

DS #: 5260

APN: 138-23-516.045

PROJECT: Charleston Heights Park

SUBMITTAL: 1st

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		April 2, 2020
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:	COPIES TO:
	Charleston Heights Park	GCW Engineers/Surveyors
Cross Streets:	NEC of Maverick Street & Caprino Avenue	SH Architecture
File Number:	F:\Depot\DSMemos\DS5260A.doc	Bart Anderson, P.E., DevCo
Parcel Number:	138-23-516-045	
Zoning Action:	SDR-78824	
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	3/17/2020	4/2/2020	See Comments Below	\$400.00	3782156: \$400
			TOTAL FEES (LDDRS):	\$400.00	----

REMARKS:

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

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

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

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

END OF REMARKS

ays

T/R/S: T20S/R60E/23
AREA L-23

887-012

March 17, 2020

Albert Y. Sung, PE
City of Las Vegas, Public Works
333 N. Rancho Drive, 7th Floor, Las Vegas, NV 89106

Re: Technical Drainage Study for Charleston Heights Park

Dear Mr. Sung,

This letter is to certify that all documents provided on electronic submittal (CD) match the hardcopy version of the study.

Respectfully submitted,

Masih Edalat, PhD, PE
Project Engineer
GCW, Inc.



**TECHNICAL DRAINAGE STUDY
FOR
CHARLESTON HEIGHTS PARK**

887-012

March 2020

Prepared for:

SH Architecture
7250 Peak Drive, Suite 216
Las Vegas, Nevada 89128
Phone: (702) 363-2222
Fax: (702) 363-6060



HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: CHARLESTON HEIGHTS PARK Date: March 2020

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

b) Section: 23 Township: 20 S Range: 60 E

c) APN : 138-23-516-045

Name of Owner: SH Architecture

Telephone No.: (702) 363-2222 Fax No.: (702) 363-6060 E-Mail Address: _____

Address: 7250 Peak Drive, Suite 216, Las Vegas, Nevada 89128

Contact Person-Name: Mohammad Masih Edalat Telephone No.: (702) 804-2127

* E-Mail Address: Medalat@gcwengineering.com Fax No.: (702) 804-2299

Firm: GCW, Inc.

Address: 1555 South Rainbow Blvd, Las Vegas, Nevada 89146

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	☒	Park

1. Total Owned Land Area: At Site: +/- 3.9 acres Being Developed/Disturbed: +/- 3.9 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

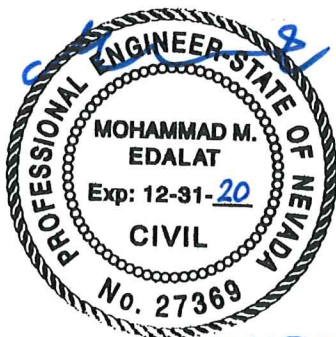
4. Proposed type of development (Residential, Commercial, Etc.): Park

5. Approximate upstream land area which drains to the subject site: NA

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: Northwest Neighborhood Study

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: The site discharges into Caprino Ave and Maverick St

8. 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.**

	Revision	Date

Local Entity File No. _____

REFERENCE:

STANDARD FORM 1

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL		
DRAINAGE SUBMITTAL CHECKLIST		
Project Name: CHARLESTON HEIGHTS PARK	Map ID: 138-23-516-045	
Firm Name: GCW, Inc.	Engineer: Mohammad Masih Edalat	
Address: 1555 S. Rainbow Blvd		
City: Las Vegas	State: Nevada	Zip: 89146
Phone Number: (702) 804-2127	Fax Number: (702) 804-2299	
Property Owner: SH Architecture		
Address: 7250 Peak Drive, Suite 216		
City: Las Vegas	State: Nevada	Zip: 89128
Reviewed By:	Date Received:	Date Accepted for Review:
The following checklist is intended as a guide for the engineer preparing a Technical Drainage Study to submit to the local entity and Clark County Regional Flood Control District (if necessary). The listed items are the minimum information required prior to the entity performing a review. The engineer will remain responsible to ensure the Technical Drainage Study is prepared within the guidelines as set forth in the Clark County Regional Flood Control District (CCRFCDD) Hydrologic Criteria and Drainage Design Manual (MANUAL). This document is intended as an aid in preparing Technical Drainage Studies. Each study submitted is reviewed for compliance with local and regional criteria. This form is not intended to be all inclusive and does not limit the extent of the information, calculations or exhibits which may be necessary to properly evaluate the intended land use. If items are not applicable for the subject site, provide N/A. I. GENERAL REQUIREMENT Yes No <u>X</u> _____ Design Manual Standard Form 1 with the engineer's seal and signature. <u>X</u> _____ Design Manual Standard Form 4. <u>X</u> _____ 2 copies of the 24" x 36" Drainage Plan. _____ <u>N/A</u> A notarized letter from the adjacent property owner(s) allowing off-site grading or discharge. II. MAPS AND EXHIBITS Yes No <u>X</u> _____ A copy of a current Flood Insurance Rate Map (FIRM) with the site delineated. <u>X</u> _____ A copy of the current CCRFCDD Master Plan Update Figure, (F-x), for Flood Control Facilities and Environmental areas with the site delineated.		
REFERENCE:		STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

II. MAPS AND EXHIBITS (Continued)

Yes No

- ☒ _____ Off-site drainage basin maps for existing, interim and future conditions showing the existing topography, basin boundaries, concentration points, and flows in cfs.
- ☒ _____ On-site drainage basin maps for existing and proposed conditions showing the existing topography, basin boundaries, concentration points, and on-site and off-site flows in cfs.
- ☒ _____ Vicinity Map with local and major cross streets identified and a north arrow.

III. DRAINAGE PLAN

Yes No

- ☒ _____ Sheet size: 24" x 36" sealed by a registered engineer in the State of Nevada.
- ☒ _____ Minimum scale: 1" = 60'.
- ☒ _____ Project name.
- ☒ _____ Vicinity Map with local and major cross streets.
- ☒ _____ Revision box.
- ☒ _____ North arrow and bar scale.
- ☒ _____ Engineer's/consultant's address and phone number.
- ☒ _____ Elevation datum and benchmark.
- ☒ _____ Legend for symbols and abbreviations.
- ☒ _____ Cut/fill scarps, where applicable.
- ☒ _____ Street names, grades, widths.
- ☒ _____ Proposed future and existing spot grades for top of curbs and street crowns at lot lines, grade breaks, and along curb returns on both sides of the street.
- ☒ _____ Existing contours encompassing the site and 100 feet beyond with spot elevations for important locations, where appropriate.
- ☒ _____ Minimum finish floor elevations with top-of-curb elevations at upstream end of lot.
- ☒ _____ Proposed typical street sections.

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

III. DRAINAGE PLAN (Continued)

Yes	No	
☒	☐	Streets with off-set crowns.
☒	☐	Proposed contours or spot elevations in sufficient detail to exhibit intended drainage patterns and slopes.
☒	☐	Property lines.
☒	☐	Right-of-way lines and widths, existing and proposed.
☒	☐	Existing improvements and their elevations.
☒	☐	Delineation of proposed on-site drainage basins indicating area and 10-year and 100-year storm peak flows at basin concentration points.
☒	☐	Concentration points and drainage flow direction with Q100 and V100 and D100 in streets.
☒	☐	Cumulative flows, velocity, and direction of flow at upstream and downstream ends of site for the 10-year and 100-year flows.
☒	☐	Location and cross-section of street capacity calculations.
☒	☐	Cross-sectional detail for channels, including cutoff wall locations.
☒	☐	Existing and proposed drainage facilities, appurtenances, and connections (i.e., sidewalk, ditches, swales, storm drain systems, unimproved and improved channels, and culverts, etc.) stating size, material, shape, and slope with plan and profile and HGL calculations.
☐	<u>N/A</u>	Existing and proposed drainage easements and widths shown with sufficient detail. A cross sectional detail must be provided that shows appropriate lining and reinforcement.
☐	<u>N/A</u>	Location and detail of existing, proposed, and future block wall openings. Minimum size is 16" x 48". Wrought iron gate is required for flows > 10 cfs.
☐	<u>N/A</u>	Location and detail of flood walls illustrating depth of flow, proposed grouting height, etc.
☐	<u>N/A</u>	Perimeter retaining wall locations. All existing and proposed walls (retaining screen and flood) must be shown with adjacent ground elevations. Flood walls with 8-inch concrete masonry unit.
☒	☐	Building and/or lot numbers.
☒	☐	Alignment of all existing, proposed, or future Regional Facilities adjacent to the site.
☐	<u>N/A</u>	Limits of existing floodplain based on current FIRM or best available information; limits of proposed floodplains based on best available information.

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

III. DRAINAGE PLAN (Continued)

Yes No

- ☐ N/A For areas in Zone A, AE, AH, and AO, base flood elevations (BFEs) must be shown for each lot; BFEs may be listed on each lot, or in a table. Finish floor elevations must be a minimum of 18 inches above BFE.
- ☒ ☐ Appropriately elevated "humps" 6 inches above the 100 year water surface elevation at site accesses where the intent is to protect the site from the Q100 flows.
- ☒ ☐ Street slopes for perimeter and interior streets. The minimum slope is 0.4 percent.
- ☐ N/A Location and detail of best management practice (BMP) for parking lots and low impact development (LID) (if required).

IV. HYDROLOGIC ANALYSIS

Yes No

- ☒ ☐ Appropriate soil information and Soils Map for existing and future conditions with subbasins and property delineated.
- ☒ ☐ Input and output information for existing conditions from computer models (HEC-1 or TR-55). The flow routing diagram must be provided with HEC-1 models.
- ☒ ☐ Input and output information for future conditions from computer models (HEC-1 or TR-55). The flow routing diagram must be provided with HEC-1 models.
- ☒ ☐ Use of correct precipitation values in and around the McCarran Airport rainfall area.
- ☒ ☐ A discussion in the text of the hydrologic analysis justifying subbasin boundaries and cutoffs, supporting assumptions, and calculations.
- ☒ ☐ A summary table of stormwater flows showing basin area, Q10 and Q100 for both individual basins and combined basin flows, where applicable.
- ☒ ☐ Copies of supporting technical information referenced from a previously approved study and a statement accepting these results.
- ☒ ☐ On-site facilities must perpetuate flows through or around the site without significantly impacting adjacent property owners in accordance with current Nevada Drainage Law.
- ☒ ☐ Calculation for impervious area for parking lots and LIDs (if required).

REFERENCE:

STANDARD FORM 2

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE SUBMITTAL CHECKLIST

V. HYDRAULIC ANALYSIS

Yes	No	
_____	<u>N/A</u>	Flow split calculations and supporting documentation or reference for the method of flow split calculations used.
<u>X</u>	_____	Normal depth street flow calculations and cross section diagrams for all interior and perimeter streets. Provide "d x v" products for the Q100 and Q10 flows representing the worst case for interior and all perimeter streets. Q100 d x v < 8. Q10 d x v < 6 and 12 foot dry lane for rights-of-way > 80 feet. Calculations must be labeled by street name as indicated on the Grading Plan.
<u>X</u>	_____	A summary table of interior and exterior street capacity calculations showing the street name, Q100 flow, slope, depth of flow, velocity and depth times velocity product and streets needing to meet 12 foot dry lane criteria.
_____	<u>N/A</u>	Appropriate hydraulic calculations for block wall openings assuming a 50 percent vertical clogging factor. (Assume the lower half of the opening is plugged.)
_____	<u>N/A</u>	Appropriate hydraulic calculations at drainage easement entrance and discharge locations to set finish floor elevations. Hydraulic calculations must include submerged weir, superelevation and tee intersection losses, where appropriate.
_____	<u>N/A</u>	Provide necessary freeboard requirements to set the finished floor elevations of all proposed buildings, 2 x depth of flow or depth of flow plus 18 inches of freeboard, whichever is less. The minimum requirement is 6 inches above adjacent upstream top of curb. Buildings adjacent to drainage easements must always be provided with 18 inches of freeboard above the Q100 weir height or flow depth, whichever is greater.
_____	<u>N/A</u>	A complete water surface profile analysis (HEC-2, HEC-RAS, etc.) for channel flows and FEMA Zone A flood zones. • Field survey data. • Input and output information. • Plotted cross-sections based on survey with proper encroachments. • A map showing the location of the cross-sections. • Analysis of both sub and super-critical flow segments. • A summary table and a discussion of the results in the text of the report.
_____	<u>N/A</u>	Provide a 50 percent clogging factor in the capacity calculation for drop inlets.
_____	<u>N/A</u>	Hydraulic calculations for culverts and storm drains. D-Load calculations must be provided for storm drain pipes in public rights-of-way, including headwater pool inundation.
<u>X</u>	_____	The mitigation of nuisance water, both during construction and in the fully developed condition, must be addressed.
_____	<u>N/A</u>	Provide BMP type, size and supporting calculations for parking lots and LIDs (if required).

REFERENCE:

STANDARD FORM 2



CITY OF LAS VEGAS

MINIMUM DRAINAGE STUDY CRITERIA STANDARD FORM 2 CHECKLIST SUPPLEMENT

(Revised 5/18/11)

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

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

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

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

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

CITY OF LAS VEGAS MINIMUM DRAINAGE STUDY CRITERIA CHECKLIST

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

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

CITY OF LAS VEGAS MINIMUM DRAINAGE STUDY CRITERIA CHECKLIST

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

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

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

**TECHNICAL DRAINAGE STUDY
FOR
CHARLESTON HEIGHTS PARK**

887-012

March 2020

Authored By:

Masih Edalat, PhD, EI

Prepared for:

SH Architecture

7250 Peak Drive, Suite 216

Las Vegas, Nevada 89128

Phone: (702) 363-2222

Fax: (702) 363-6060

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I. INTRODUCTION

GCW, Inc. is providing engineering design services to SH Architecture for Charleston Heights Park renovation project, located on the east side of Maverick Street between Caprino Avenue and Rosalita Avenue. The site is 3.9 acres located within the jurisdictional limits of City of Las Vegas (CLV) and Assessor's Parcel Number (APN) 138-23-516-045. The design and construction of the proposed park is being administered by the CLV.

The purpose of this report is to accompany the improvement plans, to provide detailed hydrologic and hydraulic analyses for the site in accordance with the CCRFCD Manual (Reference 1, hereafter referred to as HCDDM) and local drainage criteria. The following tasks were performed in the preparation of this study:

- ◆ Identify previous drainage studies for the project site and surrounding areas.
- ◆ Determine the FEMA floodplain designation for the project site.
- ◆ Identify existing and proposed regional drainage facilities adjacent to the site.
- ◆ Identify existing and proposed drainage areas and facilities that affect the site.
- ◆ Estimate peak runoff impacting the proposed grading and storm drain improvements during the 10-year and 100-year return period storms for existing and ultimate conditions.
- ◆ Recommend drainage facilities to protect the project from storm runoff.

II. LOCATION AND DESCRIPTION

The project is located in Section 23, Township 20 South, and Range 60 East, M.D.M., in the City of Las Vegas, Nevada. Please refer to Figure 1 for the location of the project. The site is presently a park with mostly grass land cover. For this study, the project will consist on demolishing the existing park improvement, constructing a new parking lot and a Community Center building, playground courts and turf areas.

A copy of the approved SDR is provided in the appendix.

III. FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD HAZARD ANALYSIS

Based on the FEMA Flood Insurance Rate Map (FIRM) Community Panel 32003C2155F, dated November 16, 2011, the project site lies within a Zone X. Areas designated as Zone X are described as being outside the 500-year floodplain. Therefore, the project is not located within a FEMA-designated Special Flood Hazard Area (SFHA). Figure 2 shows the site depicted on a portion of the aforementioned FIRM.

IV. CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT (CCRFCD) HYDROLOGY AND FACILITIES

Figures 3 and 4, included in Appendix C, are a reproduction of Figure H-24 and F-24 of the CCRFCD 2018 Las Vegas Valley Master Plan Update (Reference 2, hereafter referred to as the 2018 MPU). As shown on the figure, the site is not adjacent to CCRFCD facilities.

V. REFERENCED STUDIES

Below is reference material that has been reviewed and accepted by GCW for use in this study.

Northwest Neighborhood Study Phase I (Reference 3, hereinafter referred to as the Neighborhood Study) was done in 1999. The Neighborhood Study has been utilized to develop design flow rates for onsite and offsite study area. Pertinent reference material has been included in Appendix B.

VI. HYDROLOGY

In this project, hydrology has been referenced from previously approved project. Below is more information regarding existing, proposed drainage conditions.

VII. EXISTING CONDITIONS

The existing condition is defined as the project and the offsite watershed in its current state. The site is presently a park with mostly grass land cover. Onsite subbasins have been prorated from the Neighborhood Study. The project site is located within subbasins SR02D and SR02E. Table 1 shows the referenced subbasins information.

Table 1: Summary of the Neighborhood Study Subbasins			
Subbasin ID	Area (acres)	Q₁₀₀/Q₁₀ (cfs)	100-YR Flow per Area (cfs/acre)
SR02D	16.3	38/17	2.33
SR02E	75.2	114/44	1.52

For conservative purposes, all the onsite subbasins have been prorated from subbasin SR02D. The prorated flows are based on the cfs per acre of tributary area.

Note that the generated runoff from Subbasins EON3, EON4, and EON5 are ponding at the north and west wall in the existing condition. Subbasins EON2 drains to Maverick St, and Subbasins EON1 to Latitudes Ct.

Refer to the Figure 5 for the existing conditions hydrology map.

VIII. PROPOSED CONDITIONS

The proposed condition is defined as the project re-developed as described on the grading plans and in Section II of this study. During proposed condition, general flow patterns remain unchanged. All the onsite subbasins have been prorated from subbasins SR02D.

Please note that in a meeting which was held on March 2, 2020 for this project, the CLV confirmed that as long as the proposed development improves drainage condition, the project is acceptable. This has been discussed specifically for the onsite runoff ponding and the issues to provide positive drainage for the whole project site.

The prorated flows are based on the cfs per acre of tributary area Subbasins DON1 drains to Latitudes Ct, and Subbasins DON2 to Maverick St. Subbasins DON3, DON4, and DON5 are ponding at the north and west wall in the existing condition. However, the total drainage area that causes onsite ponding has been significantly decreased compared to the existing condition. Table 2 compares proposed and existing condition runoff ponding.

Table 2: Summary of the Proposed and Existing Condition Runoff Ponding			
Existing Condition Subbasins	Area (acres)	Proposed Condition Subbasins	Area (acres)
EON3	0.3	DON3	0.2
EON4	0.5	DON4	0.2
EON5	1.5	DON5	0.1
Total	2.3	Total	0.5

According to Table 2, the onsite drainage area that causes onsite ponding is decreasing by 1.8 acres. Therefore, the proposed development of the site improves drainage condition and is acceptable.

Refer to the Figure 6 for the proposed condition hydrology.

IX. STREET/SURFACE HYDRAULICS

Refer to Figure 6 for illustration of the location of a street section hydraulic calculation performed in Maverick St. The flow increase in Latitude Ct is considered as negligible, therefore, no hydraulic section is provided for Latitude Ct. Review of the calculations shows that street flow criteria is met at Maverick St. The resulting street flow data is based on proposed condition flow rates. The flowrate used in the street flow normal depth calculations is obtained from the Neighborhood Study (35/11 cfs) and additional 3/1 cfs (100-yr/10-yr) that DON2 generates compared to EON2. Hydraulic calculations have been included in Appendix B.

Surface grading has been reviewed. Grading shows positive drainage throughout the site, except subbasins DON3, DON4, and DON5. No flow is anticipated to be channelized adjacent to the proposed building; however the site is proposed to grade in a way to protect the building from onsite runoff.

Note that the existing parking is directly draining to the street in the existing condition. The proposed parking area is fairly same size as the existing parking area. Therefore, Best Management practices are considered not to be required for this project.

X. CONCLUSIONS AND RECOMMENDATIONS

1. Methodology used in this report is in compliance with the Clark County Regional Flood Control District (CCRFCD) criteria.

2. The proposed project lies within a designated FEMA Flood Zone X. The project is not currently located in a FEMA-designated Special Flood Hazard Area.
3. The project is not adjacent to a CCRFCD regional facility alignment
4. The development of the site does not adversely impact downstream property or facilities.

XI. REFERENCES

1. Clark County Regional Flood Control District. *Hydrologic Criteria and Drainage Design Manual*. August 1999.
2. CCRFCD 2013 Las Vegas Valley Master Plan Update. 2013.
3. PBSJ. *Northwest Neighborhood Study Phase I*. 1999.

APPENDIX LAYOUT

<i>Appendix A</i>	Hydraulic Calculations and Information
	1. Normal Depth Calculations
<i>Appendix B</i>	Referenced Materials and Supporting Documents
	1. Northwest Neighborhood Study
<i>Appendix C</i>	Drainage Figures and Plans
	2. Figure 1; Vicinity Map
	3. Figure 2; FEMA FIRM
	4. Figure 3; MPU 2018 Subbasin Map
	5. Figure 4; MPU 2018 Facility Map
	6. Figure 5; Existing Condition Drainage Map
	7. Figure 6; Proposed Condition Drainage Map

APPENDIX A

Hydraulic Calculations and Information

Worksheet for SECTION 1 - 100YR

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope 0.5 %
Discharge 38.00 ft³/s
Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.60
0+05.00	0.50
0+05.50	0.50
0+05.50	0.00
0+07.00	0.13
0+07.00	0.17
0+30.00	0.63
0+53.00	0.17
0+53.00	0.13
0+54.50	0.00
0+54.50	0.50
0+55.00	0.50
0+60.00	0.60

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.60)	(0+60.00, 0.60)	0.013

Options

Current Roughness weighted Pavlovskii's Method
Method
Open Channel Weighting Method Pavlovskii's Method
Closed Channel Weighting Method Pavlovskii's Method

Worksheet for SECTION 1 - 100YR

Results

Normal Depth		0.63	ft
Elevation Range	0.00 to 0.63 ft		
Flow Area		13.10	ft ²
Wetted Perimeter		60.99	ft
Hydraulic Radius		0.21	ft
Top Width		59.83	ft
Normal Depth		0.63	ft
Critical Depth		0.64	ft
Critical Slope		0.00411	ft/ft
Velocity		2.90	ft/s
Velocity Head		0.13	ft
Specific Energy		0.76	ft
Froude Number		1.09	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.63	ft
Critical Depth	0.64	ft
Channel Slope	0.5	%
Critical Slope	0.00411	ft/ft

Cross Section for SECTION 1 - 100YR

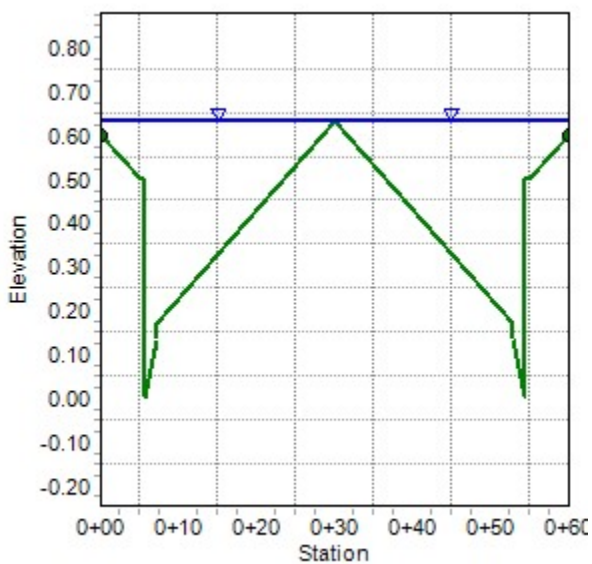
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.5	%
Normal Depth	0.63	ft
Discharge	38.00	ft ³ /s

Cross Section Image



Project Description

Solve For Normal Depth

Channel Slope	0.5	%
Discharge	12.00	ft ³ /s
Section Definitions		

Station (ft)	Elevation (ft)
0+00.00	0.60
0+05.00	0.50
0+05.50	0.50
0+05.50	0.00
0+07.00	0.13
0+07.00	0.17
0+30.00	0.63
0+53.00	0.17
0+53.00	0.13
0+54.50	0.00
0+54.50	0.50
0+55.00	0.50
0+60.00	0.60

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.60)	(0+60.00, 0.60)	0.013

Current Roughness weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Worksheet for SECTION 1 - 10YR

Results

Normal Depth		0.45	ft
Elevation Range	0.00 to 0.63 ft		
Flow Area		5.07	ft ²
Wetted Perimeter		31.99	ft
Hydraulic Radius		0.16	ft
Top Width		30.99	ft
Normal Depth		0.45	ft
Critical Depth		0.45	ft
Critical Slope		0.00468	ft/ft
Velocity		2.37	ft/s
Velocity Head		0.09	ft
Specific Energy		0.54	ft
Froude Number		1.03	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.45	ft
Critical Depth	0.45	ft
Channel Slope	0.5	%
Critical Slope	0.00468	ft/ft

Cross Section for SECTION 1 - 10YR

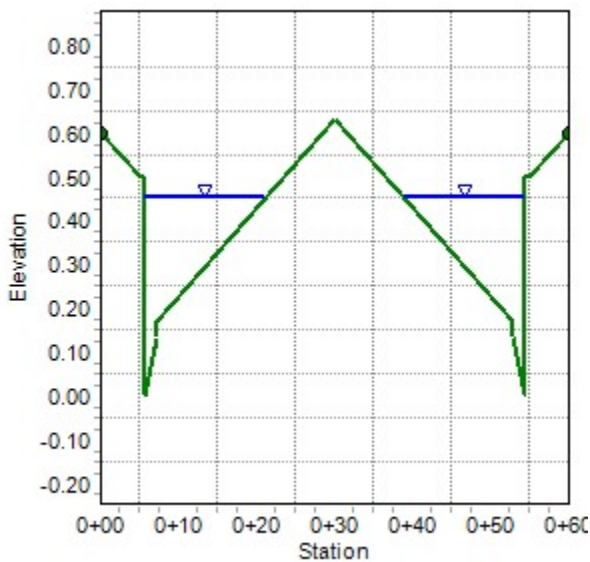
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.5	%
Normal Depth	0.45	ft
Discharge	12.00	ft ³ /s

Cross Section Image



APPENDIX B

Referenced Materials and Supporting Documents



**LAS VEGAS
CITY COUNCIL**

CAROLYN G. GOODMAN
Mayor

MICHELE FIORE
Mayor Pro Tem

STAVROS S. ANTHONY
CEDRIC CREAR
BRIAN KNUDSEN
VICTORIA SEAMAN
OLIVIA DIAZ

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

February 5, 2020

Ms. Teresa Boyce
CLV Purchasing and Contracts
333 North Rancho Drive
Las Vegas, Nevada 89106

**RE: SDR-78824 [PRJ-77906] – ADMINISTRATIVE SITE
DEVELOPMENT PLAN REVIEW
ADMINISTRATIVE CYCLE – JANUARY 2020**

Dear Applicant:

Your request for a Minor Site Development Plan Review FOR A PROPOSED 6,300 SQUARE-FOOT COMMUNITY CENTER AND PARK REMODEL on 3.92 acres at 2221 Maverick Street (APN 138-23-516-045), C-V (Civic) Zone, Ward 5 (Crear) [PRJ-77906], has been considered administratively by the Department of Planning staff.

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

Planning

1. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
2. All development shall be in conformance with the site plan, landscape plan, and building elevations, date stamped 01/27/2020, except as amended by conditions herein.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.
5. A technical landscape plan, signed and sealed by a Registered Architect, Landscape Architect, Residential Designer or Civil Engineer, must be submitted prior to or at the same time application is made for a building permit. A permanent underground sprinkler system is required, and shall be permanently maintained in a satisfactory manner; the landscape plan shall include irrigation specifications. Installed landscaping shall not impede visibility of any traffic control device.

6. 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.
7. All City Code requirements and design standards of all City Departments must be satisfied, except as modified herein.

Public Works

8. The sidewalk along Maverick 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
9. Landscape and maintain all unimproved rights-of-way adjacent to this site. All landscaping and private improvements installed with this project shall be situated and maintained so as to not create sight visibility obstructions for vehicular traffic at all development access drives and abutting street intersections.
10. Meet with the Flood Control Section of the Department of Public Works for assistance with establishing finished floor elevations and drainage paths for this site prior to submittal of construction plans, the issuance of any building or grading permits, whichever may occur first. Provide and improve all drainage ways as recommended.

This action by the Department of Planning staff on **February 5, 2020** is final unless a written appeal is filed with the Director of the Department of Planning within ten days of the date of this letter.

Sincerely,



Eric McCammond
Senior Management Analyst
Case Planning Division

EM:nl

cc:

Cousino, AIA, Well AP
7250 Peak Drive, Ste. 216
Las Vegas, Nevada 89128



NORTHWEST
NEIGHBORHOOD
STUDY

LEGEND

SUB-BASIN BOUNDARY

FLOW ARROW

250 10-YEAR STREET FLOW
500 100-YEAR STREET FLOW
300 10-YEAR FACILITY FLOW
800 100-YEAR FACILITY FLOW
(FLOWS IN CFS)

BWJS Basin-ID
(13 / 59) Contributing flow
(10-Year / 100-Year)
from the basin (cfs)

PHOTO DATE: APRIL 1996

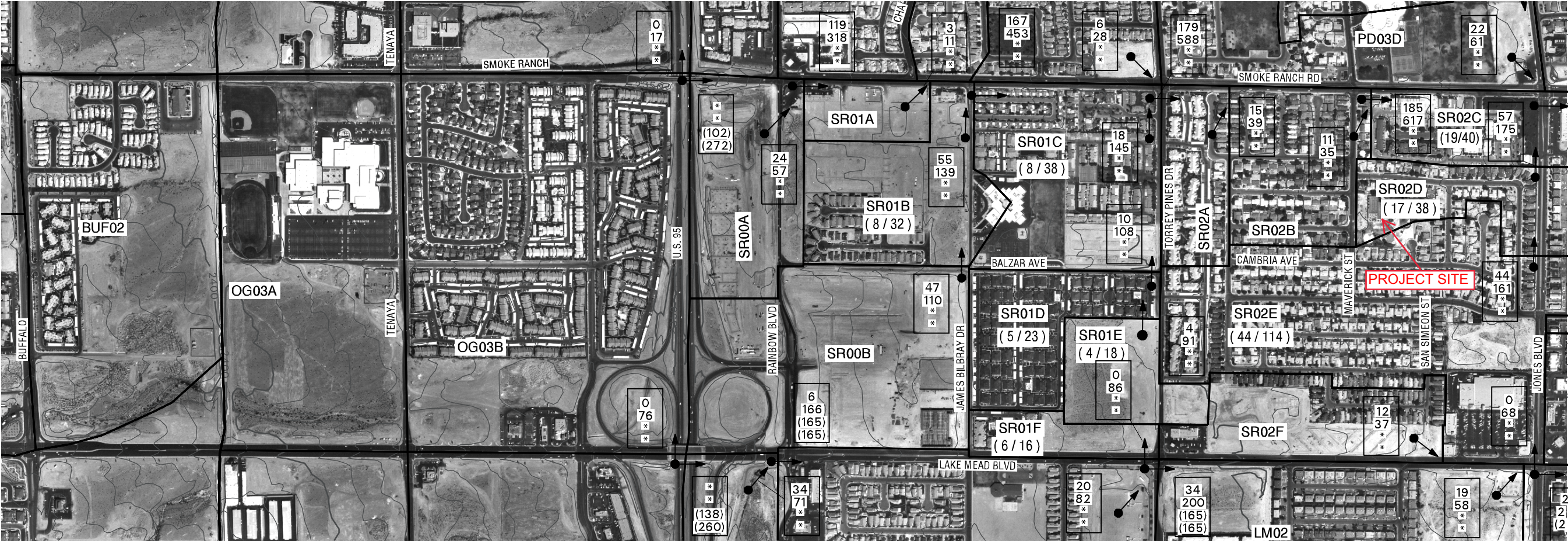


FIGURE E-17

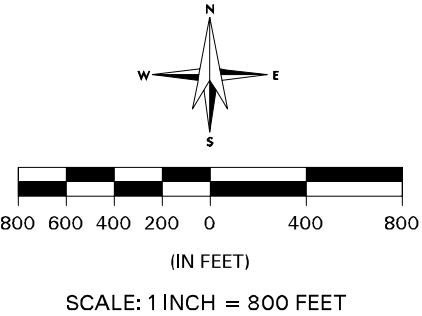
EXISTING DRAINAGE CONDITIONS

PBS & **POST, BUCKLEY, SCHUH & JERNIGAN, INC.**

ENGINEERING PLANNING SURVEYING GIS
901, N. Green Valley Pkwy, Ste 100, Henderson NV 89014
Phone: (702) 263-7275 Fax: (702) 263-7200

HUALAPAI	FT. APACHE	DURANGO	BUFFALO	RAINBOW	JONES	DECATUR	ELKHORN
1	2	3					
4	5	6					CENTENNIAL
7	8	9					ANN
10	11	12					LONE MOUNTAIN
			13	14			ALEXANDER
			15	16			CHEYENNE
			17	18			SMOKE RANCH

NOTE:
Existing conditions are based on future
CN values with only existing local and
CCRFCD facilities in place



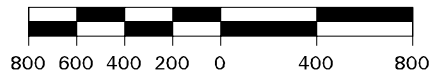
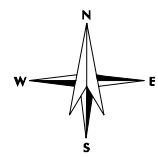
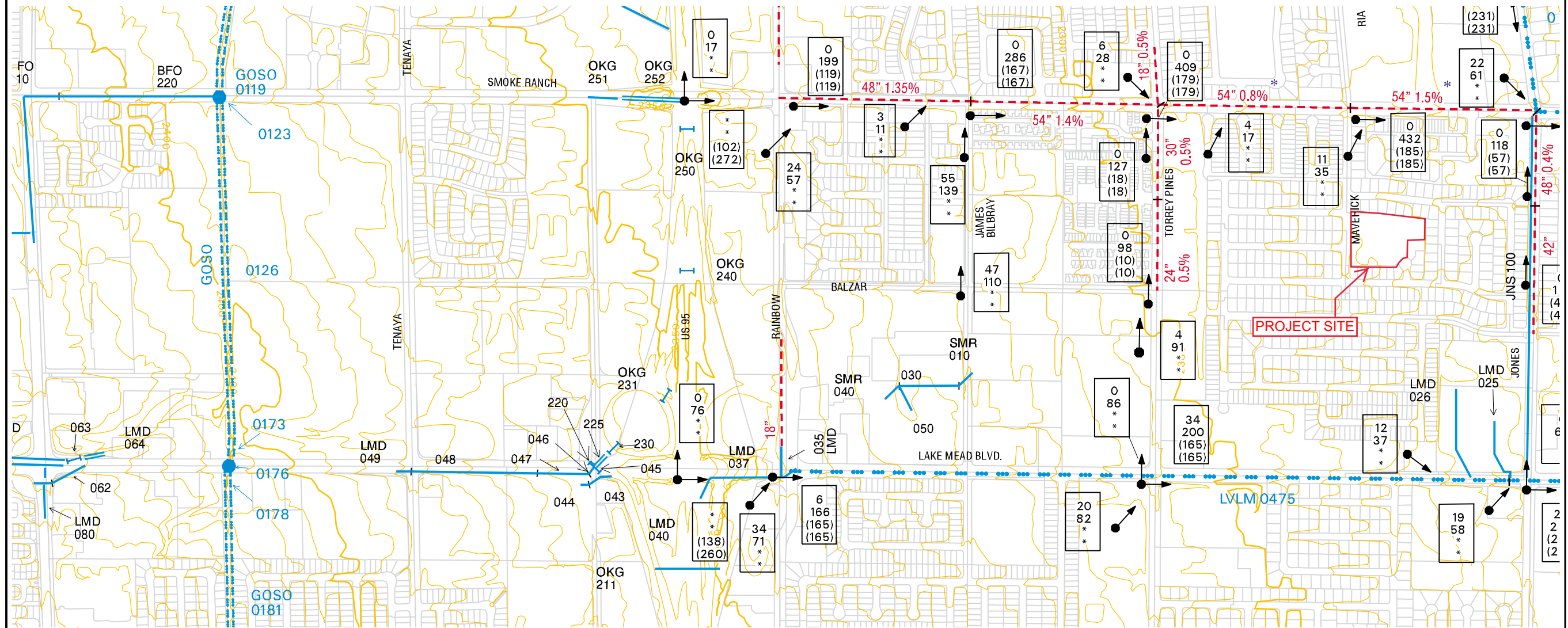


NORTHWEST
NEIGHBORHOOD
STUDY

LEGEND

- EXISTING REGIONAL DETENTION BASINS
- PROPOSED REGIONAL DETENTION BASINS
- EXISTING LOCAL DETENTION BASINS
- EXISTING REGIONAL BRIDGES
- PROPOSED REGIONAL BRIDGES
- EXISTING LOCAL BRIDGES
- EXISTING REGIONAL CULVERT
- PROPOSED REGIONAL CULVERT
- EXISTING LOCAL CULVERT
- EXISTING REGIONAL PIPELINE
- PROPOSED REGIONAL PIPELINE
- EXISTING LOCAL PIPELINE
- PROPOSED LOCAL PIPELINE
- EXISTING REGIONAL CHANNEL
- PROPOSED REGIONAL CHANNEL
- EXISTING LOCAL CHANNEL
- PROPOSED REGIONAL CHANNEL (Not Included In 1996 MPU)
- EXISTING REGIONAL DIKE/LEVEE
- PROPOSED REGIONAL DIKE/LEVEE
- EXISTING LOCAL DIKE/LEVEE
- EXISTING STORM WATER PUMPING STATION
- PROPOSED BELTWAY ALIGNMENT

FIGURE F-17



SCALE: 1 INCH = 800 FEET

→ FLOW ARROW

250 10-YEAR STREET FLOW
500 100-YEAR STREET FLOW
(300) 10-YEAR FACILITY FLOW
(800) 100-YEAR FACILITY FLOW

(FLOWS IN CFS)

NOTE:

Ultimate drainage conditions are based on future CN values with all flood control facilities in place

* See Chapter 7 of Volume I for additional proposed facilities in this area.

HUALPAIN	FT. APACHE	DURANGO	BUFFALO	RAINBOW	JONES	DECATUR	ELKHORN
1	2	3					CENTENNIAL
4	5	6					ANN
7	8	9					LONE MOUNTAIN
10	11	12					ALEXANDER
			13	14			CHEYENNE
			15	16			SMOKE RANCH
			17	18			

FUTURE DRAINAGE CONDITIONS



POST,
BUCKLEY,
SCHUH &
JERNIGAN, INC.

ENGINEERING PLANNING SURVEYING GIS
901, N. Green Valley Pkwy, Ste 100, Henderson NV 89014
Phone: (702) 263-7275 Fax: (702) 263-7200

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 16MAR20 TIME 09:11:55
*
*****

NWN.OUT

*****
*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
*****

```

```

X   X XXXXXX XXXX   X
X   X X   X   X   XX
X   X X   X   X   X
XXXXXX XXXX X   XXXX X
X   X X   X   X   X
X   X X   X   X   X
X   X XXXXXX XXXX   XXX

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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
 THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
 NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
 DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
 KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

*** FREE ***

*DIAGRAM
1 ID *****
2 ID * .....*
3 ID * : CHARLESTON HEIGHTS PARK : *
4 ID * : NORTHWEST NEIGHBORHOOD STUDY : *
5 ID * : : : *
6 ID * : .....*
7 ID * : RETURN PERIOD_ _ _ 10 & 100-YEAR : *
8 ID * : DISTRIBUTION_ _ _ 6-HOUR SDN3 : *
9 ID * : PROJECT NO_ _ _ 887-012 : *
10 ID * : FILENAME_ _ _ NWN.H1 : *
11 ID * : DATE_ _ _ 07/25/2019 : *
12 ID * : MODELED BY_ _ _ ME : *
13 ID * : .....*
14 ID * : : *
15 ID * : .....*
16 ID *****
17 ID
18 ID JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:
19 ID
20 ID AREA DARF
21 ID SQ.MI.
22 ID
23 ID 0 - 0.5 1.00
24 ID 0.5 - 1 0.98
25 ID 1 - 2 0.97
26 ID 2 - 4 0.93
27 ID
28 ID IT 5 0 0 300
29 ID IO 5 0
30 ID IN 5 0 0
31 ID JR PREC 1.00 0.57
*
*
32 KK SR02D
33 PB 2.77
34 BA 0.027
35 PC 0.000 .0200 .0570 .0700 .0870 .1080 .1240 .1300 .1300 .1300
36 PC .1300 .1300 .1300 .1330 .1400 .1420 .1480 .1580 .1720 .1810
37 PC .1900 .1970 .1990 .2000 .2010 .2040 .2140 .2290 .2410 .2490
38 PC .2510 .2560 .2700 .2780 .2810 .2830 .2950 .3220 .3520 .4090
39 PC .4990 .5900 .7100 .7440 .7810 .8120 .8190 .8350 .8510 .8560
40 PC .8600 .8680 .8760 .8880 .9100 .9260 .9370 .9500 .9700 .9760
41 PC .9820 .9850 .9870 .9890 .9900 .9930 .9930 .9940 .9950 .9980
42 PC .9980 .9990 1.000
43 LS 0 91.187
44 UD 0.190
*

```

1 HEC-1 INPUT Page 1 PAGE 2

NWN.OUT

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

45 KK SR02E
46 PB 2.77
47 BA 0.116
48 LS 0 86.585
49 UD 0.289
*
50 ZZ

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT
LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW
NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW
32 SR02D
.
.
45 . SR02E

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* JUN 1998 *
* VERSION 4.1 *
*
* RUN DATE 16MAR20 TIME 09:11:55 *
*

*
* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET *
* DAVIS, CALIFORNIA 95616 *
* (916) 756-1104 *
*

* *
* : CHARLESTON HEIGHTS PARK : *
* : NORTHWEST NEIGHBORHOOD STUDY : *
* : *
* : *
* : RETURN PERIOD _ _ _ 10 & 100-YEAR : *
* : DISTRIBUTION _ _ _ _ 6-HOUR SDN3 : *
* : PROJECT NO _ _ _ _ 887-012 : *
* : FILENAME _ _ _ _ NWN.H1 : *
* : DATE _ _ _ _ 07/25/2019 : *
* : MODELED BY _ _ _ _ ME : *
* : *
* : *
* : *

JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:

AREA DARF
SQ.MI.

0 - 0.5 1.00
0.5 - 1 0.98
1 - 2 0.97
2 - 4 0.93

29 IO OUTPUT CONTROL VARIABLES
IPRNT 5 PRINT CONTROL
IPLOT 0 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
NMIN 5 MINUTES IN COMPUTATION INTERVAL
IDATE 1 0 STARTING DATE
ITIME 0000 STARTING TIME
NQ 300 NUMBER OF HYDROGRAPH ORDINATES
NDDATE 2 0 ENDING DATE
NDTIME 0055 ENDING TIME
ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS
DRAINAGE AREA SQUARE MILES
PRECIPITATION DEPTH INCHES
LENGTH, ELEVATION FEET
FLOW CUBIC FEET PER SECOND
STORAGE VOLUME ACRE-Feet

NWN.OUT

	SURFACE AREA	ACRES	
	TEMPERATURE	DEGREES FAHRENHEIT	

JP	MULTI-PLAN OPTION		
	NPLAN	1	NUMBER OF PLANS

JR	MULTI-RATIO OPTION		
	RATIOS OF PRECIPITATION		
	1.00	.57	

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
 FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
 TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION	
				RATIO 1	RATIO 2
				1.00	.57

HYDROGRAPH AT					
+	SR02D	.03	1	FLOW	
				TIME	
				38.	17.
				3.58	3.58

HYDROGRAPH AT					
+	SR02E	.12	1	FLOW	
				TIME	
				114.	44.
				3.75	3.75

*** NORMAL END OF HEC-1 ***

APPENDIX C

Drainage Figures and Plans

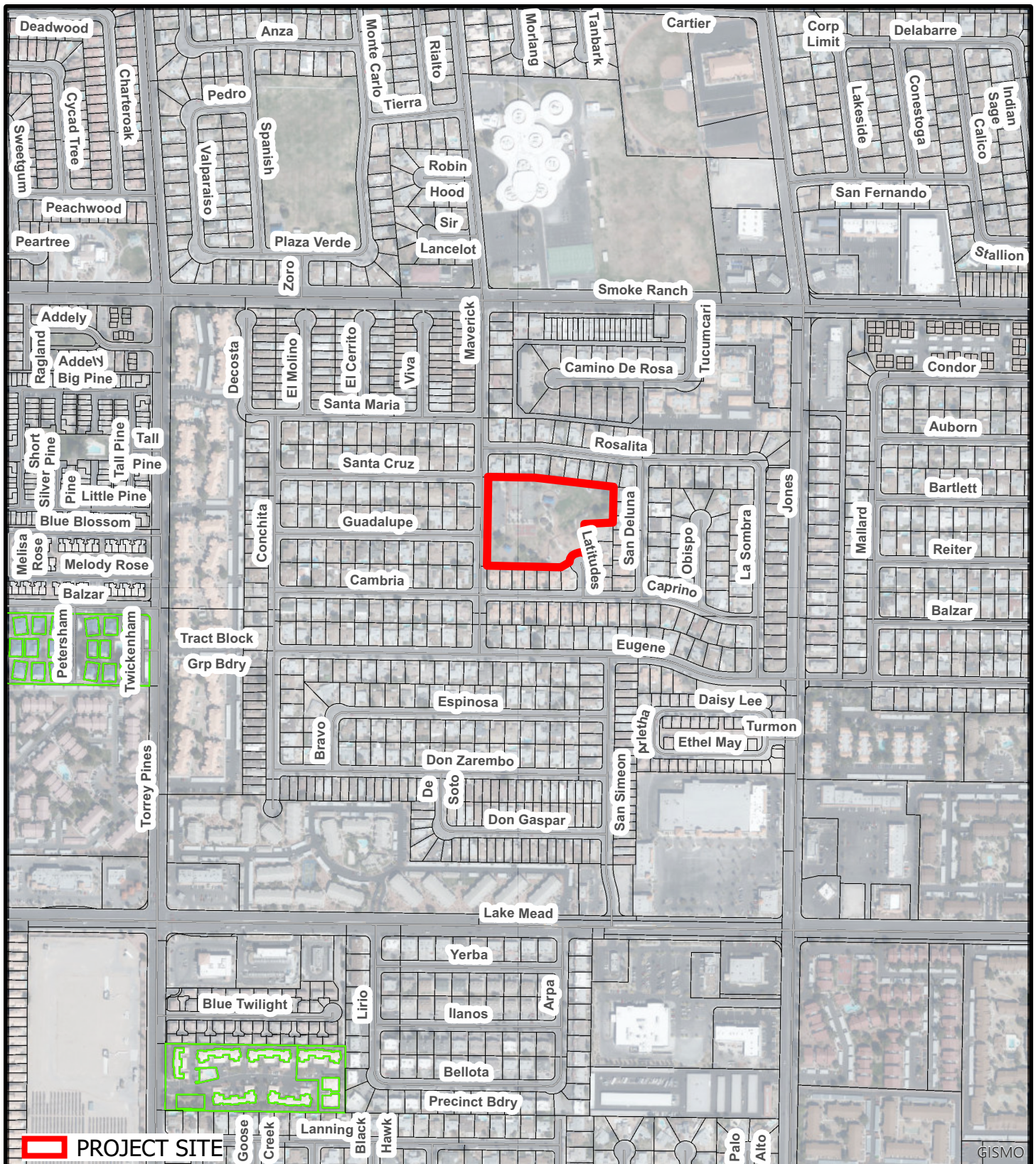
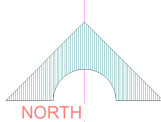


FIGURE 1
VICINITY MAP

0 710 1,400
Feet

Scale: 1:7,000



GCV
ENGINEERS \ SURVEYORS

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

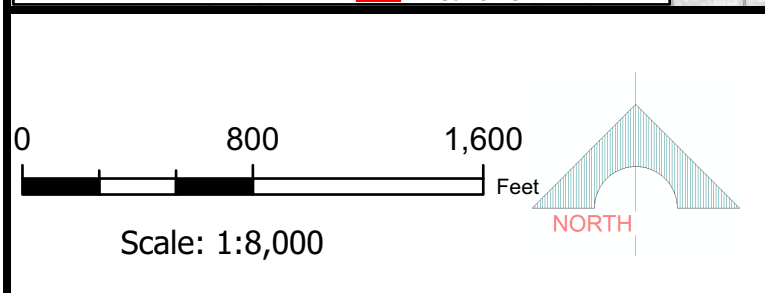
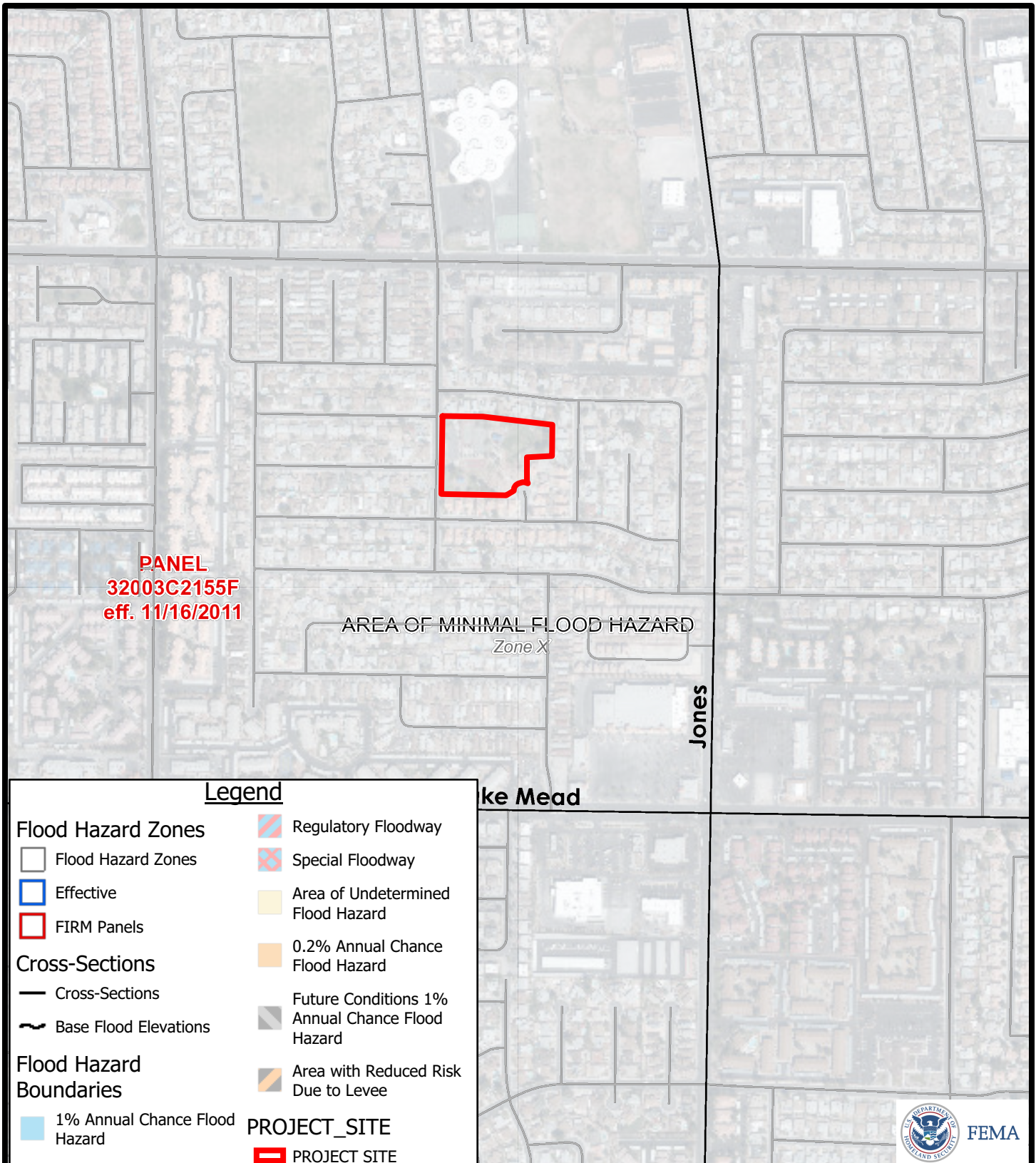
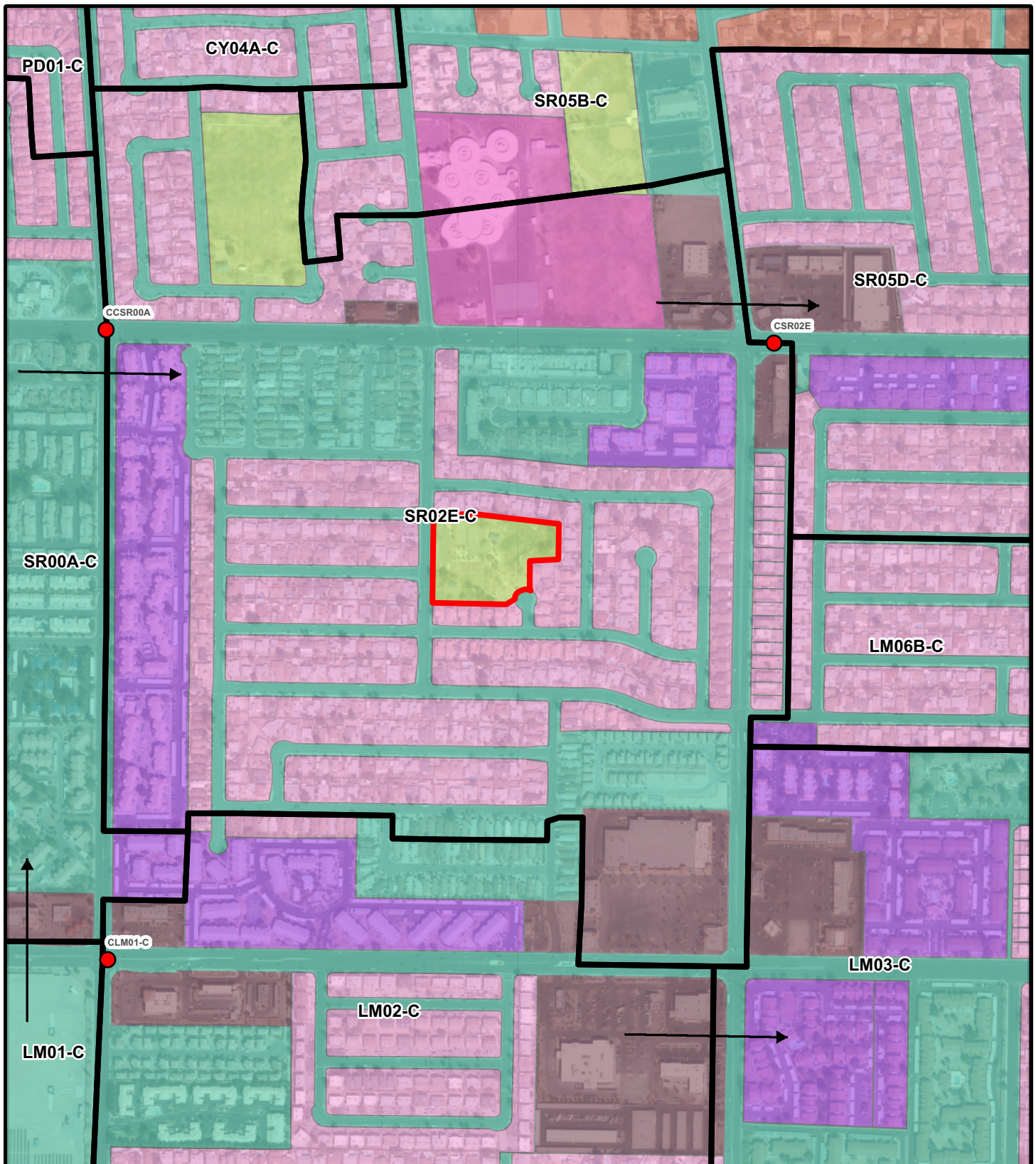


FIGURE 2
FEMA FIRM

GCV
ENGINEERS \ SURVEYORS

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

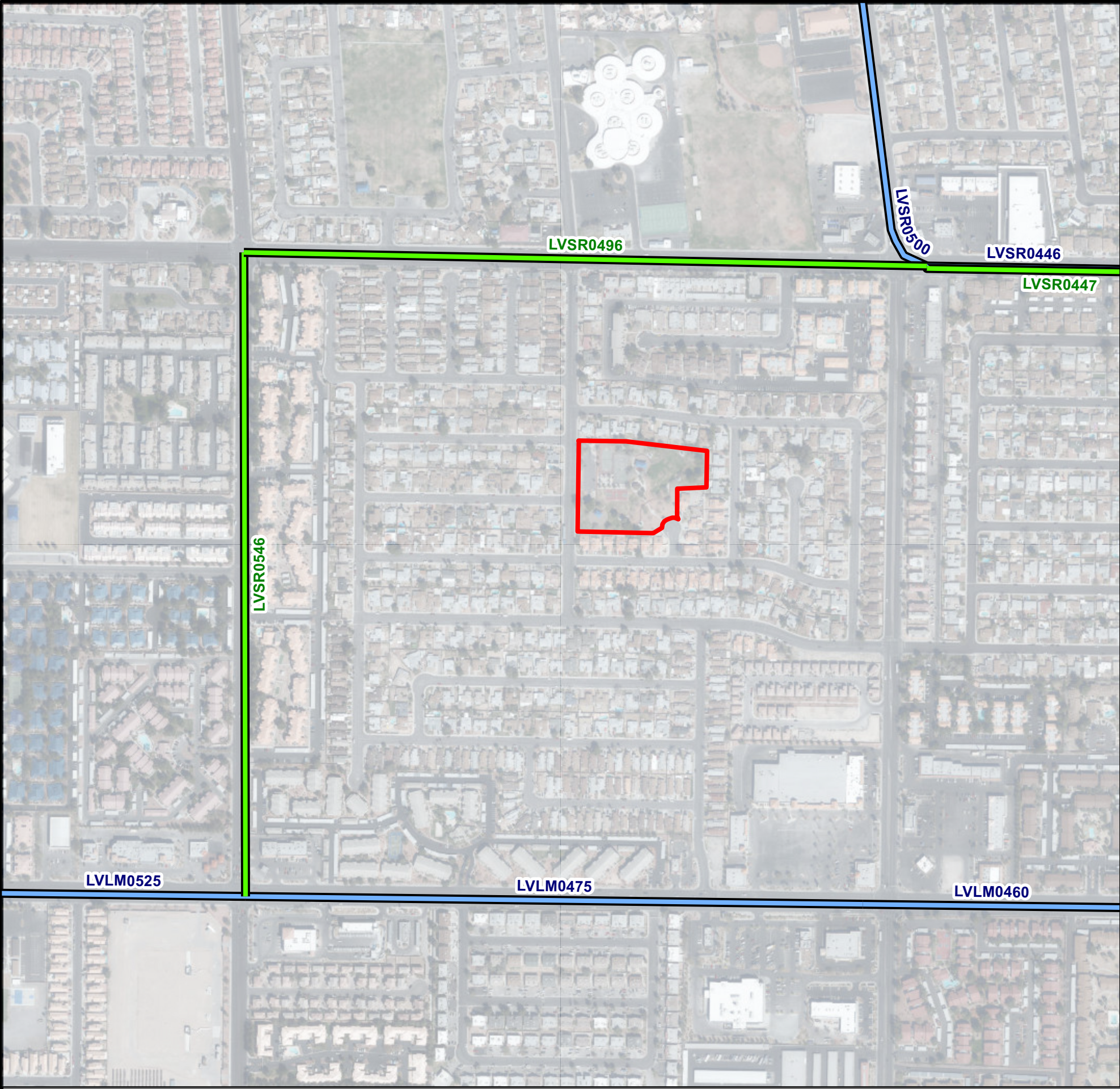


- | | |
|---------------------------------|-------------------------------|
| Undeveloped Land, Open desert | Very High-Density Residential |
| Parks, Golf Courses | Commercial |
| Rural | Light Industrial |
| Low-Density Residential | Heavy Industrial |
| Medium-Density Residential | Schools |
| High-Density Residential | Lakes |
| Public Facility and Residential | PROJECT SITE |

FIGURE 3
2018 MPU SUBBASIN MAP

GCV
ENGINEERS \ SURVEYORS

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com



ID	MILE FAC_DESC	WATERSHED	LENGTH	FT	W	FT	SLOPE	FT/FT	HEC1_MODEL	HEC1_NODE	HEC1_FLOW	TRIB_AREA	FACNAME
LVLM0460	54" RCP	CENTRAL	1464	0	0.0205	NW3	CLM03-C	591	0.63	LAS VEGAS WASH - LAKE MEAD			
LVLM0475	48" RCP	CENTRAL	2632	0	0.0124	NW3	LM02-C	242	0.29	LAS VEGAS WASH - LAKE MEAD			
LVLM0525	48" RCP	CENTRAL	2600	0	0.0124	NW3	CLM01-C	565	0.64	LAS VEGAS WASH - LAKE MEAD			
LVSR0446	54" RCP (REPLACE W/ LVSR0447)	CENTRAL	2530	0	0.0114	NW3	CSR05D	1483	1.94	LAS VEGAS WASH - SMOKE RANCH			
LVSR0447	10' X 8' RCB (REPLACES LVSR0446)	CENTRAL	2530	10	0.0125	NW3	CSR05D	1483	1.94	LAS VEGAS WASH - SMOKE RANCH			
LVSR0496	10' X 7' RCB	CENTRAL	2855	10	0.0127	NW3	CSR02E	1245	1.64	LAS VEGAS WASH - SMOKE RANCH			
LVSR0500	60" RCP	CENTRAL	1290	0	0.0197			0	0	LAS VEGAS WASH - SMOKE RANCH			
LVSR0525	54" RCP	CENTRAL	1340	0	0.003			0	0	LAS VEGAS WASH - SMOKE RANCH			
LVSR0546	8' X 9' RCB	CENTRAL	2640	8	0.0057	NW3	CSR00A	781	1.01	LAS VEGAS WASH - SMOKE RANCH			

CCRFCD Facilities

STATUS

COM

CON

PRO

TN1

TN2

CCRFCD Basins

STATUS

COM

CON

PRO

TN1

TN2

PROJECT SITE

FIGURE 4

2018 MPU FACILITY MAP

GCV

ENGINEERS SURVEYORS

1555 S. RAINBOW BLVD.
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CITY OF LAS VEGAS GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST EDITION, THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA, NEVADA", LATEST EDITION, THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA, AND OTHER APPLICATION STANDARDS ISSUED BY THE CONTROLLING AGENCY, THE "UNIFORM BUILDING CODE", AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".
2. THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCE WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.
3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE. FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER OR OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.
4. ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS. ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.
5. TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGN TO BE APPROVED BY THE QUALITY CONTROL DIVISION, PRIOR TO THE USE ON THE PROJECT.
6. PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
7. EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED TYPE CURB.
8. AC PAVEMENT TO BE 1/2" ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS.
9. CURB AND GUTTER WITH A GRADE OF LESS THAN FOUR-TENTHS OF ONE PERCENT SHALL BE WATER-TESTED AS SOON AS POSSIBLE AFTER CONSTRUCTION. ANY CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY SHALL BE REMOVED AND REPLACED PER USD 216.
10. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER USD 235, CASE I. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY PROJECT REPRESENTATIVE.
11. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF TRANSITIONS TO BE AS SHOWN ON PLANS, OR AS DESIGNATED IN THE FIELD BY CITY PROJECT REPRESENTATIVE.
12. EXACT LOCATION OF ALL SAWCUT LINES MAY BE DETERMINED IN THE FIELD BY A CITY PROJECT REPRESENTATIVE IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.
13. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED, AND SHALL BE DONE ONLY BY A NEVADA PROFESSIONAL LAND SURVEYOR IN ACCORDANCE WITH THE UNIFORM STANDARD DRAWINGS, CLARK COUNTY AREA. A RECORD-OF-SURVEY FOR REPLACEMENT OF PERMANENT SURVEY MONUMENTS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO RECORDING. THE RECORD-OF-SURVEY SHALL BE PREPARED IN ACCORDANCE WITH NEVADA REVISED STATUTES 625.350.
14. UTILITY COMPANY METER BOXES, MANHOLE UDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY APRONS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE AFFECTED UTILITY COMPANY AND THE CITY ENGINEER.
15. ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF REVIEWING GRADING RELATIONSHIPS; FLOOD CONTROL AND SIGHT DISTANCE AT INTERSECTIONS. NEW WALLS REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE CLV BUILDING DEPARTMENT.
16. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHTS OF WAY.
17. CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, SEWER CLEANOUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
18. MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NDOT AND CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.
19. WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC., THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE ENGINEER CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.
20. NEWLY INSTALLED AND EXISTING UTILITIES EXPOSED DURING CONSTRUCTION SHALL BE SURVEYED AND DOCUMENTED PER SECTION 622 OF THE SPECIAL PROVISIONS.
21. CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTIONS NEED TO BE PERFORMED PER THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST ADDITION.
22. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES STANDARD NOTES

1. 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 RIGHTS OF WAY OF THE CITY OF LAS VEGAS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. 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 BEST MANAGEMENT PRACTICES MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE. STABILIZATION SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION ACTIVITY. THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI00000, SECTION III.A.5.
4. 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 ACTUAL RAIN EVENT OF 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 NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI00000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPs 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.

CITY OF LAS VEGAS GRADING NOTES

1. IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER/ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.
3. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.
4. THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT.
5. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
6. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.
7. THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.
8. IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, SUCH ITEM SHALL BE PROVIDED, AS DIRECTED BY THE CITY ENGINEER, AT NO EXPENSE TO THE CITY OF LAS VEGAS. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

REVISED APRIL 13, 2015 (CPM VERSION)

ABBREVIATIONS

@	AT	LT	LEFT
AC	ASPHALTIC CONCRETE	MH	MANHOLE
ACP	ASBESTOS CEMENT PIPE	MCP	MULTI-LAYER COMPOSITE PIPE
ADP	ADDITIONAL INFORMATION TO ENTER PROPERTY	NTP	NOT TO SCALE
APPROX.	APPROXIMATE	NVE	NEW ENERGY
B/C, BC	BACK OF CURB	OHP	OVERHEAD POWER LINE
BCR	BACK OF CURB RADIUS	PB	PULLBOX
BM	BENCHMARK	PC	POINT OF CURVE
BOT	BOTTOM	P.I.P.	PROTECT IN PLACE
B.R.	BURIED LAMP	R, PL	PROPERTY LINE
C, CLV	CENTERLINE	RC	POWER POLE
CTL	CABLE T.V.	PRC	POINT OF REVERSE CURVE
CIPP	CURED-IN-PLACE PIPE	PT	POINT OF TANGENCY
CLSM	CONTROLLED LOW STRENGTH MATERIAL	R	RADIUS
CLV	CITY OF LAS VEGAS	RT	RIGHT
CONC.	CONCRETE	R/W, R.O.W.	RIGHT OF WAY
COND.	CONDUIT	SCP	STEEL CYLINDER CONCRETE PIPE
C & G	CURB AND GUTTER	SD	STORM DRAIN
D & W	DRIVEWAY	SF	SQUARE FOOT
DWG.	DRAWING	SS	SANITARY SEWER
ECR	END OF CURB RETURN (AT B/C)	STA.	STATION
ELEC.	ELECTRIC	STD	STANDARD
ELEV.	ELEVATION	SY	SQUARE YARD
EOC	EDGE OF CONCRETE	SW	SIDEWALK
EOP, EP	EDGE OF PAVEMENT	T	TELEPHONE LINE
EXIST., EX	EXISTING	TC	TOP OF CURB
EXOH	EXISTING OVERHEAD UTILITY	TEL	TELEPHONE
FC	FACE OF CURB	TRANS.	TRANSITION
FD	FACE OF DRAIN	T.R.C.	TOP OF RAMP CURB
FG	FINISHED GRADE	T.R.C.	TRAFFIC SIGNAL
FH	FIRE HYDRANT	TYP.	TYPICAL
FL	FLOWLINE	USD	UNIFORM STD DRAWING
FT.	FOOT/FEET	USS	UNIFORM STD SPECIFICATIONS
G	GAS	W	WATER LINE
GV	GATE VALVE	WC	WHEEL CHAIR
GW	GUY WIRE	WM	WATER METER
INT.	INTERSECTION	WV	WATER VALVE
IRR	IRRIGATION	W/	WITH
L	LENGTH	Δ	INCLUDED DELTA ANGLE
LF	LINEAL FOOT, LINEAR FEET		

LAS VEGAS FIRE AND RESCUE GENERAL NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE CODE ORDINANCE #6661 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.
2. ONLY FIRE HYDRANTS THAT ARE ON THE LAS VEGAS VALLEY WATER DISTRICTS APPROVED PRODUCTS LIST ARE ALLOWED TO BE INSTALLED.
3. A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED BEFORE COMMENCEMENT OF WORK. IFC 8 105.6.15
4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED BEFORE COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW. IFC 8 3510, § 3511.
5. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF THE STREET ADJACENT TO THE FIRE HYDRANTS. IFC 8 507.5.7.3
6. ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED BEFORE COVERING THE LINES. CENTER LOADING IS ACCEPTABLE. FOR THE HYDRO TESTS WITH PRIOR FIRE PREVENTION APPROVAL. IFC 8 106.3
7. ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE. IFC 8 507.2.1, NFPA 24
8. PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE COMPLETED BEFORE APPROVAL BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION. IFC 8 507
9. PRIVATE HYDRANTS SHALL BE PAINTED RED. IFC 8 507.5.7.1
10. PRIOR TO THE FINAL OCCUPANCY, A FIRE FLOW TEST SHALL BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW. IFC 8 507
11. FIRE HYDRANT SPACING SHALL BE AS FOLLOWS: IFC 8 C102
- RESIDENTIAL - 500 FT UNSPRINKLERED; 600 FT SPRINKLERED.
 - COMMERCIAL - 300 FT UNSPRINKLERED; 400 FT SPRINKLERED.
12. WHEN THE WATER MAINS ARE EXTENDED ALONG STREETS OR HIGHWAYS AND FIRE HYDRANTS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT A MAXIMUM OF 1000 FT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS, WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR (4) OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNTRY OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT 500 FT ON AN ALTERNATING BASIS. IFC 8 C102.8
13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF A CUL-DE-SAC OR WITHIN 20 FT OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.
14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FTIN OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. IFC 8 C102.10
15. A MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FT, AS MEASURED BY AN APPROVED ROUTE. IFC 8 102.4
16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FT, AS MEASURED BY AN APPROVED ROUTE. IFC 8 C102.7
17. THE MAXIMUM DISTANCE FROM A HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. IFC 8 C102.6
18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. FOR SYSTEMS REQUIRED TO HAVE TWO (2) SOURCES OF WATER SUPPLY, SECTION CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS AND/OR FIRE SPRINKLER LEAD-INS CAN BE OUT OF SERVICE DUE TO A SERVICE INTERRUPTION. FOR SYSTEMS PERMITTED TO HAVE ONE SOURCE OF WATER SUPPLY, SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 3 FIRE HYDRANTS AND/OR FIRE SPRINKLER LEAD-INS CAN BE OUT OF SERVICE DUE TO A SERVICE INTERRUPTION. IFC 8 C104
19. ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS. IFC 8 503.2.3
20. THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FT PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 12%. IFC 8 503.2.1, 503.2.2
21. THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FT OUTSIDE AND 28 FT INSIDE TURNING RADIUS. IFC 8 503.2.4
22. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13FT 6 INS. IFC 8 503.2.1
23. FIRE DEPARTMENT ACCESS ROADS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 33 FT WITH PARKING ON BOTH SIDES MEASURED TO FACE OF CURB, NOT LESS THAN 28 FT WIDE WITH PARKING RESTRICTED TO ONE SIDE MEASURED TO FACE OF CURB, NOT LESS THAN 24 FT WIDE WITH NO PARKING ON EITHER SIDE MEASURE TO FACE OF CURB. FIRE LANES THROUGH PARKING LOTS SHALL BE NOT LESS THAN 24 FT. IFC 8 503.2.1.1
24. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FT FROM A FIRE DEPARTMENT VEHICLE ACCESS. THIS DISTANCE COULD BE INCREASED TO 250 FT IF THE BUILDING IS SPRINKLERED. IFC 8 503.1.1
25. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 200 OR MORE DWELLING UNITS, ROAD(S) WITH DEAD-ENDS OR WITH A SINGLE POINT OF ACCESS IN EXCESS OF 600 FT. CLV REGULATION AND MOU
26. ALL DEAD-END FIRE APPARATUS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FT IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT. IFC 8 503.2.5
27. ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE, ONE SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS OF 100 FT ALONG THE DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FT OR LESS THAN 6 FT FROM THE ROADWAY LEVEL. THE CURBS ALONG OR ON THE PAYMENT OF THE SIGN IF NO CURB IS PROVIDED SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS. IFC 8 503.3
28. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. IFC 8 503.6
- WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS, OR HAVING FOUR OR MORE TRAVEL LANES AND TRAFFIC COUNT OF MORE THAN 30,000 VEHICLES PER DAY, ALL HYDRANTS BEING UTILIZED TO DELIVER FIRE FLOW TO THE PROPOSED LOCATION SHALL BE LOCATED ON THE SAME SIDE OF THE STREET AS THE PROPOSED DEVELOPMENT. CLV REGULATION

REVISED FEBRUARY 4, 2019

CITY OF LAS VEGAS TRAFFIC NOTES

1. ALL CONSTRUCTION SIGNING, BARRIADAGE, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
2. THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
3. BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL NEW STREET ENCROACHMENTS, INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
4. WHEN A DESIGNATED "SUGGESTED ROUTE TO SCHOOL" IS ENCROACHED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFY A NEED FOR STUDENTS TO BE ASSISTED IN THE SAFE CROSSING THROUGH THAT WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A QUALIFIED "CROSSING GUARD." THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.

CITY OF LAS VEGAS TRAFFIC NOTES (CONT.)

5. IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. ALL NEW TRAFFIC SIGNS SHALL UTILIZE TYPE XI RETROREFLECTIVE SHEETING IN ACCORDANCE WITH CAUAS 827 AND 716 AND SHALL HAVE AN ANTI-GRAFFITI PROTECTIVE OVERLAY FILM THAT IS A MATCHING COMPONENT TO, AND OF THE SAME MANUFACTURER AS THE SHEETING TO WHICH IT IS APPLIED. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.
7. WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5) FEET OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.
8. ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HERE UNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
9. STREET SIGNS AND STOP SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.
10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO INSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR MSA WORK ZONE SAFETY SPECIALIST SET UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS RIGHT OF WAY.
11. WORK IN PUBLIC STREETS, ONCE BEGIN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING REGIONAL TRANSPORTATION COMMISSION OF SOUTHERN NEVADA (RTC) TRANSIT IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN AVERAGE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.
13. GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT (PHONE # 828-3442) WHO WILL PROVIDE OFFICERS PROPERLY TRAINED IN TRAFFIC CONTROL. FEES FOR THE USE OF THESE OFFICERS SHALL BE SET BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.
14. ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
15. THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) THROUGH THE PROJECTS OFFSITE INSPECTOR PRIOR TO INITIATING PAVING TO RECEIVE DIRECTION FOR ANY PERMANENT OR TEMPORARY MODIFICATIONS TO THE APPROVED DRAWINGS REGARDING FINAL PAVEMENT TRANSITIONS, MARKINGS AND SIGNING THAT ARE REQUIRED TO MATCH ADJACENT ROADWAY SEGMENTS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DEPICTING ANY ADJUSTMENTS TO THE FINAL PAVEMENT MARKINGS AND SIGNAGE, WHICH MAY INCLUDE OMITTING, ADDING OR MODIFYING PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

REVISED JUNE 4, 2018

CITY OF LAS VEGAS SEWER NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CITY ENGINEER.
3. CHISEL "S" OR "G" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
4. POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE I AGGREGATE BASE.
5. ALL MAN-HOLES PAVED IN STREETS EIGHTY (80) FOOT R/W AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80) FOOT R/W WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.
6. TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12") DIAMETER. CONNECTIONS TO FIFTEEN INCH (15") OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES. IN LINE "Y" S SHALL BE USED ON LINES TWELVE INCHES (12") OR ABOVE.
7. WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVVWD STANDARDS WHENEVER A SEWER MAIN CROSSES OVER A WATER MAIN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18") UNDER A WATER MAIN.
8. ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CITY OF LAS VEGAS MUST BE STATE OF NEVADA CLASS "A" CONTRACTORS.
9. THE CITY OF LAS VEGAS WILL NOT ACCEPT ANY SEWER MAINS WHICH HAVE A VERTICAL DEFLECTION OF MORE THAN TEN TENTH (0.1) OF A FOOT FROM THE APPROVED CONSTRUCTION PLANS AT ANY LOCATION. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED OR REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY OF LAS VEGAS.
10. INSTALLATION OF CURVED SEWERS REQUIRES THE USE OF C-900 PVC PIPE WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

RTC NOTES

1. THE CONTRACTOR SHALL NOT BE ALLOWED TO CLOSE MORE THAN ONE CONSECUTIVE BUS STOP ON THE SAME SIDE OF THE STREET. TEMPORARY BUS STOPS AND BUS STOP AMENITIES SHALL BE AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANT AT ALL TIMES. THE CONTRACTOR SHALL NOTIFY RTC TRANSIT OF PROPOSED BUS STOP CLOSURES AND/OR BUS STOP AMENITY DISRUPTIONS VIA NOTIFICATION TRANSIT@RTC.NV.GOV AT LEAST SEVEN CALENDAR DAYS PRIOR TO THE START OF WORK. NOTIFICATION OF BUS STOP CLOSURES INVOLVING REMOVAL OF EXISTING AMENITIES SHALL BE PROVIDED TO RTC TRANSIT AT LEAST 10 CALENDAR DAYS PRIOR TO THE START OF WORK.
2. THE CONTRACTOR SHALL SUBMIT A BUS STOP CLOSURE SCHEDULE TO RTC TRANSIT WITH THE APPROVED TRAFFIC CONTROL PLAN AT LEAST SEVEN CALENDAR DAYS PRIOR TO THE START OF WORK. THE BUS STOP CLOSURE SCHEDULE SHALL IDENTIFY THE DURATION OF PROPOSED BUS STOP CLOSURES AND TEMPORARY BUS STOP RELOCATION AND TIMES OF DAY THAT STOPS ARE EXPECTED TO BE IMPACTED BY THE WORK. ALL BUS STOP CLOSURES, TEMPORARY BUS STOPS, AND TEMPORARY BUS TURN OUTS MUST BE APPROVED BY RTC TRANSIT STAFF PRIOR TO THE START OF WORK.

REVISED JANUARY 24, 2019

CITY OF LAS VEGAS FIBER OPTIC NETWORK NOTES

1. FURNISH AND INSTALL (2) 4" CONDUITS WITH HERCULENE HL-2500T TRACEABLE PULL TAPE OR APPROVED EQUAL ON EACH SIDE OF THE STREET.
2. PROVIDE 4" CONDUIT CONNECTIONS WITH HERCULENE HL-2500T TRACEABLE PULL TAPE OR APPROVED EQUAL CROSSING THE STREET TO CONNECT TO CONNECT THE 4" CONDUIT ON EACH SIDE OF THE STREET WITH P80 PULL BOXES, EXCEPT WHEN ADJACENT TO A TRAFFIC SIGNAL. CONTROLLER CABINET INSTALL A T200 SPLICE VAULT.
3. FURNISH AND INSTALL P80 PULL BOX PER USDOCA STD. DWG. NO. 761 AT EACH NON-SIGNALIZED INTERSECTION WITH THE INSCRIPTION "FIBER OPTIC CLV".
4. FURNISH AND INSTALL T200 SPLICE VAULT PER USDOCA STD. DWG. 762 AT EACH SIGNALIZED INTERSECTION WITH THE INSCRIPTION "FIBER OPTIC CLV".
5. PROVIDE CONDUIT CONNECTION BETWEEN T200 FIBER OPTIC CLV VAULT AND RTC-FAST TRAFFIC SIGNAL T200 VAULT WHEN APPLICABLE.
6. FURNISH AND INSTALL HOFFMAN U6960APP TELECOM CABINET OR APPROVED EQUAL. TELECOM CABINET SHALL BE POLE MOUNTED WITH FINISH COLOR PROVIDED BY CITY OF LAS VEGAS.
7. TELECOM CABINET WILL BE POWERED FROM ADJACENT SERVICE PEDESTAL WITH (2) DEDICATED 20 AMP CIRCUITS. EACH CIRCUIT WILL BE LANDED ON A POWER STRIP IN SERVICE. PROVIDE CONDUIT AND CONDUCTOR BETWEEN SERVICE PEDESTAL AND TELECOM CABINET.
8. MOUNT TELECOM CABINET 6" ABOVE TRAFFIC SIGNAL MAST ARM HAND HOLE ON TRAFFIC SIGNAL SHAFT (APPROXIMATELY 19').
9. FURNISH AND INSTALL 72 STRAND FIBER OPTIC CABLE ON ONE SIDE OF THE STREET FOR CLV FIBER OPTIC COMMUNICATIONS NETWORK.
10. FURNISH AND INSTALL 12 STRAND CDCCA FROM THE T200 VAULT TO THE POLE MOUNTED TELECOM CABINET. CITY OF LAS VEGAS TO PROVIDE FIBER SPLICE DETAILS.
11. ETHERNET SWITCH WILL BE PROVIDED BY THE OWNER AFTER CONSTRUCTION HAS STARTED. THE CONTRACTOR WILL BE REQUIRED TO PICK UP AND INSTALL THE SWITCH IN EACH TELECOM CABINET AS SHOWN ON THE CONTRACT DRAWINGS AND AS DIRECTED BY THE ENGINEER.

REVISED AUG 1, 2019

LVVWD STANDARD NOTES

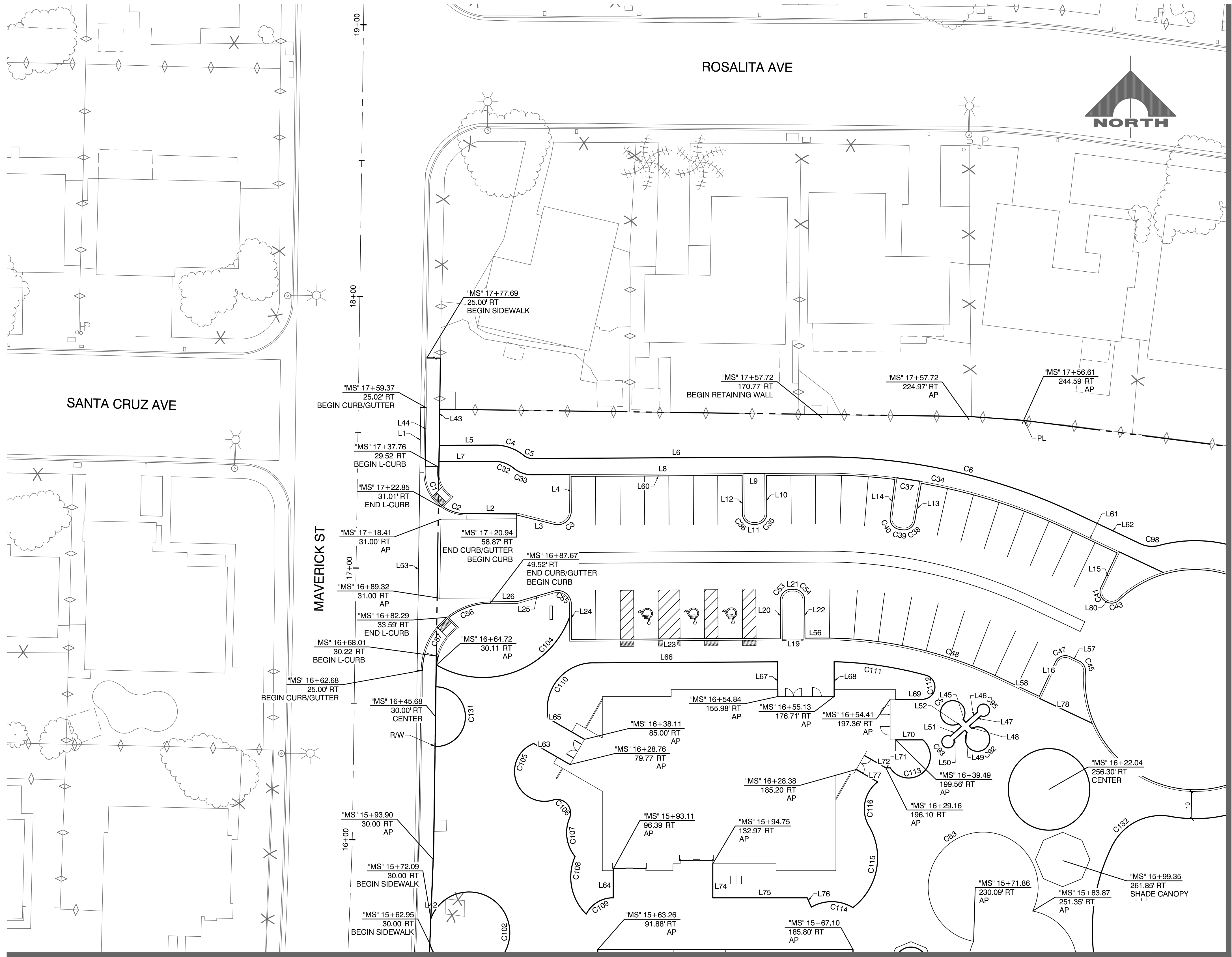
- LVVWD PROJECT # 125534
1. NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, NOTICE SHALL BE GIVEN TO THE LVVWD COORDINATION SUPPORT CENTER (258-7171) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. FOR FUTURE INSPECTIONS, NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO THE REQUESTED LVVWD INSPECTION. WHEN REQUESTING INSPECTIONS, PLEASE REFER TO THE PROJECT # IDENTIFIED ABOVE.
2. ALL WORK SHALL CONFORM TO LVVWD STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS, AND TO THE 2010 EDITION OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR PORTABLE WATER SYSTEMS (UDACS). THE LATEST EDITION OF UDACS SHALL SUPERSEDE ANY CONFLICTS CONTAINED IN THE APPROVED DRAWINGS AND/OR SPECIFICATIONS.
3. ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2 ABOVE, SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
4. A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVWD.
5. ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING WITH LVVWD APPROVED SERVICE SADDLES.
6. ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
7. ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, VALLEY AND CURB GUTTERS.
8. ALL WATER AND STORM DRAIN OR SANITARY SEWER CROSSINGS SHALL CONFORM TO SECTION 2.22 OF THE 2010 EDITION OF THE UDACS.
9. ALL WATER FACILITIES SHALL BE FILLED, DISINFECTED, PRESSURE TESTED, FLUSHED, FILLED AND AN ACCEPTABLE WATER SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVVWD DISTRIBUTION SYSTEM.
10. THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 OR 258-3802, TWO (2) WORKING DAYS PRIOR TO METER PICKUP.
11. ANY INTERRUPTION OF SERVICE MUST BE PERFORMED IN ACCORDANCE WITH UDACS SECTION 3.14.01, AND APPROVED BY THE LVVWD INSPECTION DIVISION PRIOR TO SHUTDOWN. PROPER WRITTEN NOTIFICATION MUST BE GIVEN TO ALL AFFECTED CUSTOMERS.
12. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD PRE-APPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.
13. TELEPHONE "CALL BEFORE YOU DIG" AT "911" OR 1-800-227-2600
14. THE INSTALLATION OF LAS VEGAS VALLEY WATER DISTRICT (LVVWD) MUNICIPAL WATER FACILITIES WITHIN ALL STREETS IS ASSUMED TO BE IN COMPLIANCE WITH THE UNIFORM STANDARDS, INCLUDING THE PLACEMENT OF ASPHALT PAVING STREET SURFACES. ANY REPAIR WORK DONE BY THE LVVWD TO THE MUNICIPAL FACILITIES WILL INCLUDE THE PLACEMENT OF ANY APPROPRIATELY SIZED ASPHALT REPAIR PATCH ON THE STREET SURFACE.
- ANY DECORATIVE PAVING SURFACE WITHIN THE STREET IS THE RESPONSIBILITY OF THE OWNERS ASSOCIATION, OR THE INDIVIDUAL PROPERTY OWNERS IF NO OWNERS ASSOCIATION IS IN EXISTENCE, OR THE AGENCY HAVING JURISDICTION. DECORATIVE SURFACE MATERIALS PLACED WITHIN THE TEN FOOT EASEMENT ADJUTING A PUBLIC OR PRIVATE STREET, IF DISTURBED BY THE LVVWD DURING THE REPAIR OR OPERATION OF ITS FACILITIES, WILL BE REPLACED BY LVVWD WITH AN APPROPRIATELY SIZED PLAIN FINISH CONCRETE PATCH. THE LVVWD WILL NOT RESTORE, AND WILL NOT BE RESPONSIBLE FOR THE RESTORATION OF, ANY DECORATIVE PAVING SURFACE WITHIN THE STREET. THE LVVWD WILL NOT ATTEMPT TO MATCH COLOR OR FINISH OF ANY ADJACENT MATERIALS.
15. NO LEAD COMPLIANCE NOTE:
TO COMPLY WITH THE FEDERAL SAFE DRINKING WATER ACT, ALL WATER WORKS BRASS PRODUCTS PROPOSED TO BE RELOCATED, OR INSTALLED AS NEW MUST BE INSTALLED WITH THE LEAD FREE APPROVED PRODUCT. THE OLD LEADED PRODUCT MAY NOT BE REUSED.

APPROVED FOR CONSTRUCTION	
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER	
DATE:	PROJECT# XXXXX

CITY OF LAS VEGAS STREET LIGHT NOTES

1. ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION (USS), AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA" (USD), LATEST REVISION.
2. DESIGN PROFESSIONAL AND CONTRACTOR SHALL VERIFY CITY'S LATEST LED FIXTURE SPECIFICATIONS AND APPROVED FIXTURES PER CLV WEBSITE, UNDER BUILDING AND SAFETY FORMS, PRIOR TO ORDERING MATERIALS.
3. NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS (ETC.) LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE TRAFFIC AND CITY ENGINEER, ANY DEVIATION FROM THE PLAN LOCATION WILL REQUIRE COMPLIANCE WITH SECTION 623 OF THE USS.
4. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 623 G.03.01 OF THE USS.
5. ALL EMPTY CONDUIT SHALL HAVE AT LEAST ONE GREEN NO. #8 AWG WIRE INSTALLED AS TRACER WIRE IN ACCORDANCE WITH SECTION 623 G.02.01 OF THE USS PRIOR TO BACKFILLING AND FINAL INSPECTION.
6. ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN COMPLIANCE WITH USD NO. 320A WHEN POLE IS INSTALLED BEHIND SIDEWALK, AND SHALL AT NO TIME COMPLETELY ENCLOSE THE STREET LIGHTING POLE.
7. AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TRAFFIC ENGINEERING DIVISION PRIOR TO ANY PRE-FINAL INSPECTION. THE AS-BUILT DRAWING NEEDS TO BE STAMPED AS BUILT AND SIGNED BY THE PREPARER.
8. SERVICE POINTS SHALL BE COORDINATED WITH NV ENERGY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE PLANS.
9. THE CONTRACTOR SHALL FURNISH COMPLETE CONDUIT, WIRE, ETC. FROM SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON THE PLANS OR IN THE SPECIAL PROVISIONS.
10. ALL STREET LIGHTING AND TRAFFIC SIGNAL EQUIPMENT REMOVED AND /OR DESIGNATED TO BE SALVAGED SHALL BE DELIVERED BY THE CONTRACTOR TO THE APPROPRIATE CLV SERVICE YARD WITH A MEANS TO UNLOAD. A MINIMUM 24-HOUR NOTICE OF DELIVERY IS REQUIRED. CALL 228-651 TO SET UP DELIVERY TIME AND LOCATION. REPAIR, ANY DAMAGE TO EQUIPMENT DURING THIS PROCESS WILL BE THE CONTRACTORS RESPONSIBILITY, AT NO ADDITIONAL COST TO THE CITY.

REVISED JUNE 4, 2018 (CPM VERSION)

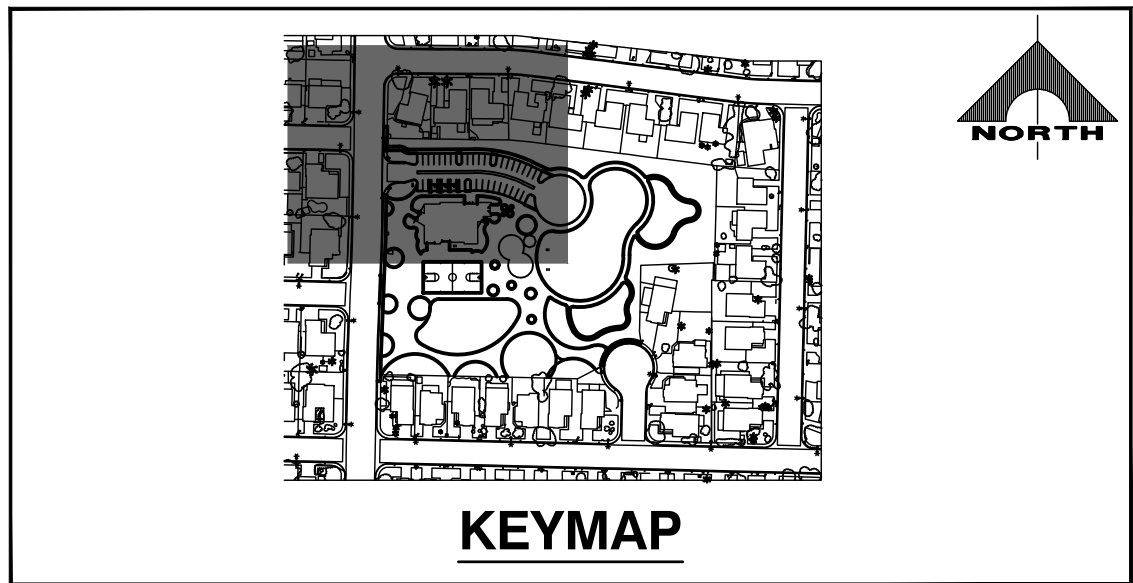
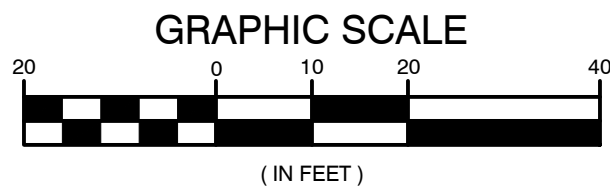


MATCHLINE - SEE SHEET C1.02

MATCHLINE - SEE SHEET C1.03

CURVE AND LINE DATA FOR ALL "A" CURBS IS TO FACE OF CURB. CURVE AND LINE DATA FOR ALL "L" CURBS IS TO BACK OF CURB.

SEE SHEET C1.05 FOR LINE AND CURVE TABLES



REVISIONS

CONSULTANT

GCW

ENGINEERS & SURVEYORS

CHARLESTON HEIGHTS PARK

CITY OF LAS VEGAS

60% CONSTRUCTION DOCUMENTS

HORIZONTAL CONTROL PLAN

SEAL

PROFESSIONAL ENGINEER - STATE OF NEVADA

NICKELUS A. KARNES

Exp. 6/30/2021

CIVIL

REG. NO. 27388

3/17/20

OWNER: CITY OF LAS VEGAS

DEPARTMENT OF PUBLIC WORKS

400 EAST STEWART AVENUE

LAS VEGAS, NEVADA 89101

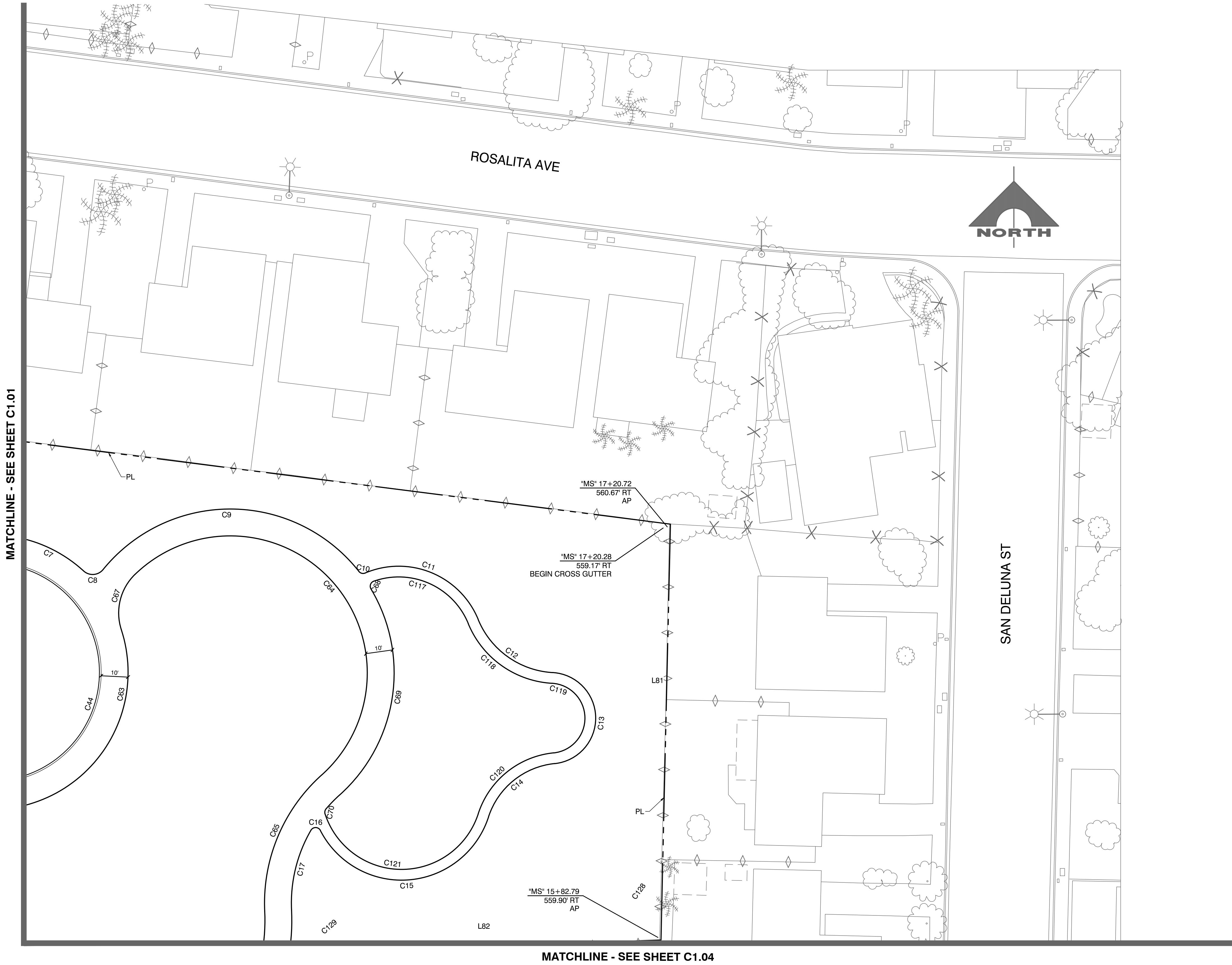
PHONE: (702) 229-6535

FAX: (702) 384-6846

TDD: (702) 386-5108

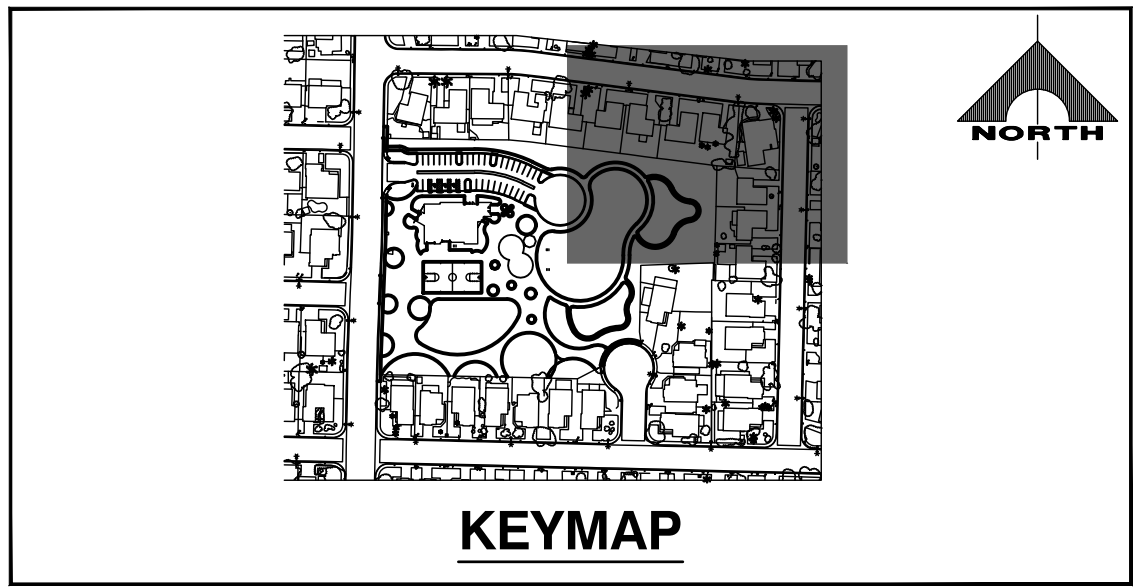
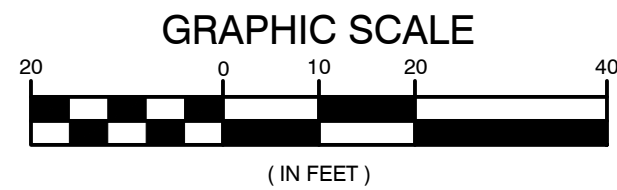
DRAWN	GH
FILE	AS SHOWN
DATE	3/13/20
SCALE	1" = 20'
RID NO	## ## ##
CLV DWG NO	## ##
HANSON NO	####
SHT NO	C1.01

DRAWINGS AS INSTRUMENTS OF SERVICE ARE THE PROPERTY OF THE DESIGN PROFESSIONAL. WIDE STAMP OF CERTIFICATION APPEARS ON THE DRAWING AND SPECIFICATIONS. ANY USE OR REPRODUCTION IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT IS STRICTLY PROHIBITED. COPIES OF THE DRAWINGS AND SPECIFICATIONS REMAINED BY THE CLIENT MAY BE UTILIZED ONLY FOR OCCUPANCY OF THE PROJECT FOR WHICH THEY WERE PREPARED AND NOT FOR THE CONSTRUCTION OF ANY OTHER PROJECT. H. A. C. 003.290



CURVE AND LINE DATA FOR ALL "A" CURBS IS TO FACE OF CURB. CURVE AND LINE DATA FOR ALL "L" CURBS IS TO BACK OF CURB.

SEE SHEET C1.05 FOR LINE AND CURVE TABLES



REVISIONS	
CONSULTANT	
GCA' ENGINEERS & SURVEYORS	
CHARLESTON HEIGHTS PARK CITY OF LAS VEGAS 60% CONSTRUCTION DOCUMENTS HORIZONTAL CONTROL PLAN	
OWNER: CITY OF LAS VEGAS DEPARTMENT OF PUBLIC WORKS	
400 EAST STEWART AVENUE LAS VEGAS, NEVADA 89101 PHONE: (702) 229-6535 FAX: (702) 384-6846 TDD: (702) 384-5108	
DRAWN	GH
FILE	AS SHOWN
DATE	3/13/20
SCALE	1" = 20'
BID NO	## #####
CLV DWG NO	### ##
HANSON NO	####
SHT NO	C1.02

COURSE TABLE		
NO.	BEARING	LENGTH
L1	S0°47'17"W	23.79'
L4	S0°18'25"E	12.77'
L6	S89°41'35"W	106.41'
L8	S89°41'35"W	106.41'
L9	N89°41'35"E	9.00'
L10	S0°18'25"E	14.00'
L11	S89°41'35"W	1.00'
L12	N0°18'25"W	14.00'
L13	S9°46'37"W	14.04'
L14	N7°05'29"E	14.04'
L15	N25°12'46"E	14.67'
L16	N25°12'46"E	14.00'
L19	S89°41'35"W	9.00'
L20	N0°18'24"W	14.00'
L21	N89°41'36"E	1.00'
L22	S0°18'24"E	14.00'
L23	S89°41'35"W	77.00'
L24	N0°18'25"W	13.00'
L25	S73°59'55"W	14.10'
L26	S89°41'35"W	9.98'
L27	N90°00'00"W	109.36'
L42	S2°18'47"W	52.76'
L43	N0°47'17"E	30.80'
L44	S0°47'17"W	42.11'
L45	S43°32'02"E	1.52'
L46	N48°16'06"E	5.76'
L47	S48°16'06"W	5.70'
L48	S43°32'02"E	1.18'
L49	N43°32'02"W	1.25'
L50	S48°16'06"W	5.44'
L51	S48°16'06"W	5.38'
L52	N43°32'02"W	1.45'
L53	S0°47'17"W	72.91'
L56	N89°41'35"E	6.39'
L57	N64°45'44"W	3.81'
L58	S64°47'14"E	16.80'
L60	N89°41'35"E	63.00'
L61	S64°47'14"E	38.67'
L62	S64°47'14"E	23.08'
L63	N60°00'00"W	15.45'
L65	N60°00'00"W	15.45'
L66	S89°41'35"W	67.96'
L67	N0°18'25"W	12.77'
L68	N0°00'00"E	12.82'
L69	N90°00'00"E	12.00'
L70	N90°00'00"E	12.00'
L71	N90°00'00"W	1.59'
L72	S60°00'00"E	9.13'
L75	N90°00'00"E	34.77'
L76	N24°00'07"W	3.74'

COURSE TABLE		
NO.	BEARING	LENGTH
L77	S60°00'00"E	9.13'
L78	N64°47'14"W	21.20'
L79	N2°18'47"E	45.11'
L80	S64°47'14"E	0.33'
L81	S1°18'20"W	125.71'
L82	S87°31'35"W	97.42'
L83	S0°56'54"W	115.17'
L84	S11°46'29"W	10.39'
L85	N62°51'59"E	9.36'

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	TANGENT
C1	15.00'	55°08'29"	14.44'	7.83'
C2	15.00'	34°00'38"	8.90'	4.59'
C3	5.00'	104°17'14"	9.10'	6.43'
C4	17.00'	39°24'02"	11.69'	6.09'
C5	5.00'	39°24'02"	3.44'	1.79'
C6	216.67'	25°31'11"	96.50'	49.07'
C7	51.17'	54°34'22"	48.73'	26.39'
C8	5.00'	93°26'31"	8.15'	5.31'
C9	61.00'	102°36'08"	109.24'	76.14'
C10	2.00'	74°39'40"	2.61'	1.53'
C11	32.00'	90°33'32"	50.58'	32.31'
C12	32.00'	64°16'10"	35.89'	20.10'
C13	17.00'	170°48'08"	50.68'	211.34'
C14	29.00'	66°08'26"	33.48'	18.88'
C15	34.00'	134°48'30"	80.00'	81.70'
C16	2.00'	122°43'41"	4.28'	3.66'
C17	54.00'	32°50'20"	30.95'	15.91'
C18	80.00'	25°10'44"	35.16'	17.87'
C19	5.00'	75°09'12"	6.56'	3.85'
C20	25.00'	86°03'19"	37.55'	23.34'
C21	25.00'	53°37'42"	23.40'	12.64'
C22	17.00'	108°52'07"	32.30'	23.78'
C23	60.00'	35°17'42"	36.96'	19.09'
C24	27.00'	95°32'00"	45.02'	29.74'
C25	67.00'	34°05'06"	39.86'	20.54'
C26	5.00'	75°47'03"	6.61'	3.89'
C27	80.00'	19°05'22"	26.65'	13.45'
C28	2.00'	109°05'29"	3.81'	2.81'
C29	29.00'	7°11'52"	3.64'	1.82'
C30	55.00'	136°09'52"	130.71'	136.69'
C31	25.83'	62°15'53"	28.07'	15.60'
C32	11.00'	39°24'02"	7.56'	3.94'
C33	11.00'	39°24'02"	7.56'	3.94'
C34	210.67'	25°31'11"	93.83'	47.71'
C35	4.00'	90°00'00"	6.28'	4.00'
C36	4.00'	90°00'00"	6.28'	4.00'
C37	210.00'	2°41'09"	9.84'	4.92'
C38	4.00'	88°49'50"	6.20'	3.92'
C39	192.00'	0°20'49"	1.16'	0.58'
C40	4.00'	88°49'50"	6.20'	3.92'
C41	3.33'	90°00'00"	5.24'	3.33'
C43	3.33'	68°55'39"	4.01'	2.29'
C44	40.50'	317°51'09"	224.68'	15.61'
C45	4.00'	68°54'00"	4.81'	2.74'
C47	4.00'	90°00'00"	6.28'	4.00'
C48	150.00'	25°31'11"	66.81'	33.97'
C53	4.00'	90°00'00"	6.28'	4.00'
C54	4.00'	90°00'00"	6.28'	4.00'
C55	5.00'	105°41'40"	9.22'	6.60'
C56	25.00'	37°33'38"	16.39'	8.50'

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	TANGENT
C57	25.00'	35°06'12"	15.32'	7.91'
C63	51.17'	118°16'18"	105.62'	85.61'
C64	51.00'	182°06'08"	162.09'	2779.72'
C65	64.00'	50°52'17"	56.82'	30.44'
C66	70.00'	209°13'10"	255.61'	268.55'
C67	20.00'	64°03'34"	22.36'	12.51'
C68	2.00'	101°30'07"	3.54'	2.45'
C69	61.00'	78°55'17"	84.02'	50.21'
C70	2.00'	58°42'53"	2.05'	1.12'
C71	5.00'	104°06'13"	9.08'	6.41'
C72	80.00'	65°20'41"	91.24'	51.30'
C73	5.00'	96°54'28"	8.46'	5.64'
C74	45.00'	65°53'32"	51.75'	29.16'
C75	15.00'	88°10'30"	23.08'	14.53'
C76	44.00'	203°02'10"	155.92'	215.92'
C77	18.00'	304°45'06"	95.74'	9.42'
C78	109.00'	97°16'13"	185.05'	123.79'
C79	14.00'	248°11'06"	60.64'	20.68'
C80	61.00'	127°56'55"	136.22'	124.93'
C81	20.00'	116°25'32"	40.64'	32.27'
C82	15.00'	89°10'51"	23.35'	14.79'
C83	20.25'	285°49'37"	101.02'	15.31'
C84	20.00'	284°44'25"	99.39'	15.42'
C86	37.00'	137°11'18"	88.59'	94.38'
C92	4.50'	331°02'42"	26.00'	1.16'
C93	2.25'	310°45'05"	12.20'	1.03'
C94	4.50'	331°02'42"	26.00'	1.16'
C95	2.25'	310°45'05"	12.20'	1.03'
C97	41.00'	106°26'34"	76.17'	54.85'
C98	20.00'	37°13'34"	12.99'	6.74'
C99	40.00'	52°58'24"	36.98'	19.93'
C100	15.00'	110°08'50"	28.84'	21.48'
C101	18.00'	186°18'11"	58.53'	326.92'
C102	15.00'	324°30'28"	84.96'	4.80'
C104	34.00'	99°55'40"	59.30'	40.47'
C105	11.00'	175°40'04"	33.73'	290.83'
C106	5.00'	129°08'47"	11.27'	10.52'
C107	14.00'	61°19'11"	14.98'	8.30'
C108	19.00'	69°08'50"	22.93'	13.09'
C109	11.00'	63°44'52"	12.24'	6.84'
C110	17.00'	101°21'11"	30.07'	20.75'
C111	141.33'	13°52'28"	34.22'	17.20'
C112	4.50'	164°40'47"	12.93'	33.46'
C113	8.00'	197°11'42"	27.53'	52.91'
C114	15.00'	61°09'16"	16.01'	8.86'
C115	23.00'	83°19'15"	33.45'	20.46'
C116	12.50'	83°11'09"	18.15'	11.10'
C117	28.00'	86°54'52"	42.47'	26.53'
C118	36.00'	64°16'10"	40.38'	22.61'
C119	13.00'	170°48'08"	38.75'	161.61'

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	TANGENT
C120	33.00'	66°08'26"	38.09'	21.49'
C121	30.00'	143°44'35"	75.26'	91.63'
C122	63.00'	31°47'04"	34.95'	17.94'
C123	23.00'	95°32'00"	38.35'	25.34'
C124	64.00'	35°17'42"	39.42'	20.36'
C125	13.00'	108°52'07"	24.70'	18.18'
C126	29.00'	53°37'42"	27.14'	14.66'
C127	21.00'	77°04'13"	28.25'	16.73'
C128	19.00'	86°13'15"	28.59'	17.79'
C129	6.00'	86°34'41"	9.07'	5.65'
C130	45.50'	106°26'34"	84.53'	60.87'
C131	11.00'	180°00'01"	34.56'	3333109.04'

REVISIONS

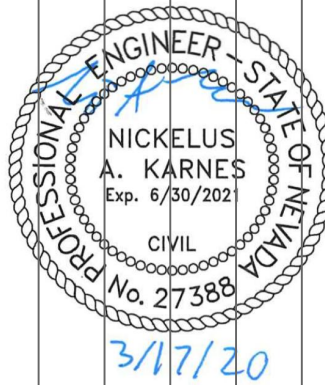
CONSULTANT

GCA

ENGINEERS & SURVEYORS

CHARLESTON HEIGHTS PARK
CITY OF LAS VEGAS
60% CONSTRUCTION DOCUMENTS
HORIZONTAL CONTROL PLAN

STAMP



OWNER: CITY OF LAS VEGAS
DEPARTMENT OF PUBLIC WORKS

400 EAST STEWART AVENUE
LAS VEGAS, NEVADA 89101
PHONE: (702) 229-6535
FAX: (702) 384-6846
TDD: (702) 384-5108

DRAWN

GH

FILE

AS SHOWN

DATE

3/13/20

SCALE

1" = 20'

RID NO

#####

CLV DWG NO

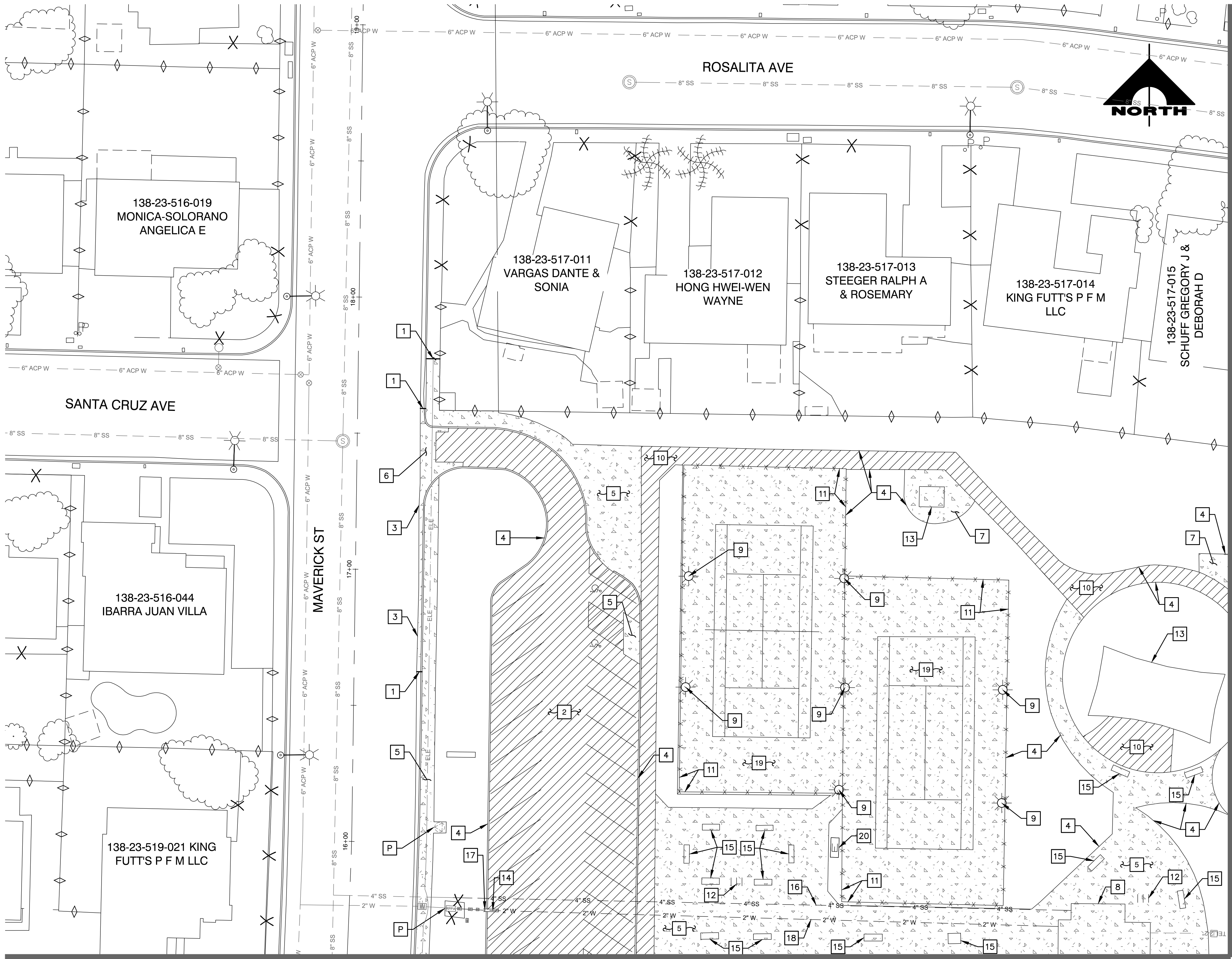
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HANSON NO

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SHT NO

C1.05



MATCHLINE - SEE SHEET C2.02

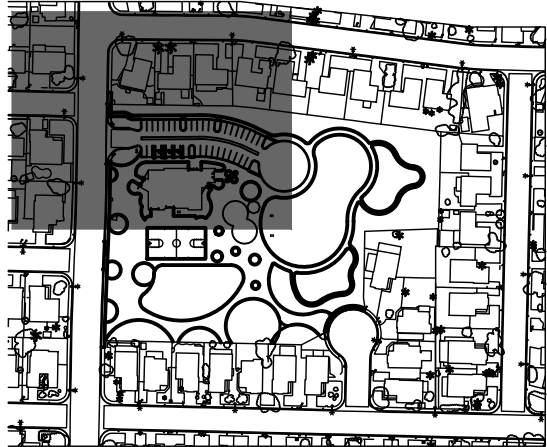
DEMOLITION NOTES

- 1 SAWCUT & MATCH EXISTING
- 2 REMOVE PLANTMIX BITUMINOUS SURFACE
- 3 REMOVE CONCRETE CURB & GUTTER
- 4 REMOVE CONCRETE CURB
- 5 REMOVE CONCRETE SIDEWALK
- 6 REMOVE CONCRETE CROSS GUTTER AND/OR SPANDREL
- 7 REMOVE CONCRETE PAD (WITH APPURTENANCES)
- 8 REMOVE BUILDING (WITH APPURTENANCES)
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- 20 REMOVE ELECTRICAL PANEL (SEE ELECTRICAL PLANS)
- 21 REMOVE CONCRETE BLOCK WALL
- 22 REMOVE BOLLARD
- P PROTECT PULLBOX AND UTILITY (COX, CENTURYLINK, NV ENERGY, TRAFFIC SIGNAL, STREET LIGHT, TRAIL LIGHT, DROP INLET)

NOTES:
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2. CLEARING AND GRUBBING IS REQUIRED WITHIN PROJECT LIMITS.

LEGEND

- REMOVE PLANTMIX BITUMINOUS SURFACE
- REMOVE CONCRETE



KEYMAP

GRAPHIC SCALE



CALL BEFORE CONSTRUCTION

BEFORE YOU DIG	USA NORTH	811 OR 800-227-2600
	F.A.S.T.	702-432-5300
BEFORE YOU UNDERGROUND	CLARK COUNTY TRAFFIC OPERATIONS	702-455-7511
	CITY OF LAS VEGAS T.E.F.O.	702-229-6611
BEFORE YOU OVERHEAD	NV ENERGY	702-227-2929

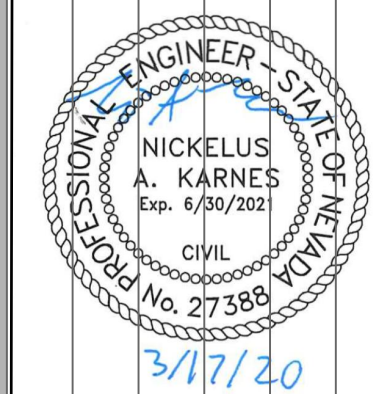
REVISIONS

CONSULTANT

GCA
ENGINEERS & SURVEYORS

CHARLESTON HEIGHTS PARK
CITY OF LAS VEGAS
60% CONSTRUCTION DOCUMENTS
REMOVAL PLAN

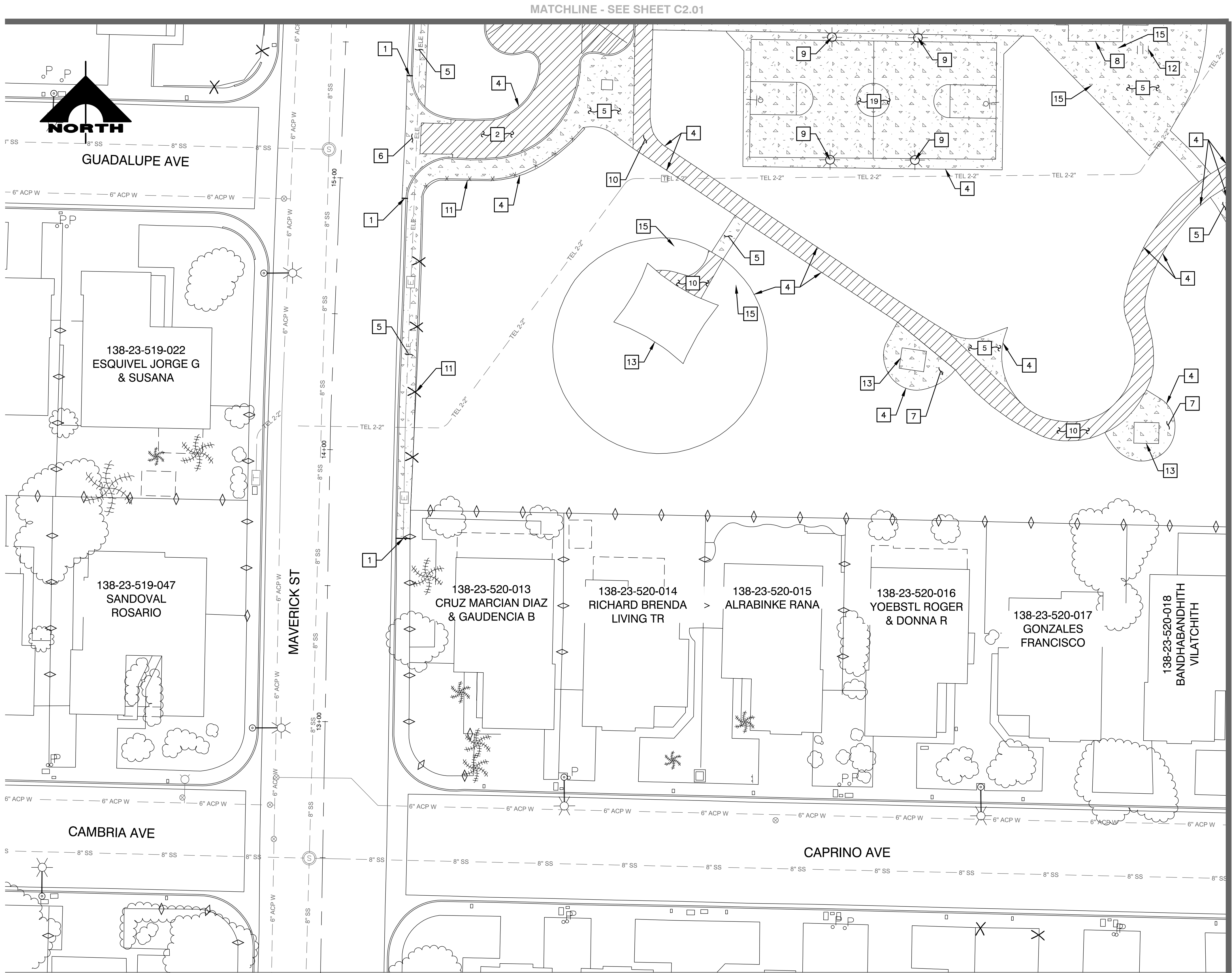
STAMP



OWNER: CITY OF LAS VEGAS
DEPARTMENT OF PUBLIC WORKS

400 EAST STEWART AVENUE
LAS VEGAS, NEVADA 89101
PHONE: (702) 229-6535
FAX: (702) 384-6846
TDD: (702) 384-5108

DRAWN: GH
FILE: AS SHOWN
DATE: 3/13/20
SCALE: 1"=20'
RSD NO: ###
CLV DWG NO: ###
HANSON NO: ###
SHT NO: C2.01



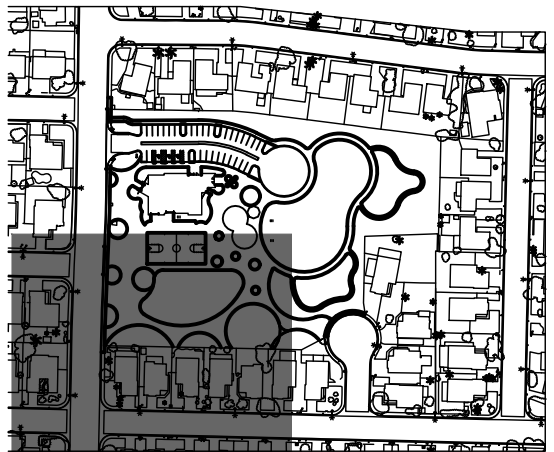
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LEGEND

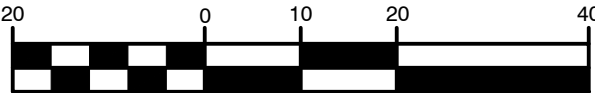
- REMOVE PLANTMIX BITUMINOUS SURFACE
- REMOVE CONCRETE



KEYMAP



GRAPHIC SCALE



(IN FEET)

CALL BEFORE CONSTRUCTION

BEFORE YOU DIG	USA NORTH	811 OR 800-227-2600
BEFORE YOU UNDERGROUND	F.A.S.T. CLARK COUNTY TRAFFIC OPERATIONS CITY OF LAS VEGAS T.E.F.O.	702-432-5300 702-455-7511 702-229-6611
BEFORE YOU OVERHEAD	NV ENERGY	702-227-2929

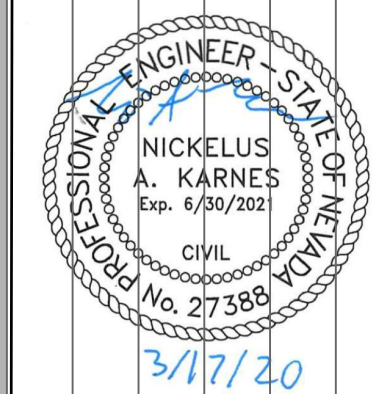
REVISIONS

CONSULTANT

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CITY OF LAS VEGAS
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REMOVAL PLAN

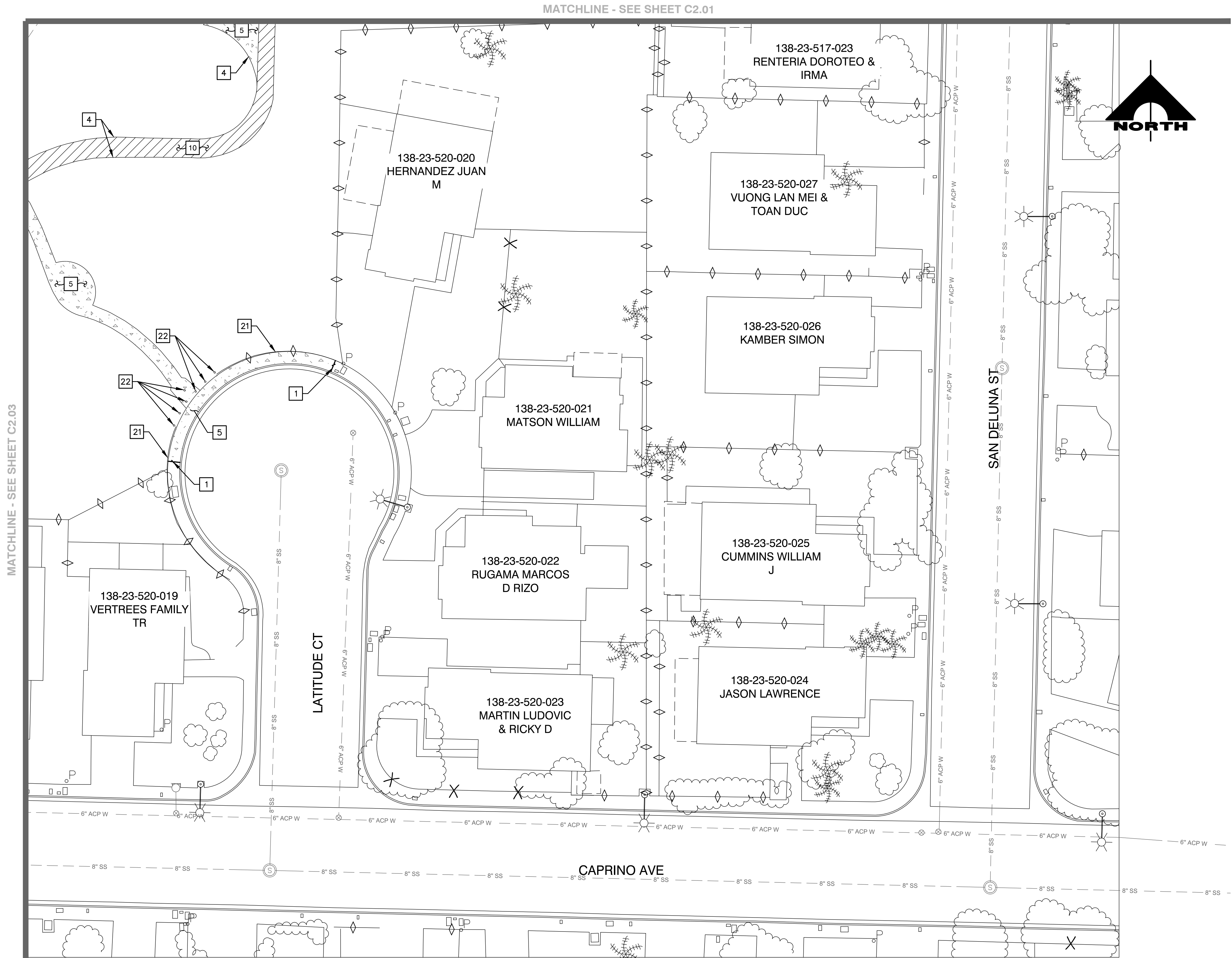
STAMP



OWNER: CITY OF LAS VEGAS
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400 EAST STEWART AVENUE
LAS VEGAS, NEVADA 89101
PHONE: (702) 229-6535
FAX: (702) 384-6846
TDD: (702) 384-5108

DRAWN: GH
FILE: AS SHOWN
DATE: 3/13/20
SCALE: 1"=20'
RCD NO: ###
CLV DWG NO: ###
HANSON NO: ###
SHT NO: C2.03



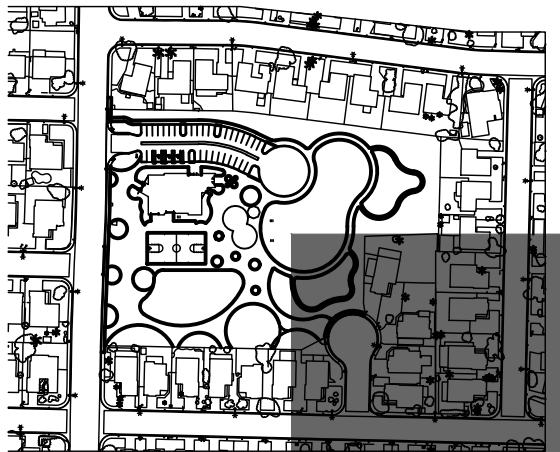
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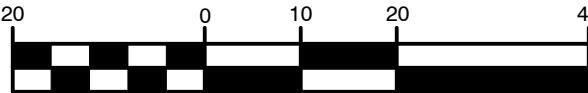
LEGEND

- REMOVE PLANTMIX BITUMINOUS SURFACE
- REMOVE CONCRETE



KEYMAP

GRAPHIC SCALE



(IN FEET)

CALL BEFORE CONSTRUCTION

BEFORE YOU DIG	USA NORTH	811 OR 800-227-2600
BEFORE YOU UNDERGROUND	F.A.S.T.	702-432-5300
	CLARK COUNTY TRAFFIC OPERATIONS	702-455-7511
	CITY OF LAS VEGAS T.E.F.O.	702-229-6611
BEFORE YOU OVERHEAD	NV ENERGY	702-227-2929

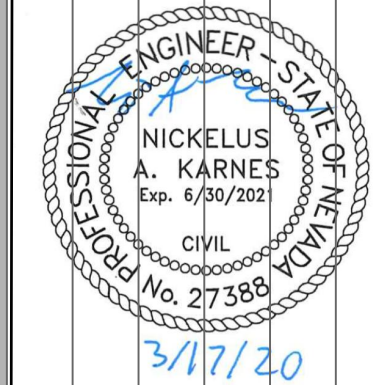
REVISIONS

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REMOVAL PLAN

STAMP



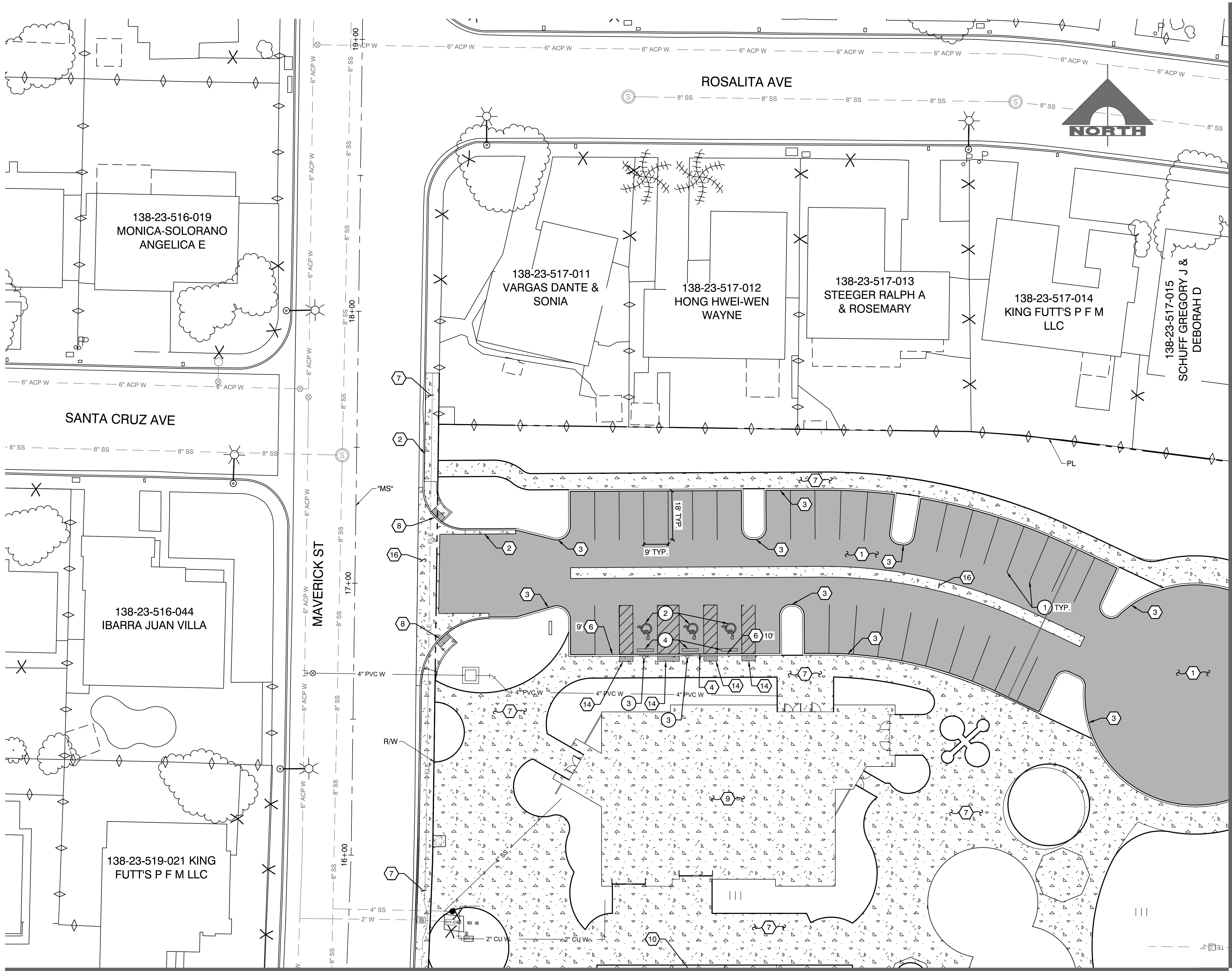
OWNER: CITY OF LAS VEGAS
DEPARTMENT OF PUBLIC WORKS

400 EAST STEWART AVENUE
LAS VEGAS, NEVADA 89101
PHONE: (702) 229-6535
FAX: (702) 384-6846
TDD: (702) 386-5108

DRAWN	GH
FILE	AS SHOWN
DATE	3/13/20
SCALE	1"=20'
RID NO	## ## ##
CLV DWG NO	## ##
HANSON NO	####
SHT NO	

C2.04

DRAWINGS AS INSTRUMENTS OF SERVICE ARE THE PROPERTY OF THE DESIGN PROFESSIONAL. WIDE STAMP OF CERTIFICATION APPEARS ON THE DRAWING AND SPECIFICATIONS. ANY USE OR REPRODUCTION IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT IS STRICTLY PROHIBITED. COPIES OF THE DRAWINGS AND SPECIFICATIONS REMAINED BY THE CLIENT MAY BE UTILIZED ONLY FOR OCCUPANCY OF THE PROJECT FOR WHICH THEY WERE PREPARED AND NOT FOR THE CONSTRUCTION OF ANY OTHER PROJECT. N. A. C. 603.290



MATCHLINE - SEE SHEET C3.02

CONSTRUCTION NOTES

1. CONSTRUCT PLANTMIX BITUMINOUS SURFACE OVER TYPE II AGGREGATE BASE (SEE DETAIL 4, SHEET C3.05)
2. CONSTRUCT CONCRETE 'L' TYPE CURB & GUTTER (USDCCA STD. DWG. NO. 219)
3. CONSTRUCT CONCRETE 'A' TYPE CURB (USDCCA STD. DWG. NO. 219)
4. CONSTRUCT CONCRETE 'ZERO' TYPE CURB (SEE DETAIL 1, SHEET C3.05)
5. CONSTRUCT CONCRETE 'LANDSCAPE' TYPE CURB (SEE DETAIL 2, SHEET C3.05)
6. CONSTRUCT CURB TRANSITION (SEE DETAIL 1, SHEET C3.06)
7. CONSTRUCT CONCRETE SIDEWALK (WIDTH VARIES) (SEE SECTION 4, SHEET C3.05) (USDCCA STD. DWG. NO. 234)
8. CONSTRUCT SIDEWALK RAMP - CASE 1 WITH TACTILE WARNING PANEL (USDCCA STD. DWG. NO. 235 SHEET C#.#.#)
9. CONSTRUCT CONCRETE SLAB AND RESTROOM (SEE SECTION #, SHEET C#.#.# & ARCHITECTURE PLANS)
10. CONSTRUCT POST-TENSIONED CONCRETE SLAB (SEE SHEET S#.#.#)
11. CONSTRUCT ON-GRADE SLAB (SEE SECTION #, SHEET C#.#.#)
12. INSTALL SYNTHETIC TURF (SEE SHEET L#.#.#)
13. CONSTRUCT DG-PATH (SEE DETAIL #, SHEET L#.#.#)
14. INSTALL TACTILE WARNING PANEL (USDCCA STD. DWG. NO. 235)
15. CONSTRUCT SIDEWALK DRAIN (USDCCA STD. DWG. NO. 236)
16. CONSTRUCT CONCRETE CROSS GUTTER (USDCCA STD. DWG. NO. 235 & DETAIL 3, SHEET C3.05)
17. PAVEMENT CONNECTION (SEE DETAIL #, SHEET C#.#.#)

NOTES:

1. SEE LANDSCAPING PLANS FOR CONCRETE FINISH AND/OR COLOR.

TRAFFIC NOTES

1. 4" SOLID WHITE (PAINT)
2. ACCESSIBLE DISABLED LEGEND (PAINT)(SEE DETAIL 5, SHEET C3.07)
3. INSTALL ADA ACCESSIBLE STALL SIGNING AND STRIPING (PAINT) (SEE DETAILS 2, 3, 4, 7, 8, SHEET C3.07)
4. INSTALL PRECAST BUMPER BLOCKS (USDCCA STD. DWG. NO. 238)
5. INSTALL SIGN(S)(GROUND MOUNTED)
6. INSTALL SIGN(S)(POLE MOUNTED)
- R. REMOVE EXISTING SIGN(S)

NOTES:

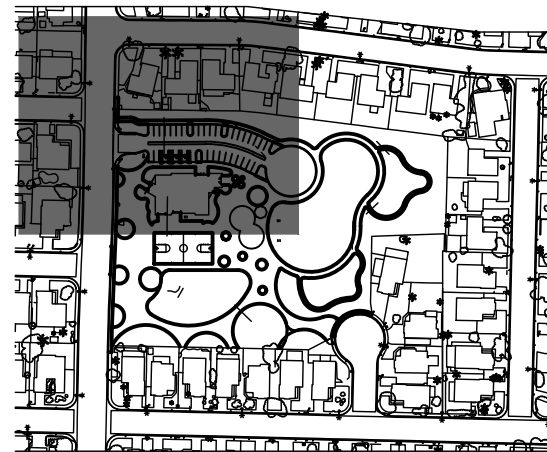
1. XXX
2. XXX

LEGEND

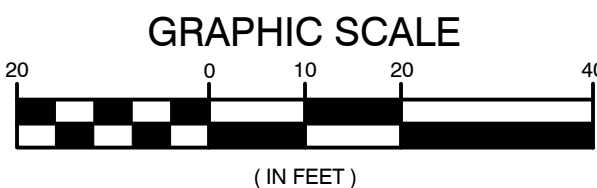
- CONSTRUCT PLANTMIX BITUMINOUS SURFACE (SEE TYPICAL SECTIONS FOR PAVEMENT SECTION)
- CONSTRUCT CONCRETE
- CONSTRUCT DG PATH

FLOOD ZONE NOTE

THE PROJECT IS WITHIN A FEMA DESIGNATED SHADED ZONE 'X' AREA OF MINIMAL FLOOD HAZARD, PER FIRM PANEL 32003C2155F, EFFECTIVE DATE NOVEMBER 16, 2011.



KEYMAP



CALL BEFORE CONSTRUCTION

BEFORE YOU DIG	USA NORTH	811 OR 800-227-2800
	F.A.S.T.	702-432-5300
BEFORE YOU UNDERGROUND	CLARK COUNTY TRAFFIC OPERATIONS	702-455-7511
	CITY OF LAS VEGAS T.E.F.O.	702-229-8611
BEFORE YOU OVERHEAD	NV ENERGY	702-227-2929

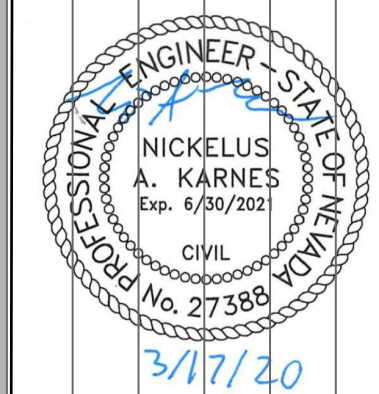
REVISIONS

CONSULTANT

GCA
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CHARLESTON HEIGHTS PARK
CITY OF LAS VEGAS
60% CONSTRUCTION DOCUMENTS
CONSTRUCTION PLAN

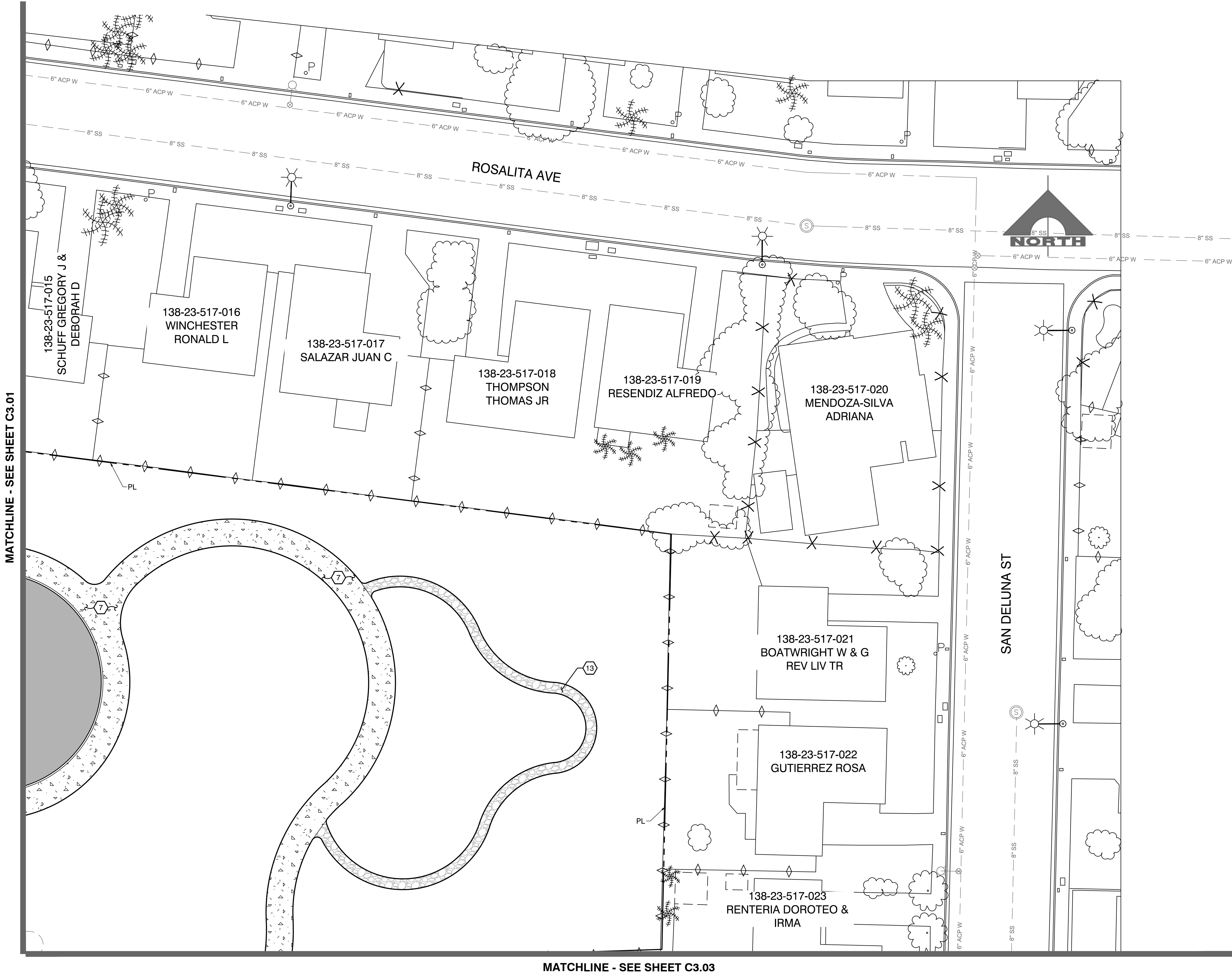
STAMP



OWNER: CITY OF LAS VEGAS
DEPARTMENT OF PUBLIC WORKS

400 EAST STEWART AVENUE
LAS VEGAS, NEVADA 89101
PHONE: (702) 229-6535
FAX: (702) 384-6846
TDD: (702) 384-6108

DRAWN: GH
FILE: AS SHOWN
DATE: 3/13/20
SCALE: 1"=20'
RIP NO: ###
CLV DWG NO: ###
HANSON NO: ###
SHT NO: C3.01



MATCHLINE - SEE SHEET C3.01

MATCHLINE - SEE SHEET C3.03

CONSTRUCTION NOTES

1. CONSTRUCT PLANTMIX BITUMINOUS SURFACE OVER TYPE II AGGREGATE BASE (SEE DETAIL 4, SHEET C3.05)
2. CONSTRUCT CONCRETE "L" TYPE CURB & GUTTER (USDCCA STD. DWG. NO. 216)
3. CONSTRUCT CONCRETE "A" TYPE CURB (USDCCA STD. DWG. NO. 219)
4. CONSTRUCT CONCRETE "ZERO" TYPE CURB (SEE DETAIL 1, SHEET C3.05)
5. CONSTRUCT CONCRETE "LANDSCAPE" TYPE CURB (SEE DETAIL 2, SHEET C3.05)
6. CONSTRUCT CURB TRANSITION (SEE DETAIL 1, SHEET C3.06)
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16. CONSTRUCT CONCRETE CROSS GUTTER (USDCCA STD. DWG. NO. 235 & DETAIL 3, SHEET C3.05)
17. PAVEMENT CONNECTION (SEE DETAIL #, SHEET C#.#.#)

NOTES:

1. SEE LANDSCAPING PLANS FOR CONCRETE FINISH AND/OR COLOR.

TRAFFIC NOTES

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5. INSTALL SIGN(S)(GROUND MOUNTED)
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7. REMOVE EXISTING SIGN(S)

NOTES:

1. XXX
2. XXX

LEGEND

- CONSTRUCT PLANTMIX BITUMINOUS SURFACE (SEE TYPICAL SECTIONS FOR PAVEMENT SECTION)
- CONSTRUCT CONCRETE
- CONSTRUCT DG PATH

FLOOD ZONE NOTE

THE PROJECT IS WITHIN A FEMA DESIGNATED SHADED ZONE 'X' AREA OF MINIMAL FLOOD HAZARD, PER FIRM PANEL 32003C2155F, EFFECTIVE DATE NOVEMBER 16, 2011.



KEYMAP

CALL BEFORE CONSTRUCTION

BEFORE YOU DIG	USA NORTH	811 OR 800-227-2800
BEFORE YOU UNDERGROUND	F.A.S.T.	702-432-5300
BEFORE YOU OVERHEAD	CLARK COUNTY TRAFFIC OPERATIONS	702-455-7511
	CITY OF LAS VEGAS T.E.F.O.	702-229-8611
	NV ENERGY	702-227-2929

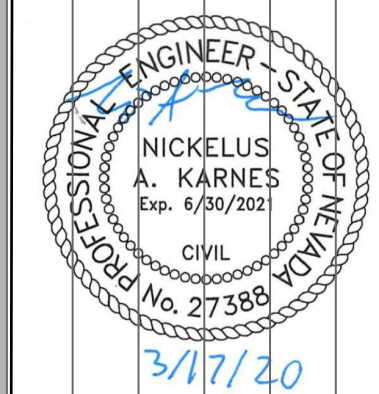
REVISIONS

CONSULTANT

GCA
ENGINEERS & SURVEYORS

CHARLESTON HEIGHTS PARK
CITY OF LAS VEGAS
60% CONSTRUCTION DOCUMENTS
CONSTRUCTION PLAN

STAMP

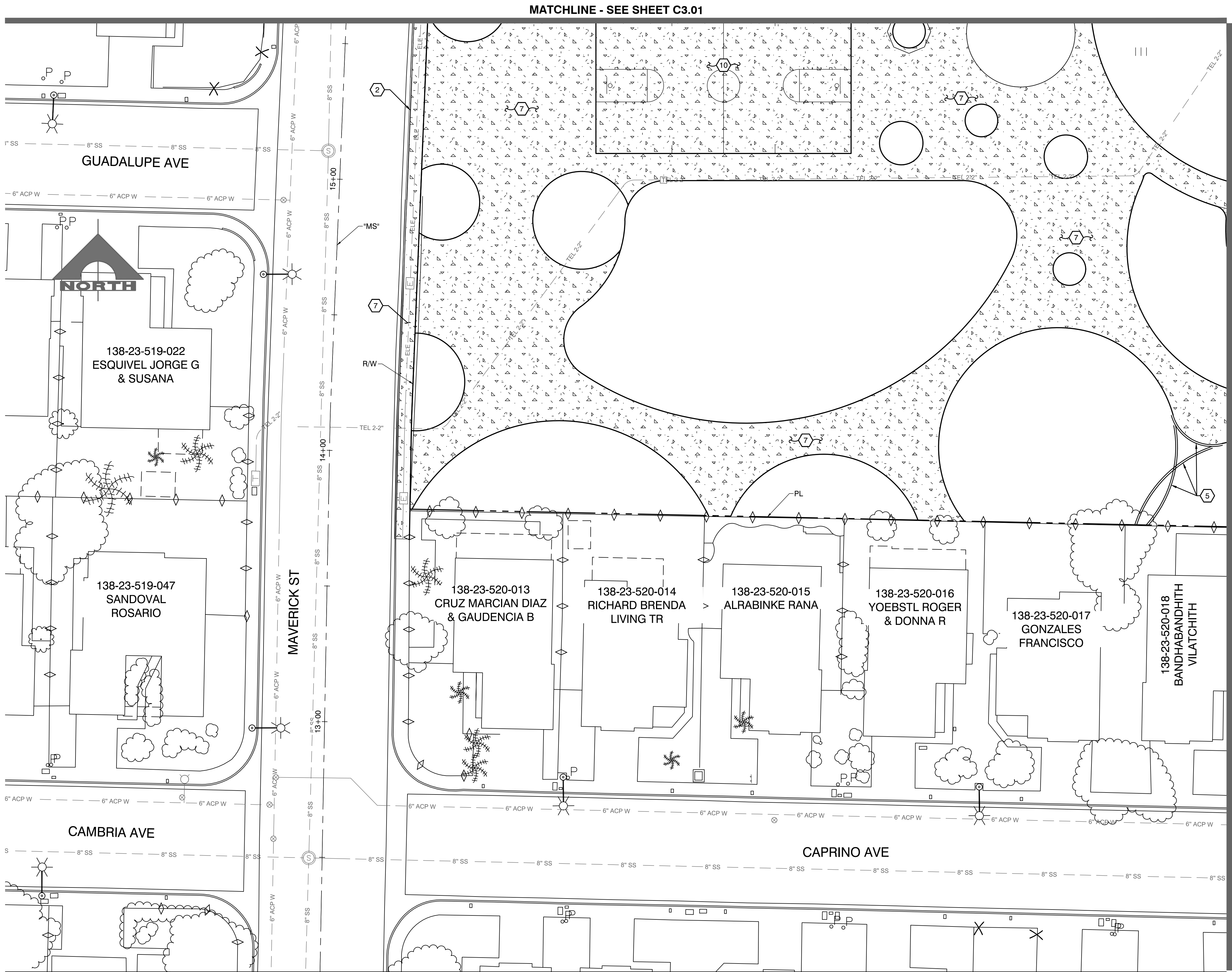


OWNER: CITY OF LAS VEGAS
DEPARTMENT OF PUBLIC WORKS

400 EAST STEWART AVENUE
LAS VEGAS, NEVADA 89101
PHONE: (702) 229-6535
FAX: (702) 384-6846
TDD: (702) 384-6108

DRAWN	GH
FILE	AS SHOWN
DATE	3/13/20
SCALE	1"=20'
RID NO	## ##
CLV DWG NO	## ##
HANSON NO	####
SHT NO	

C3.02



CONSTRUCTION NOTES

1. CONSTRUCT PLANTMIX BITUMINOUS SURFACE OVER TYPE II AGGREGATE BASE (SEE DETAIL 4, SHEET C3.05)
2. CONSTRUCT CONCRETE 'L' TYPE CURB & GUTTER (USDCCA STD. DWG. NO. 216)
3. CONSTRUCT CONCRETE 'A' TYPE CURB (USDCCA STD. DWG. NO. 219)
4. CONSTRUCT CONCRETE 'ZERO' TYPE CURB (SEE DETAIL 1, SHEET C3.05)
5. CONSTRUCT CONCRETE 'LANDSCAPE' TYPE CURB (SEE DETAIL 2, SHEET C3.05)
6. CONSTRUCT CURB TRANSITION (SEE DETAIL 1, SHEET C3.06)
7. CONSTRUCT CONCRETE SIDEWALK (WIDTH VARIES) (SEE SECTION 4, SHEET C3.05) (USDCCA STD. DWG. NO. 234)
8. CONSTRUCT SIDEWALK RAMP - CASE I WITH TACTILE WARNING PANEL (USDCCA STD. DWG. NO. 235 SHEET C#.#.#)
9. CONSTRUCT CONCRETE SLAB AND RESTROOM (SEE SECTION #, SHEET C#.#.# & ARCHITECTURE PLANS)
10. CONSTRUCT POST-TENSIONED CONCRETE SLAB (SEE SHEET S#.#.#)
11. CONSTRUCT ON-GRADE SLAB (SEE SECTION #, SHEET C#.#.#)
12. INSTALL SYNTHETIC TURF (SEE SHEET L#.#.#)
13. CONSTRUCT DG-PATH (SEE DETAIL #, SHEET L#.#.#)
14. INSTALL TACTILE WARNING PANEL (USDCCA STD. DWG. NO. 235)
15. CONSTRUCT SIDEWALK DRAIN (USDCCA STD. DWG. NO. 236)
16. CONSTRUCT CONCRETE CROSS GUTTER (USDCCA STD. DWG. NO. 238 & DETAIL 3, SHEET C3.05)
17. PAVEMENT CONNECTION (SEE DETAIL #, SHEET C#.#.#)

- NOTES:
1. SEE LANDSCAPING PLANS FOR CONCRETE FINISH AND/OR COLOR.

TRAFFIC NOTES

1. 4" SOLID WHITE (PAINT)
2. ACCESSIBLE DISABLED LEGEND (PAINT)(SEE DETAIL 5, SHEET C3.07)
3. INSTALL ADA ACCESSIBLE STALL SIGNING AND STRIPING (PAINT) (SEE DETAILS 2, 3, 4, 7, 8, SHEET C3.07)
4. INSTALL PRECAST BUMPER BLOCKS (USDCCA STD. DWG. NO. 238)
5. INSTALL SIGN(S)(GROUND MOUNTED)
6. INSTALL SIGN(S)(POLE MOUNTED)
- R. REMOVE EXISTING SIGN(S)

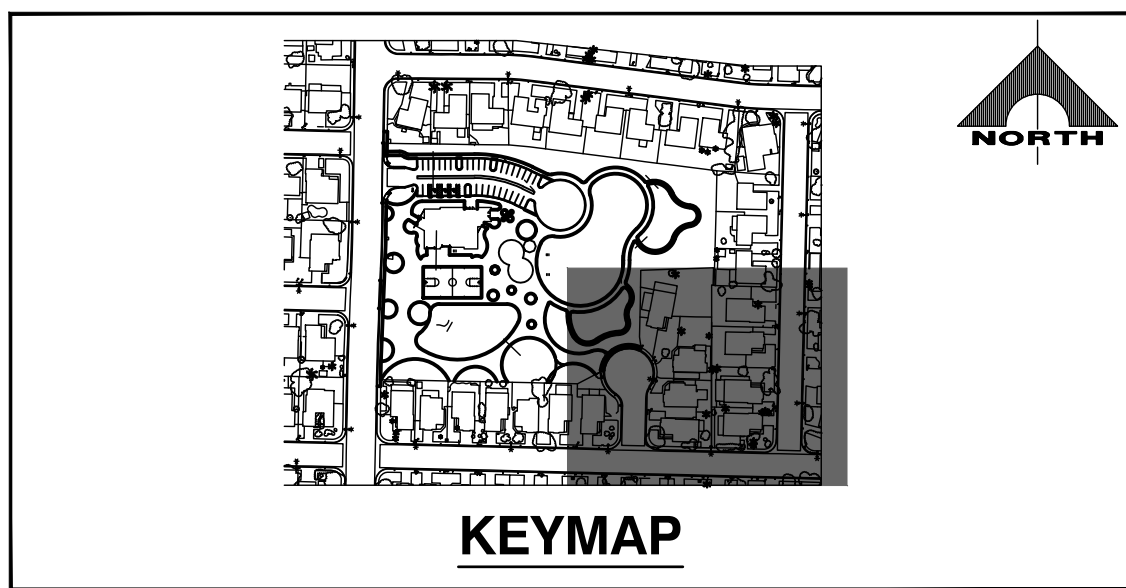
- NOTES:
1. XXX
 2. XXX

LEGEND

- | | |
|--|---|
| | CONSTRUCT PLANTMIX BITUMINOUS SURFACE (SEE TYPICAL SECTIONS FOR PAVEMENT SECTION) |
| | CONSTRUCT CONCRETE |
| | CONSTRUCT DG PATH |

FLOOD ZONE NOTE

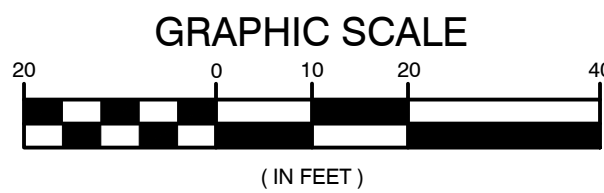
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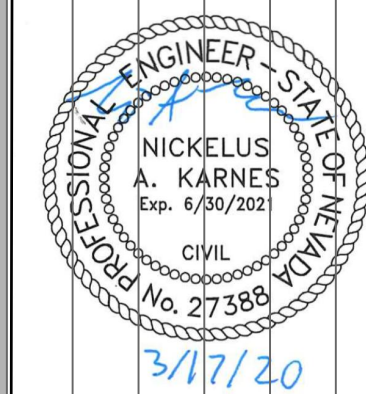
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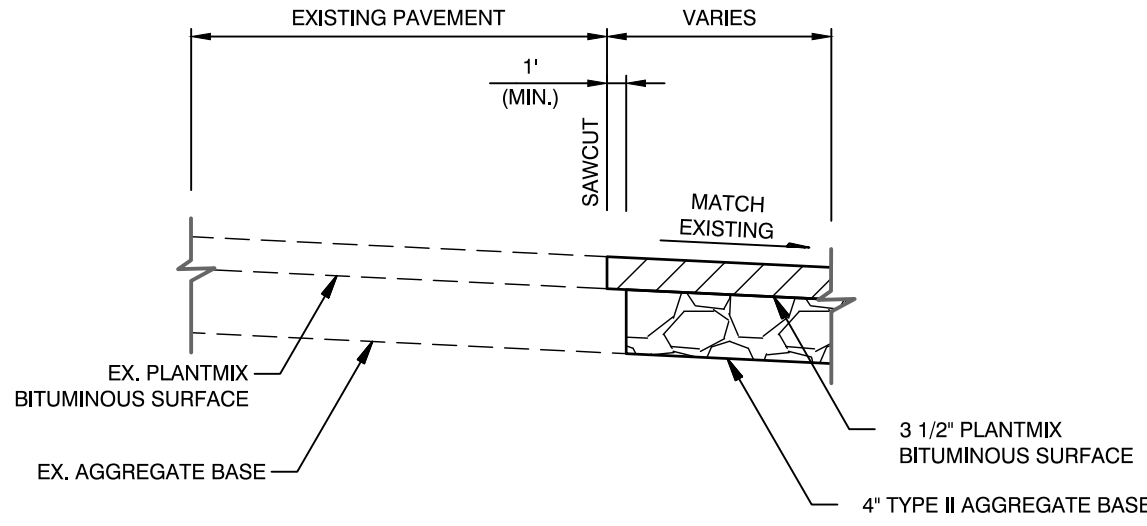
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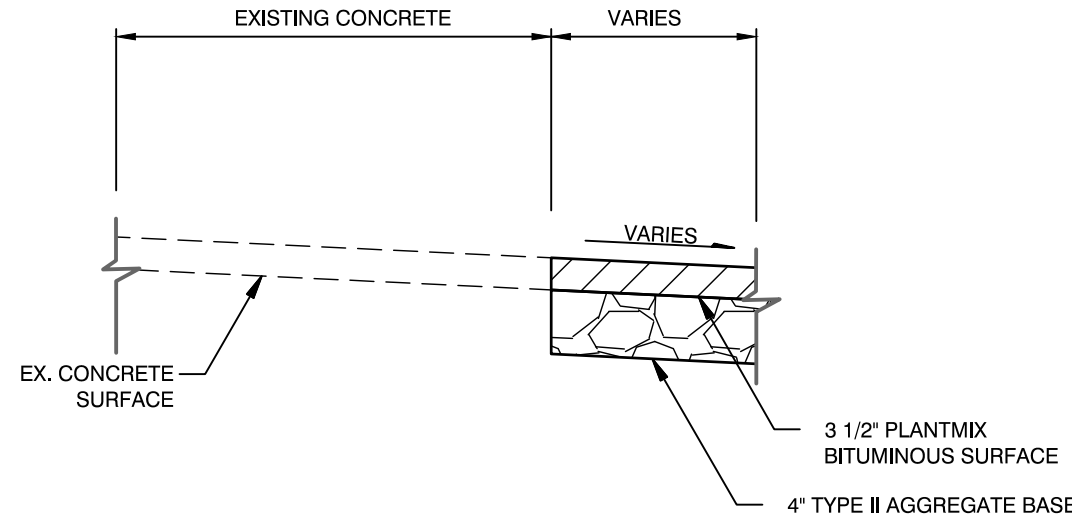
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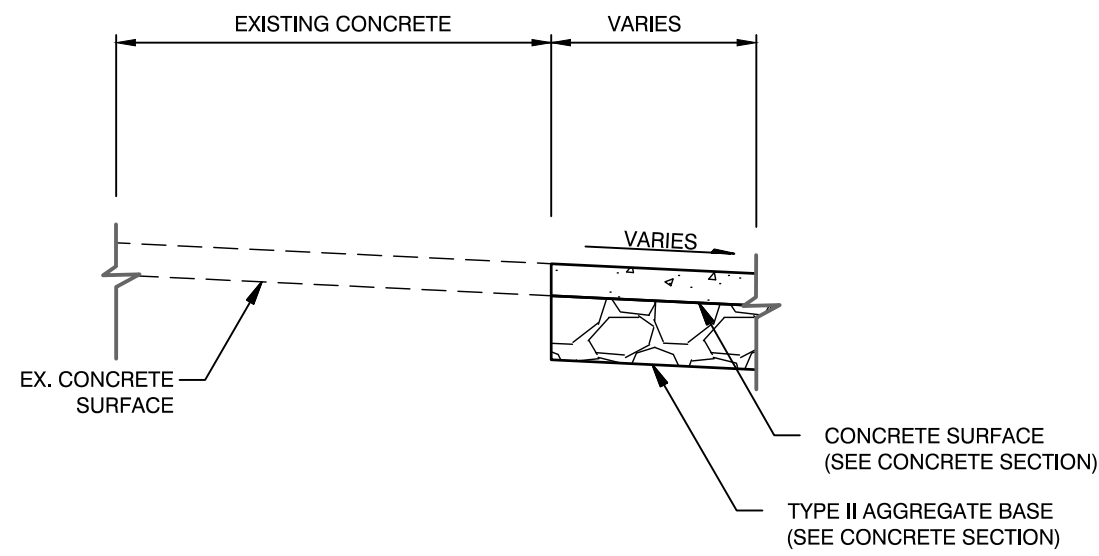
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DATE: 3/13/20
SCALE: 1"=20'
R/D NO: ### ###
CLV DWG NO: ###
HANSON NO: ###
SHT NO: C3.03



PAVEMENT WIDENING



PAVEMENT TO CONCRETE



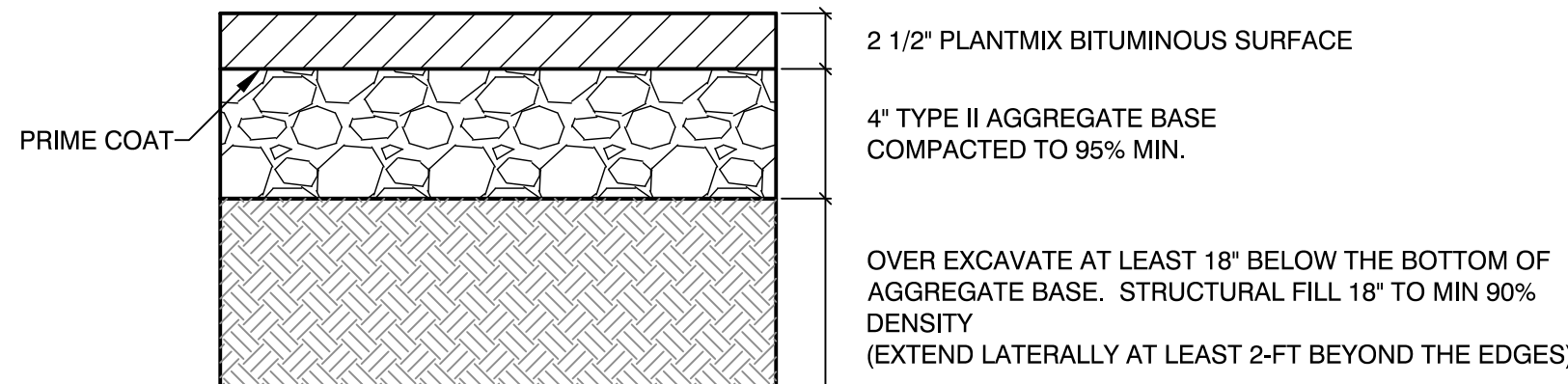
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PAVEMENT CONNECTIONS

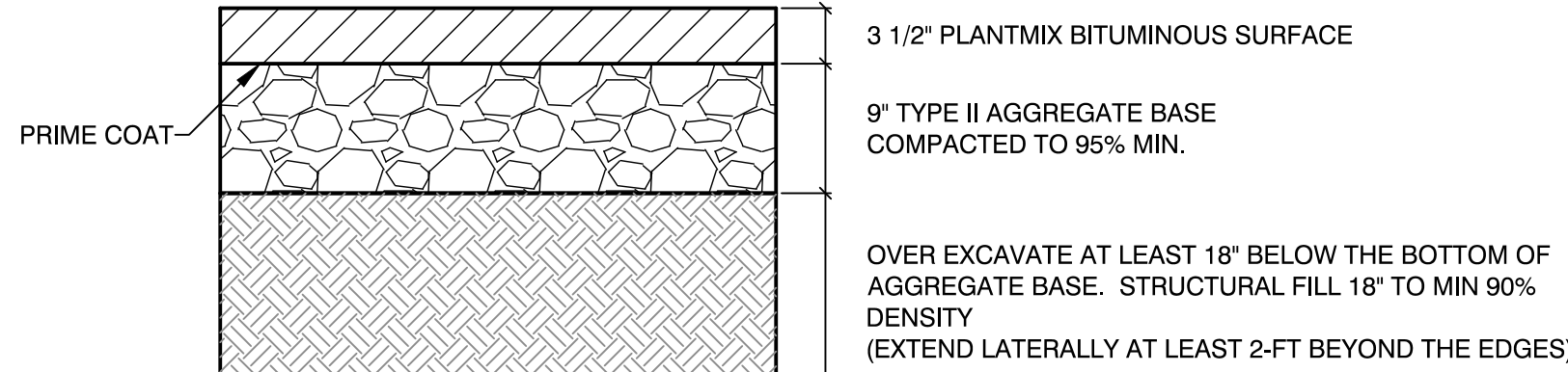
NOT TO SCALE

5

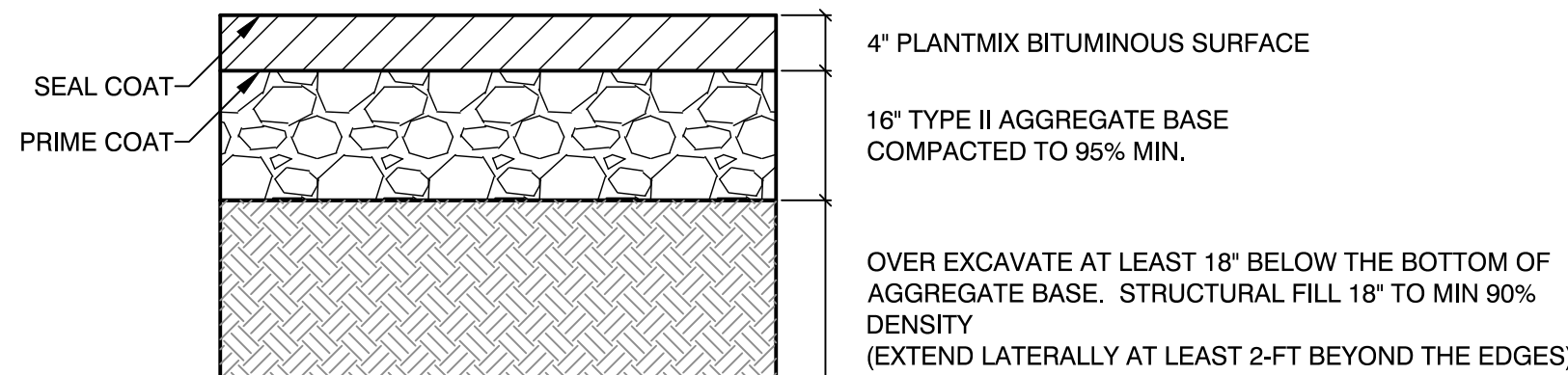
C3.05



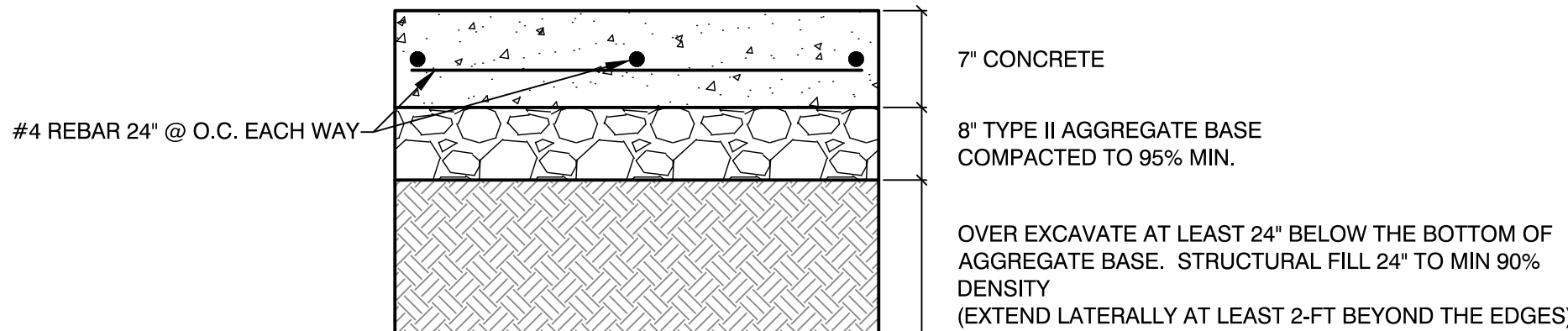
PARKING STALLS PLANTMIX BITUMINOUS SURFACE SECTION



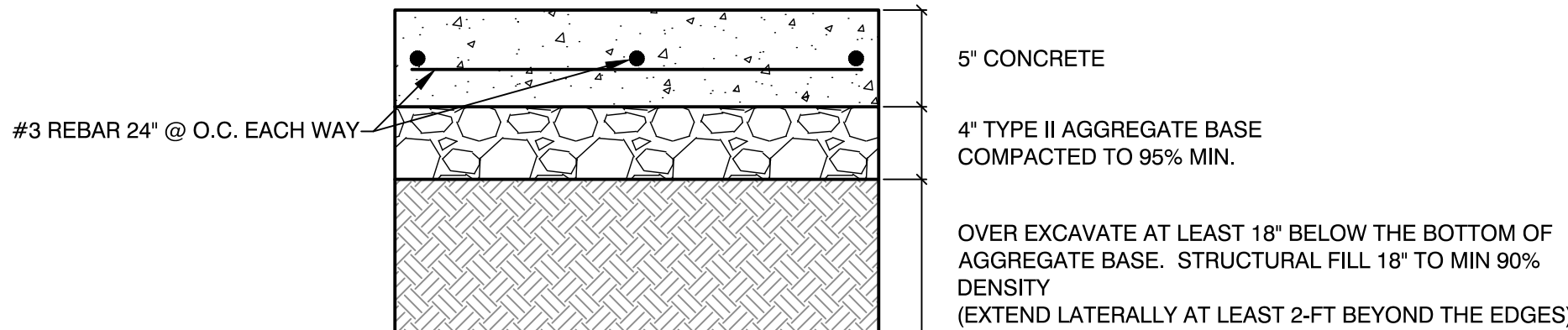
DRIVE ISLE BITUMINOUS SURFACE SECTION



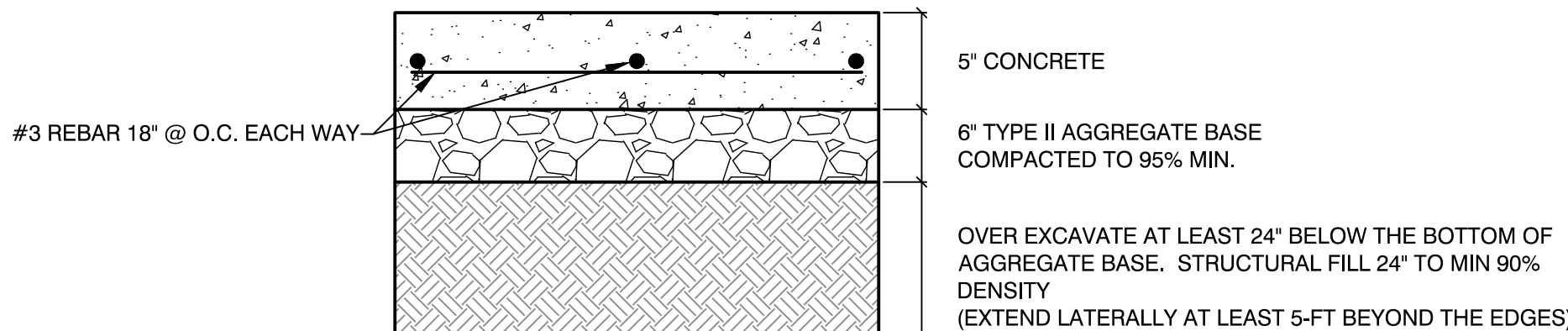
MAVERICK ST BITUMINOUS SURFACE SECTION



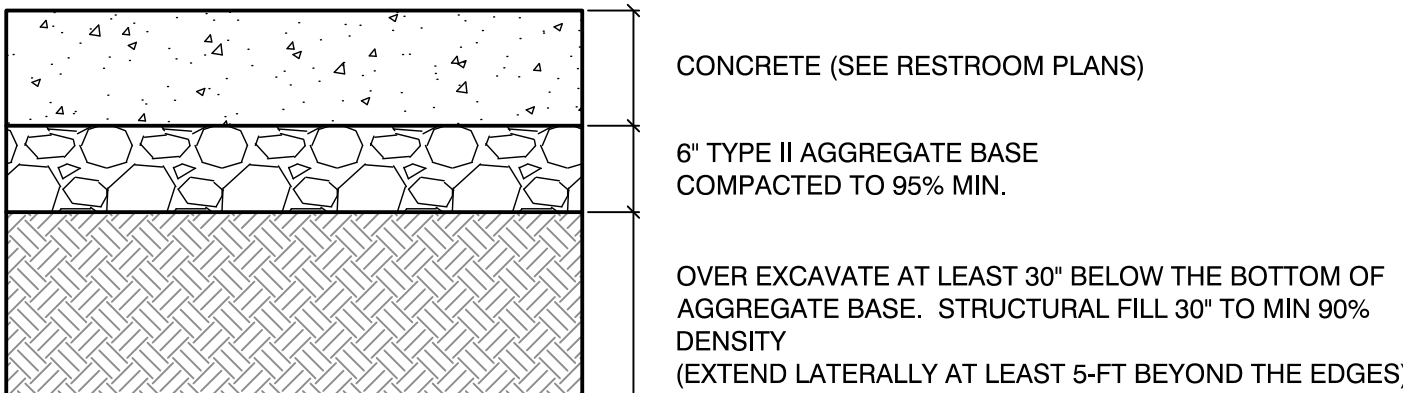
CONCRETE PAVEMENT SECTION FOR TRASH ENCLOSURE



CONCRETE PAVEMENT SECTION FOR SIDEWALKS & FLATWORK



CONCRETE PAVEMENT SECTION FOR ON-GRADE SLAB (UNDER CANOPIES, RAMADAS, TOT-LOT, SPLASH PAD, ETC.)



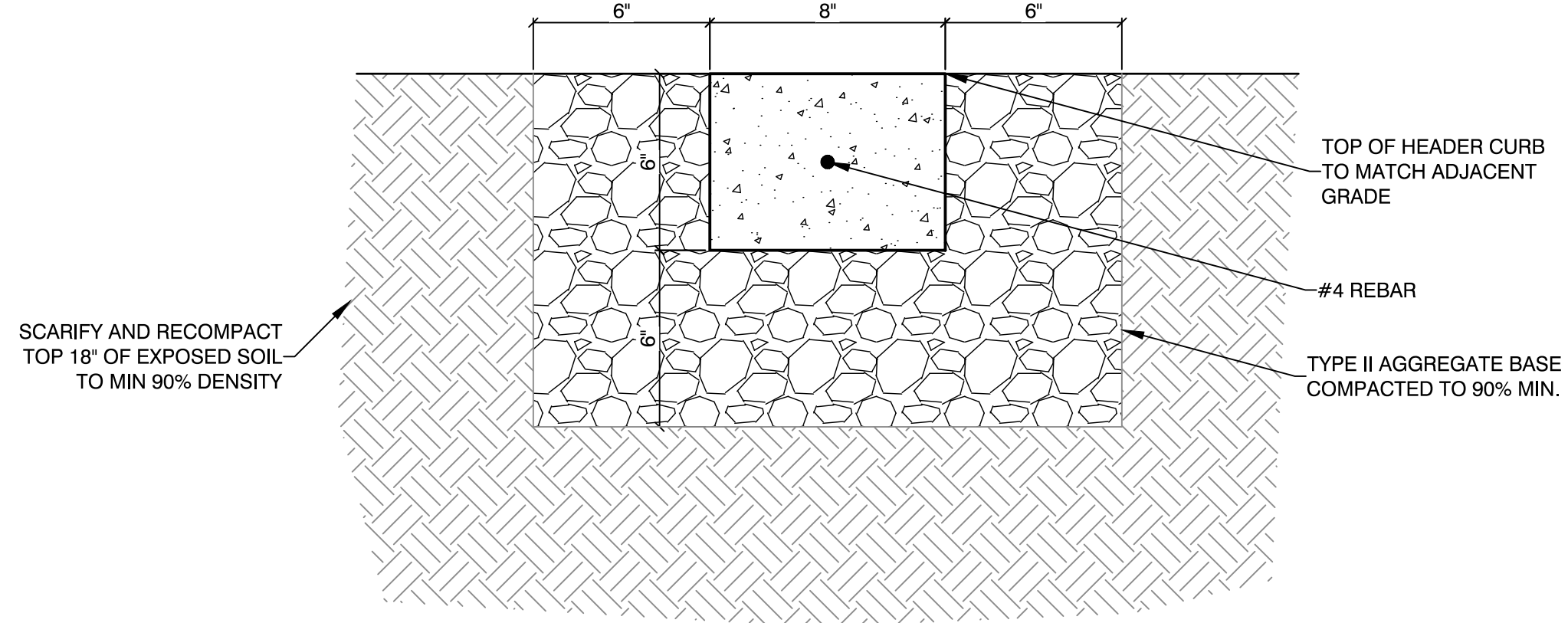
SUBGRADE PREPARATION FOR CONCRETE RESTROOM

TYPICAL PAVEMENT SECTION

NOT TO SCALE

4

C3.05

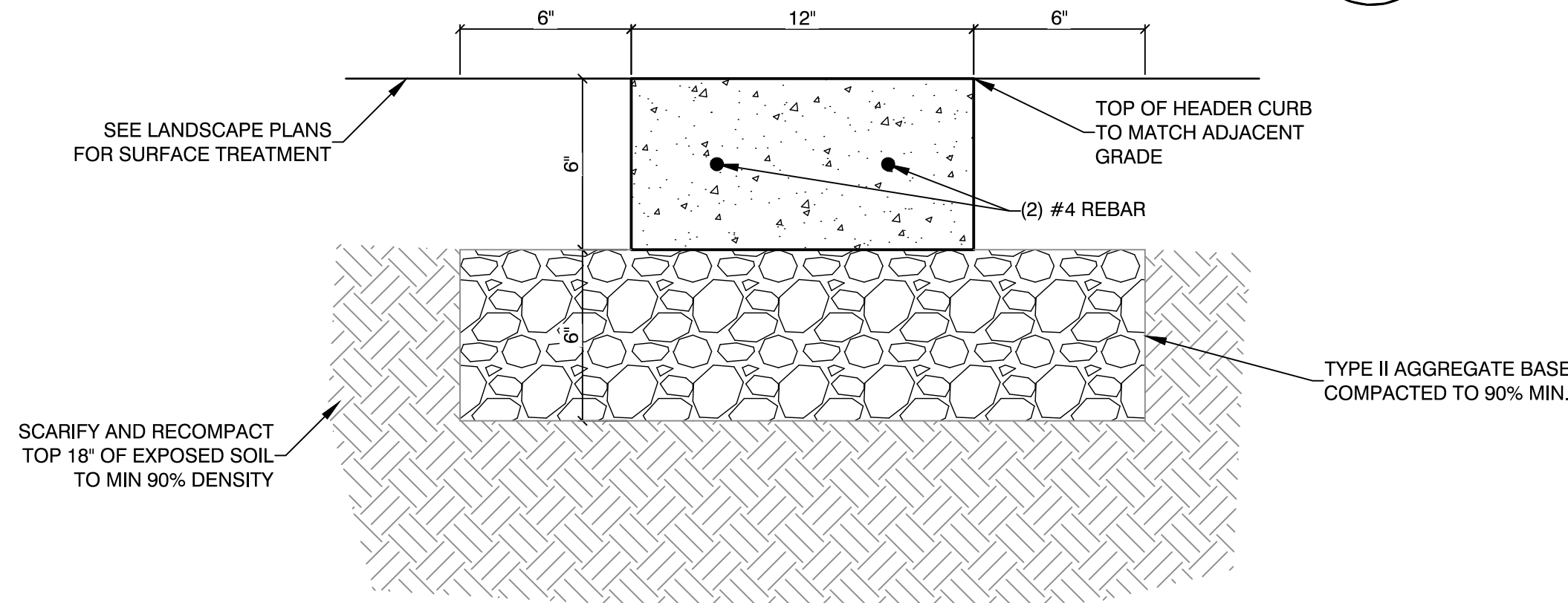


"ZERO" TYPE CURB

NOT TO SCALE

1

C3.05

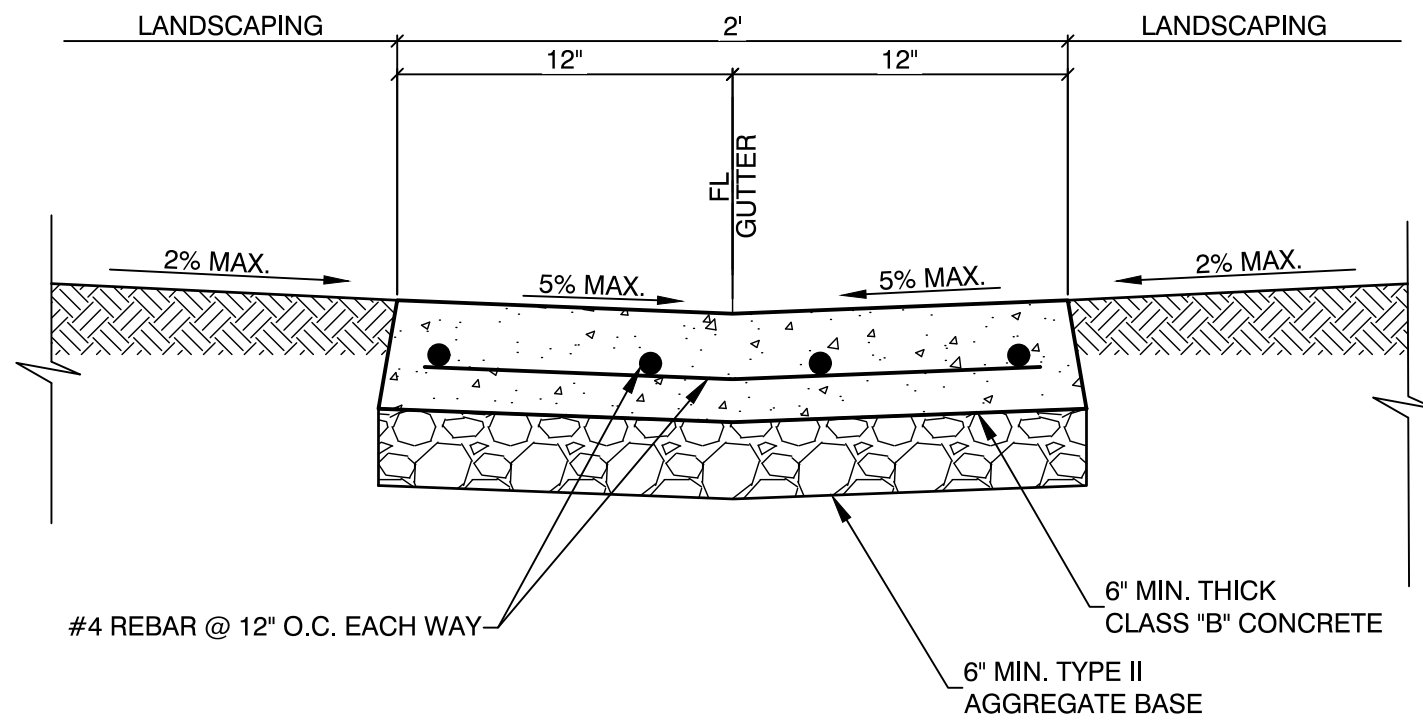


"LANDSCAPE" TYPE CURB

NOT TO SCALE

2

C3.05



CONCRETE VALLEY GUTTER DETAIL

NOT TO SCALE

3

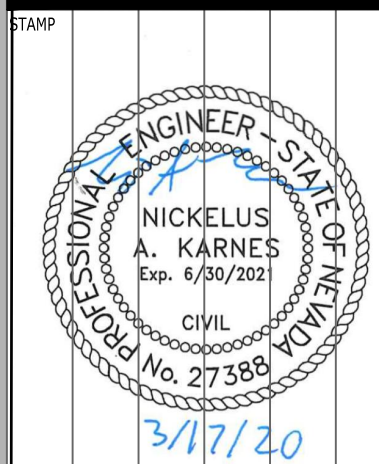
C3.05

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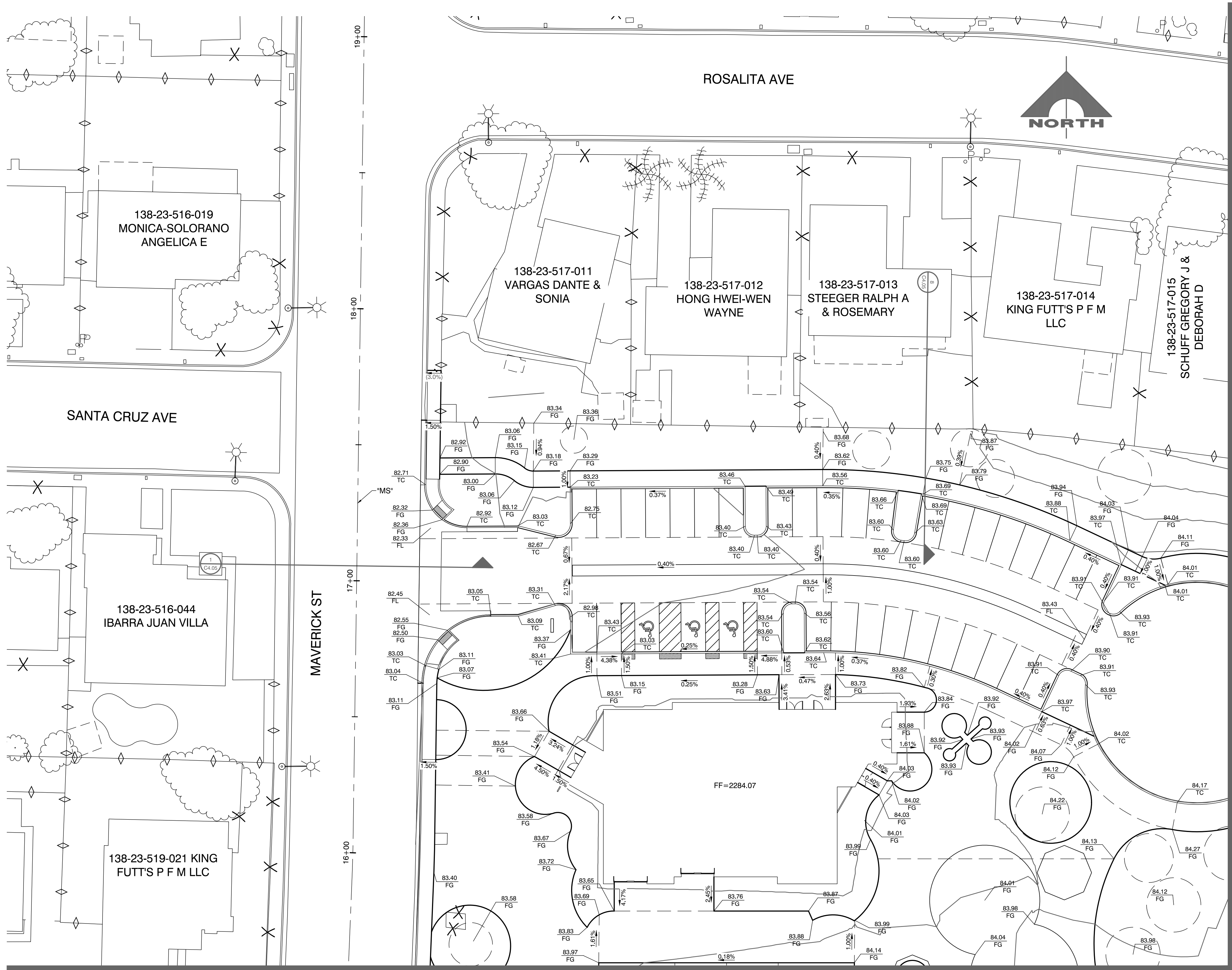
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HANSON NO	## ##
SHT NO	

C3.05

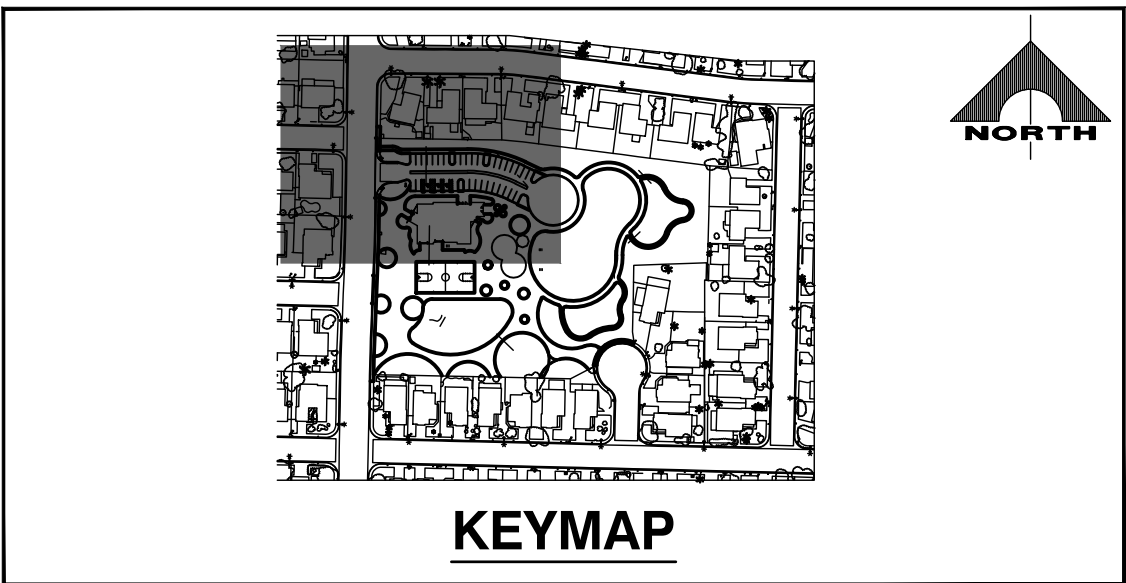


FIRE LANE SIGN





MATCHLINE - SEE SHEET C4.02



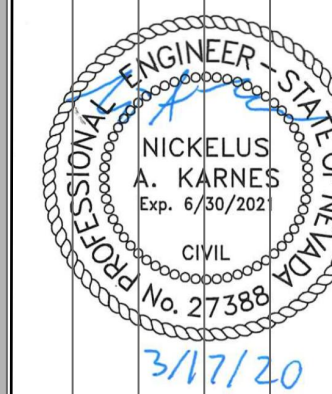
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HANSON NO	## ##
SHT NO	C4.01

138-23-520-019
VERTREES FAMILY
TR

138-23-520-020
HERNANDEZ JUAN
M

138-23-520-021
MATSON WILLIAM

138-23-520-022
RUGAMA MARCOS
D RIZO

138-23-520-023
MARTIN LUDOVIC
& RICKY D

138-23-520-024
JASON LAWRENCE

138-23-520-025
CUMMINS WILLIAM
J

138-23-520-026
KAMBER SIMON

138-23-520-027
VUONG LAN MEI &
TOAN DUC

138-23-517-023
RENTERIA DOROTEO &
IRMA

LATITUDE CT

CAPRINO AVE

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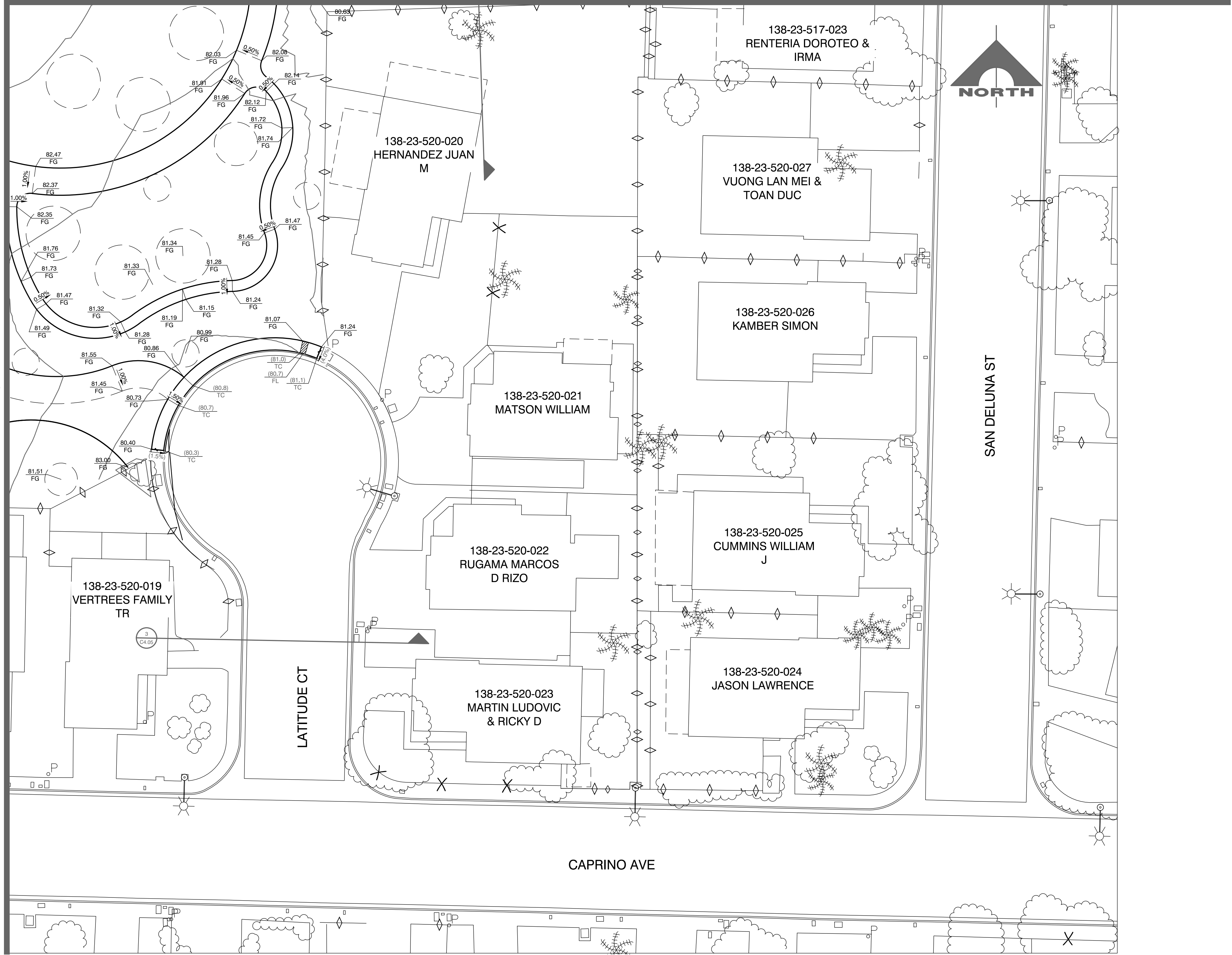
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RENTERIA DOROTEO &
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NORTH



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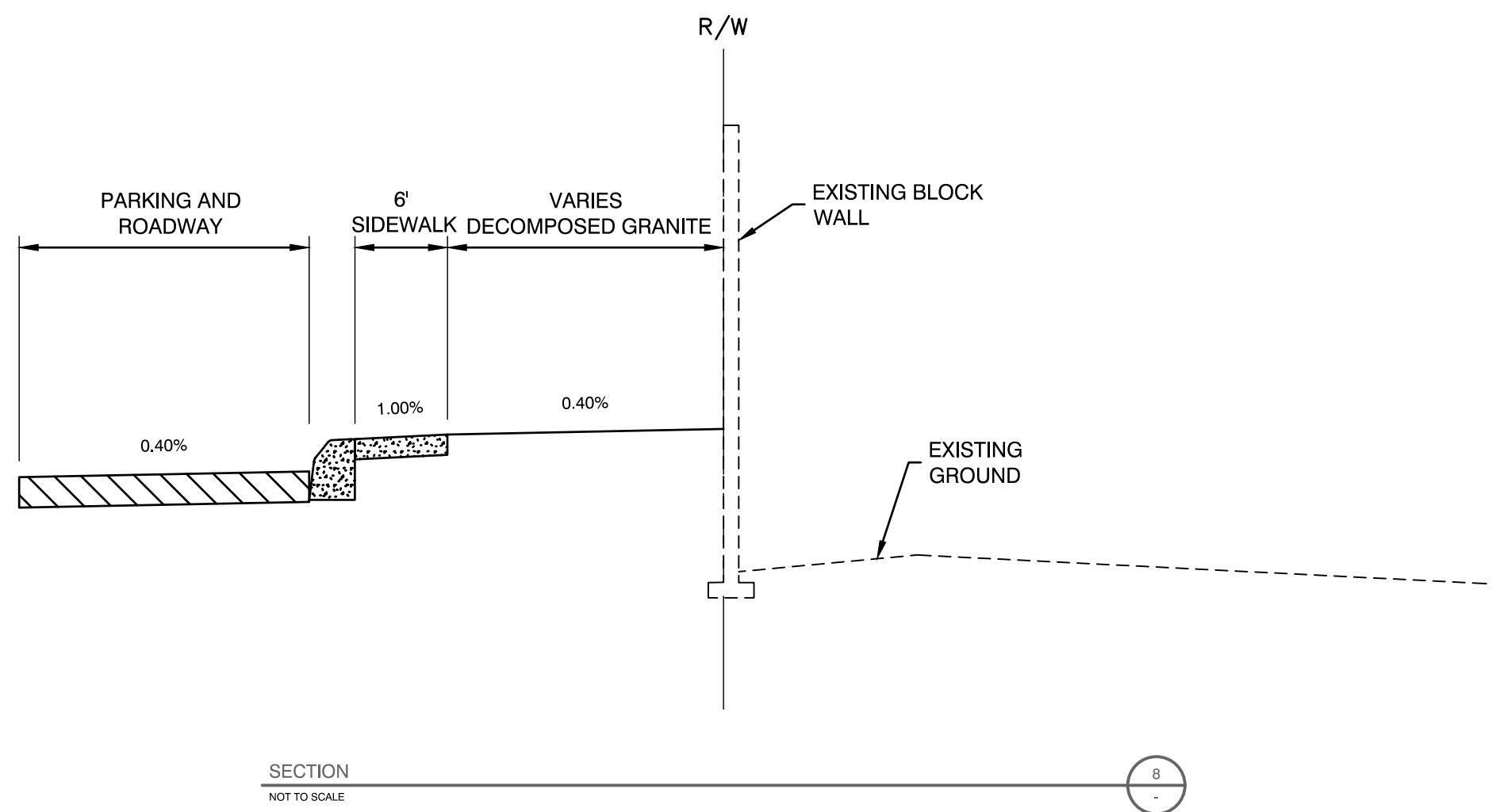
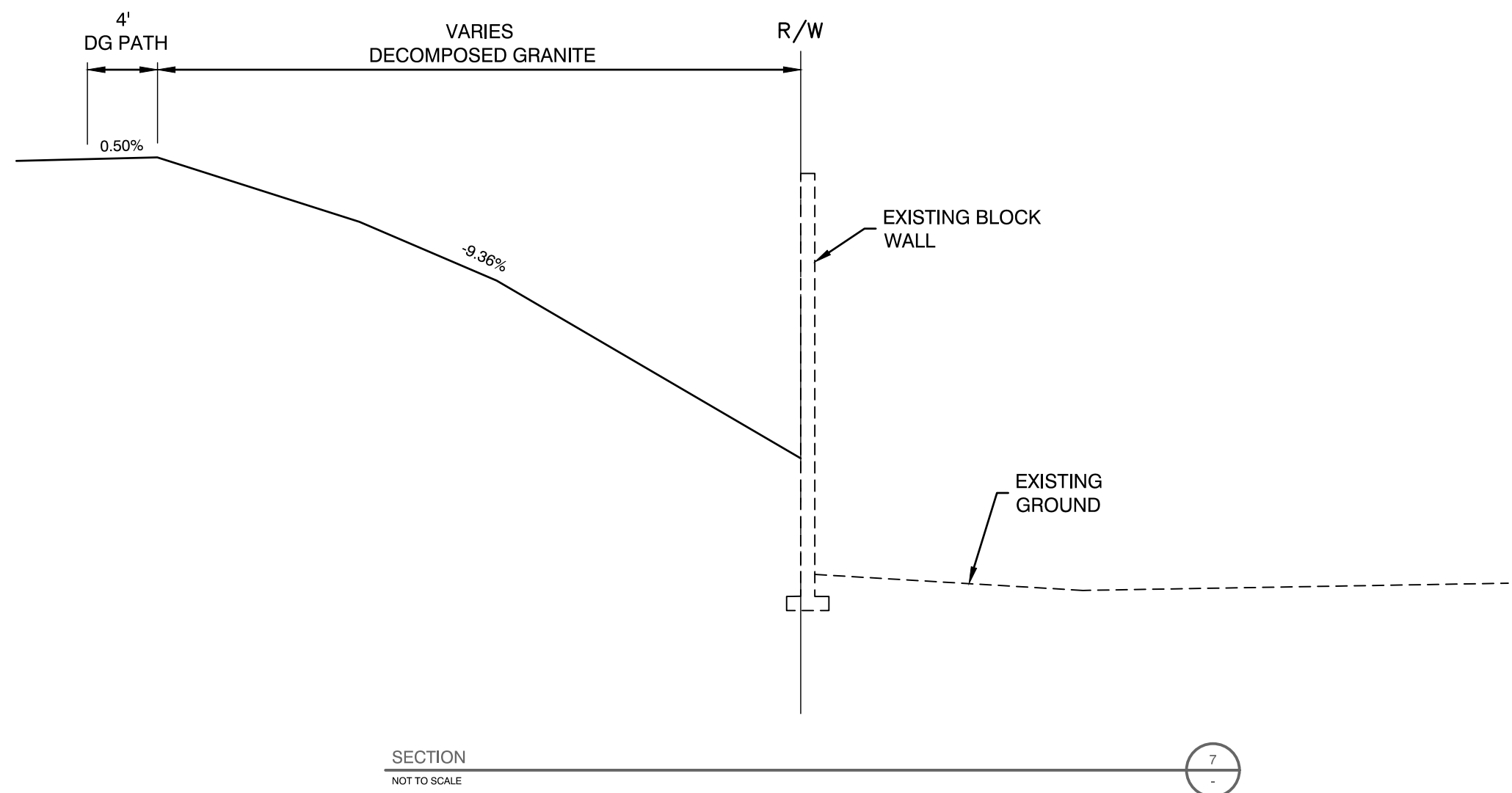
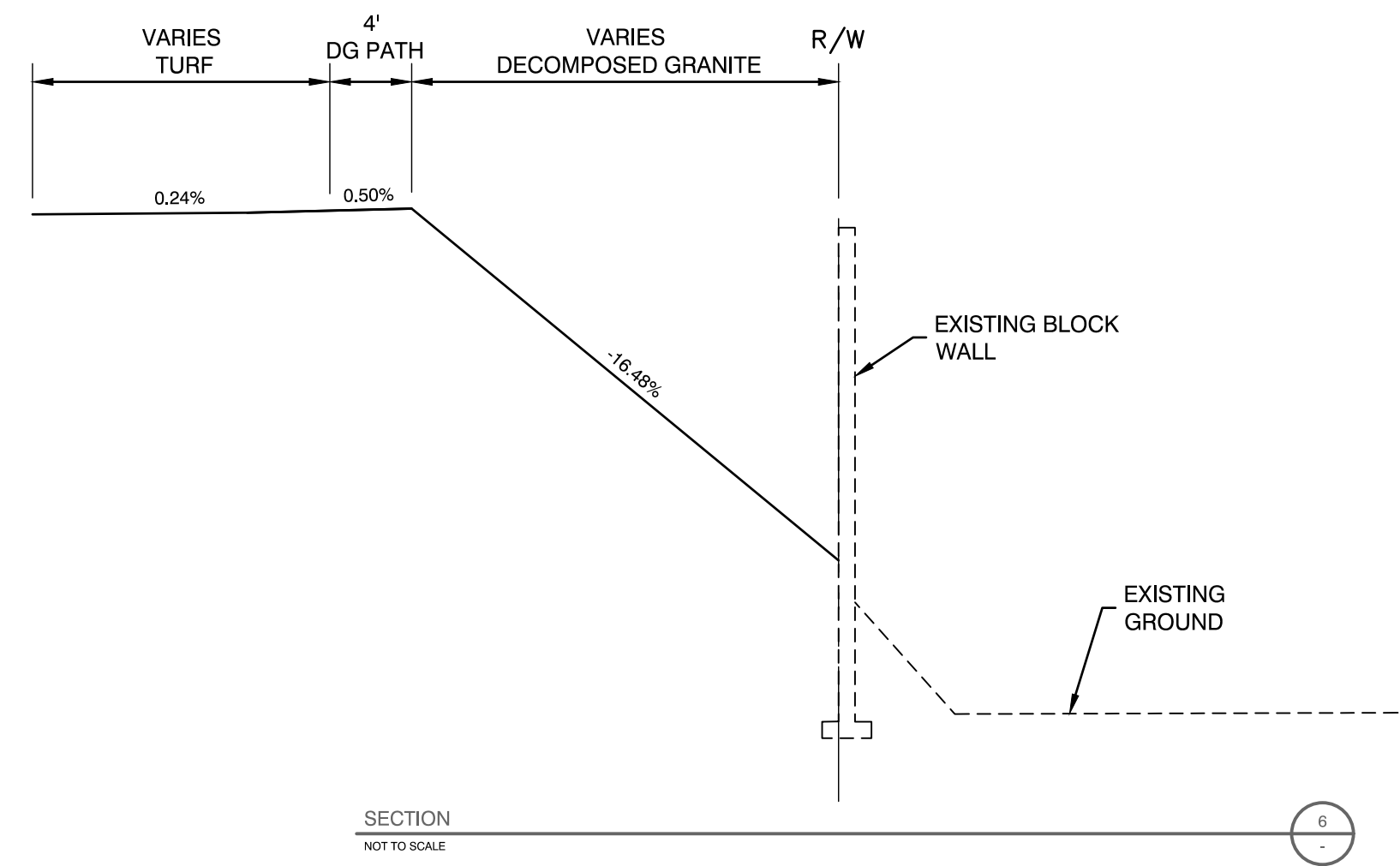
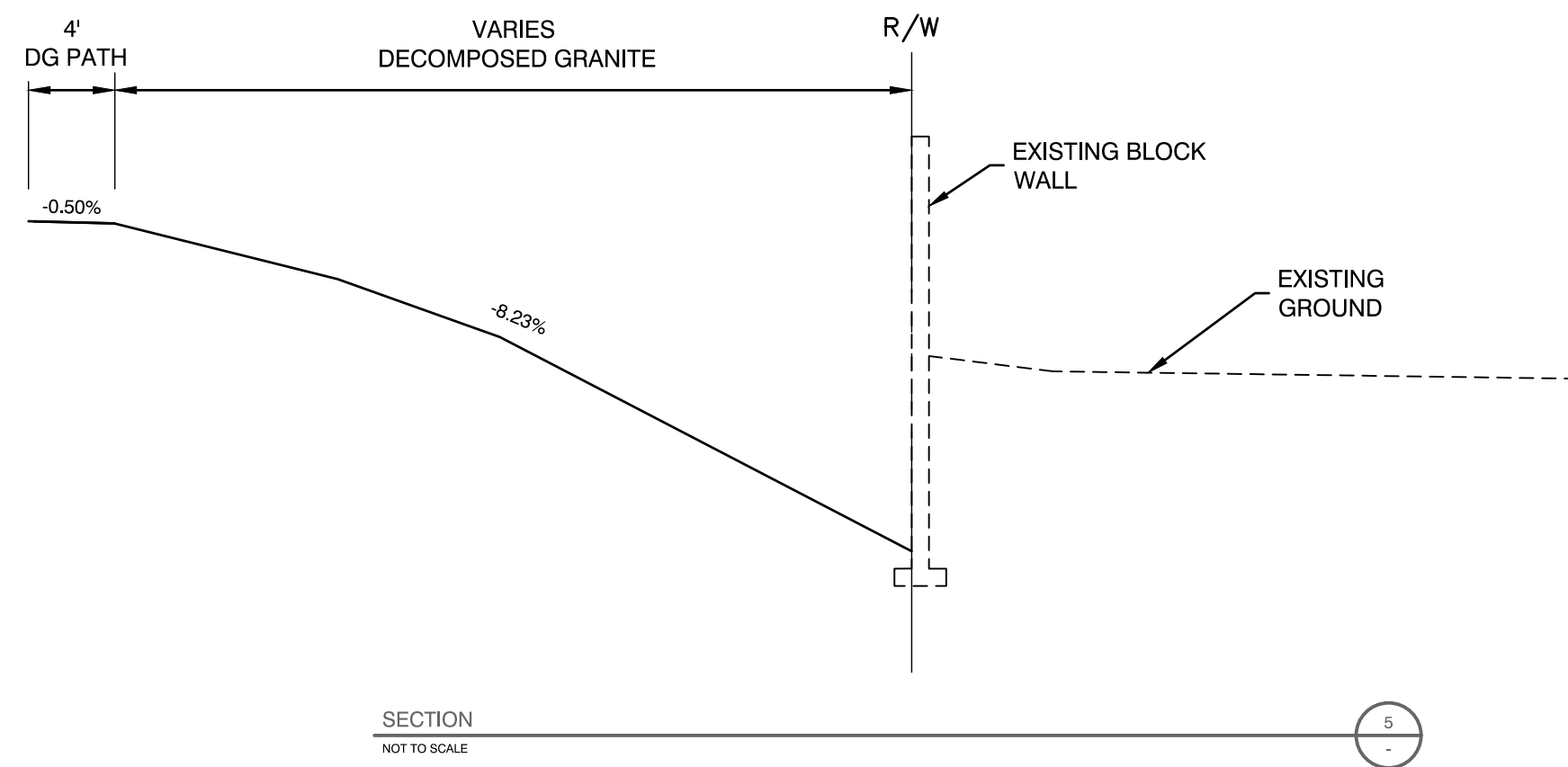
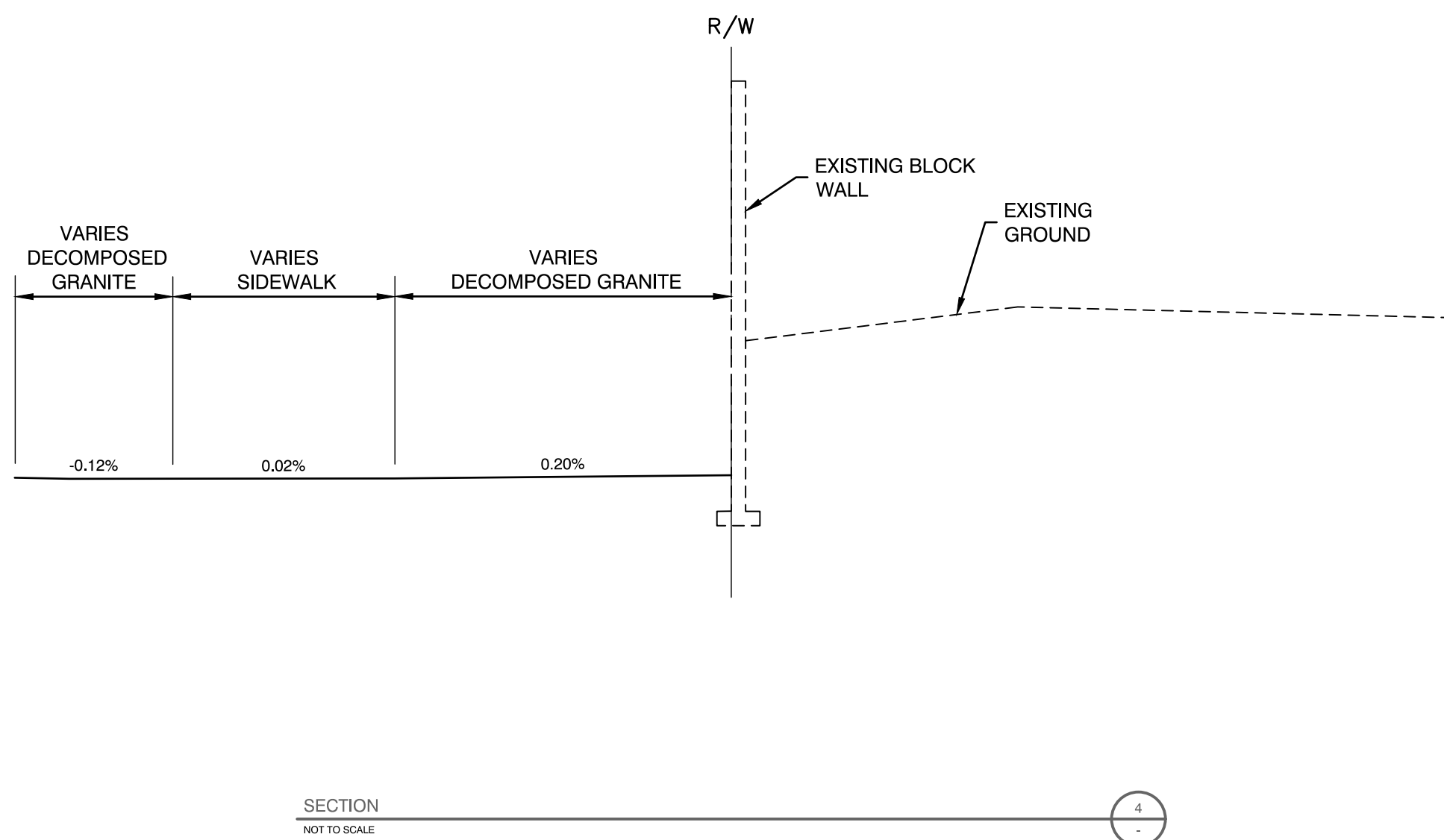
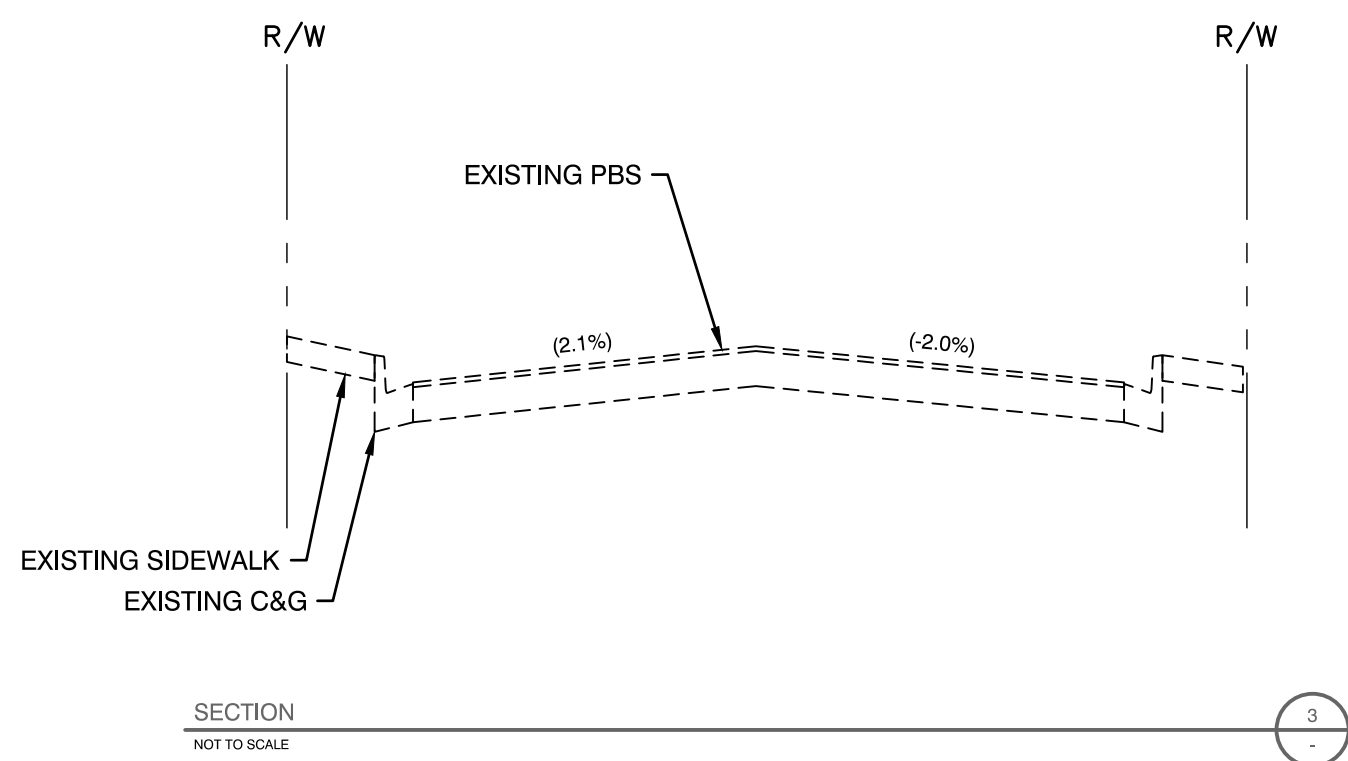
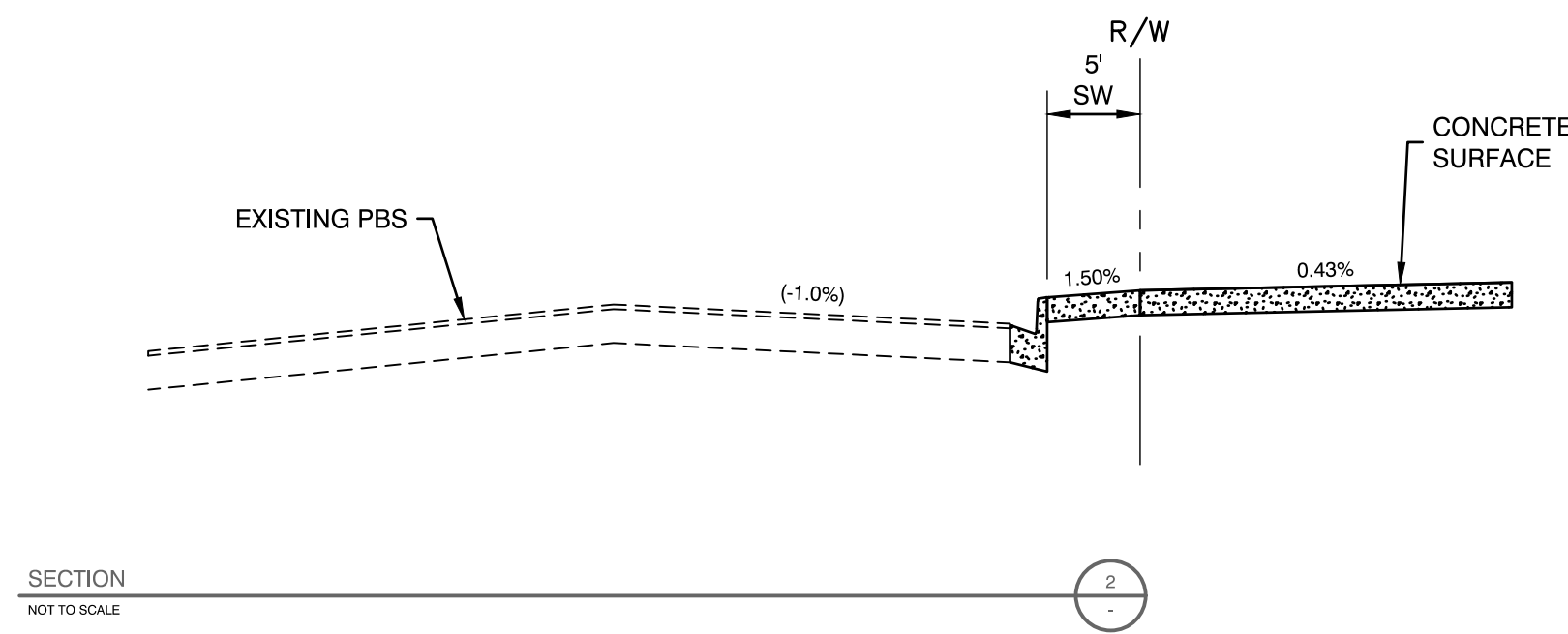
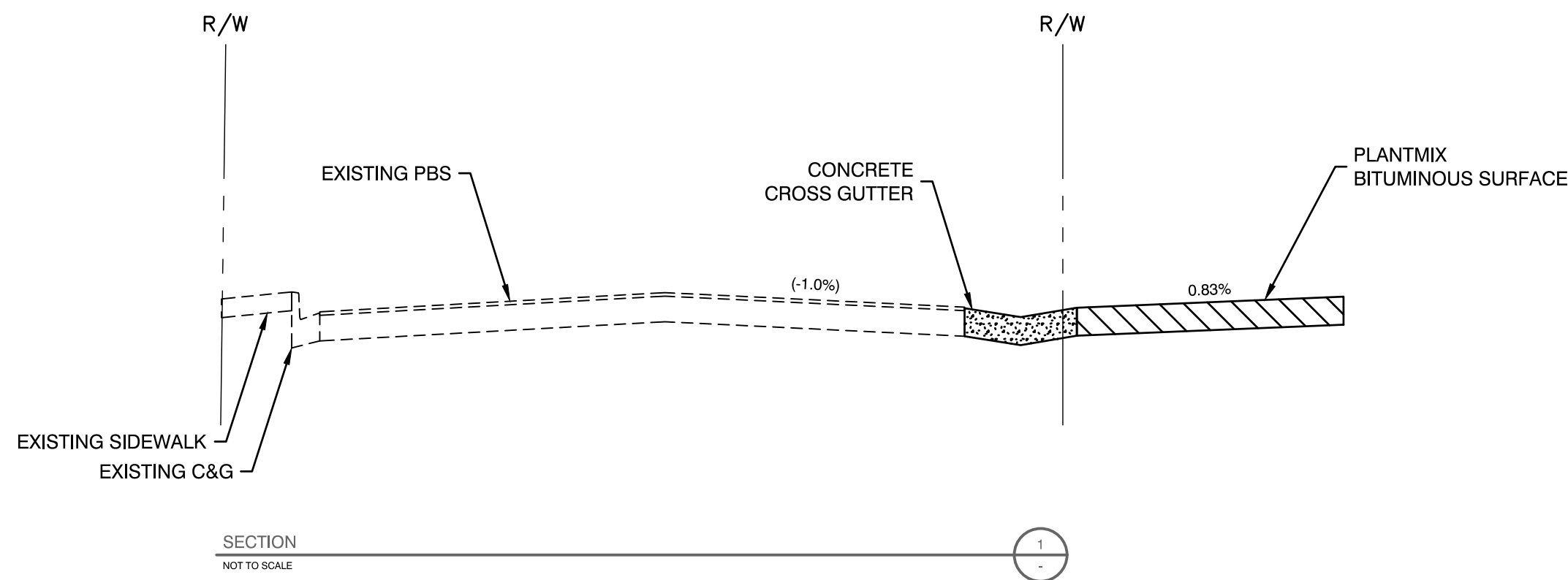
138-23-517-023
RENTERIA DOROTEO &
IRMA

LATITUDE CT

CAPRINO AVE

SAN DELUNA ST

NORTH



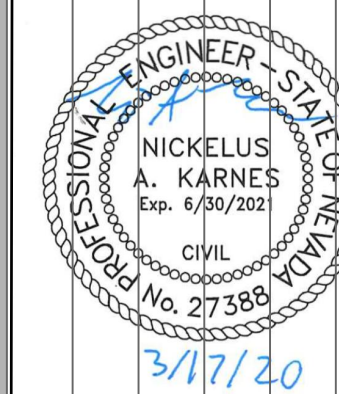
REVISIONS

CONSULTANT

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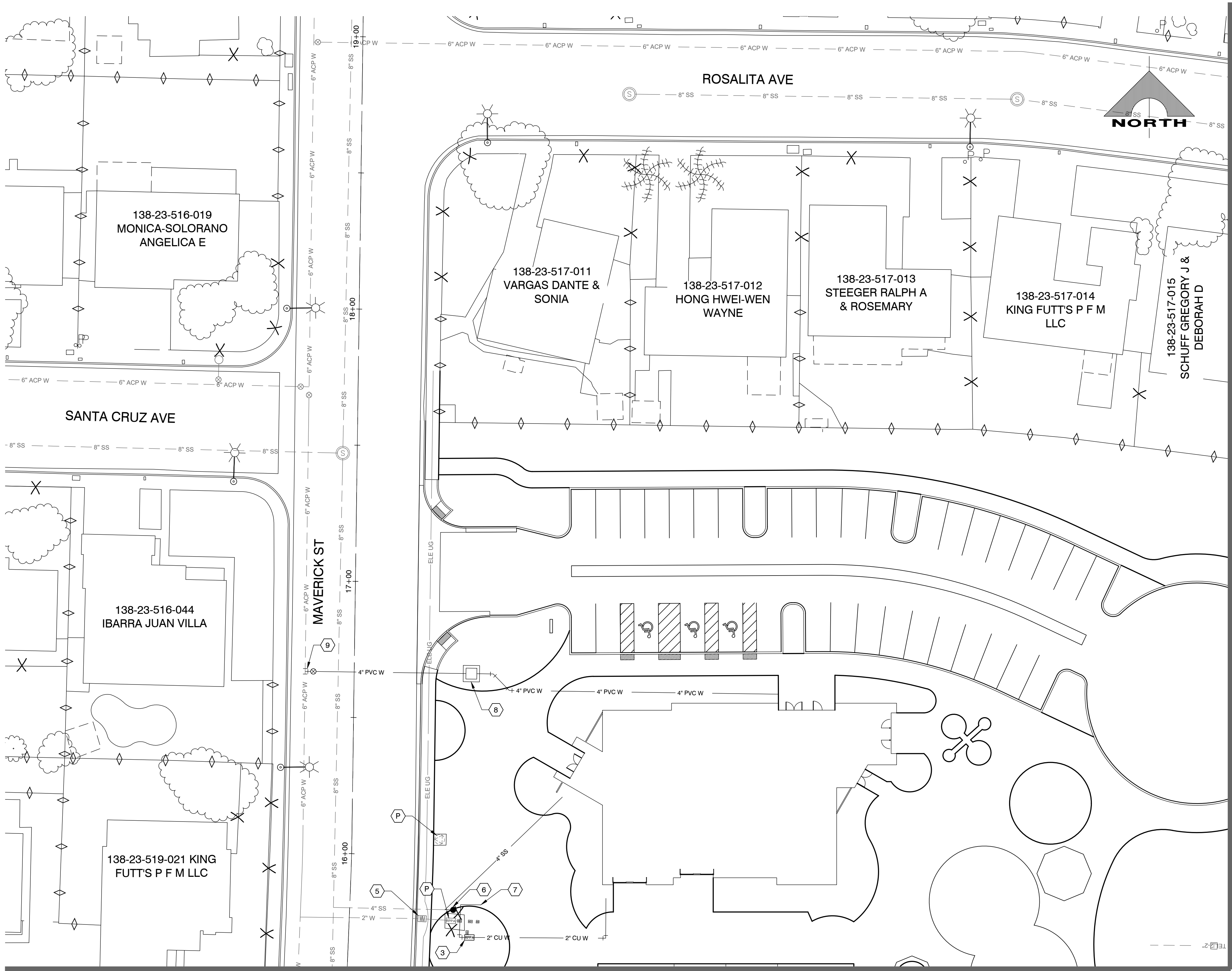
OWNER: CITY OF LAS VEGAS
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HANSON NO	## ##
SHT NO	

C4.05

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UTILITY NOTES

1. INSTALL 4-INCH PVC SANITARY SEWER LINE
2. INSTALL 2-INCH WATERLINE
3. INSTALL RPPA
4. ADJUST ELECTRIC VAULT TO GRADE
5. ADJUST WATER METER TO GRADE
6. INSTALL 4-INCH SANITARY SEWER LATERAL CLEANOUT (DCSWCS NO. SD-24)
7. TO IRRIGATION PUMP
8. INSTALL 4-INCH COMPACT RPPA (UDACS PLATE NO. 56)
9. INSTALL 6\"/>
10. INSTALL 4-INCH WATERLINE
- P. PROTECT IN PLACE

SS PROFILE INDEX		
SS RUN NO		SEE SHEET
1	2	3
		C5.07

- NOTES:
1. ALL SEWER/STORM DRAIN CROSSING WATER LINES MUST CONFORM TO UDACS SECTION 2.22.
 2. WATER AND SEWER SERVICE LATERALS SHALL BE INSTALLED PER UDACS SECTION 2.17 AND DCSWCS SD-22.
 3. DETECTOR RIBBON WIRE SHALL BE INSTALLED ALONG ONSITE PIPELINES PER UDACS PLATE NO. 15. NO LOCATOR BALLS REQUIRED.
 4. ONSITE WATERLINE SHALL MAINTAIN A MINIMUM COVER OF 36 INCHES.
 5. ONSITE TRENCH SHALL BE CONSTRUCTED SIMILAR TO UDACS PLATE NO. 16.
 6. EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE OWNER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. ALL DISCREPANCIES MUST BE IMMEDIATELY REPORTED TO THE OWNER.
 7. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL QUANTITIES. QUANTITY DISCLAIMER: SEE SPECIFICATIONS SECTION 01 10 00.12.
 8. CONTRACTOR IS RESPONSIBLE TO RESTORE ANY DAMAGE CAUSED BY NEW UTILITY RUNS.



KEYMAP

CALL BEFORE CONSTRUCTION

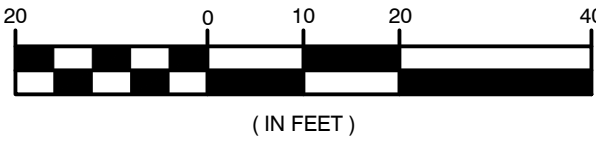
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	CITY OF LAS VEGAS T.E.F.O.	702-229-6611
BEFORE YOU OVERHEAD	NV ENERGY	702-227-2929

PER 19.06 & 19.08 ALL ABOVEGROUND UTILITY BOXES SHALL BE FULLY SCREENED FROM ALL RIGHTS-OF-WAY

APPROVED FOR CONSTRUCTION

CITY OF LAS VEGAS FIRE DEPARTMENT DATE

GRAPHIC SCALE



APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER DATE: PROJECT# XXXXX

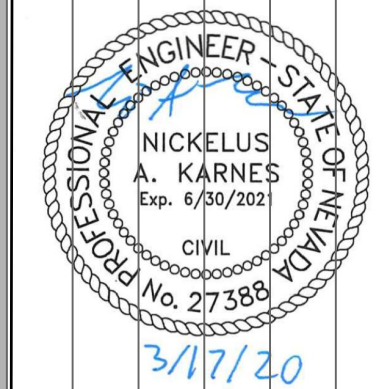
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DRAWN

GH

FILE

AS SHOWN

DATE

3/13/20

SCALE

1"=20'

RID NO

##

CLV DWG NO

##

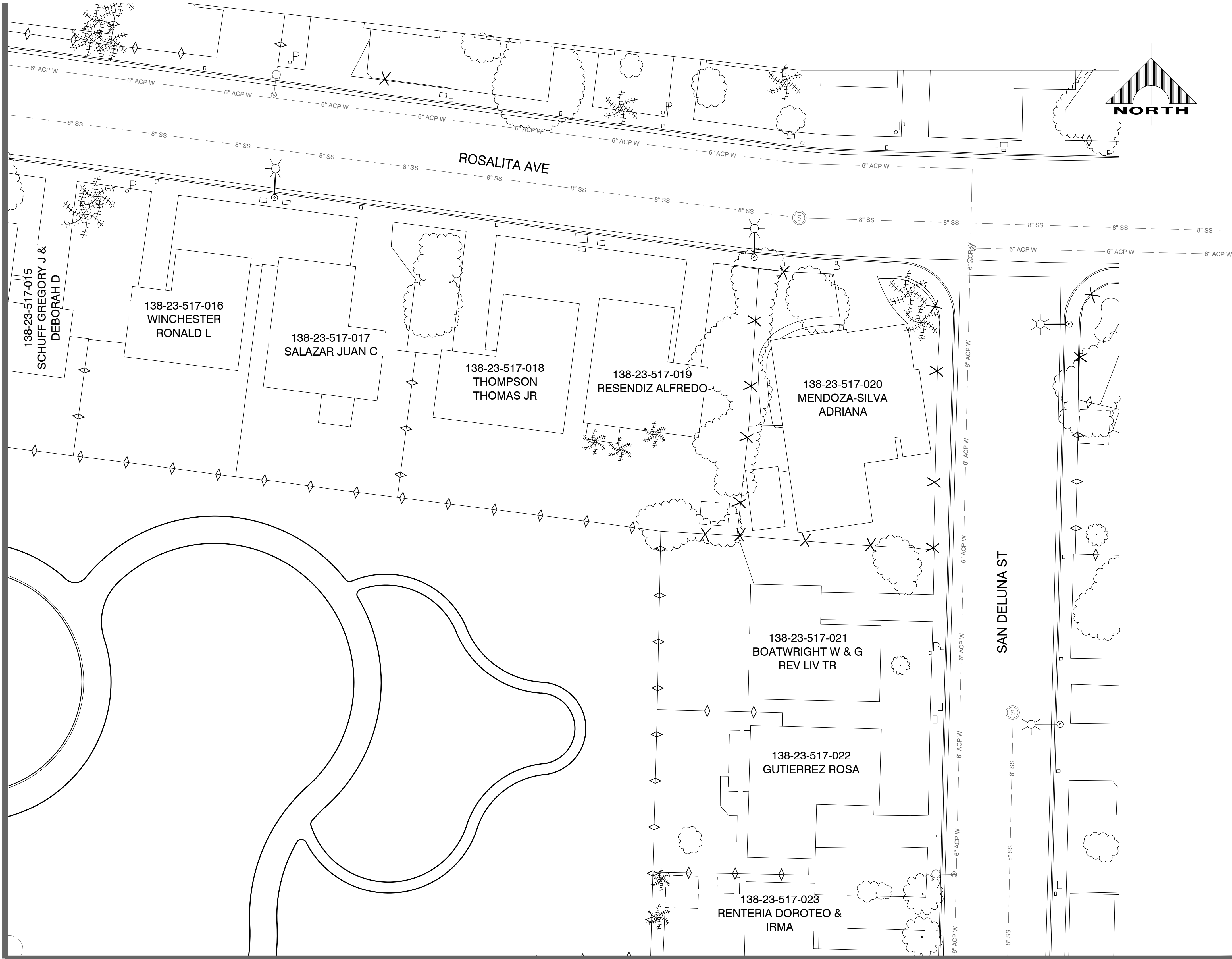
HANSON NO

####

SHT NO

C5.01

MATCHLINE - SEE SHEET C5.01



MATCHLINE - SEE SHEET C5.04

PER 19.06 & 19.08 ALL ABOVEGROUND UTILITY BOXES SHALL BE FULLY SCREENED FROM ALL RIGHTS-OF-WAY

APPROVED FOR CONSTRUCTION
CITY OF LAS VEGAS FIRE DEPARTMENT
DATE

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: PROJECT# XXXXX

UTILITY NOTES

1. INSTALL 4-INCH PVC SANITARY SEWER LINE
2. INSTALL 2-INCH WATERLINE
3. INSTALL RPPA
4. ADJUST ELECTRIC VAULT TO GRADE
5. ADJUST WATER METER TO GRADE
6. INSTALL 4-INCH SANITARY SEWER LATERAL CLEANOUT (DCSWCS NO. SD-24)
7. TO IRRIGATION PUMP
8. INSTALL 4-INCH COMPACT RPPA (UDACS PLATE NO. 56)
9. INSTALL 6"x4" MJ TAPPING SLEEVE AND VALVE WITH THRUST BLOCK (UDACS PLATE NO. 30, 34, & 39)
10. INSTALL 4-INCH WATERLINE
- P. PROTECT IN PLACE

SS PROFILE INDEX			
SS RUN NO		SEE SHEET	
1	2	3	C5.07

- NOTES:
1. ALL SEWER/STORM DRAIN CROSSING WATER LINES MUST CONFORM TO UDACS SECTION 2.22.
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KEYMAP

CALL BEFORE CONSTRUCTION

BEFORE YOU DIG	USA NORTH	811 OR 800-227-2600
BEFORE YOU UNDERGROUND	F.A.S.T.	702-432-5300
	CLARK COUNTY TRAFFIC OPERATIONS	702-455-7511
	CITY OF LAS VEGAS T.E.F.O.	702-229-6611
BEFORE YOU OVERHEAD	NV ENERGY	702-227-2929

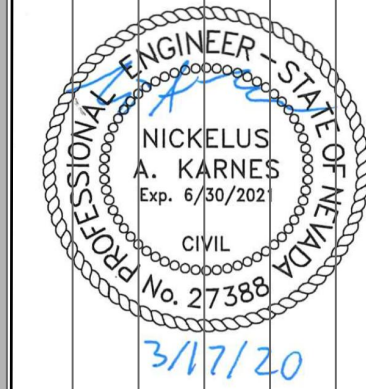
REVISIONS

CONSULTANT

GCA
ENGINEERS & SURVEYORS

CHARLESTON HEIGHTS PARK
CITY OF LAS VEGAS
60% CONSTRUCTION DOCUMENTS
UTILITY PLAN

STAMP

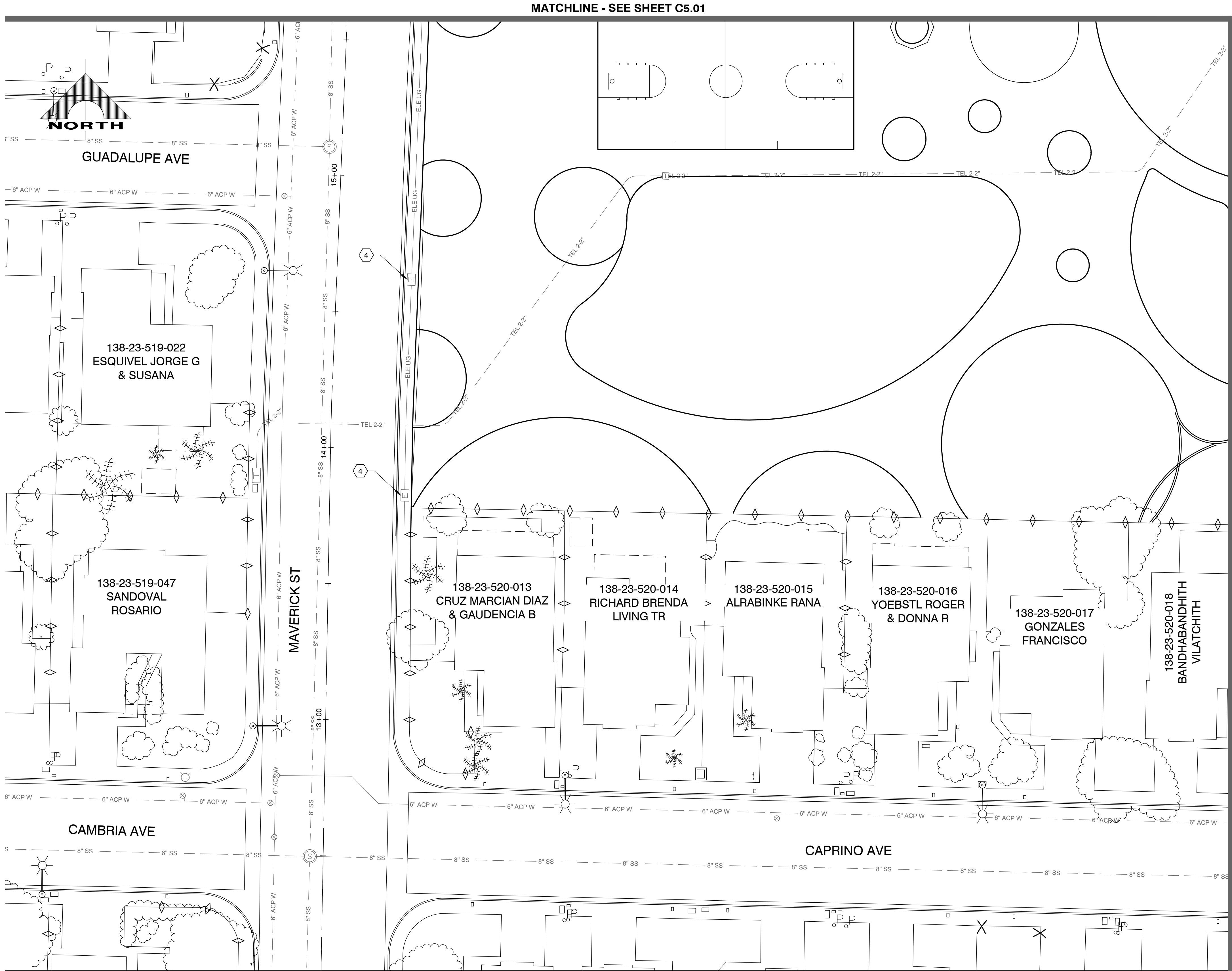


OWNER: CITY OF LAS VEGAS
DEPARTMENT OF PUBLIC WORKS

400 EAST STEWART AVENUE
LAS VEGAS, NEVADA 89101
PHONE: (702) 229-6535
FAX: (702) 384-6846
TDD: (702) 384-5108

DRAWN: GH
FILE: AS SHOWN
DATE: 3/13/20
SCALE: 1"=20'
RID NO: ###
CLV DWG NO: ###
HANSON NO: ###
SHT NO: C5.02

C5.02



UTILITY NOTES

1. INSTALL 4-INCH PVC SANITARY SEWER LINE
2. INSTALL 2-INCH WATERLINE
3. INSTALL RPPA
4. ADJUST ELECTRIC VAULT TO GRADE
5. ADJUST WATER METER TO GRADE
6. INSTALL 4-INCH SANITARY SEWER LATERAL CLEANOUT (DCSWCS NO. SD-24)
7. TO IRRIGATION PUMP
8. INSTALL 4-INCH COMPACT RPPA (UDACS PLATE NO. 56)
9. INSTALL 6"x4" MJ TAPPING SLEEVE AND VALVE WITH THRUST BLOCK (UDACS PLATE NO. 30, 34, & 39)
10. INSTALL 4-INCH WATERLINE
- P. PROTECT IN PLACE

SS PROFILE INDEX			
SS RUN NO			SEE SHEET
			C5.07

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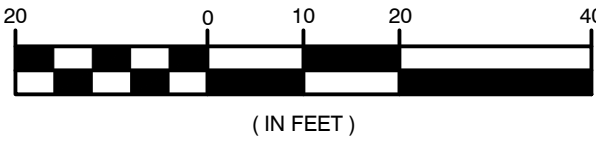
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PER 19.06 & 19.08 ALL ABOVEGROUND UTILITY BOXES SHALL BE FULLY SCREENED FROM ALL RIGHTS-OF-WAY

APPROVED FOR CONSTRUCTION

CITY OF LAS VEGAS FIRE DEPARTMENT DATE

GRAPHIC SCALE



APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER DATE: PROJECT# XXXXX

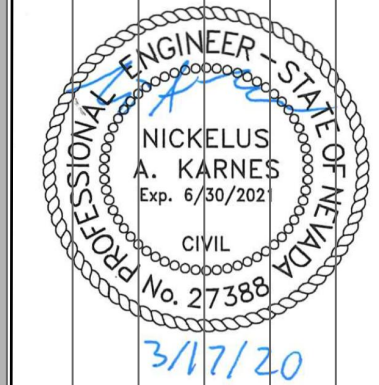
REVISIONS

CONSULTANT

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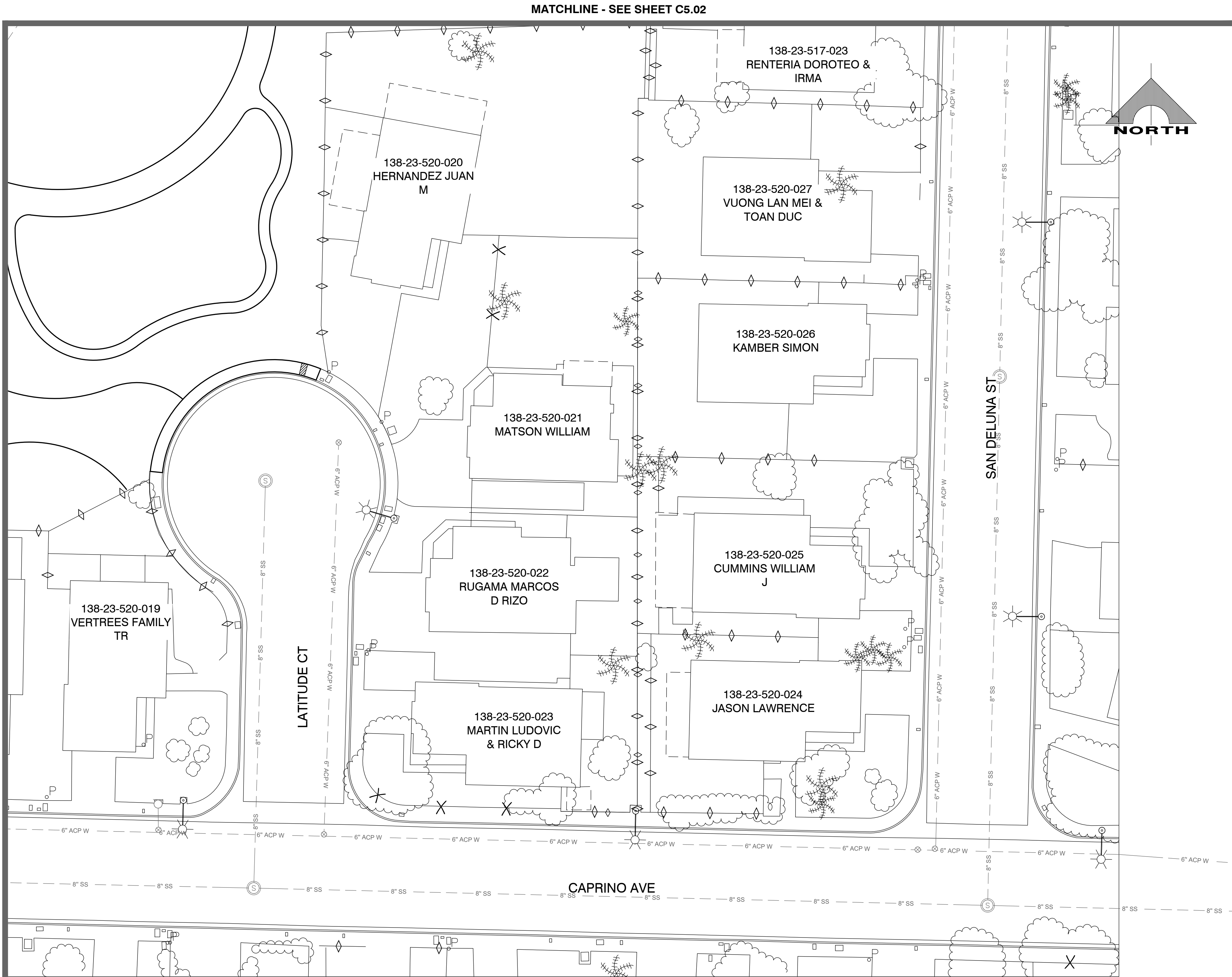
HANSON NO

####

SHT NO

C5.03

MATCHLINE - SEE SHEET C5.03



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(IN FEET)

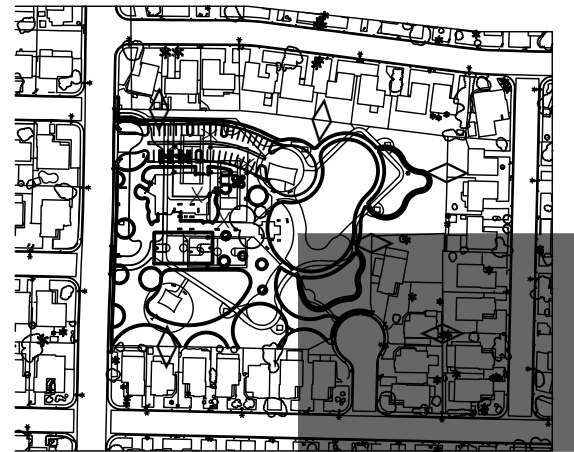
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1	2	3
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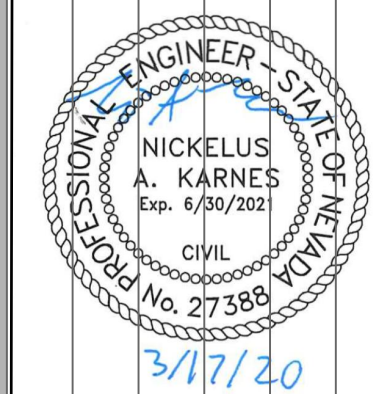
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