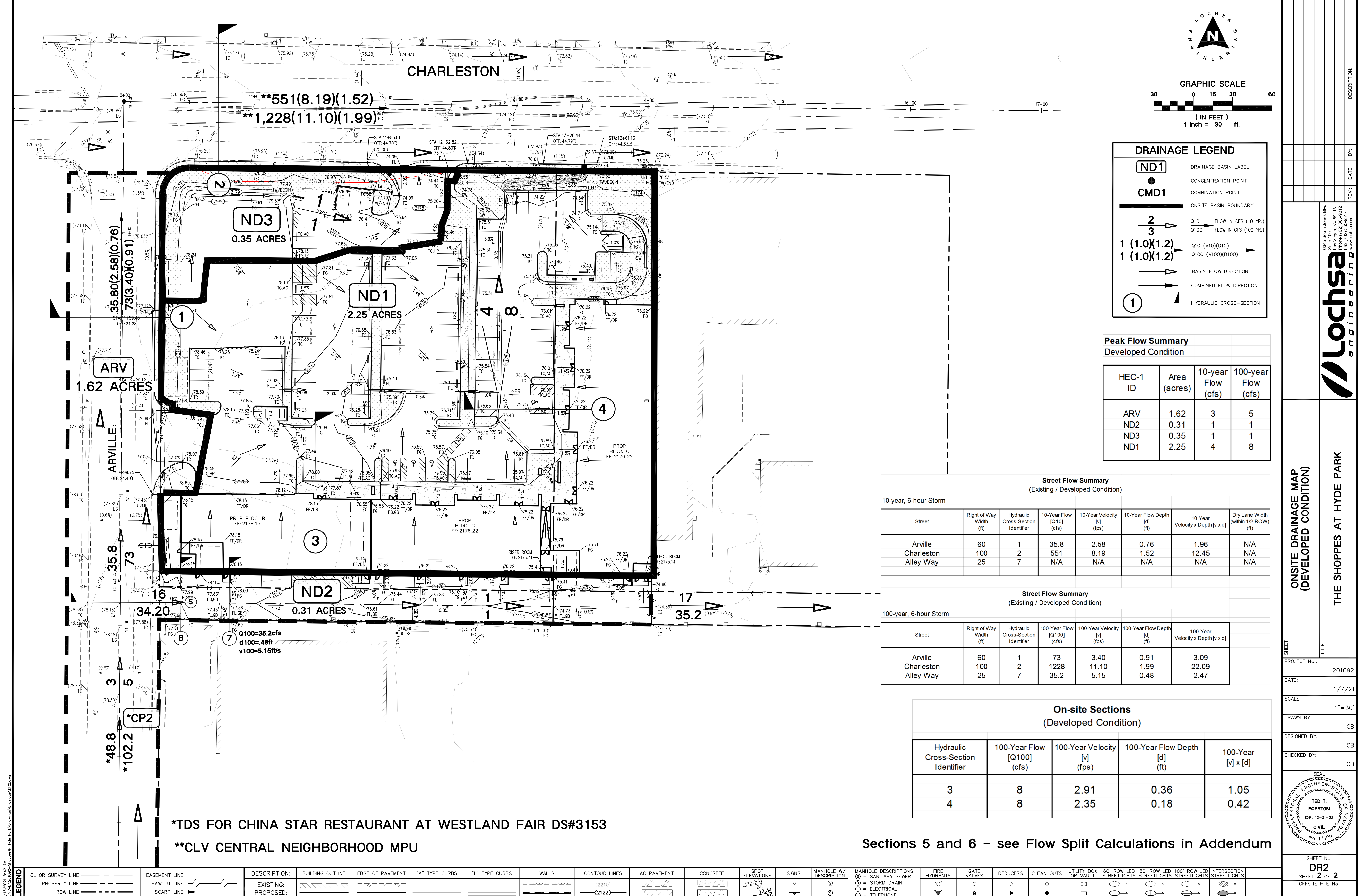
SHEET No. DR1
SHEET 1 OF 2
OFFSITE HTE No.

1/12/2021 10:36 AM
C:\Users\jones\OneDrive\Hyde Park\Drawings\Drawings\DR1.dwg

LEGEND		CL OR SURVEY LINE	EASEMENT LINE	DESCRIPTION:	BUILDING OUTLINE	EDGE OF PAVEMENT	"A" TYPE CURBS	"L" TYPE CURBS	WALLS	CONTOUR LINES	AC PAVEMENT	CONCRETE	SPOT ELEVATIONS	SIGNS	MANHOLE W/ DESCRIPTION	MANHOLE DESCRIPTIONS	FIRE HYDRANTS	GATE VALVES	REDUCERS	CLEAN OUTS	UTILITY BOX OR VAULT	60" ROW LED STREETLIGHTS	80" ROW LED STREETLIGHTS	100" ROW LED STREETLIGHTS	INTERSECTION STREETLIGHTS
		PROPERTY LINE	SAWCUT LINE	EXISTING:									(12.34) BC		⊙	⊙ = SANITARY SEWER ⊙ = STORM DRAIN ⊙ = ELECTRICAL ⊙ = TELEPHONE	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
		ROW LINE	SCARP LINE	PROPOSED:						(2122)			(2122)		⊙		⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	

*TDS FOR CHINA STAR RESTAURANT AT WESTLAND FAIR DS#3153
**CLV CENTRAL NEIGHBORHOOD MPU

Sections 5 and 6 - see Flow Split Calculations in Addendum



DRAINAGE LEGEND	
ND1	DRAINAGE BASIN LABEL
●	CONCENTRATION POINT
CMD1	COMBINATION POINT
---	ONSITE BASIN BOUNDARY
$\frac{2}{3}$	Q10 FLOW IN CFS (10 YR.)
$\frac{1}{1}$ (1.0)(1.2)	Q100 FLOW IN CFS (100 YR.)
$\frac{1}{1}$ (1.0)(1.2)	Q10 (V10)(D10)
→	Q100 (V100)(D100)
→	BASIN FLOW DIRECTION
→	COMBINED FLOW DIRECTION
①	HYDRAULIC CROSS-SECTION

Peak Flow Summary Developed Condition			
HEC-1 ID	Area (acres)	10-year Flow (cfs)	100-year Flow (cfs)
ARV	1.62	3	5
ND2	0.31	1	1
ND3	0.35	1	1
ND1	2.25	4	8

Street Flow Summary (Existing / Developed Condition)							
10-year, 6-hour Storm							
Street	Right of Way Width (ft)	Hydraulic Cross-Section Identifier	10-Year Flow [Q10] (cfs)	10-Year Velocity [v] (fps)	10-Year Flow Depth [d] (ft)	10-Year Velocity x Depth [v x d]	Dry Lane Width (within 1/2 ROW) (ft)
Arville	60	1	35.8	2.58	0.76	1.96	N/A
Charleston	100	2	551	8.19	1.52	12.45	N/A
Alley Way	25	7	N/A	N/A	N/A	N/A	N/A

Street Flow Summary (Existing / Developed Condition)							
100-year, 6-hour Storm							
Street	Right of Way Width (ft)	Hydraulic Cross-Section Identifier	100-Year Flow [Q100] (cfs)	100-Year Velocity [v] (fps)	100-Year Flow Depth [d] (ft)	100-Year Velocity x Depth [v x d]	
Arville	60	1	73	3.40	0.91	3.09	
Charleston	100	2	1228	11.10	1.99	22.09	
Alley Way	25	7	35.2	5.15	0.48	2.47	

On-site Sections (Developed Condition)				
Hydraulic Cross-Section Identifier	100-Year Flow [Q100] (cfs)	100-Year Velocity [v] (fps)	100-Year Flow Depth [d] (ft)	100-Year [V] x [d]
3	8	2.91	0.36	1.05
4	8	2.35	0.18	0.42

*TDS FOR CHINA STAR RESTAURANT AT WESTLAND FAIR DS#3153

**CLV CENTRAL NEIGHBORHOOD MPU

Sections 5 and 6 - see Flow Split Calculations in Addendum

LEGEND

CL OR SURVEY LINE

PROPERTY LINE

ROW LINE

EASEMENT LINE

SAWCUT LINE

SCARP LINE

DESCRIPTION:

EXISTING:

PROPOSED:

BUILDING OUTLINE

EDGE OF PAVEMENT

"A" TYPE CURBS

"L" TYPE CURBS

WALLS

CONTOUR LINES

AC PAVEMENT

CONCRETE

SPOT ELEVATIONS

SIGNS

MANHOLE W/ DESCRIPTION

MANHOLE DESCRIPTIONS

FIRE HYDRANTS

GATE VALVES

REDUCERS

CLEAN OUTS

UTILITY BOX OR VAULT

60" ROW LED STREETLIGHTS

80" ROW LED STREETLIGHTS

100" ROW LED STREETLIGHTS

INTERSECTION STREETLIGHTS

DR2

SHEET 2 OF 2

OFFSITE HTE No.

PROJECT No.:

201092

DATE:

1/7/21

SCALE:

1" = 30'

DRAWN BY:

CB

DESIGNED BY:

CB

CHECKED BY:

CB

SEAL

PROFESSIONAL ENGINEER-STATE OF NEW YORK

TED T. EGERTON

EXP. 12-31-22

CIVIL

No. 11286

SHEET No.

DR2

SHEET 2 OF 2

OFFSITE HTE No.

6345 South Jones Blvd.

Suite 100

NY 10818

Phone (702) 365-5312

Fax (702) 365-5317

www.lochsa.com

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ONSITE DRAINAGE MAP
(DEVELOPED CONDITION)

THE SHOPPES AT HYDE PARK