

**LEMMON DRIVE at VISTA KNOLLS PARKWAY and SUN SET VIEW DRIVE
Intersection Traffic Signal System**

**OFFSET AGREEMENT
Offset Agreement # 513011**

BETWEEN

**THE REGIONAL TRANSPORTATION COMMISSION,
A special purpose unit of the Government**

And

**CITY OF RENO
a Municipal Corporation**

And

Lemmon Drive Villas Property LLC

Developer of Record

For

Lemmon Drive Estates and Highland Project

Development of Record

North Service Area

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EXHIBITS

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EXHIBIT “D”	Letter of Approval
EXHIBIT “E”	Developer of Record QA/QC Program RTC Special Technical Specifications for Regional Road Impact Fee Projects
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OFFSET AGREEMENT

This Offset Agreement (“Offset Agreement”) is entered by and between the REGIONAL TRANSPORTATION COMMISSION (hereinafter designated “RTC”), a special purpose unit of Government; CITY OF RENO, a municipal corporation (hereinafter designated “Participating Local Government”); and Lemmon Drive Villas Property LLC (hereinafter designated “the Developer of Record”).

1. General

- 1.1 **Ordinance, Manual and CIP.** The City of Sparks, the City of Reno, Washoe County, and RTC have entered into an Interlocal Cooperative Agreement for the purposes of implementing the Regional Road Impact Fee (“RRIF”) Program. The Participating Local Government has passed a Regional Road Impact Fee Ordinance (“Ordinance”) to implement the RRIF program. RTC and the Participating Local Government have adopted the Regional Road Impact Fees General Administrative Manual, Current Edition (“Manual”), specifying the provisions and procedures for administration of the RRIF program, as well as the Regional Road Impact Fee System Capital Improvement Plan (“CIP”) Current Edition, identifying the regional streets and improvements which shall be constructed in whole or in part with funds generated from the RRIF program. The terms and provisions of the Manual and the CIP are incorporated herein by reference as if fully set forth. All capitalized terms not otherwise defined herein shall have the definitions and meanings as used in the Ordinance, Manual and CIP. Amendments approved by the RTC and local governments are incorporated by reference to the same extent as if set forth in full herein.
- 1.2 **Basis for this Offset Agreement.** The parties intend this Offset Agreement to be an Offset Agreement as provided in Section X of the Manual, to provide for waivers of Regional Road Impact Fees (“RRIF Waiver”) in exchange for contributions of Offered Improvements (which may include right-of-way (“ROW”) dedication), which may then be used to offset Regional Road Impact Fees which would otherwise be chargeable to the Developer of Record’s Development of Record. Section X of the Manual contains specific provisions pertaining to Waivers and is attached hereto and incorporated herein as Exhibit “A”.
- 1.3 **Effective Date of Offset Agreement.** This Offset Agreement shall be binding and effective as of the last date of execution below (the “Effective Date”).
- 1.4 **Eligibility of Offered Improvements.** The Offered Improvements have been identified by the Local RRIF Administrator as being included in the Exhibit “D” of the CIP, titled North Capital Improvement Plan.

2. The Development of Record and Offered Improvements.

- 2.1 **Description of the Development of Record.** The Development of Record for which the RRIF Waivers shall be issued is known as Lemmon Drive Estates and Highland Project. The Developer of Record owns or is the agent for the record owners of the entire Development. A site plan and narrative

description of the Development of Record, including the proposed land uses and units of development is attached hereto as Exhibit “B-1”. The legal description of the Development of Record is attached as Exhibit “B-2.”

2.2 **Offered Improvements.**

2.2.1 **Description of Offered Improvements.** The Developer of Record has submitted an application shown herein as Exhibit “C” describing the specific Offered Improvements which the Developer of Record proposes to construct and/or dedicate. The Offered Improvements are generally described as intersection improvements at Lemmon Drive, Vista Knolls Parkway, and Sunset View Drive. The RTC RRIF Administrator and Local RRIF Administrator have approved the application, subject to the limitations set forth in the letter of approval incorporated herein as Exhibit “D”.

2.2.2 **Completion and Acceptance of Offered Improvements.** Unless extended by written consent of the RTC RRIF Administrator, all Offered Improvements, shall be commenced within 6 months of the Effective Date, and completed in substantial conformance with approved plans within two (2) years of the date of the Offset agreement. This Offset Agreement shall terminate and be of no further force or effect if the Offered Improvements are not commenced within one (1) year of the Effective Date. The time for completion may be extended by written consent of the RTC RRIF Administrator and the Local RRIF Administrator one time for not more than one (1) year, upon a written request for extension submitted not less than ninety (90) days prior to expiration of the originally agreed time for completion. Additional extensions of the time for completion shall require an amendment to this Offset Agreement pursuant to Section 4.2. The Offered Improvements shall be accepted by the Local RRIF Administrator and the RTC RRIF Administrator upon correction by the Developer of Record of any identified deficiencies to the satisfaction of the Local RRIF Administrator and the RTC RRIF Administrator. Acceptance of the Offered Improvements by the Local RRIF Administrator and the RTC shall not be unreasonably withheld. Any real property the Developer of Record proposes to offer for dedication pursuant shall be valued pursuant to the provisions of Section X.F.2.c.(2) of the Manual.

2.2.3 **Design and Construction Standards.** All design and construction of the Offered Improvements shall be in accordance with the latest edition of the Standard Specifications as of the date of this Agreement for Public Works Construction (“Standard Specifications”), including any addenda, as adopted by the Participating Local Government and modified by the Special Technical Specifications (“STS”) as prepared by RTC and contained herein as part of Exhibit “E”. Additionally, all design and construction of Offered Improvements shall be in accordance with all policies of the RTC, including the latest version as of the date of this agreement of the following: Policy for the Street and Highway Program, CIP, and Traffic Noise Mitigation Policy Report, all incorporated herein as if fully set forth. In the case of conflicting standards, the

conflict shall be brought to the immediate attention of the RTC RRIF Administrator who shall, in conjunction with the Local RRIF Administrator, resolve the discrepancy within five (5) working days.

2.2.4 **Quality Assurance/Quality Control (QA/QC).** In making the Offered Improvements, the Developer of Record shall institute a QA/QC Program meeting the requirements of Exhibit "E". The Developer of Record may utilize an alternate QA/QC Program with the approval of the RTC RRIF Administrator and Local RRIF Administrator.

2.2.5 **Warranty.** The Developer of Record shall warrant all materials and workmanship of the Offered Improvements in accordance with the provisions of the latest edition of the Standard Specifications. The Developer of Record is directed in particular to Section 117.00 which is contained herein as Exhibit "F".

3. **RRIF Waivers.**

3.1 **The Developer of Record and Development of Record.** The Developer of Record is the party to whom all RRIF Waivers earned under this Offset Agreement shall be issued. RRIF Waivers earned under this Offset Agreement may not be applied outside of the Development of Record.

3.2 **RRIF Waivers are Personal Assets of The Developer of Record.** The parties agree that all RRIF Waivers received pursuant to this Offset Agreement shall be the personal assets of the Developer of Record.

3.3 **Calculation of RRIF Waiver.** RRIF Waivers will be expressed in dollars upon the final RRIF Waiver determination pursuant to Section 3.5. RRIF Waivers may be utilized to pay Regional Road Impact Fees which would otherwise be due for development within a Development of Record. To the extent RRIF Waivers are utilized for development of units of development and land uses in strict conformance with Exhibits "B-1" and "B-2," RRIF Waivers earned shall be applied as if a Building Permit (or Certificate of Occupancy, whichever applies) were granted for each such unit of development as of the date of this Offset Agreement, notwithstanding that actual construction of such unit of development occurs thereafter. For sake of clarity, it is the parties' intent that Regional Road Impact Fees for all future development within the Development of Record which is conducted in conformity with Exhibits "B-1" and "B-2" shall be "grandfathered in" at the RRIF rates existing as of the date of this Offset Agreement, up to the total amount identified in the Notice of RRIF Waiver. The rates existing as of the date of this Offset Agreement are attached hereto as Schedule 1. To the extent units of development or land uses are changed from the uses depicted in Exhibit "B-1," or the legal description of the Development of Record is modified from the description set forth in Exhibit "B-2", earned RRIF Waivers may be used within the Development of Record for such development, but the RRIF Waivers must be utilized at the then-current Regional Road Impact Fee rate as of the date of issuance of the Building Permit for each unit of development.

- 3.4 **RRIF Waiver Usage and Transferability.** The usage and transferability of RRIF Waivers earned under this Offset Agreement are as follows:
- 3.4.1 RRIF Waivers earned under this Offset Agreement may be used to pay for up to 100% of the Regional Road Impact Fees due as the result of development within the Development of Record.
- 3.4.2 RRIF Waivers earned under this Offset Agreement may be not be used to pay for Regional Road Impact Fees due as a result of development outside of the Development of Record.
- 3.4.3 RRIF Waivers earned under this Offset Agreement are transferable to a third party, provided that all RRIF Waivers earned under this Offset Agreement may only be used to pay for Regional Road Impact Fees due as a result of development within the Development of Record.
- 3.5 **Interim RRIF Waivers.** The Developer of Record shall be entitled to apply for and receive Interim RRIF Waivers for satisfactorily completed portions of the Offered Improvements (including Right of Way) according to the schedule at Exhibit “G”. This provision shall in no way be construed as constituting acceptance in whole or part of any of the Offered Improvements. To the extent that Offered Improvements are ultimately not accepted, or if the Developer of Record is otherwise in material default under this Offset Agreement, the Developer of Record shall pay the actual Regional Road Impact Fees which would have otherwise been due had the Developer of Record not utilized Interim RRIF Waivers.
- 3.6 **Final RRIF Waiver Determination.** The final determination of RRIF Waivers shall be calculated by the RTC RRIF Administrator after consultation with the Local RRIF Administrator within thirty (30) calendar days of final acceptance of the Offered Improvements by the RTC RRIF Administrator and the Local RRIF Administrator and submission by the Developer of Record of all documentation required by the RTC RRIF Administrator to make said final determination. The RTC RRIF Administrator shall issue a written instrument identifying the amount of the RRIF Waivers to the Developer of Record within three (3) working days of the earlier to occur of the following:
- 3.6.1 the date the appeal period of the final determination expires pursuant to Article XII of the RRIF GAM;
- 3.6.2 the date the Developer of Record waives in writing the appeal period, or;
- 3.6.3 in the event of an appeal pursuant to Article XII of the RRIF GAM, the date of a final decision on all issues on appeal.
- 3.7 **Expiration of RRIF Waivers.** RRIF Waivers shall not expire and may be used in perpetuity to pay Regional Road Impact Fees which would otherwise be due as a result of development within the Development of Record.

4. **Miscellaneous** The parties further agree as follows:

- 4.1 **Governing Law: Venue.** This Offset Agreement is being executed and delivered in Washoe County, Nevada, and is intended to be performed in the State of Nevada, and the laws of Nevada shall govern the validity, construction, enforcement and interpretation of this Offset Agreement. Venue for any legal action arising out of this Offset Agreement shall be in Washoe County, Nevada.

- 4.2 **Entirety and Amendments.** This Offset Agreement embodies the entire Offset Agreement between the parties and supersedes all prior negotiations, agreements and understandings, if any, relating to the Property, and may be amended or supplemented only by an instrument in writing executed by the party against whom enforcement is sought, provided that nothing contained in Subsection 4.2 shall be interpreted to change, amend or modify the conditions of the Development of Record approval by the Participating Local Government. No oral statements or representations made before or after the execution of this Offset Agreement regarding the subject matter of this Offset Agreement are binding on any party, nor may any such oral statements or representations be relied on by a party.
- 4.3 **Invalid Provisions.** If any provision of this Offset Agreement is held to be illegal, invalid, unenforceable under present or future laws, such provision shall be fully severable. The Offset Agreement shall be construed and enforced as if such illegal, invalid or unenforceable provision had never comprised a part of the Offset Agreement. The remaining provisions of the Offset Agreement shall remain in full force and effect and shall not be affected by the illegal, invalid or unenforceable provision or by its severance from this Offset Agreement.
- 4.4 **Parties Bound and Assignment.** The Offset Agreement shall be binding upon and inure to the benefit of the parties, and their respective heirs, personal representatives, successors and assigns. The Developer of Record may assign RRIF Waivers which have been calculated pursuant to Section 3.6 to a successor developer or developers, provided however, that such RRIF Waivers may only be utilized to offset Regional Road Impact Fees which would otherwise be due as a result of development within the Development of Record.
- 4.5 **Further Acts.** In addition to the acts recited in this Offset Agreement to be performed, the parties agree to perform, or cause to be performed, any and all further acts as may be reasonably necessary to consummate the obligations contemplated hereby.
- 4.6 **Headings.** Headings used in this Offset Agreement are used for reference purposes only and do not constitute substantive matter to be considered in construing the terms of this Offset Agreement.
- 4.7 **Notice.** All notices given pursuant to this Offset Agreement shall be in writing and shall be given by personal delivery, by facsimile transmission, by United States mail or by United States express mail or other established express delivery service (such as Federal Express), postage or delivery charge prepaid, addressed to the appropriate party at the address set forth below:

**REGIONAL TRANSPORTATION COMMISSION,
Engineering Department**
Attn: Jeff Wilbrecht (Engineering Manager), P.E.
1105 Terminal Way, Suite 108
Reno, Nevada 89502
Telephone: (775) 335-1872

THE CITY OF RENO

Community Development

Attn: Mike Mischel, P.E.
1 E. First Street
Reno, Nevada 89501
Telephone: (775) 326-6607

Developer of Record

Attn: Greg Garchar
Lemmon Drive Villas Property LLC
5000 Executive Parkway, Suite 350
San Ramon, California 94583
Telephone: (925) 830-2624

The persons and address to whom notices are to be given may be changed anytime by any party upon written notice to the other party. All notices given pursuant to this Offset Agreement shall be deemed given upon receipt.

- 4.8 **Receipt Defined.** For the purposes of this Offset Agreement, the term “receipt” shall mean any of the following: (a) the date of delivery of the notice or other document as shown on the return receipt; (b) the date of actual receipt of the notice or other document; or (c) in the case of refusal to accept delivery or inability to deliver the notice or other document, the earlier of: (i) the date of the attempted delivery or refusal to accept delivery; (ii) the date of the postmark on the return receipt; or (iii) the date of receipt of notice of refusal or notice of non-delivery by the sending party.
- 4.9 **Due Authorization.** The parties agree that they have the legal authority to enter into this Offset Agreement and the undersigned officer, representative or employee represents that he or she has the authority to execute this Offset Agreement on the behalf of the party represented.
- 4.10 **Indemnification.** Developer of Record shall indemnify, defend and hold harmless the RTC and the Participating Local Government, their officers, officials, employees and volunteers, from any and all costs, liabilities, damages, claims, demands, suits, action, attorneys, fees, or expenses of any kind (“claims”) that arise out of, or are in way related, in whole or in part to the negligence or misconduct, or acts or omissions, of the Developer of Record, its officers, agents, employees, members, volunteers, contractors and anyone else for whom it is legally liable, while performing or failing to perform Developer of Record’s duties under this Offset Agreement. Said indemnification excludes any claims to the extent caused by the negligence or willful misconduct of the RTC and /or the Participating Local Government. The Developer of Record’s obligations set forth in this Section shall expire and terminate as to any claims based on, related to, arising from or in connection with the Offered Improvements’ failure to comply with the Standard Specifications on the date of expiration of the applicable warranty period provided in Section 2.2.5 above.
- 4.11 **Termination of Offset Agreement.** This Offset Agreement may be unilaterally terminated by the RTC RRIF Administrator if twelve (12) consecutive months elapse without reasonable progress being made on the Offered Improvements. In the event of any such termination, Interim RRIF Waivers must be immediately surrendered or repaid in accordance with Section 3.5.

- 4.12 **Future Development Approvals.** The Participating Local Government agrees that future development approvals for the Development of Record shall not be denied on the basis of the policy level of service being exceeded on the Offered Improvements.

In Witness Whereof, the parties have executed this Offset Agreement on the ____ day of _____, 2024.

REGIONAL TRANSPORTATION COMMISSION
A Special Purpose Unit of Government

By: _____
Bill Thomas, AICP , Executive Director

STATE OF NEVADA

COUNTY OF WASHOE

The above-instrument was acknowledged before me this ____ day of _____, 2024, by Bill Thomas, the Executive Director of the Regional Transportation Commission.

Notary Public

CITY OF RENO
A Municipal Corporation

APPROVED AS TO LEGAL FORM:

By: _____
Hillary Schieve, Mayor

By: _____
City Attorney

STATE OF NEVADA)
) ss
COUNTY OF WASHOE)

The above-instrument was acknowledged before me this ____ day of _____, 2024 by
Hillary Schieve, Mayor of the City of Reno, Nevada.

Attest by City Clerk: _____
City Clerk

DEVELOPER OF RECORD: Lemmon Drive Villas Property LLC

By: _____

Name: _____

Its: _____

STATE OF
COUNTY OF

The above-instrument was acknowledged before me this _____ day of _____, 2024 by
_____.

Notary Public

EXHIBIT “A”
(Section X of the Regional Road Impact
Fees General Administrative Manual, Current Edition)

thirty (30) days of receiving the approved Offset Agreement from the RTC RRIF Administrator. If the RTC RRIF Administrator does not receive the signed Offset Agreement within thirty (30) days, the application for RRIF Waivers will be deemed withdrawn.

8. Unless an executed Offset Agreement expressly provides otherwise, i.e. if interim RRIF Waivers are authorized in the Offset Agreement, RRIF Waivers will not be approved in a Notice of RRIF Waivers until all Offset-Eligible Improvements have been completed and, if applicable, dedicated to the RTC or the affected Participating Local Governments as provided in the Offset Agreement.
9. Land dedications accepted as an Offset-Eligible Improvement must be accompanied by the following documentation prior to issuance of a Notice of RRIF Waiver, as provided below:
 - a. The delivery to the appropriate governmental body of an irrevocable offer of dedication, with sufficient funds to pay all costs of transfer of title including recording.
 - b. The escrow of taxes for the current year or the payment of said taxes for the year.
 - c. The issuance of a title insurance policy subsequent to recording of the deed and escrow of taxes.
10. Unless expressly provided otherwise in an Offset Agreement, it is the responsibility of the Developer of Record to submit sufficient documentation to the RTC RRIF Administrator to establish that the terms of the Offset Agreement have been met.
11. Once the RTC RRIF Administrator has made a determination that the terms of the Offset Agreement have been met, the RTC RRIF Administrator will issue a Notice of RRIF Waiver to the Developer of Record.

D. Contents of Applications for RRIF Waivers

1. The application for RRIF Waivers must contain the information and documentation required by this Section and sufficiently identify and describe the Offered Improvements which otherwise would have been built by the RTC with collected RRIF Fees.
2. Each application for RRIF Waivers must contain the following:
 - a. The name of the Developer of Record offering to make Offset-Eligible Improvements and requesting RRIF Waivers.
 - b. The contribution, payment, construction, or land dedication which will constitute the Offered Improvements and the legal description or

other adequate description of the project or development, referred to and the Development of Record, to which the Offered Improvements are related.

- c. The name, address, phone number, fax number, email address and a contact person of the Developer of Record.
- d. The name, Local Government File Number, and three copies of the site plan of the Development of Record.
- e. List of approved land uses and the estimated RRIF Fees for those uses within the Development of Record.
- f. Name, address, phone number, fax number, email address and contact person of the Engineer of Record.
- g. The proposed plans and specifications for the specific construction prepared and certified by a duly qualified engineer, registered and licensed in the State of Nevada.
- h. When a Developer of Record offers to dedicate right-of-way, they shall present:
 - (1) Preliminary Title Report.
 - (2) Copy of Dedication Map containing proposed dedication.
 - (3) Documentation sufficient to establish the applicant's opinion of value of property to be offered for dedication, as provided in Section X.
- i. Sufficient documentation to verify the costs of the Offered Improvements, in accordance with Section X.

E. Contents of Offset Agreements

- 1. No dedication or construction project may be accepted in exchange for RRIF Waivers except pursuant to an Offset Agreement, which must include the following:
 - a. The projected costs for the Offered Improvements, based on the valuation provisions of Section X, including provisions for verifying costs and facilitating changes in costs or plans.
 - b. The time by which the construction of the Offered Improvements shall be paid, completed, or dedicated and any provisions for extensions thereof.
 - c. The proposed amount in dollars and land uses of RRIF Waivers, based on the estimated costs of the Offered Improvements.

- d. The terms and conditions that must be met before the RTC RRIF Administrator will issue a Notice of RRIF Waiver, in accordance with the provisions of this Manual.
 - e. RRIF Waivers shall be limited to use for the payment of RRIF Fees associated with the Development of Record listed in the Offset Agreement. RRIF Waivers shall not expire.
 - f. RRIF Waivers shall be assigned to offset the RRIF Fees within the Development of Record pursuant to the Offset Agreement.
 - g. If the designated land uses for the Development of Record identified in the Offset Agreement change, the remaining waivers shall be re-assessed as outlined in the provisions in Section X.A.
 - h. A provision requiring that all Offset-Eligible Improvements accepted will be in accordance with RTC requirements and standards.
 - i. Any labor, work safety, prevailing wage, or other applicable laws or regulations with which the Developer of Record must comply.
 - j. Such other terms and conditions agreed to by the parties.
2. Any changes to an Offset Agreement approved by the RTC Board, other than those addressed in Section X.F, will require an amendment to the Offset Agreement using the same procedures as its original approval.
- F. Calculation of RRIF Waivers.
- 1. Eligibility.
 - a. RRIF Waivers may be approved only for Offset-Eligible Costs, which are limited to the costs the RTC otherwise would have incurred for RRIF Capital Improvements.
 - b. RRIF Waivers may be provided only pursuant to a valid Offset Agreement, executed according to the provisions of this Manual.
 - c. Offset-Eligible Costs are available for RRIF Waivers only if associated with Offset-Eligible Improvements that meet design standards approved by the RTC and the affected Participating Local Government, and only to the extent such costs do not exceed the scope of the project as planned by the RTC and reflected in the RRIF Capital Improvements Plan or as described in the applicable Offset Agreement.
 - 2. Valuation.
 - a. RRIF Waivers approved by the RTC pursuant to a Notice of RRIF Waivers will be based on, and may not exceed, the actual verified costs of the dedication or construction of the Offset-Eligible

Improvements accepted by the affected Participating Local Government.

- b. The RTC will not approve RRIF Waivers in excess of the RRIF Fees owed for a Development of Record as of the date of the applicable Offset Agreement.
- c. The amount of RRIF Waivers shall be calculated as follows:
 - (1) Construction of Facilities and Provision of Equipment. The RRIF Waivers may not exceed the actual cost of construction or equipment, as evidenced by receipts and other sufficient documentation provided by the developer of the public facility and verified by the RTC RRIF Administrator. Actual costs shall be based on local information for similar improvements; may include the cost of construction, planning feasibility, alignment studies, plan-line studies, preliminary engineering, relevant geotechnical, environmental and cultural resource studies, permitting, the cost of all lands, property, rights, easements, and franchises acquired, construction financing charges, plans and specifications, surveys, engineering and legal services, construction inspection and testing, and all other expenses necessary or incident to determining the feasibility or practicability of such construction.
 - (2) Dedication of Land.
 - (a) If the land in question is subject to a valid agreement, zoning approval or development approval, which established a valuation or prescribes a method of valuation, the agreement, zoning approval or development approval shall control.
 - (b) If the dedication is made pursuant to a condition of discretionary zoning or development approval, the value of the land shall be determined as of the date immediately preceding the discretionary development approval. The value shall be based upon the condition of the property and the regulatory zoning in place immediately prior to the discretionary approval.
 - (c) Valuation shall be based on the fair market value of the land upon execution of the Offset Agreement by the Developer of Record or final approval of the proposed Offset Agreement by the RTC Board or the governing bodies of the affected Participating Local Government, whichever is earlier.
- d. All changes in the estimate of Offset-Eligible Costs or to the approved plans and specifications (prior to or after execution of an Offset Agreement), shall require approval of the RTC RRIF Administrator. The applicant shall provide the RTC RRIF Administrator copies of all contracts or agreements made for design

services, construction, or engineering during construction within fifteen (15) days after their execution.

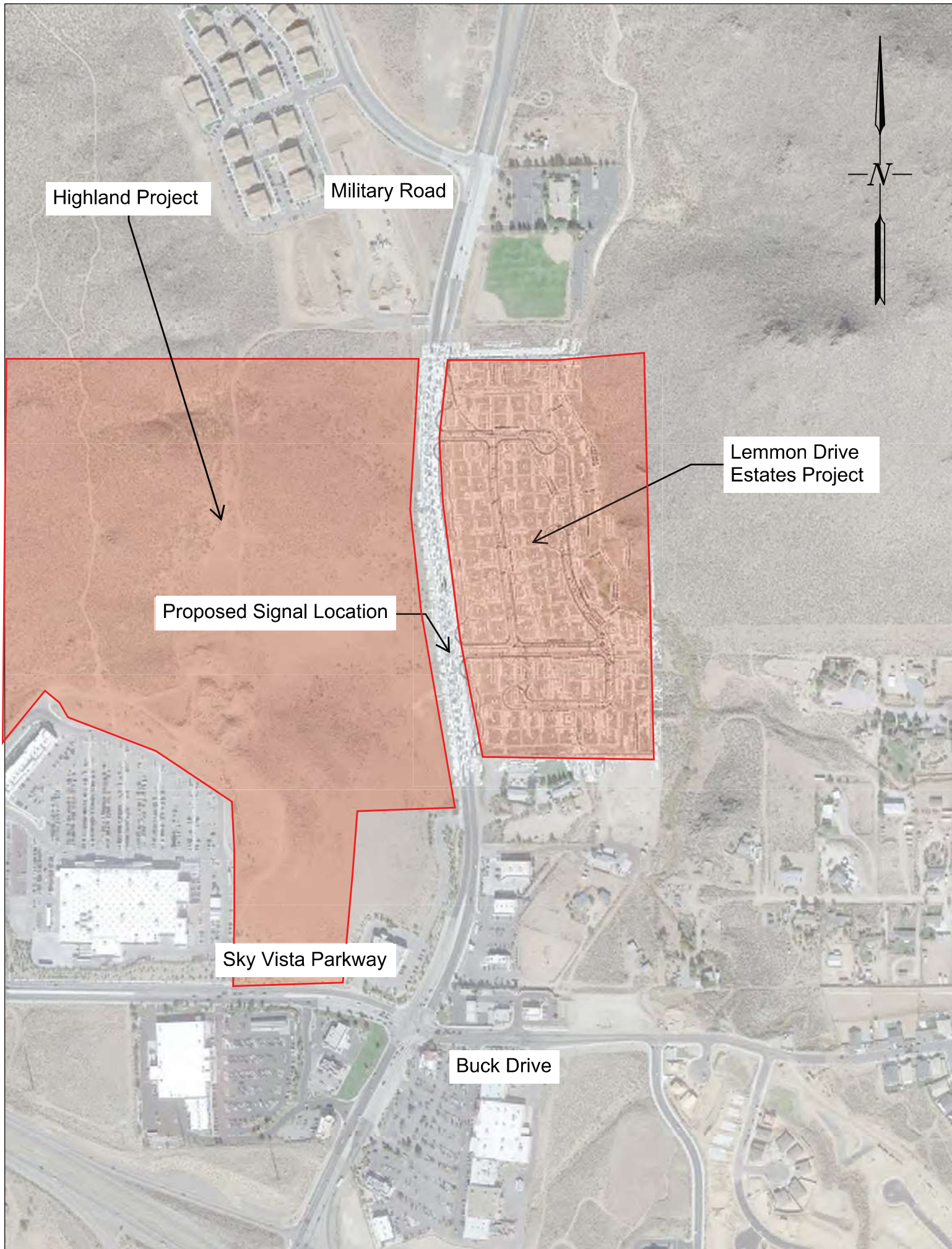
G. Usage of RRIF Waivers.

1. Participating Local Governments shall waive RRIF Fees otherwise owed either at the time of issuance of a building permit or issuance of the Certificate of Occupancy, as the case may be, if the RTC RRIF Administrator has issued a Notice of RRIF Waiver for the Development of Record.
2. RRIF Waivers may be used to pay up to 100% of the RRIF Fees due as the result of development within the Development of Record.
3. RRIF Waivers may not be used to pay for RRIF Fees due as a result of development outside of the Development of Record.
4. RRIF Waivers are transferable to a third party. To transfer RRIF Waivers, the current holder of RRIF Waivers will notify RTC through the RRIF Automation Program of the amount of RRIF Waivers to be transferred and the name and contact information of the third party. RRIF Waivers will be subtracted from the current holder's account and transferred to a new account in the name of the third party.
5. Upon transfer, RRIF Waivers may be used by the transferee to pay up to 100% of the RRIF Fees due as the result of development within the Development of Record.

XI. UNEXPIRED CREDITS APPROVED PRIOR TO THE 5th EDITION RRIF GAM/CIP (3/2/2015) UPDATE

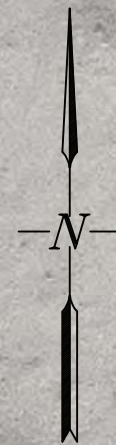
- A. Applicability. This Section applies to CCFEAs and to CCFEA Credits issued pursuant to such CCFEAs.
- B. Intent. It is the intent of the RTC Board, and affected Participating Local Governments, to carry forward the policies and understanding in place when CCFEAs were entered into, prior to the changes to the adoption of the 5th Edition RRIF GAM/CIP. Therefore, to the extent possible and practical, outstanding CCFEA Credits may be used or transferred as provided prior to adoption of the 5th Edition RRIF GAM/CIP, as provided in this Section and in accordance with the terms of valid, unexpired CCFEAs.
- C. CCFEA Credit Usage.
 1. The transferability and usage of CCFEA Credits issued pursuant to a valid, unexpired CCFEA are as follows:
 - a. CCFEA Credits may be used by the Developer of Record to pay for up to 100% of the Regional Road Impact Fees on any

EXHIBIT “B”
(Site Plan and Description of Development of Record)
(Must include proposed units of development and land use categories)



Highland Project

Military Road



Lemmon Drive
Estates Project

Proposed Signal Location

Sky Vista Parkway

Buck Drive



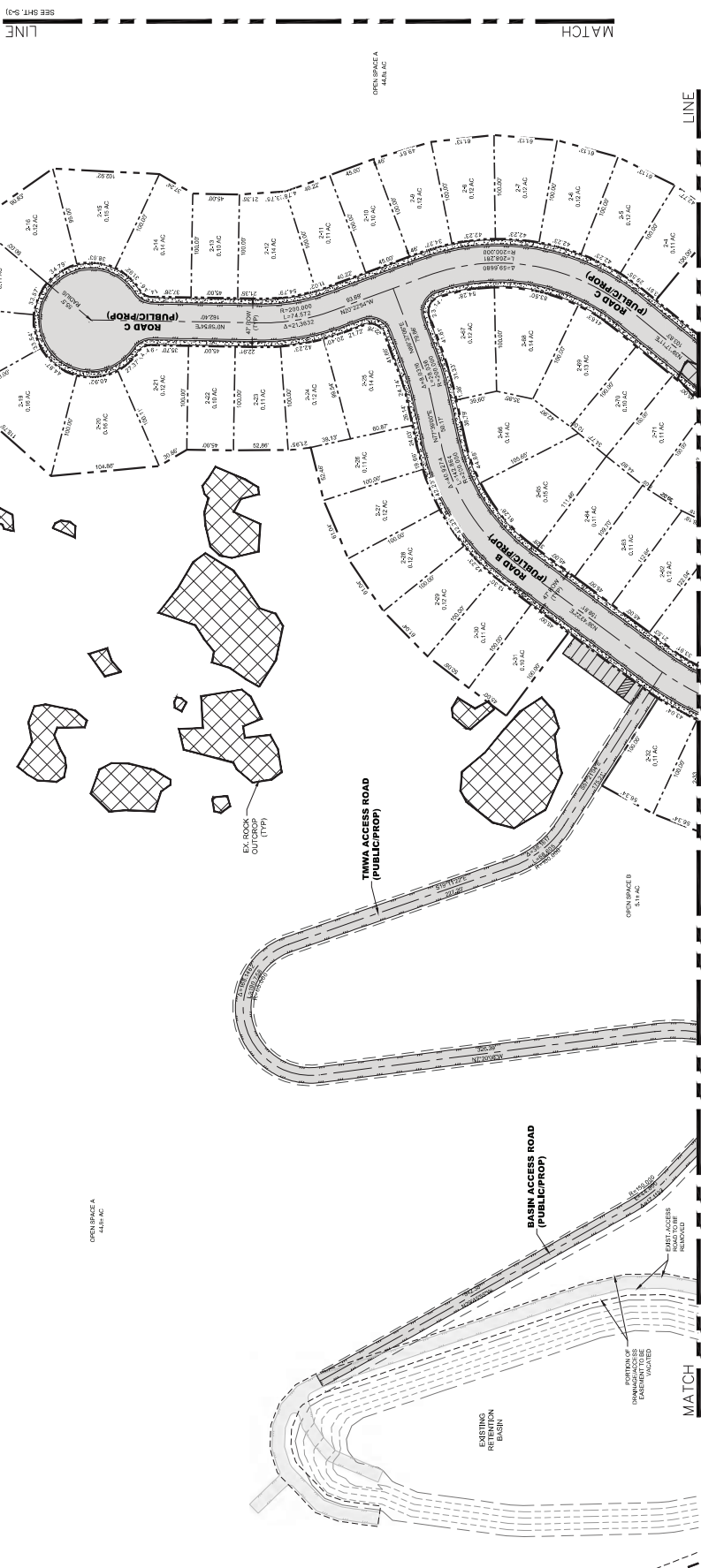
NEVADA
WASHOE
RENO
CADD SV LAND LLC
HIGHLAND - TENTATIVE MAP AND
CONDITIONAL USE PERMIT
PRELIMINARY SITE PLAN

REV	DATE	DESCRIPTION	BY

SCALE: 1"=100'
ORIGINAL DRAWING
PLOT ONE INCH ON THE SHEET.
ADJUST SCALES ACCORDINGLY.

S-1
DRAWN BY: MCR
DESIGNED BY: JRL
CHECKED BY: BMM
JOB NO.: 10051.004

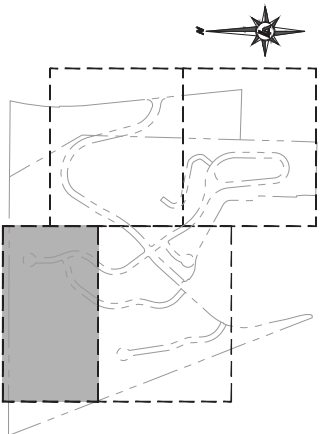
Exhibit B



SITE LEGEND

- EXISTING**
 - EDGE OF PAVEMENT
 - CURB & GUTTER
 - CONCRETE
 - PROT. LINE
 - MATCH LINE
- PROPOSED**
 - EDGE OF PAVEMENT
 - CURB & GUTTER
 - CONCRETE
 - PROT. LINE
 - MATCH LINE

FOUND SECTION CORNER AS NOTED
FOUND 36" REBAR AND CAP PLS 1443" - UNLESS OTHERWISE NOTED
FOUND 56" REBAR AND CAP PLS 7086" - UNLESS OTHERWISE NOTED



SHEET INDEX

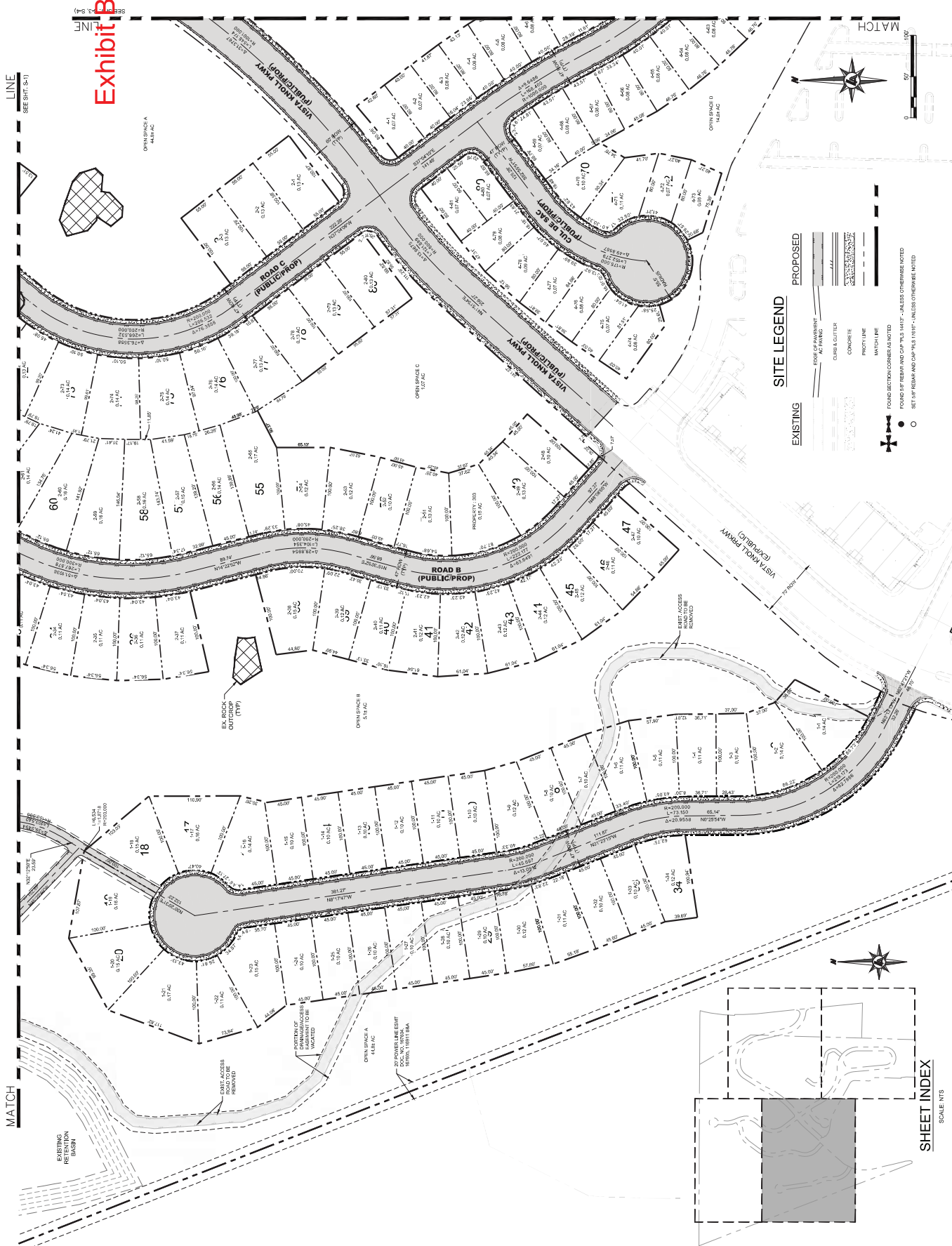
SCALE: NTS



REV	DATE	DESCRIPTION	BY

DATE: 8/1/2022 ON
ORIGINAL DRAWING
PLOT ONE INCH ON THE SHEET,
ADJUST SCALES ACCORDINGLY

S-2
DRAWN BY: JRL
DESIGNED BY: JRL
CHECKED BY: BMM
JOB NO.: 10051.004

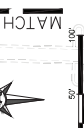


SITE LEGEND

	EXISTING		PROPOSED
	EXISTING EASEMENT		PROPOSED EASEMENT
	EXISTING CULVERT		PROPOSED CULVERT
	EXISTING CONDUIT		PROPOSED CONDUIT
	EXISTING PROPERTY LINE		PROPOSED PROPERTY LINE
	MATCH LINE		MATCH LINE

FOUND SECTION CORNER AS NOTED
FOUND SP REBAR AND CAP PLS. UNLESS OTHERWISE NOTED
SET 1/4" REBAR AND CAP PLS 1/4" UNLESS OTHERWISE NOTED

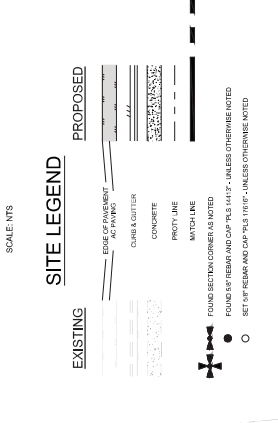
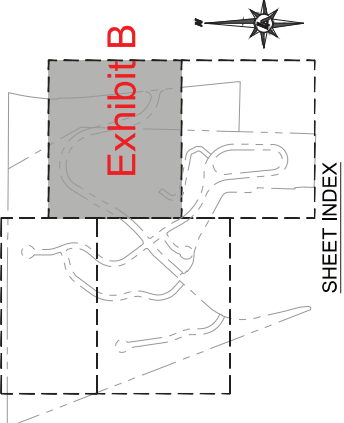
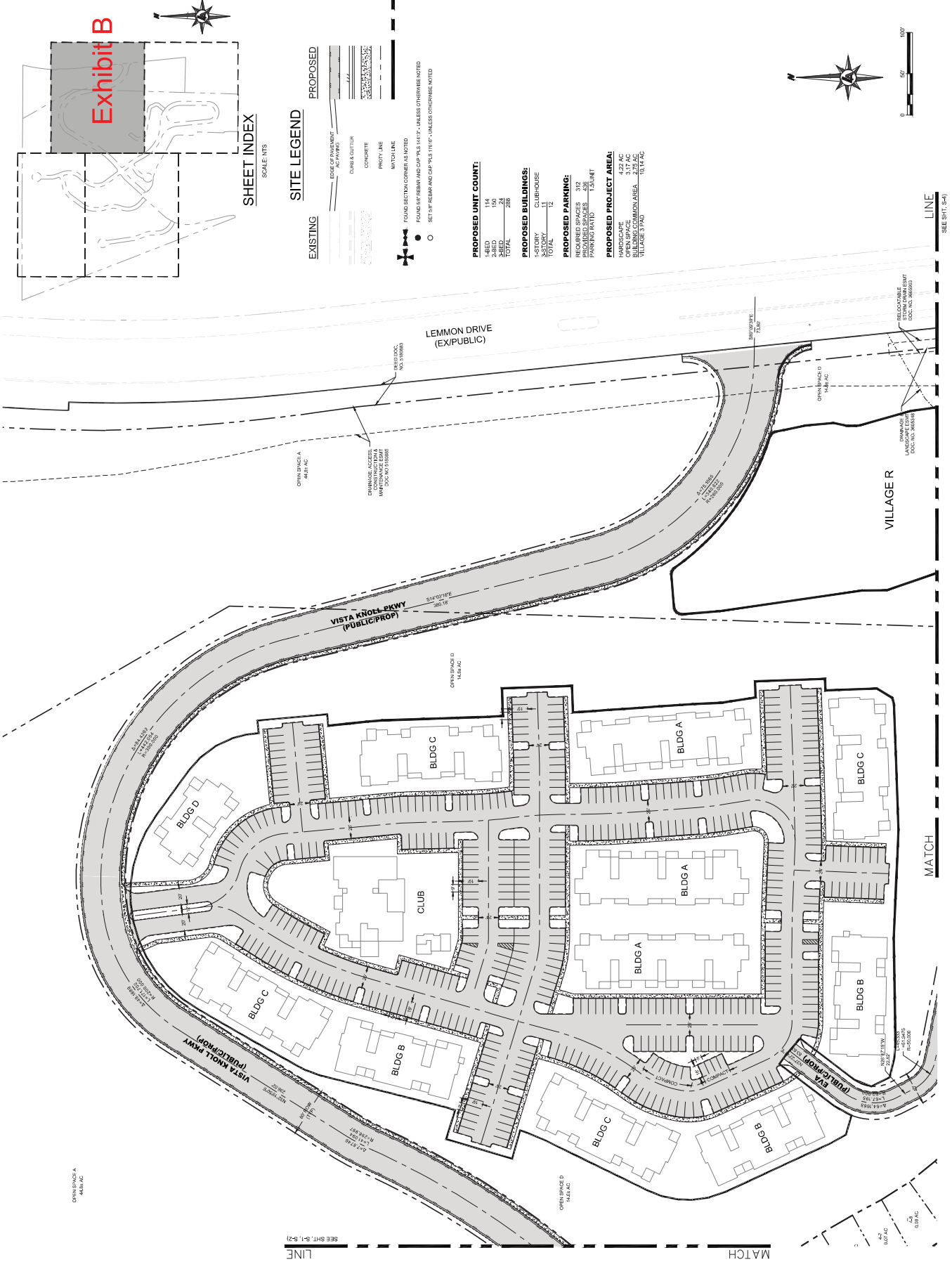
SHEET INDEX
SCALE: NTS



0 20 40 60 80 100

LINE
SEE SHEET S-1

Exhibit B
LINE
SEE SHEET S-1



PROPOSED UNIT COUNT:

1-BED	115
2-BED	150
TOTAL	265

PROPOSED BUILDINGS:

1-STORY	CLUBHOUSE
TOTAL	12

PROPOSED PARKING:

TOTAL SPACES	438
PROPOSED SPACES	438
PARKING RATIO	1.54/UNIT

PROPOSED PROJECT AREA:

HARDSCAPE	4.22 AC
OPEN SPACE	3.17 AC
TOTAL PROJECT AREA	7.39 AC
VILLAGE 3 PLAN	10.14 AC

LINE
 SEE SHT. S-4

VILLAGE R

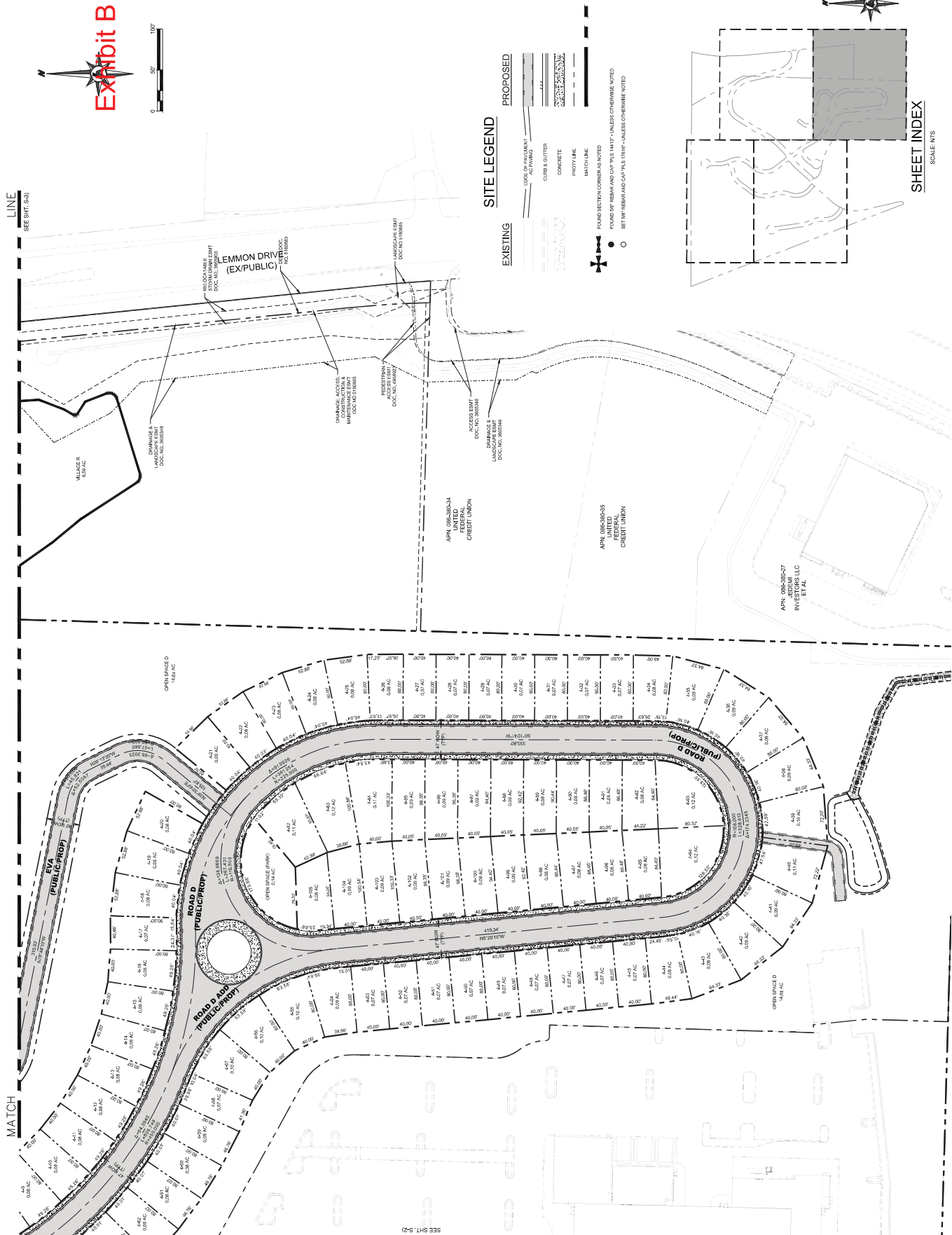
LINE
 SEE SHT. S-1, S-2

MATCH

MATCH

MATCH

LINE



SHEET INDEX

SCALE: NTS

S-4

DRAWN BY: MCR
DESIGNED BY: JRL
CHECKED BY: BMM
JOB NO.: 10051.004

BAR IS 1 INCH ON
ORIGINAL DRAWING

IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALES ACCORDINGLY

PRELIMINARY
AUGUST 2022

AUGUST 2022

DATE	DESCRIPTION	BT
------	-------------	----

HIGHLAND - TENTATIVE MAP AND
CONDITIONAL USE PERMIT
PRELIMINARY SITE PLAN

CADO SV LAND LLC

NEVADA

WASHOE

ON



© LUMKOS & ASSOCIATES, INC. THIS DRAWING IS THE PROPERTY OF LUMKOS & ASSOCIATES, INC. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMKOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS DESIGNED.

LUMOS
ASSOCIATES

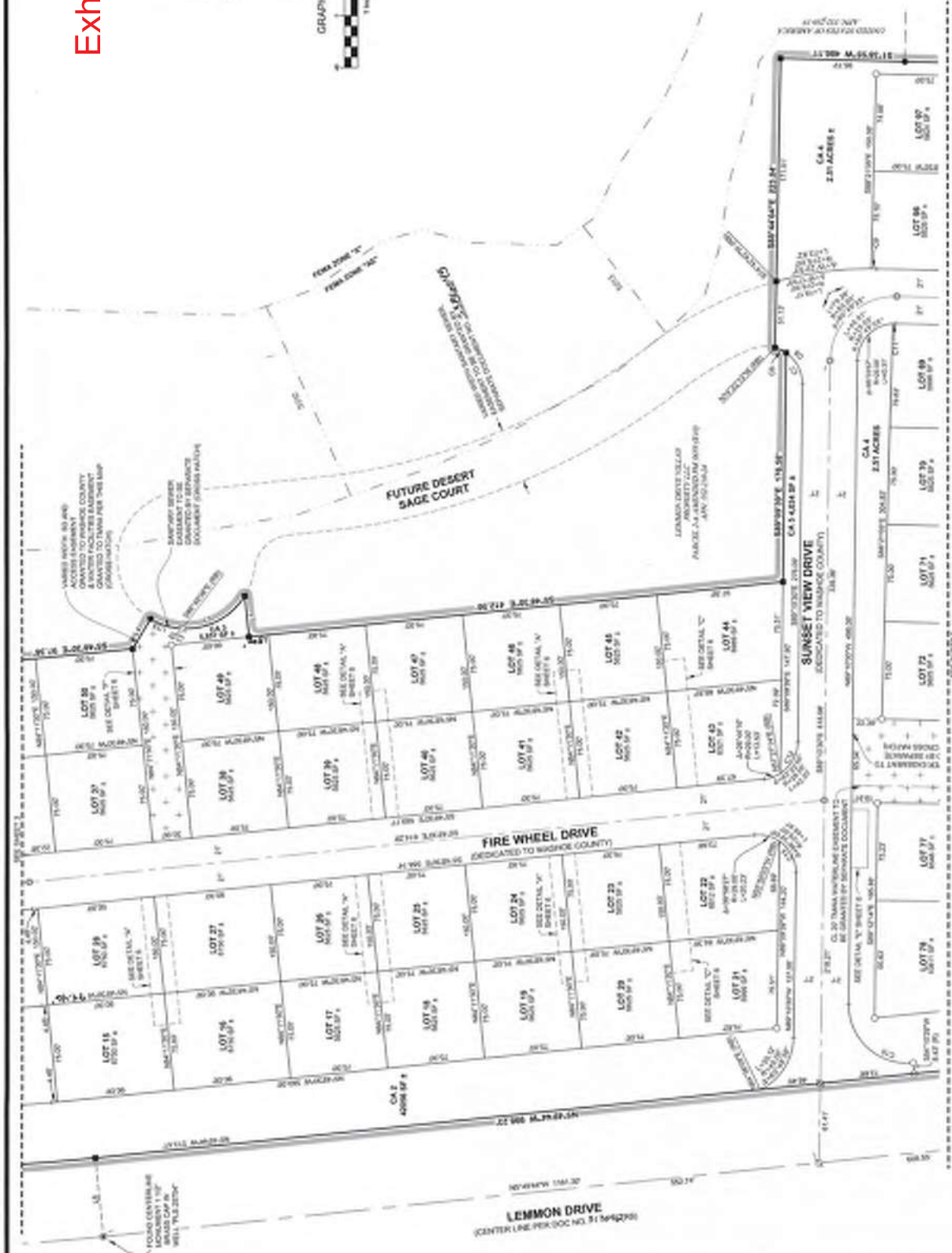
2222 PROTOTYPE DRIVE
SENO, NV 89521
TEL: 775.827.6111
WWW.LUMOSINC.COM

Exhibit B



LINE
SEE SHT. S-3)

Exhibit B



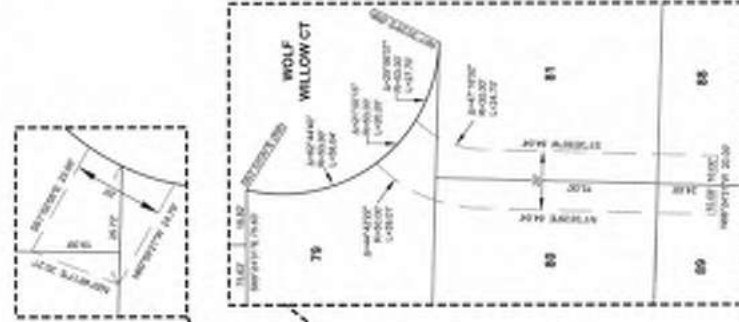
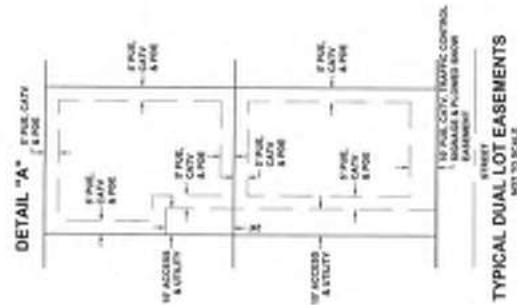
OFFICIAL PLAT
OF
LEIMON DRIVE ESTATES, PHASE 1
A PORTION OF PARCELS 1-10 OF THE LEIMON DRIVE ESTATES, PHASE 1, MAP NO. 5386047, IN THE 14th MERIDIAN, 108th E. 36th N. 10th R., WYANDOT COUNTY, NEVADA

DATE OF PREPARATION: 04/11/2014
DATE OF RECORDATION: 04/11/2014
DATE OF SALE: 04/11/2014
DATE OF SALE: 04/11/2014

PREPARED BY: L&S SURVEYING, INC.
DRAWN BY: L&S SURVEYING, INC.
CHECKED BY: L&S SURVEYING, INC.
DATE: 04/11/2014

4 / 6

EASEMENT DETAIL SHEET

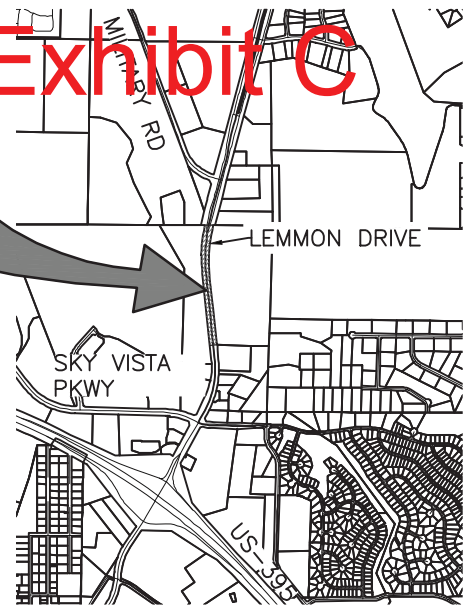
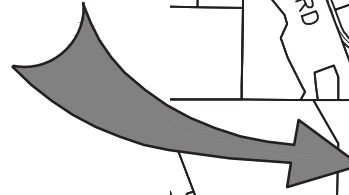


OPTIONAL PLAT
OF
LEMON DRIVE ESTATES, PHASE 1
A PORTION OF TRACT 1, LOTS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

EXHIBIT “C”
(Offered Improvements Application/Submittals)

PROJECT SITE




Exhibit C



VICINITY MAP

SCALE: NTS

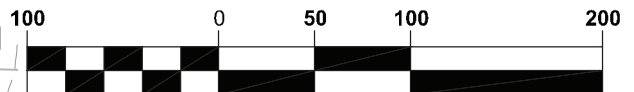
LEGEND

-  4" AC PAVEMENT W/6" BASE
-  6" MEDIAN CURB W/6" BASE
-  INTERSECTION SIGNAL AND LIGHTS



Know what's below.
Call before you dig.

GRAPHIC SCALE



1 inch = 100 ft.

X:\PROJECTS\16013.04\DWG\ENGR\EXHIBITS\RTC\LEMMON INTER OVERVIEW.DWG <APOROLI>
5/1/2024 10:04 AM

LEFT HAND
TURN LANE

LEMMON DRIVE

SUNSET VIEW DR

CADO LEMONADE LLC
APN: 086-380-33

ROW



1150 CORPORATE BLVD.
RENO, NV 89502
(775) 856-1150

LEMMON DR ESTATES

RRIF EXHIBIT
700A LEMMON DR
WASHOE COUNTY, NV 89506

SHEET

1

1

OF



April 16, 2024

Dale Keller, PE
 RRIF Administrator
 Regional Transportation Commission of Washoe County
 1105 Terminal Way, Suite 108
 Reno, NV 89502

RRIF Offset Agreement Request: Lemmon Drive / Vista Knolls Pkwy / Sunset View Drive Signalization

Introduction

Lemmon Drive Villas Property, LLC (Developer of Record) hereby formally requests a Regional Road Impact Fee (RRIF) Offset Agreement and RRIF Waivers for the installation of a traffic signal and associated roadway improvements at the Lemmon Drive / Vista Knolls Parkway Extension / Sunset View Drive intersection within the City of Reno.

The Developer of Record will construct the signalization improvements as part of the regional improvement program (2050 RTP). Previous correspondence between the City of Reno, Regional Transportation Commission, and the project's engineers has identified this as a regional capacity improvement eligible for an RRIF Offset Agreement. Specifically, the location is within the Lemmon Drive project limits in the RTP and the *Lemmon Drive Capacity Improvements Project Traffic Analysis Memorandum, February 6, 2021* performed for the RTC by Jacobs, supports signalization at this location as a regional benefit.

Proposed Capital Improvements

Lemmon Drive Villas Property, LLC proposes the following improvements:

The roadway improvements will be on Lemmon Drive 0.37 miles south of Military Rd and 0.3 miles north of Sky Vista/Buck Dr. They will include the installation of a traffic signal on Lemmon Drive and modifications to the existing median and curb and gutter for left and right turn lanes into the development.

The signal design is for a 3-leg intersection at Lemmon Drive and Sunset View Drive of the Lemmon Drive Estates development east of Lemmon Drive. The southbound approach will have 3 thru lanes and a dedicated left turn lane. The northbound approach will have a dedicated U-turn lane, 3 thru lanes, and a dedicated right turn lane. The westbound approach exiting the development will have a single left-thru-right lane. See attached exhibit "Signalization Diagram". The signal layout considers the existing multi-



5000 Executive Parkway, Suite 350, San Ramon, CA 94583
 Phone: (925) 355-1350
www.laffertycommunities.com



use trail on the west side of Lemmon Drive, as well as the addition of a fourth eastbound leg when future development occurs.

In conjunction with the installation of a traffic signal, the existing median and curb and gutter need to be modified. The center median will be modified to include approximately 400' of left turn lane for the southbound approach. The existing median is 30' wide, this will be reduced to accommodate the left turn lane and buffer spacing. The curb and gutter will be modified to include approximately 200' of right turn lane for the northbound approach. There is currently no additional sidewalk or paving beyond the curb and gutter to be removed. The appropriate signing and striping for these improvements will also be completed. See the attached "Roadway Exhibit".

The project **Construction Plans and Specifications** are in near final stages. The current signal and roadway plans (*Attachment 2*) are provided for application review and final drawings will be provided.

The **Developer of Record** is:

Lemmon Drive Villas Property, LLC
5000 Executive Parkway, Suite 350
San Ramon, CA 94583

The **Development of Record** includes **two (2) development projects/development entities**:

Lemmon Drive Estates (Lemmon Drive Villas Property, LLC)

Washoe County File Numbers:

T5532 – Official Plat of Lemmon Drive Estates, Phase 1
T5552 – Official Plat of Lemmon Drive Estates, Phase 2

The **Site Plan** for Lemmon Drive Estates shown as the Official Plats Phases 1 & 2, included as *Attachment 3*.

Approved Land Uses within Lemmon Drive Estates and the **Associated Regional Road Impact Fees** based on the applicable impact fee schedule (7th Edition, Year 1 Indexing, included as *Attachment 4*) are as follows:

Single Family Residential – 98 units @ \$5,455.46/unit = \$534,635.08

Lemmon Drive Estates Total Impact Fee/Eligibility = **\$534,635.08**

Highland (CADO SV Land LLC, c/o Capstone Advisors, Inc.)



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Phone: (925) 355-1350
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City of Reno file numbers:

LDC 23-00005 - Highland Zoning Map Amendment, Adopted Ordinance No. 6642

LDC 23-00006 - Highland Tentative Map and Conditional Use Permit

The **Tentative Map** for Highland project is included as *Attachment 5*.

Approved Land Uses within Highland project and the **Associated Regional Road Impact Fees** based on the applicable impact fee schedule (7th Edition, Year 1 Indexing, included as *Attachment 4*) are as follows:

Single Family Detached Residential – 219 units @ \$5,455.46/unit = \$1,194,745.74

Multi-family Residential – 288 units @ \$3,475.31/unit = \$1,000,889.28

Commercial – 3.83 acre site, estimated at 0.25 FAR = 41,700 sqft GFA @ \$7,885.77/ksqft = \$328,836.61

Highland Project Total Impact Fee/Eligibility = **\$2,524,471.63**

Total Anticipated Impact Fee/Eligibility of the combined Developments of Record= \$3,059,106.71

The Developer of Record (Lemmon Drive Villas Property, LLC) will earn the RRIF Waivers, which shall be applicable to only the above listed Developments of Record. Exchange/transfer of RRIF Waivers between the Developments of Record is hereby requested. The Developments of Record acknowledge that such transfer(s) shall be negotiated and contracted between the entities outside the RRIF agreement.

It is anticipated that the Highland development project will, in the future, request modification of this RRIF agreement or submit an additional RRIF Offset Agreement for completion of the fourth leg (Vista Knolls) of the traffic signal and intersection improvements. That flexibility is hereby formally requested.

The **Engineer of Record** for this offset agreement is:

Horrocks

801-763-5100 | info@horrocks.com | Horrocks.com

2162 West Grove Parkway, Suite 100, Pleasant Grove, UT

Contact Persons:

Ryan Dummer, PE (Nevada Licensure Pending)

(385) 353-2788 | ryan.dummer@horrocks.com

Scott Newin, PM

(801) 763-5272 | scottn@horrocks.com



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Qualifications of Inspection and Testing Firm

Any public improvements requiring sampling, testing, or quality assurance activities will be provided through an ACI and/or NAQTC certified firm.

Preliminary Engineering Cost Estimate

The following preliminary cost estimates were received for the proposed improvements:

PAR Western Line Contractors, LLC- traffic signal installation: **\$425,000**

Campbell Construction Co., Inc. - roadwork improvements: **\$351,000**

Estimated Construction Contract - \$776,000

The preliminary project estimate is provided below, however, the actual construction bid result will supersede the Engineer's Estimate and all costs will be updated.

Preliminary Project Cost Estimate

Lemmon Drive / Vista Knolls / Sunset View Drive Traffic Signal Improvements

Item	Description	Estimated Cost	Final Cost
1	Engineering Fees	\$50,000	
2	Permit Fees	\$5,000	
3	Construction Contract	\$776,000	
4	Inspection	\$30,000	
5	Testing	\$20,000	
6	Contingency	\$19,000	
Total		\$900,000	
RRIF Waiver Amount Requested		\$900,000	



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Phone: (925) 355-1350

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Traffic Design Report & Project Eligibility

Justification/explanation of the overall capacity improvements, and verification that the improvements will provide operations within policy level of service for at least 10 years, is provided in the *Highland Traffic Impact Study, August 3, 2022, Headway Transportation*, included as Attachment 6.

Project Specifications

All work will be required to comply with the Standard Specifications for Public Works Construction (Orange Book) current edition, consistent with RTC requirements for Public Works projects.

Construction Schedule

The signal and intersection improvements are anticipated to be completed by the end of the 2026 calendar year, and potentially within the 2025 calendar year.

Please do not hesitate to contact us with any questions or requests for additional information. We recognize that full project plans, specifications, and updates to information contained in this application will be necessary prior to execution of the final RRIF Offset Agreement. Thank you in advance for your consideration.

Sincerely,
Lafferty Communities

Greg Garchar
Project Manager

Attachments:

1. Project Location Map
2. Civil Improvement Plans for Traffic Signal & Signal Design
3. Lemmon Drive Estates Final Map Phase 1 and 2
4. RTC RRIF Schedule – 7th Edition Year 1 Indexing
5. Highland Tentative Map
6. Highland Traffic Impact Study



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Phone: (925) 355-1350
www.laffertycommunities.com

Exhibit C

GEOTECHNICAL ENGINEER
ENGEQ INCORPORATED
9485 DOUBLE R BLVD
B-22
RENO, NV 89521

BASIS OF ELEVATIONS:
NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83/94)



ENGINEERS STATEMENT:



KATHLEEN MEYER, P.E.
CEA A BOWMAN COMPANY.

Exhibit C

CIVIL ENGINEER:
KATHLEEN MEYER P.E.



BASIS OF BEARINGS AND COORDINATES:
1983/1984, HIGH ACCURACY REFERENCE NETWORK (WEST ZONE, NORTH AMERICAN DATUM OF 1983/1984, HALL QUANTRO COORDINATE SYSTEM, NAD 83/84-4426), AS DETERMINED USING REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS WITH COMMUNICATIONS TRANSMITTED BY WASHCO COUNTY CONTINUOUSLY OPERATING REFERENCE STATION (WASHCO COUNTY, CALIFORNIA). ALL HORIZONTAL DIMENSIONS SHOWN ARE GROUND DISTANCES, AS COMBINED 05/11/01-TO-GROUND, FACTOR = 1.0001979236.

BASIS OF ELEVATIONS:
NEVADA STATE PLANE COORDINATE SYSTEM WEST ZONE (NAD 83/94)



CITY OF RENO CITY COUNCIL
HILLARY SCHIEVE, MAYOR
DEVON REESE, COUNCIL MEMBER
JENNY BREAKUS, COUNCIL MEMBER
NAOMI DUERR, COUNCIL MEMBER
MIGUEL MARTINEZ, COUNCIL MEMBER
MEGHAN EBERT, COUNCIL MEMBER
KATHLEEN TAYLOR, COUNCIL MEMBER

DATE	HILARY SCHIEVE, MAYOR
DATE	JOHN J. ANSBERG, P.E. DEPUTY PUBLIC WORKS DIRECTOR

TO THE BEST OF MY KNOWLEDGE, THE PLANS PREPARED ARE IN COMPLIANCE WITH APPLICABLE PROVISIONS OF THE WASHOE COUNTY DEVELOPMENT CODE.



KATHLEEN MEYER, P.E.,
CEA, A BOWMAN COMPANY

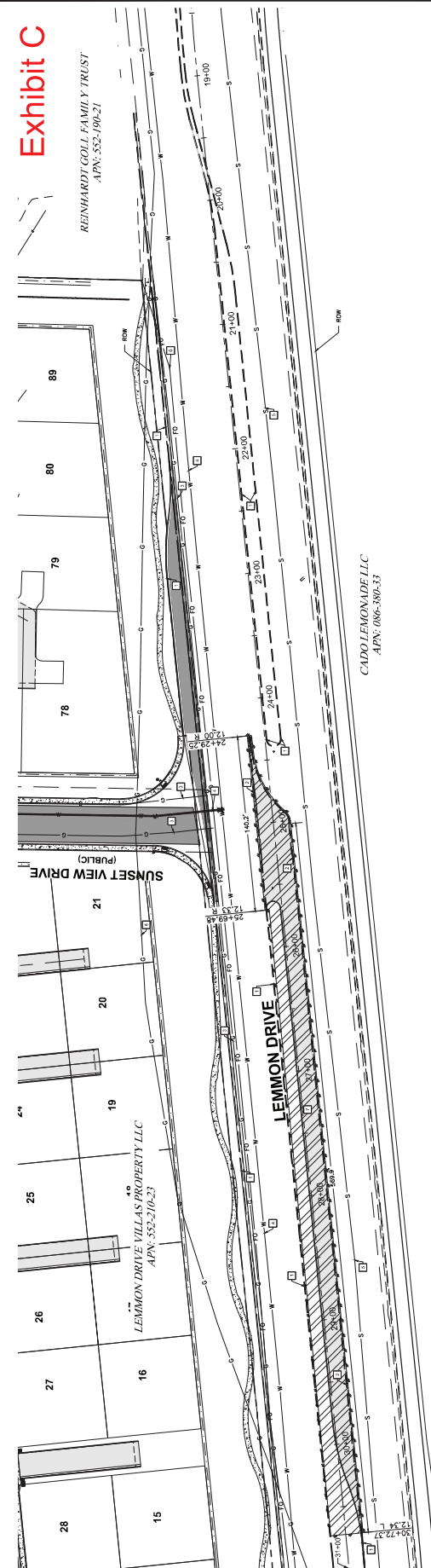
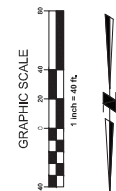



Exhibit C

CADO LEMONADE LLC
APN: 086-380-33

Know what's below.
Call before you dig.

[illegible]

- | CONSTRUCTION NOTES | |
|--------------------|--|
| 1 | (E) PROTECT IN PLACE CURB |
| 2 | (C) CURB TO BE REMOVED |
| 3 | (E) PROTECT IN PLACE GAS LINE |
| 4 | (E) PROTECT IN PLACE WATER LINE |
| 5 | (C) PROTECT IN PLACE SEWER LINE |
| 6 | (E) PROTECT IN PLACE FIBER OPTIC |
| 7 | REMOVE CURB, SIDEWALK, AND PAVEMENT AS SHOWN  |
| 8 | (E) GAS LINE TO BE REMOVED PER CIVIL PERMIT WBLD22-102711 |

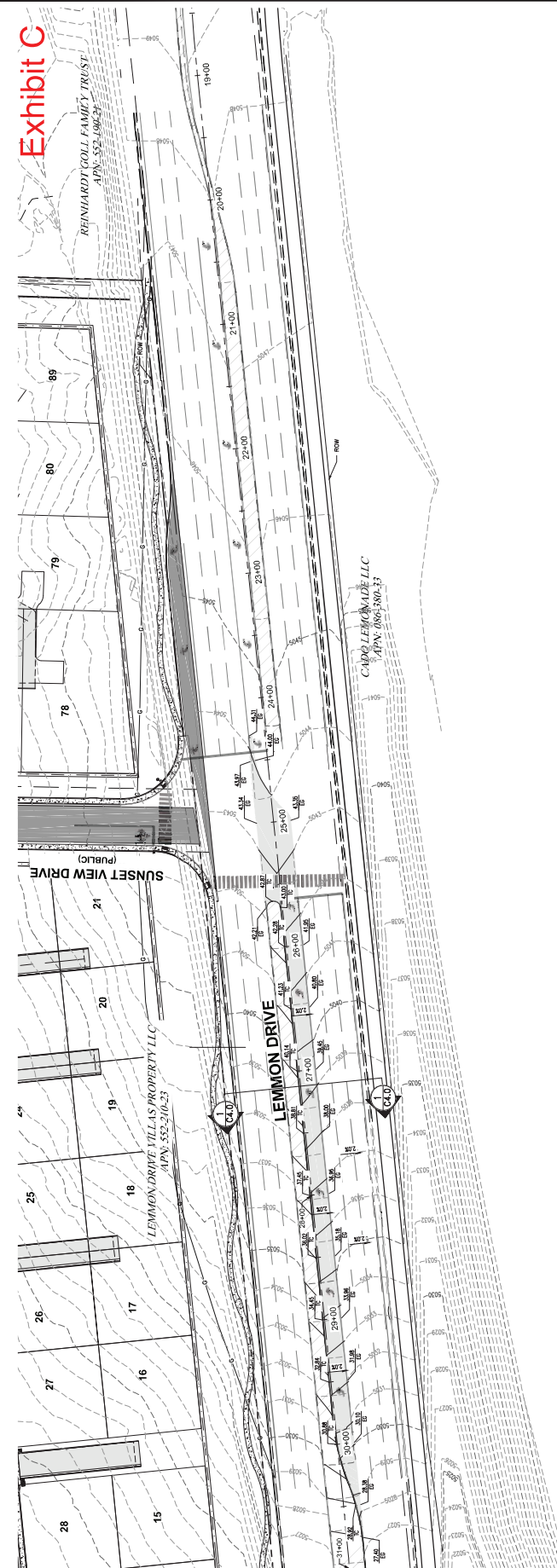
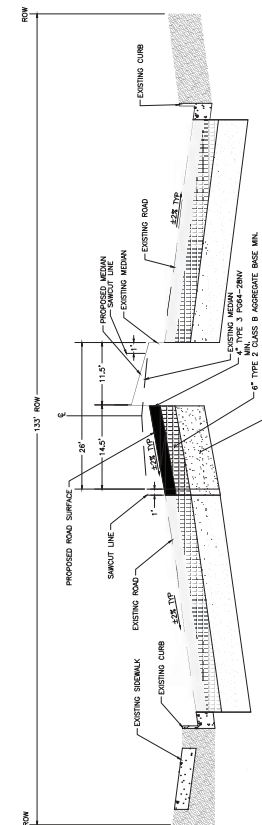


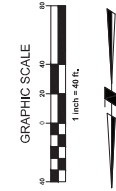
Exhibit C

GRADING NOTES

1. DO NOT EXCAVATE SPOT ELEVATIONS 00-50, AND 4000 TO ALL SPOT ELEVATIONS 51-99.
2. ALL EXCESS OR UNSUITABLE MATERIAL SHALL BE DEPOSED OF IN ACCORDANCE WITH THE UTILITY CHANGING AGENCY REGULATIONS OR IN APPROVED AREAS ON THE GRADING PLAN.
3. TO CONTIGUOUS AND SPOT ELEVATIONS ARE SHOWN FOR
4. DEFINING AND MAINTAINING SHALL COMPLY WITH ADA STANDARDS.
5. CRIMPS SHALL NOT EXCEED 25."
6. SHOULD ANY CURB OR GRADE OF A NATIVE AMERICAN BE DISCOVERED DURING THE DEVELOPMENT, WORK SHALL TEMPORARILY STOP. THE DISCOVERY SHALL BE REPORTED TO THE HISTORIC PRESERVATION OFFICE AS WELL AS THE STATE HISTORIC PRESERVATION OFFICE. THE DISCOVERY SHALL BE MAINTAINED UNTIL THE HISTORIC PRESERVATION OFFICE SHALL BE INSTRUCTED BY THE HISTORIC PRESERVATION OFFICE.
7. MECHANICAL SLOPE STABILIZATION IS TO BE USED FOR SLOPES STEEPER THAN 3:1. WHEN ROCK REMAINS IS USED FOR SLOPE STABILIZATION, THE ROCK SHALL BE PLACED TO A MINIMUM DEPTH OF 12" AND A MINIMUM OF 67.5% OF THE VOLUME SHALL BE THE SPODES DIAMETER ROCK OR GREATER.
8. MATCH WITH EXISTING GRADE FOR COORDINATION IF EXISTING GRADE DOESN'T MATCH WITH EXISTING GRADE.

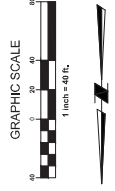


1 LEMMON DR TURN POCKET SECTION
C94 NTS.

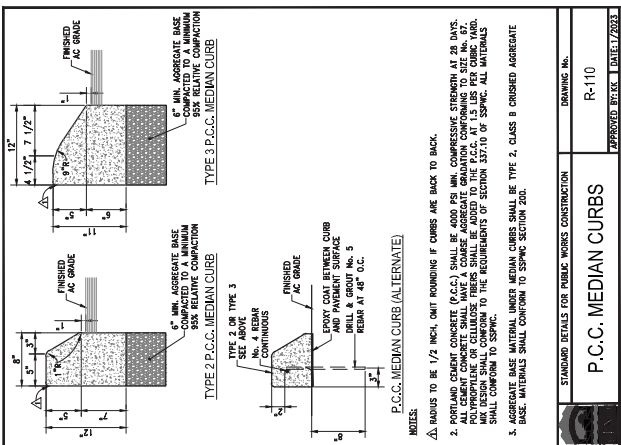
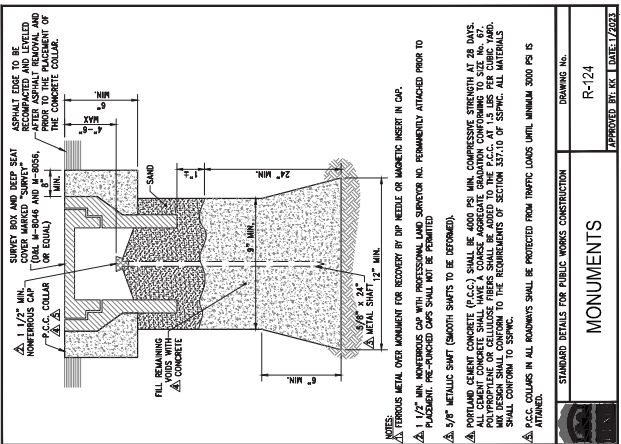
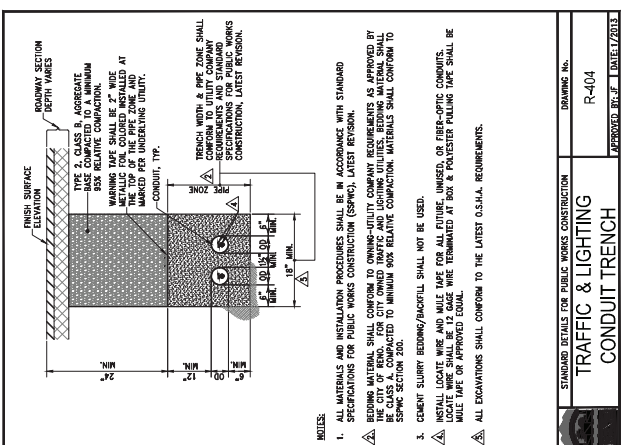
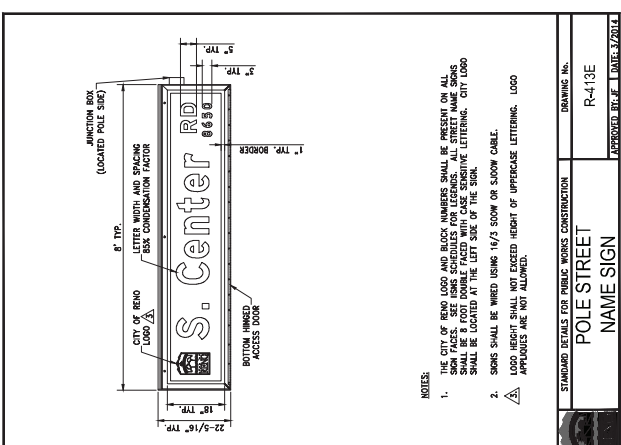
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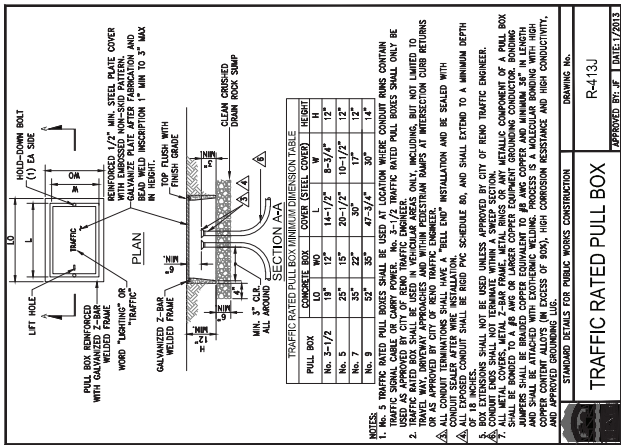
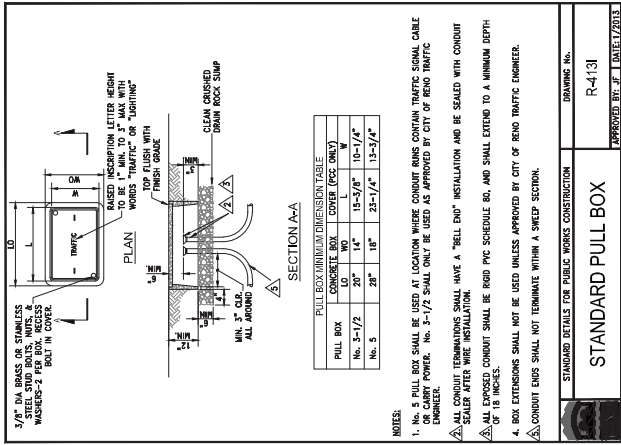
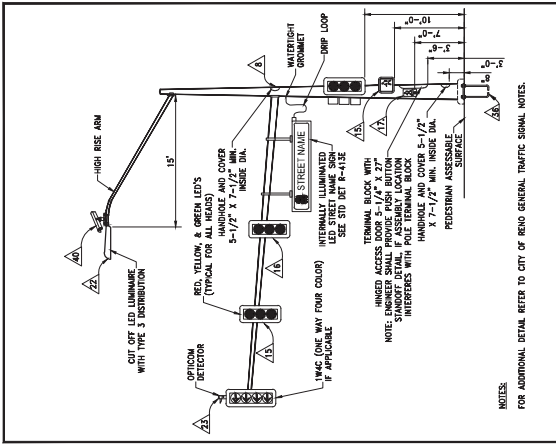
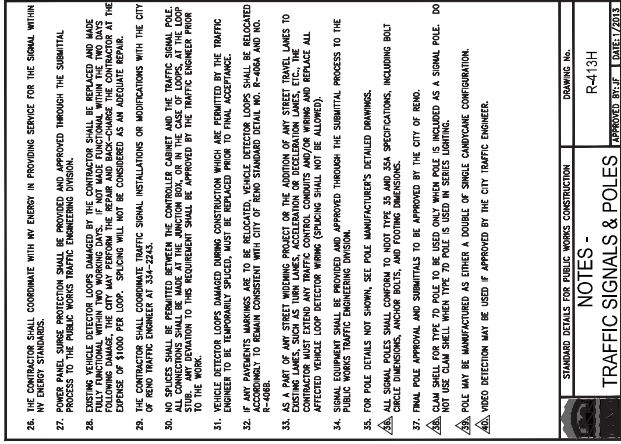
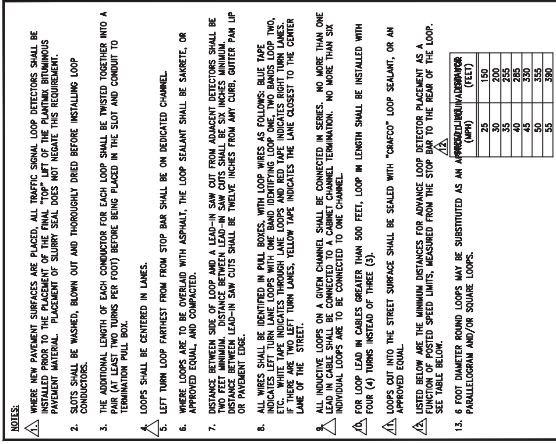
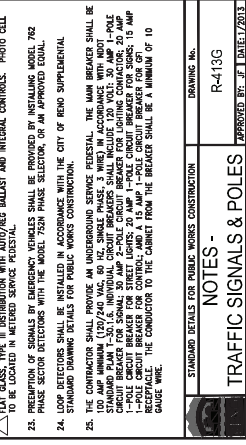
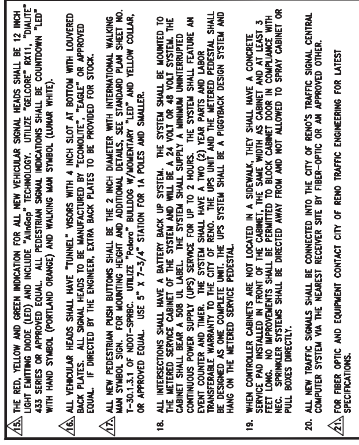
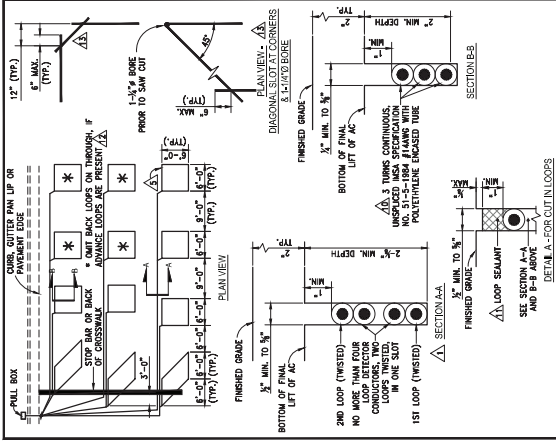


**Know what's below.
Call before you dig.**

[illegible]

- | CONSTRUCTION NOTES | |
|--------------------|---|
| 1 | (P) LEFT TURN ARROW PAVEMENT MARKING |
| 2 | (P) RIGHT TURN ARROW PAVEMENT MARKING |
| 3 | (P) INTERNATIONAL CROSSWALKS 24" WHITE STRIPING |
| 4 | (P) LEFT TURN AND RIGHT TURN LANE ARROW |
| 5 | (P) 2" WHITE STOP BAR |
| 6 | (P) 4" SOLID DOUBLE YELLOW |
| 7 | (E) 4" SOLID YELLOW 1150 LF |
| 8 | (E) 4" SOLID YELLOW 1150 LF |
| 9 | (E) 4" SOLID YELLOW 1150 LF |
| 10 | SPACED 1" FROM MEDIAN CURB |
| 11 | SPACED 1" FROM MEDIAN CURB |
| 12 | (E) 8" SOLID WHITE |
| 13 | (E) 4" DASHED WHITE |
| 14 | SPACED 1" FROM MEDIAN CURB |
| 15 | SPACED 1" FROM MEDIAN CURB |
| 16 | (P) FUTURE LEFT TURN ARROW |
| 17 | (P) FUTURE THROUGH LANE ARROW |
| 18 | (P) 8" SOLID WHITE |





CITY OF RENO

LEMMON DRIVE & SUNSET VIEW DRIVE

SIGNAL DESIGN **Exhibit C**

OCTOBER 2023

CONSTRUCTION DRAWINGS

- CITY OF RENO
- HILLARY SCHIEVE.....MAYOR

DEVON RESSE.....AT-LARGE

JENNY BREKHUS.....WARD 1

NAOMI DUERR.....WARD 2

MIGUEL MARTINEZ.....WARD 3

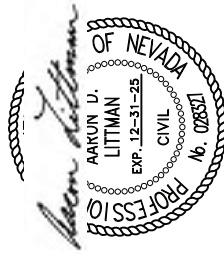
MEGHAN EBERT.....WARD 4

KATHLEEN TAYLOR.....WARD 5



APPROVALS

PROFESSIONAL ENGINEER	DATE
KERRIE KOSKI, PE PUBLIC WORKS DIRECTOR	DATE

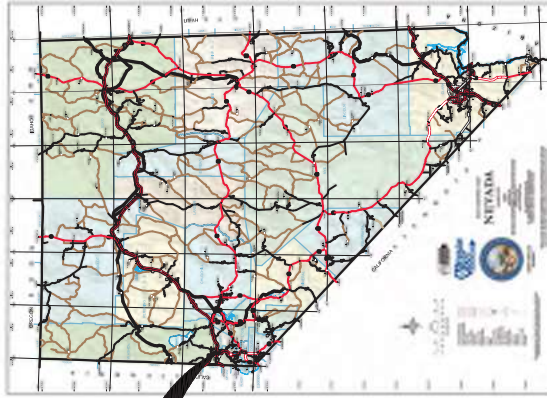


3/6/2024

DATE



STATE MAP



PROJECT
LOCATION

VICINITY MAP



REVISIONS		SCALE		WARNING	
REV	DATE	BY	DESCRIPTION	HORIZONTAL	VERTICAL
1				N/A	N/A
2				N/A	N/A
3				N/A	N/A
4				N/A	N/A

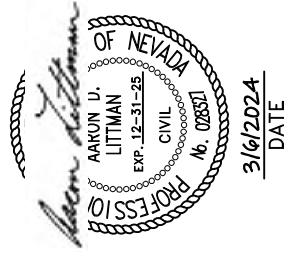


2162 West Grove Parkway
Suite 100
Reno, NV 89502
(801) 763-5100

LEMMON DRIVE ESTATES SIGNAL DESIGN

STATE MAP, VICINITY MAP AND SHEET INDEX

DATE	DATE	DATE	DATE
03/2024	03/2024	03/2024	03/2024
PROJECT NO.	PROJECT NO.	PROJECT NO.	PROJECT NO.
UT-5526-22	UT-5526-22	UT-5526-22	UT-5526-22
SHEET NO.	SHEET NO.	SHEET NO.	SHEET NO.
1 OF 14	1 OF 14	1 OF 14	1 OF 14
DRAWING NO.	DRAWING NO.	DRAWING NO.	DRAWING NO.
G-01	G-01	G-01	G-01



3/6/2024
DATE

SHEET INDEX		
SHEET TITLE	DRAWING NO.	SHEET NO.
GENERAL		
STATE MAP, VICINITY MAP, AND SHEET INDEX	G-01	1
GENERAL NOTES	G-02	2
GENERAL DETAILS	G-03	3
GENERAL POLE DETAILS	G-04	4
GENERAL POLE FOUNDATION	G-05	5
FIBER SPLICER DIAGRAM	G-06	6
RENO TRENCH PULLBOX	G-07	7
CIVIL		
ALIGNMENT LAYOUT	AL-01	8
SIGNAL NOTES	SG-01	9
SIGNAL NOTES	SG-02	10
SIGNAL NOTES	SG-03	11
EQUIPMENT PLAN	SG-04	12
CONDUIT PLAN	SG-05	13
SIGNAL SCHEDULES	SG-06	14

Exhibit C

GENERAL NOTES

1.

THE PLANS/SPECIFICATIONS STRUCTURE SHALL BE AS FOLLOWS, IN ORDER OF HIERARCHY:

REVISION 8 EDITION

THE PROJECT PLANS, SPECIFICATIONS, AND DETAILS STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (ORANGE BOOK) 2012.

CITY OF RENO "TRAFFIC SIGNAL, FIBER OPTIC INTERCONNECT SPECIFICATIONS" (CURRENT EDITION)

CITY OF RENO "TRAFFIC SIGNAL CONTROLLER CABINET SPECIFICATIONS" (CURRENT EDITION)

CITY OF RENO STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION (CURRENT EDITION)

NDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, 2020
2.

ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (ORANGE BOOK) 2012, REVISION 8 EDITION, NDOT 2014 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION CURRENT EDITION, NDOT 2020 STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CURRENT EDITION, THE NATIONAL ELECTRIC CODE (NEC), AND THE NATIONAL ELECTRIC SAFETY CODE (NESC).

THE PRECISE LOCATIONS OF UNDERGROUND UTILITIES ARE UNKNOWN. CALL FOR UTILITY LOCATES AT LEAST 48 HOURS PRIOR TO DIGGING AND PROCEED WITH CAUTION.
3.

THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR AND/OR REPLACE ALL FACILITIES AND FEATURES DAMAGED BY THE CONTRACTOR'S ACTIVITIES, INCLUDING LANDSCAPING AND IRRIGATION SYSTEMS, TO THEIR PRE-CONSTRUCTION CONDITION AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DOCUMENT AND NOTIFY THE ENGINEER OF DAMAGED EQUIPMENT AND/OR FACILITIES PRIOR TO BEGINNING WORK.
4.

CONCRETE PLATWORK SHALL BE REMOVED AND REPLACED, IN KIND TO EXISTING JOINT LINES TRENCHING THROUGH AND PATCHING OF, SIDEWALK PANEL(S) OR CURB & GUTTER WILL NOT BE PERMITTED.
5.

CONDUCTORS AND CABLES DAMAGED BY THE CONTRACTOR SHALL BE REPLACED, IN FULL LENGTH, AT NO COST TO THE OWNING AGENCY. SPLICING OF CONDUCTORS WILL NOT BE PERMITTED.
6.

CONTRACTOR TO REMOVE ALL CONDUCTORS AND CABLES NOT USED IN THE FINISHED CONFIGURATION.
7.

ALL SIGNAL EQUIPMENT, HARDWARE, UNBROKEN PULL BOX LIDS, AND SIGNS REMOVED THROUGH THE COURSE OF WORK SHALL BE DELIVERED TO THE MAINTENANCE AGENCY'S CORPORATE YARD, NO DIRECT PAYMENT.
8.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL INCIDENTAL ITEMS AND PERFORM ALL WORK AS NECESSARY TO COMPLETE FULLY FUNCTIONAL TRAFFIC SIGNAL SYSTEMS. PAYMENT FOR INCIDENTAL ITEMS SHALL BE INCLUDED WITHIN THE BID ITEMS OUTLINED IN THE OFFICIAL BID SCHEDULE.
9.

CONTRACTOR SHALL BE RESPONSIBLE FOR PROCESSING AND OBTAINING ALL "CHANGE OF LOOP" AND SERVICE APPLICATIONS THROUGH NV ENERGY. COORDINATE ALL CONNECTION/DISCONNECTIONS WITH NV ENERGY, NO DIRECT PAYMENT.
10.

A CITY OF RENO EXCAVATION AND ENCROACHMENT PERMIT (EE PERMIT) IS REQUIRED FOR THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL FEES WHICH INCLUDE SIGNAL MAINTENANCE FEES. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS OF THE PERMIT.
11.

THE CONTRACT WORK SHALL INCLUDE ALL CABINET AND EQUIPMENT WIRING RECONFIGURATIONS AS NECESSARY TO COMPLETE FULLY FUNCTIONAL SYSTEMS.
12.

ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH CITY OF RENO "TRAFFIC SIGNAL CONTROLLER CABINET SPECIFICATIONS" AND CITY OF RENO "TRAFFIC SIGNAL FIBER OPTIC INTERCONNECT SPECIFICATIONS" EXCEPT AS SPECIFICALLY MODIFIED IN THESE PLANS. NEW CONTROLLER ASSEMBLIES SHALL INCLUDE ALL SIGNAL CONTROLLER EQUIPMENT AS REQUIRED BY THE CITY'S EQUIPMENT SPECIFICATIONS.
13.

PROGRAMMING OF CONTROLLERS AND MMUS WILL BE PERFORMED BY CITY OF RENO STAFF ONLY. DELIVER CONTROLLERS AND MMUS TO CITY OF RENO TRAFFIC ENGINEERING & OPERATIONS AT 1640 EAST COMMERCIAL ROW, RENO NV, AT LEAST TWENTY-ONE DAYS PRIOR TO SIGNAL TURN-ON. CONTACT TIM HENDRICKS AT (775) 657-4688 AT LEAST SEVEN DAYS PRIOR TO DESIRED PICK-UP FOR INSTALLATION.
14.

NOTIFY THE CITY OF RENO, KURT DETRICH (775) 334-4334, AT LEAST 72 HOURS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEMS AND PRIOR TO TUN-ONS.
15.

SIGNAL TUN-ONS SHALL BE SCHEDULED BETWEEN 5:00 AM AND 4:00 PM ON MONDAY THROUGH THURSDAY, COORDINATE WITH CITY OF RENO SIGNAL TECHNICIANS.
16.

TRAFFIC SIGNAL CABINET SHALL BE MAXTEC TS2 TYPE 1 OR TYPE 2 SYSTEM READY CABINET. ALL NEW CABINETS SHALL HAVE 16 POSITION MAIN PANEL, FLASH TRANSFER RELAY MODULES FOR ALL PORTS, INCLUDE THE "D" PANEL AND "D" CABLE (D-CABLE ONLY REQUIRED FOR TS2 TYPE 1 CABINETS), HAVE ALL PLUG-INS, AND BE WIRED FOR EMERGENCY VEHICLE PREEMPTION (EVP).
17.

TRAFFIC SIGNAL CONTROLLER SHALL BE MAXTEC COMMANDER NT2, TYPE 2 NEMA AND NTPC COMPLIANT CONTROLLER WITH ETHERNET, NAL FUNCTION MANAGEMENT UNIT (MMU) SHALL BE EDI MMU LCD WITH ETHERNET.
18.

METERED UNDERGROUND ELECTRICAL SERVICE SHALL BE TESCO CONTROLS MODEL 27-22BBS WITH PIGGY-BACK UPS BATTERY BACKUP SYSTEM OR APPROVED EQUAL. CONSTRUCT SERVICE CABINET FOUNDATION PER MANUFACTURER'S BOLT PATTERN TEMPLATE. CABINET SHALL BE UL 508 RATED. METERED SERVICES SHALL HAVE OWNING AGENCY LABELS INDICATING CITY OWNERSHIP AND ADDRESS. SYSTEM SHALL HAVE AN EVENT COUNTER AND TIMER. UPS SYSTEM SHALL BE 24 VOLT PROVIDING A MINIMUM OF 2 HOURS OF FLASHING ALL RED. SEE INDIVIDUAL METERED SERVICE EQUIPMENT SCHEDULES FOR FURTHER DETAIL.
19.

SERVICE CONDUCTORS FROM METER CONTROLLER CABINET SHALL BE (3) #6 AWG THIN-2 OR LARGER. SEE CONDUIT & CONDUCTOR SCHEDULES ON SHEETS SC406.
20.

SIGNAL HEAD BRACKETS SHALL HAVE ADEQUATE EXTENSIONS TO ALLOW SIGNAL HEAD ADJUSTMENT/ROTATION FOR DIRECT ALIGNMENT TO THE STOP BAR AT THE VIEWING LANE.
21.

THE LOCATION OF NEW SIGNAL HEADS SHALL BE APPROVED BY THE ENGINEER AND OWNING AGENCY. SIGNAL HEAD TENONS SHALL BE FIELD WELDED, BY A CERTIFIED WELDER, AND LOCATED IN THE CENTER OF THE VIEWING LANE, UNLESS APPROVED OTHERWISE.
22.

BLOCK SHALL CONFORM TO MISA SPEC 15-1 OR 20-1 AND BE COLOR CODED. CABLES SHALL BE RUN FROM CONTROLLER TO POLE TERMINAL BLOCK WITHOUT SPLICING. IN-POLE CONDUCTORS PAST THE TERMINAL BLOCK SHALL BE INDIVIDUAL #14 AWG THIN/THIN-2 OR APPROVED EQUAL.

CITY OF RENO INTERCONNECT:

- FIBER OPTIC INTERCONNECT SYSTEM SPECIFICATIONS

1.

FIBER OPTIC CABLE SHALL BE TESTED PRIOR TO INSTALLATION AND CERTIFICATION TO THAT EFFECT SUPPLIED. THE CABLE MAY BE TESTED BY CITY OF RENO PERSONNEL AT THE CONTRACTOR'S EXPENSE, PRIOR TO ACCEPTANCE.
2.

ALL FIBER AT CONTROLLER CABINET END SHALL HAVE 50 FEET OF TAIL TO REACH THE FIBER SPLICING TRAILER.
3.

ALL FIBER RUNS SHALL HAVE A FIVE (5) FOOT LOOP COILED IN EACH PULL BOX.
4.

NO BENDS GREATER THAN SIX TIMES THE FIBER DIAMETER SHALL BE ACCEPTED.
5.

ALL CONDUITS SHALL HAVE A PULL STRING INSTALLED FOR FUTURE USE. MINIMUM TENSILE STRENGTH SHALL BE 500 LBS.
6.

ANY CONDUIT CONTAINING FIBER ONLY, SHALL HAVE AN ORANGE #14 LOCATE WIRE INSTALLED.
7.

CITY FORCES WILL FURNISH AND INSTALL MODEMS, CORNING CABLE SYSTEMS, JUMPERS, MULTIMEDIA OUTLET BOXES, AND FIBER MODULES.
8.

CITY FORCES WILL INSTALL ALL FIBER ENDS AND TERMINATE FIBER OPTIC CABLES IN THE CABINET.
9.

CITY FORCES WILL TEST AND VERIFY FIBER CONNECTIONS TO THE CONTROLLER CABINET.
- FIBER OPTIC CABLE

MULTI-MODE OUTSIDE PLANT FIBER OPTIC CABLE (02-50M).

FIBER COUNT: 12. CENTRAL TUBE (SINGLE CENTRAL LOOSE TUBE) DESIGN. DRY WATER BLOCK CORE BU GEL IN BUFFER TUBE WATER RESISTANCE. LASER-RATED GRADE, BLACK JACKET, BERK-TEK PART #OPD012CB351025 OR GRAYBAR PART #9477974.
- 3/6/2024

DATE

SIGNAL EQUIPMENT SPECIFICATIONS:

13.

CABLES WITH 15 OR MORE CONDUCTORS SHALL HAVE #10 AWG NEUTRAL.
14.

PULL BOXES SHALL NOT BE INSTALLED IN PEDESTRIAN RAMPS WITHOUT THE ENGINEER'S PRIOR APPROVAL.
15.

THE FINAL LOCATION OF ALL POLES, PULL BOXES, CABINETS, AND CONDUIT RUNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE INSTALLATION. CONDUIT RUNS SHOWN IN THE PLANS ARE SCHEMATIC FOR THE PURPOSE OF PLAN LEGIBILITY.
16.

A FACTORY REPRESENTATIVE FROM THE MANUFACTURER OF THE SIGNAL CABINET, CONTROLLER, MMU, AND ALL NEW OR MODIFIED SIGNAL EQUIPMENT MUST BE PRESENT FOR ALL SIGNAL TUN-ONS.
17.

ALL NEW HARDWARE, EXCEPT FOR SIGNAL POLES AND MAST ARMS, SHALL HAVE A FLAT BLACK POWDERCOAT FACTORY FINISH, COLOR AND FINISH SHALL BE APPROVED BY THE OWNING AGENCY PRIOR TO ORDERING.
18.

THE LUMINAIRE PUSH BUTTONS FOR TRAFFIC SIGNALS SHALL BE 2" DIAMETER, UTILIZE POLARIS2 NAVGATOR 2 WIRE PUSH BUTTON STATION PEDISTRIAN (R10-3a) SIGNS AND MUST HAVE CORRESPONDING STREET NAME IN BRAILLE OR RAISED PRINT, THE ARROW SHALL POINT IN THE DIRECTION OF THE CROSSING AND THE SIGN SHALL BE ALIGNED WITH THE CROSSWALK.
19.

PREEMPTION EQUIPMENT SHALL BE GLOBAL TRAFFIC TECHNOLOGIES (GTT) OPTICOM MODEL 721 DETECTORS, MODEL 764 4-CANNEL CARD RACK, AND OPTICOM 138 DETECTOR CABLE OR APPROVED EQUAL SYSTEM FROM TOMAR ELECTRONICS.
20.

THE LUMINAIRE FIXTURES SHALL BE CREE STR-LV3M1T08ELL5V700 OR APPROVED EQUAL - PHOTO CELL TO BE LOCATED IN METERED SERVICE PEDESTAL, BACKLIGHT CONTROL SHIELDS SHALL BE INSTALLED ON ALL NEW LUMINAIRE.
21.

BELL CAMERA SHALL BE GRIDSMART GS 2 FISHEYE CAMERA VIDEO DETECTION SYSTEM WITH PERFORMANCE PLUS, INCLUDING BICYCLE DETECTION, MODULE AND SHALL INCLUDE ALL EQUIPMENT AND MATERIALS NECESSARY FOR A COMPLETELY FUNCTIONAL SYSTEM.
22.

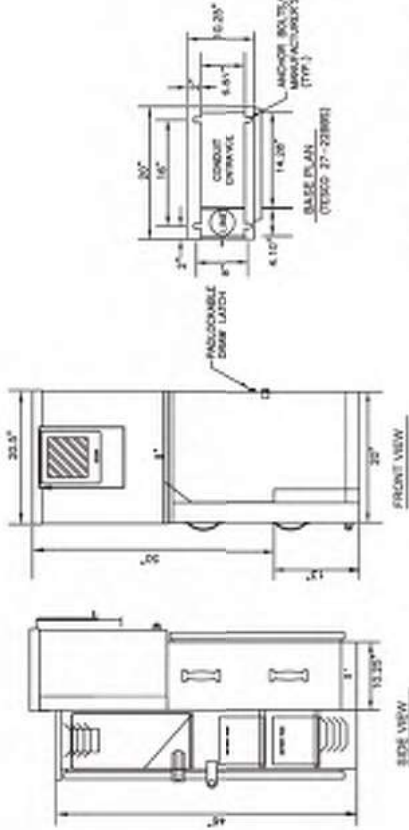
DETECTION ZONES, INCLUDING ADVANCE DETECTION (NOT SHOWN ON THE PLANS) SHALL BE SET BY THE CITY OF RENO.
23.

WIRELESS RADIO SYSTEM SHALL BE ETHERWAN EASYLINK SYSTEM-OR APPROVED EQUAL-RADIO SYSTEM SHALL INCLUDE ANTENNAS, ETHERNEF SWITCHES, FITTINGS, AND POWER ADAPTERS FOR A FULLY FUNCTIONAL WIRELESS RADIO SYSTEM-GO APPROVAL PRIOR TO ORDERING.
24.

THE LOCATION OF PAVEMENT MARKING SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. LONGITUDINAL STRIPING SHALL BE WATERBORNE TRAFFIC PAINT. TRANSVERSE STRIPING AND SYMBOLS SHALL BE PERFORMED THERMOPLASTIC.
25.

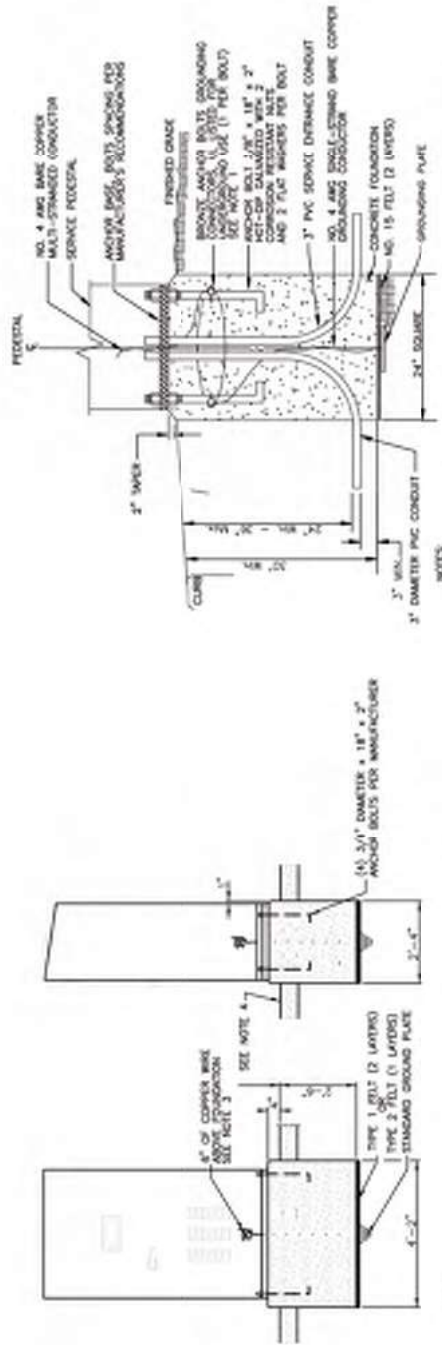
NEW SIGNS SHALL BE 3M DIAMOND GRADE (DG3) WITH 3M CLEAR TRANSPARENT OVERLAY #1170 OR APPROVED EQUAL.
26.

FOR ALL SIGNAL POLES, EXCEPT FOR TYPE 1 POLES, ATTACH A RECTANGULAR CORROSION-RESISTANT METAL IDENTIFICATION TAG, USING STAINLESS STEEL RWETS. THE TAG SHALL BE PLACED ABOVE THE HANDHOLE NEAR THE BASE OF THE POLE. THE LETTERING OF THE TAG SHALL BE EITHER DEPRESSION OR RAISED, 1" TALL, LEGIBLE, AND READABLE AFTER THE POLE IS COATED AND INSTALLED. THE FOLLOWING INFORMATION SHALL BE ON THE TAG: POLE TYPE AND "2014 NDOT SPEC".



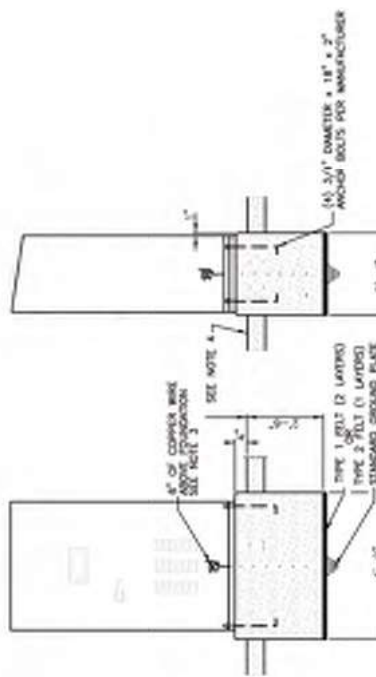
TESCO 27-22HHS - METERED SERVICE PIEDestal WITH BATTERY BACKUP (TYPE III - A-F) DETAIL

Exhibit C



1. BASE CONDUIT GROUNDING SHALL BE LOCATED AROUND ANCHOR BOLTS ONE TIME AND CONNECTED TO EACH ANCHOR BOLT BEFORE CONTINUING DOWN TO THE GROUNDING PLATE.
2. GROUND CONDUIT SHALL BE PARALLEL WITH CURB.
3. IN AREAS WHERE ROW PERMITS, THE CONCRETE BASE SHALL BE PLACED AT THE BACK EDGE OF THE CURB.
4. GROUND CONDUIT SHALL OPEN TOWARD THE STREET WHEN CABINET IS LOCATED AT BACK OF WALK. CABINET COVER SHALL OPEN PARALLEL TO THE SIDEWALK FACING THE DIRECTION OF TRAFFIC WHEN LOCATED WITHIN THE SIDEWALK.
5. GROUND PLATE SHALL BE MADE OF NONFERROUS MATERIALS (TYPICALLY BRASS OR COPPER).

SERVICE PIEDestal FOUNDATION DETAIL



1. ALL CONDUITS SHALL EXTEND ABOVE FOUNDATION A MINIMUM OF 1" AND HAVE WELL DOES INSTALLED PRIOR TO POURING FOUNDATION. CONDUITS SHALL BE A MINIMUM OF 2" APART.
2. ALL CABINETS SHALL BE FINISHED WHITE ON THE INSIDE AND OUTSIDE (FACTOR FINISHED).
3. 1/2" x 1/4" GROUND ROD MAY BE SUBSTITUTED IN LIEU OF COPPER WIRE.
4. WHEN NOT PLACED AT BACK OF SIDEWALK, A 4'-2" x 3' x 4" FRONT SLAB SHALL BE CONSTRUCTED IN FRONT OF THE CABINET TOOD. THE FRONT SLAB SHALL BE PLACED ON 3" OF TYPE 2 CLASS B CRUSHED AGGREGATE BASE. THE AGGREGATE BASE SHALL BE COMPACTED TO THE RELATIVE CONNECTION. THE TOP OF FRONT SLAB SHALL BE 4" BELOW TOP OF THE CABINET FOUNDATION AND NOT HAVE A SLOPE GREATER THAN 2:08 IN ANY DIRECTION.

TYPE R-44 CABINET FOUNDATION DETAIL



AARON D. LITTMAN
EXP. 12-31-25
CIVIL
No. 02887
PROFESSIONAL ENGINEER OF NEVADA

3/6/2024
DATE

DESIGNED	DATE	PROJECT NO.
TCC	03/2024	UT-5526-22
DRAWN	DATE	SHEET NO.
TCC	03/2024	3 of 14
CHECKED	DATE	DRAWING NO.
ADL	03/2024	G-03

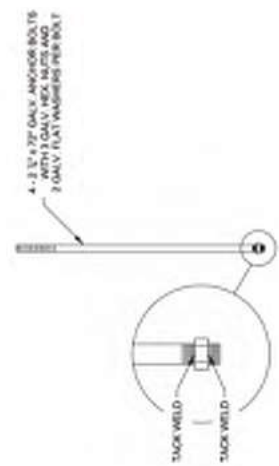
LEMMON DRIVE ESTATES SIGNAL DESIGN

2102 West Grove Parkway
Pleasant Grove, UT 84062
(801) 763-5100



WARNING
0 1/2 1
IF THE BAR DOES NOT
MEASURE 1" THEN
DRAWING IS NOT TO SCALE

SCALE	REVISIONS
HORIZONTAL	
VERTICAL	
N/A	
N/A	



PILE FOUNDATION TABLE			POLE GROU	
POLE TYPE	MAXIMUM LENGTH	**10'	**5'	APPROXIMATE LOADS
1A AND 1B	N/A	3'	2'	10' x 10' x 6"
2A	N/A	3'	2'	10' x 10' x 6"
STEEL POST, 20 FT.	N/A	SEE DETAIL, ITS-11A	SEE DETAIL, ITS-11A	2000 LBS. (TYP.)
STEEL POST, 30 FT.	N/A	SEE DETAIL, ITS-12A	SEE DETAIL, ITS-12A	3000 LBS. (TYP.)
3A AND 3B	40'	12'	7'	10' x 10' x 6"
3A AND 3B	60'	12'	7'	10' x 10' x 6"
3A AND 3B	80'	12'	7'	10' x 10' x 6"
3A AND 3B	100'	12'	7'	10' x 10' x 6"
3A AND 3B	120'	12'	7'	10' x 10' x 6"
3A AND 3B	140'	12'	7'	10' x 10' x 6"
3A AND 3B	160'	12'	7'	10' x 10' x 6"
3A AND 3B	180'	12'	7'	10' x 10' x 6"
3A AND 3B	200'	12'	7'	10' x 10' x 6"
3A AND 3B	220'	12'	7'	10' x 10' x 6"
3A AND 3B	240'	12'	7'	10' x 10' x 6"
3A AND 3B	260'	12'	7'	10' x 10' x 6"
3A AND 3B	280'	12'	7'	10' x 10' x 6"
3A AND 3B	300'	12'	7'	10' x 10' x 6"
3A AND 3B	320'	12'	7'	10' x 10' x 6"
3A AND 3B	340'	12'	7'	10' x 10' x 6"
3A AND 3B	360'	12'	7'	10' x 10' x 6"
3A AND 3B	380'	12'	7'	10' x 10' x 6"
3A AND 3B	400'	12'	7'	10' x 10' x 6"
3A AND 3B	420'	12'	7'	10' x 10' x 6"
3A AND 3B	440'	12'	7'	10' x 10' x 6"
3A AND 3B	460'	12'	7'	10' x 10' x 6"
3A AND 3B	480'	12'	7'	10' x 10' x 6"
3A AND 3B	500'	12'	7'	10' x 10' x 6"
3A AND 3B	520'	12'	7'	10' x 10' x 6"
3A AND 3B	540'	12'	7'	10' x 10' x 6"
3A AND 3B	560'	12'	7'	10' x 10' x 6"
3A AND 3B	580'	12'	7'	10' x 10' x 6"
3A AND 3B	600'	12'	7'	10' x 10' x 6"
3A AND 3B	620'	12'	7'	10' x 10' x 6"
3A AND 3B	640'	12'	7'	10' x 10' x 6"
3A AND 3B	660'	12'	7'	10' x 10' x 6"
3A AND 3B	680'	12'	7'	10' x 10' x 6"
3A AND 3B	700'	12'	7'	10' x 10' x 6"
3A AND 3B	720'	12'	7'	10' x 10' x 6"
3A AND 3B	740'	12'	7'	10' x 10' x 6"
3A AND 3B	760'	12'	7'	10' x 10' x 6"
3A AND 3B	780'	12'	7'	10' x 10' x 6"
3A AND 3B	800'	12'	7'	10' x 10' x 6"
3A AND 3B	820'	12'	7'	10' x 10' x 6"
3A AND 3B	840'	12'	7'	10' x 10' x 6"
3A AND 3B	860'	12'	7'	10' x 10' x 6"
3A AND 3B	880'	12'	7'	10' x 10' x 6"
3A AND 3B	900'	12'	7'	10' x 10' x 6"
3A AND 3B	920'	12'	7'	10' x 10' x 6"
3A AND 3B	940'	12'	7'	10' x 10' x 6"
3A AND 3B	960'	12'	7'	10' x 10' x 6"
3A AND 3B	980'	12'	7'	10' x 10' x 6"
3A AND 3B	1000'	12'	7'	10' x 10' x 6"

⑤ UNLESS OTHERWISE SHOWN ON PLANS, NOT APPLICABLE WHEN MOUNTED ON STRUCTURES.

Aaron Littman

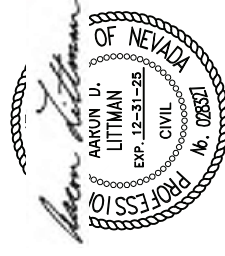
PROFESSOR OF NEVADA
AARON D. LITTMAN
EXP. 12-31-25
CIVIL No. 078571

DATE 5/6/2024

Underground Services Alert
Call TOLL FREE
800/7000
327-2600

[illegible]

3/06/2024 04:33pm, led.cannon



DESIGNED	DATE	PROJECT NO.
TCC	03/2024	UT-5526-22
DRAWN	DATE	SHEET NO.
TCC	03/2024	6 OF 14
CHECKED	DATE	DRAWING NO.
ADL	03/2024	G-06


Horrocks.

N/A

REVISIONS



NOTES:

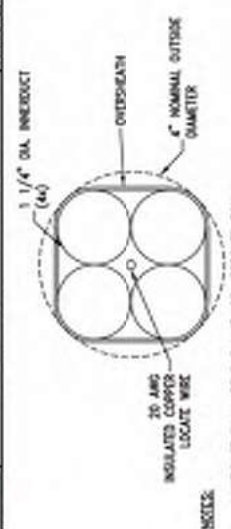
1. TRAFFIC-BARRED-POST-BODIES SHALL BE USED AT LOCATIONS WHERE CONDUIT-BARS-CANNOT-BE-USED.
2. TRAFFIC-BARRED-POST-BODIES SHALL BE USED AS APPROVED BY CITY OF KING TRAFFIC ENGINEER.
3. TRAFFIC-BARRED-POST-BODIES SHALL BE USED IN VIOLOGICAL AREAS ONLY, INCLUDING, BUT NOT LIMITED TO TRAILER, TRUCK, SERVICE APPROACHES AND WITHIN POSTERIOR RAMP AT INTERSECTION CURB RETURN OR AS APPROVED BY CITY OF KING TRAFFIC ENGINEER.
4. ALL CONDUIT TERMINATIONS SHALL HAVE A "WELL END" INSTALLATION AND BE SEALED WITH CONDUIT SEALER AFTER WELD INSTALLATION.
5. ALL EXPOSED CONDUIT SHALL BE RIGID PVC SCHEDULE 80, AND SHALL EXTEND TO A MINIMUM DEPTH OF 18 INCHES.
6. BOX-EXTENDING-SHAFT-MAY BE USED UNLESS-APPROVED-BY-CITY-OF-KING-TRAFFIC-ENGINEER.



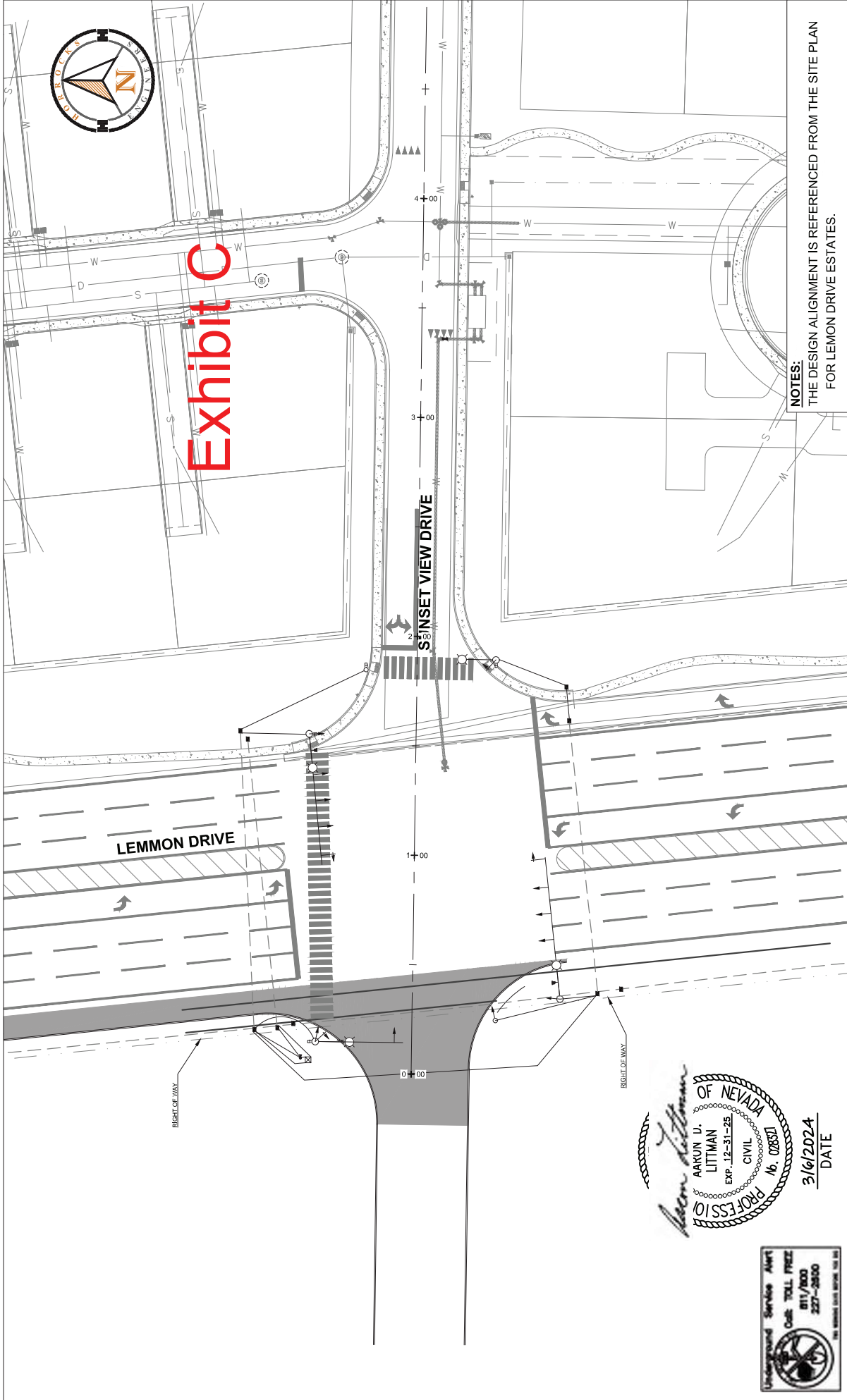
	STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	DRAWING NO.
	TRAFFIC RATED PULL BOX	R-413J
APPROVED BY: JF		DATE: 1/2013




 STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION TRAFFIC & LIGHTING CONDUIT TRENCH	DRAWING No. R-404
	APPROVED BY: _____ DATE: 1/28/13
	APPROVED BY: _____ DATE: 1/28/13



1. MULTICOAT SHALL BE FORMING, OR APPROVED EQUAL.
2. INDOORCOAT SHALL HAVE A WALL THICKNESS OF 508 11 OR THICKER.
3. EACH INDOORCOAT SHALL BE A DIFFERENT COLOR. THE COLOR SCHEME SHALL BE THE SAME FOR ALL MULTICOAT PANELS. INDOORCOATS SHALL HAVE SMOOTH BAKED WALLS.
4. OVERLAP SHALL BE NONE. MULTICOAT DETAIL.



NOTES:
THE DESIGN ALIGNMENT IS REFERENCED FROM THE SITE PLAN
FOR LEMON DRIVE ESTATES.

2102 West Grove Parkway Pleasant Grove, UT 84062 (801) 763-5100		LEMMON DRIVE ESTATES SIGNAL DESIGN		PROJECT NO.	UT-5536-22
		ALIGNMENT LAYOUT		DATE	03/2024
				DESIGNED	TCC
				CHECKED	TCC
WARNING		SCALE		DATE	
0 1/2 1 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE		HORIZONTAL 1"= 40'		3/6/2024	
REV		DATE		BY	
REVISIONS		DESCRIPTION		ADL	
				AL-01	



	STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	DRAWING No.
	<p>NOTES -</p> <p>TRAFFIC SIGNALS & POLES</p>	R413G
APPROVED BY: JFC		DATE: 1/2013

3/6/2024
DATE

26. THE CONTRACTOR SHALL COORDINATE WITH NV ENERGY IN PROVIDING SERVICE FOR THE SIGNAL WITHIN NV ENERGY STANDARDS.
27. POWER PANEL SURGE PROTECTION SHALL BE PROVIDED AND APPROVED THROUGH THE SUBMITTAL PROCESS TO THE PUBLIC WORKS TRAFFIC ENGINEERING DIVISION.
28. EXISTING VEHICLE DETECTOR LOOPS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AND MADE FULLY FUNCTIONAL WITHIN TWO WORKING DAYS. IF NOT MADE FUNCTIONAL WITHIN THE TWO DAYS FOLLOWING DAMAGE, THE CITY MAY PERFORM THE REPAIR AND BACK-CHARGE THE CONTRACTOR AT THE EXPENSE OF \$1000 PER LOOP. SPLICING WILL NOT BE CONSIDERED AS AN ADEQUATE REPAIR.
29. THE CONTRACTOR SHALL COORDINATE TRAFFIC SIGNAL INSTALLATIONS OR MODIFICATIONS WITH THE CITY OF RENO TRAFFIC ENGINEER AT 334-2243.
30. NO SPLICES SHALL BE PERMITTED BETWEEN THE CONTROLLER CABINET AND THE TRAFFIC SIGNAL POLE. ALL CONNECTIONS SHALL BE MADE AT THE JUNCTION BOX, OR IN THE CASE OF LOOPS, AT THE LOOP STUB. ANY DEVIATION TO THIS REQUIREMENT SHALL BE APPROVED BY THE TRAFFIC ENGINEER PRIOR TO THE WORK.
31. VEHICLE DETECTOR LOOPS DAMAGED DURING CONSTRUCTION WHICH ARE PERMITTED BY THE TRAFFIC ENGINEER TO BE TEMPORARILY SPLICED, MUST BE REPLACED PRIOR TO FINAL ACCEPTANCE.
32. IF ANY PAVEMENT MARKINGS ARE TO BE RELOCATED, VEHICLE DETECTOR LOOPS SHALL BE RELOCATED ACCORDINGLY TO REMAIN CONSISTENT WITH CITY OF RENO STANDARD DETAIL NO. R-406A AND NO. R-406B.
33. AS A PART OF ANY STREET WIDENING PROJECT OR THE ADDITION OF ANY STREET TRAVEL LANES TO EXISTING LANES, SUCH AS TURN LANES, ACCELERATION OR DECELERATION LANES, ETC., THE CONTRACTOR MUST EXTEND ANY TRAFFIC CONTROL CONDUITS AND/OR WIRING AND REPLACE ALL AFFECTED VEHICLE LOOP DETECTOR WIRING (SPLICING SHALL NOT BE ALLOWED).
34. SIGNAL EQUIPMENT SHALL BE PROVIDED AND APPROVED THROUGH THE SUBMITTAL PROCESS TO THE PUBLIC WORKS TRAFFIC ENGINEERING DIVISION.
35. FOR POLE DETAILS NOT SHOWN, SEE POLE MANUFACTURER'S DETAILED DRAWINGS.
36. ALL SIGNAL POLES SHALL CONFORM TO NDOT TYPE 35 AND 35A SPECIFICATIONS, INCLUDING BOLT CIRCLE DIMENSIONS, ANCHOR BOLTS, AND FOOTING DIMENSIONS.
37. FINAL POLE APPROVAL AND SUBMITTALS TO BE APPROVED BY THE CITY OF RENO.
38. CLAM SHELL FOR TYPE 7D POLE TO BE USED ONLY WHEN POLE IS INCLUDED AS A SIGNAL POLE. DO NOT USE CLAM SHELL WHEN TYPE 7D POLE IS USED IN SERIES LIGHTING.
39. POLE MAY BE MANUFACTURED AS EITHER A DOUBLE OF SINGLE CANDYCANE CONFIGURATION.
40. VIDEO DETECTION MAY BE USED IF APPROVED BY THE CITY TRAFFIC ENGINEER.

Exhibit C

PROFESSIONAL SEAL

AAKUN D. LITTMAN

EXP. 12-31-25

CIVIL

No. 02857

3/6/2024

DATE

PROJECT NO.

UT-5536-22

SHEET NO.

10 OF 14

DRAWING NO.

SG-02

2102 West Grove Parkway Pleasant Grove, UT 84062 (801) 763-5100		LEMMON DRIVE ESTATES SIGNAL DESIGN	
SIGNAL NOTES			

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION

DRAWING No.

NOTES -

TRAFFIC SIGNALS & POLES

APPROVED BY: JF

DATE: 1/2013

SCALE

0 1/2 1

WARNING

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

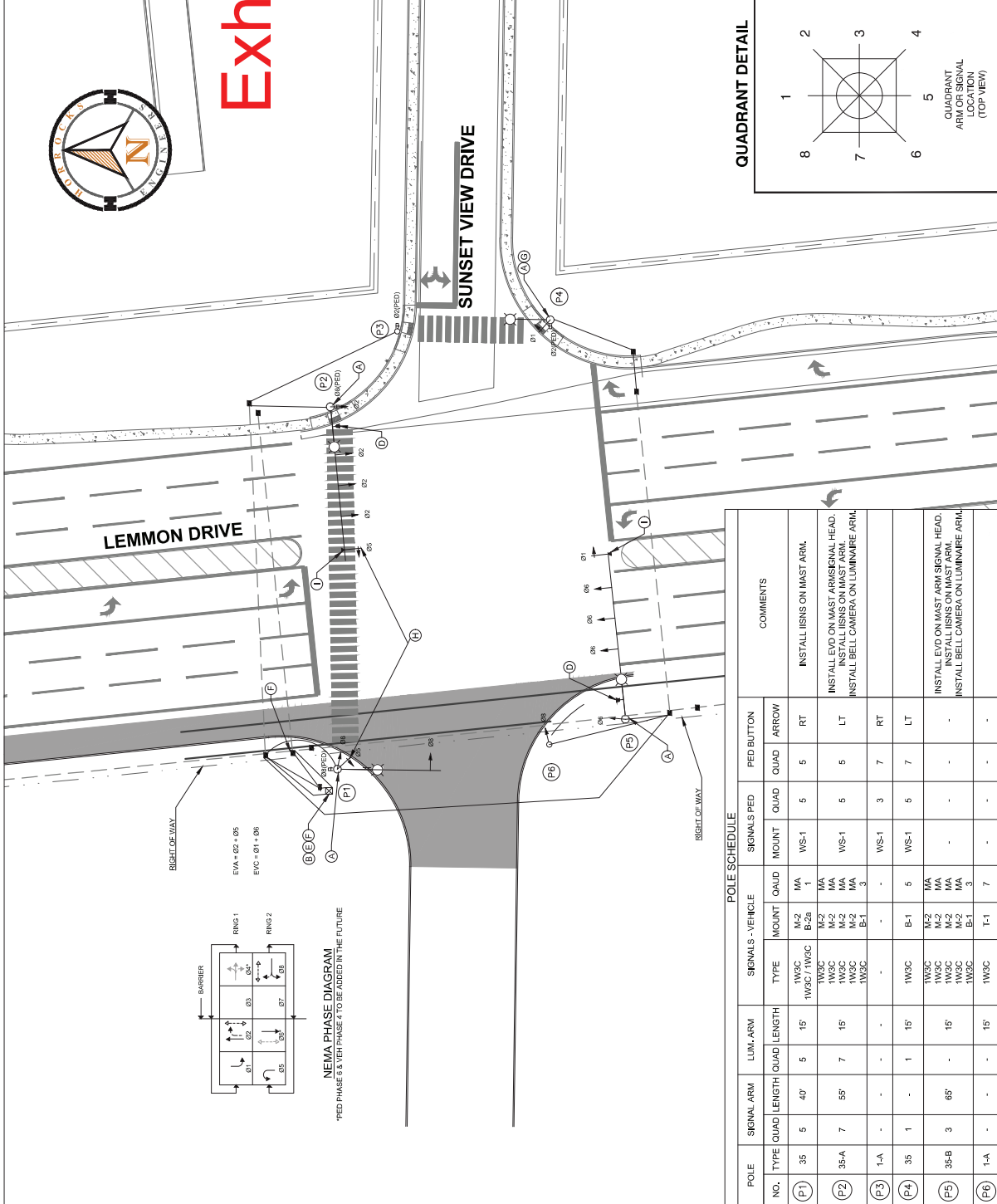
REVISIONS

DATE

BY

ASSIGNMENT

Horrocks.



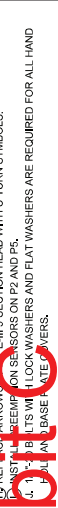
CONSTRUCTION NOTES:

- A. FURNISH AND INSTALL NEW SIGNAL POLE PER POLE SCHEDULE AND DETAILS ON G-04.
- B. FURNISH AND INSTALL NEW CONTROLLER AND CABINET ASSEMBLY, MAKE ALL CONNECTIONS.
- C. FURNISH AND INSTALL 100A METERED SERVICE WITH BATTERY BACKUP PER DETAIL ON G-04.
- D. FURNISH AND INSTALL GRIDSMART BELL CAMERA ON LUMINAIRE ARM AND CABLE CONTROLLER, MAKE ALL CONNECTIONS.
- E. FURNISH AND INSTALL PROCESSOR FOR GRIDSMART CAMERA SYSTEM IN CABINET PER MANUFACTURE SPECIFICATIONS, MAKE ALL CONNECTIONS.
- F. FURNISH AND INSTALL FIBER OPTIC CABLE, PULL TAPE AND #14 AWG LOCATE WIRE IN CONDUIT RUNS TO CONTROLLER CABINET LOCATED ON THE NORTHWEST CORNER OF THE LEMMON DRIVE AND SUNSET VIEW DRIVE SKY VISTA/BUCK DRIVE INTERSECTION.
- G. INSTALL SIGNAL POLE PER DETAIL ON G-04.
- H. INSTALL SIGNAL POLE PER DETAIL ON G-04.
- I. REPLACE ARROWS ON P2 AND P3.
- J. 1/2" B.L.T.S WITH LOCK WASHERS AND FLAT WASHERS ARE REQUIRED FOR ALL HAND LUGS AND BASE PLATE SCREWS.

IISSNS SCHEDULE

POLE	TYPE	SIGN LEGEND	
		PREFIX	SUFFIX
P1	SINGLE SIDED		LEMMON DR 8200
P2	SINGLE SIDED		SUNSET VIEW DR
P3	SINGLE SIDED		SUNSET VIEW DR

SEE USED DWG. NO.81&S1 FOR FONT AND LAYOUT DETAILS



POLE	TYPE	SIGN LEGEND			
		PREFIX	STREET NAME	SUFFIX	BLOCK NO.
P1	SINGLE		LEMON	DR	

REVISIONS

REV.	DATE	BY	DESCRIPTION

LEMMON DRIVE ESTATES SIGNAL DESIGN

2102 West Grove Parkway
Pleasant Grove, UT 84062
(801) 763-5100

Horrocks

WARNING

0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

SCALE

HORIZONTAL 1"= 40'
VERTICAL N/A

REVISIONS

DATE 3/6/2024 **DATE** 3/6/2024

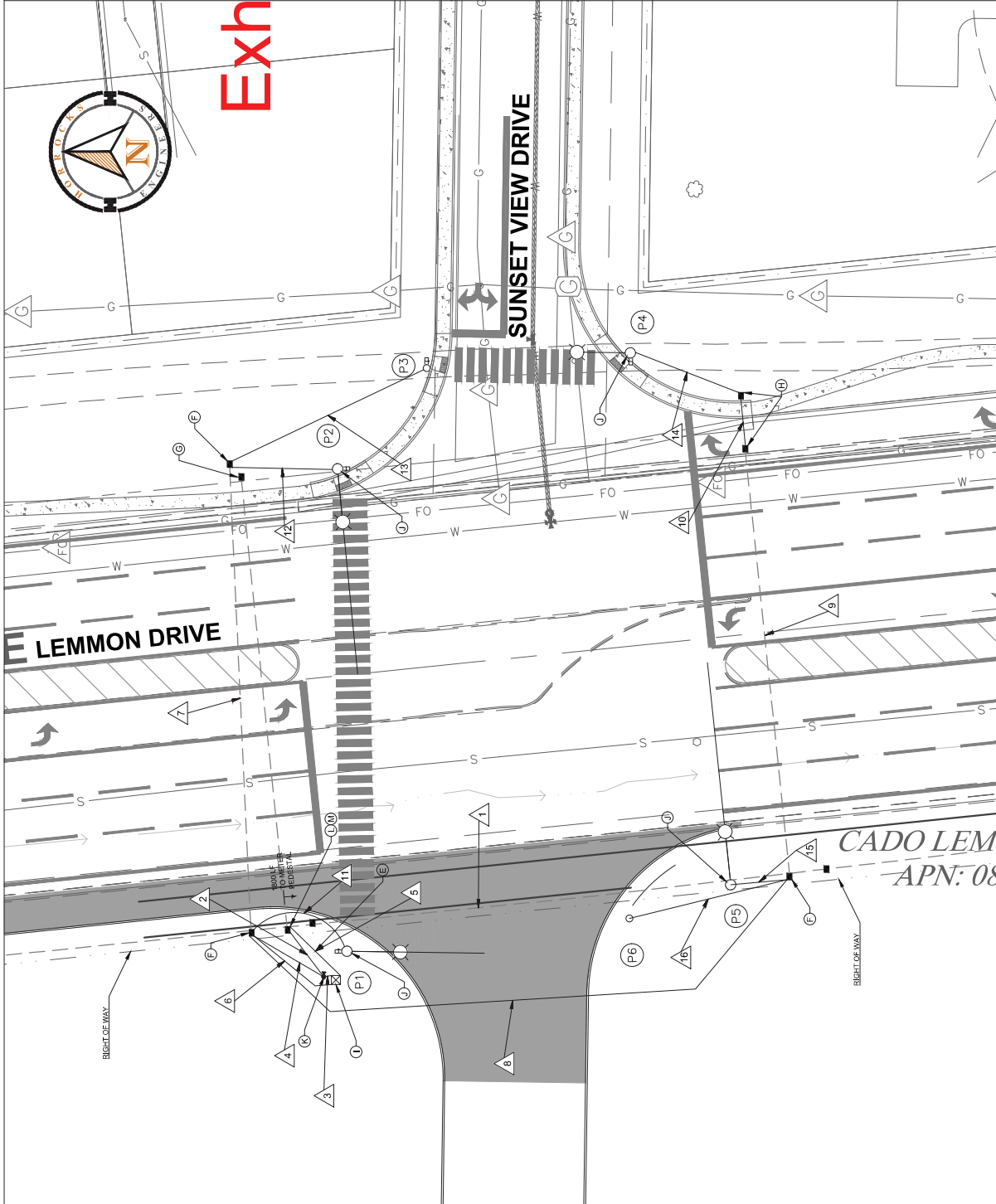
PROJECT NO. UT-5526-22 **SHEET NO.** 12 OF 14

DESIGNED ADL **CHECKED** TCC **DATE** 03/2024

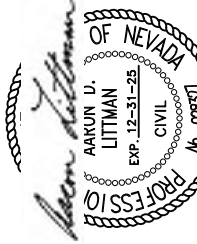
PROFESSOR OF NEVADA
AAKUN U. LITTMAN
EXP. 12-31-25
CIVIL
No. 028571

Professional Engineer Seal
Call: TOLL FREE 811/800 227-2800

SC-04



- CONSTRUCTION NOTES:**
- A. FIELD CHECK FOR EXISTING CONDUIT AND TRAFFIC PULL BOXES. EXISTING CONDUIT SHOWN PER PROJECT W7Y31300 DWG TS-03 AND TS-04.
 - B. FOR NEW CONDUIT, SEE TRENCH AND BORING DETAIL ON SG-S01.
 - C. CONDUIT AND WIRE SCHEDULE ON SG-S01.
 - D. INSTALL SCHEDULE 40 PVC CONDUIT PER CONDUIT SCHEDULE ON SG-S01. DISTANCE SHOWN ON PLAN REFLECTS TRENCH LENGTH, NOT ACTUAL CONDUIT LENGTH.
 - E. FURNISH AND INSTALL SCHEDULE 40 PVC CONDUIT PER NV ENERGY TYPICAL TRENCH DETAIL. TEO0300. DISTANCE SHOWN ON PLAN REFLECTS TRENCH LENGTH, NOT ACTUAL CONDUIT LENGTH.
 - F. EXISTING NO. 7E PULL BOX PER PROJECT W7Y31300 DWG TS-03.
 - G. EXISTING NO. 7E PULL BOX MODIFIED WITH EXTENSION PER PROJECT W7Y31300 DWG TS-04.
 - H. RELOCATE EXISTING NO. 7E PULL BOX OUT OF PROPOSED ROADWAY BEHIND PROPOSED CURB AND GUTTER.
 - I. CONSTRUCT TYPE 1.5 CABINET FOUNDATION PER DETAIL ON G-03.
 - J. CONSTRUCT SKY PUL FOUNDATION PER SCHEDULE ON SG-04. AND DETAILS ON G-05.
 - K. CONSTRUCT METAL RED SERVICE FOUNDATION AND FURNISH AND INSTALL 100A METERED SERVICE WITH BATTERY BACKUP PER DETAILS ON G-03.
 - L. SPLICE INTO EXISTING FIBER DETAIL G-06.
 - M. POWER SERVICE POINT AT LEMMON DRIVE & BUCK DRIVE/ SKY VISTA PKWY INTERSECTION. SEE CORNER. EXISTING CONDUIT PER PROJECT W7Y31300 TS-04.



3/6/2024
DATE



REVISIONS		SCALE		WARNING		Horrocks.		2102 West Grove Parkway Pleasant Grove, UT 84062 (801) 763-5100		LEMMON DRIVE ESTATES SIGNAL DESIGN		DATE		PROJECT NO.	
REV.	DATE	BY	DESCRIPTION	HORIZONTAL	VERTICAL	1"= 30'	N/A	0	1/2	1		DESIGNED	DATE	UT-5526-22	
												DRAWN	DATE		
												CHECKED	DATE		
												ADL	DATE		SG-05

HIGHLAND

TRAFFIC IMPACT STUDY

August 3, 2022

PREPARED FOR:

SV Land, LLC

PREPARED BY:



YOUR QUESTIONS ANSWERED QUICKLY

Why did you perform this study?

This Traffic Impact Study evaluates the potential traffic impacts associated with the proposed Highland project in Reno, Nevada. This study of potential transportation impacts was undertaken for planning purposes and to assist in determining what traffic controls or mitigations may be needed to reduce potential impacts, if any are found.

What does the project consist of?

The project consists of 221 single-family units, 300 multifamily units, and 1.7 acres of commercial/retail use. The actual use of the commercial/retail space is not identified at this time and this study assumes 20,000 square feet of the Strip Retail Plaza land use. Any land use mix which generates equal to or less peak hour traffic would be considered equivalent from a traffic impact evaluation perspective.

How much traffic will the project generate?

The project is anticipated to generate approximately 4,671 net new Daily, 309 net new AM peak hour, and 409 net new PM peak hour trips.

How will project traffic affect the roadway network?

The Lemmon Drive / Sky Vista Parkway / Buck Drive intersection will operate at poor levels of service in the 20 year horizon with or without this project. A traffic signal at the Lemmon Drive / Vista Knoll Parkway intersection will provide an overall circulation benefit by adding a new high quality connection to the Walmart shopping center and thereby reducing traffic in the Lemmon Drive / Sky Vista Parkway / Buck Drive intersection. The traffic signal will also provide improved access for the Lemmon Drive Estates development and reduce U-turns at the Lemmon Drive / Military Road intersection. Therefore, a traffic signal is recommended at the Lemmon Drive / Vista Knoll Parkway intersection and will improve operations at the Lemmon Drive / Sky Vista Parkway / Buck Drive intersection.

Are any improvements recommended?

It is recommended that the project construct the following improvements:

- ▶ The remaining Vista Knoll Parkway roadway segment between the North Walmart Driveway and Lemmon Drive as a two lane roadway with one travel lane in each direction and left turn lanes at intersections.
- ▶ Sidewalk connection on Vista Knoll Parkway between the North Walmart Driveway and Lemmon Drive.



- ▶ A traffic signal at the Lemmon Drive / Vista Knoll Parkway intersection, under an RRIF offset agreement, if not constructed by other development(s) prior to this project. It is anticipated that traffic signal warrants will be met under Baseline Plus Project conditions.
- ▶ All project driveways and intersections should provide adequate sight distance triangles in accordance with the current edition of AASHTO's *A Policy on Geometric Design of Highways and Streets*.
- ▶ The project will pay Regional Road Impact fees, or construct traffic signal improvements under an RRIF offset agreement, as mitigation for its impact on the regional roadway network.



LIST OF FIGURES

1. Project Location
2. Preliminary Site Plan
3. Baseline Traffic Volumes, Lane Configurations, and Controls
4. Project Trip Distribution and Assignment
5. Redistributed Walmart Trips
6. Baseline Plus Project Traffic Volumes, Lane Configurations, and Controls
7. Future Year Traffic Volumes, Lane Configurations, and Controls
8. Future Year Plus Project Traffic Volumes, Lane Configurations, and Controls

LIST OF APPENDICES

Appendix Not Included in Exhibit C

- A. NDOT Crash History Data
- B. Baseline LOS Calculations
- C. Baseline Plus Project LOS Calculations
- D. Future Year LOS Calculations
- E. Future Year Plus Project LOS Calculations



INTRODUCTION

This report presents the findings of a Traffic Impact Study completed to assess the potential traffic impacts on local intersections associated with the Highland project in Reno, Nevada. This traffic impact study has been prepared to document existing traffic conditions, quantify traffic volumes generated by the proposed project, identify potential impacts, document findings, and make recommendations to mitigate impacts, if any are found. The location of the project is shown on **Figure 1** and the preliminary site plan is shown on **Figure 2**.

Study Area and Evaluated Scenarios

The project consists of 221 single-family units, 300 multifamily units, and 20,000 square feet of commercial/retail space. The project is generally located west of Lemmon Drive between Sky Vista Parkway and Military Road. The study intersections are shown on **Figure 1** and were identified based on project location and assessment of the intersections most likely to be impacted. The following intersections are included in this study:

- ▶ Vista Knoll Parkway / North Walmart Driveway
- ▶ Vista Knoll Parkway / South Walmart Driveway
- ▶ Sky Vista Parkway / Vista Knoll Parkway
- ▶ Lemmon Drive / Vista Knoll Parkway (Project Roadway)
- ▶ Lemmon Drive / Sky Vista Parkway / Buck Drive

This study includes analysis of both the weekday AM and PM peak hours as these are the periods of time in which peak traffic is anticipated to occur. The evaluated development scenarios are:

- ▶ Baseline Conditions
- ▶ Baseline Plus Project Conditions
- ▶ Future Year Conditions (20 year horizon)
- ▶ Future Year Plus Project Conditions

ANALYSIS METHODOLOGY

Level of service (LOS) is a term commonly used by transportation practitioners to measure and describe the operational characteristics of intersections, roadway segments, and other facilities. This term equates seconds of delay per vehicle at intersections to letter grades “A” through “F” with “A” representing optimum conditions and “F” representing breakdown or over capacity flows.



Intersections

The complete methodology for intersection level of service analysis is established in *the Highway Capacity Manual (HCM), 6th Edition* published by the Transportation Research Board (TRB). **Table 1** presents the delay thresholds for each level of service grade at signalized and unsignalized intersections.

Table 1: Level of Service Definition for Intersections

Level of Service	Brief Description	Average Delay (seconds per vehicle)	
		Signalized Intersections	Unsignalized Intersections
A	Free flow conditions.	< 10	< 10
B	Stable conditions with some affect from other vehicles.	10 to 20	10 to 15
C	Stable conditions with significant affect from other vehicles.	20 to 35	15 to 25
D	High density traffic conditions still with stable flow.	35 to 55	25 to 35
E	At or near capacity flows.	55 to 80	35 to 50
F	Over capacity conditions.	> 80	> 50

Source: *Highway Capacity Manual, 6th Edition*

Level of service calculations were performed for the study intersections using the Synchro 11 software package with analysis and results reported in accordance with *HCM* methodology.

Level of Service Policy

City of Reno

The Regional Transportation Commission's (RTC) *2050 Regional Transportation Plan (RTP)* establishes level of service criteria for regional roadway facilities in the City of Reno, City of Sparks, and Washoe County. The current Level of Service policy is:

"All regional roadway facilities projected to carry less than 27,000 ADT at the latest RTP horizon – LOS D or better."

"All regional roadway facilities projected to carry 27,000 or more ADT at the latest RTP horizon – LOS E or better."

"All intersections shall be designed to provide a level of service consistent with maintaining the policy level of service of the intersecting corridors".

Within the project vicinity, Lemmon Drive currently carries more than 27,000 ADT. Therefore, LOS "E" was used as the threshold criteria on Lemmon Drive and LOS "D" was used as the threshold criteria on all other study roadways.



Traffic engineering practitioners recognize that exceedance to LOS policies (LOS “E”/“F”) specific to minor side-street approaches during the peak hour(s) does not necessarily indicate an intersection failure or the need for mitigation. Mitigation and management strategies for minor side-street approaches must be evaluated on a case by case basis. This condition (LOS “E”/“F” for a minor side-street approach) commonly exists throughout urban and suburban areas and is manageable in most cases.

BASELINE CONDITIONS

Roadway Facilities

A brief description of the existing key roadways in the study area is provided below.

Lemmon Drive is generally a six-lane north-south roadway with three lanes in each direction plus turn lanes at major intersections south of Military Road to US 395. It is classified as a “Medium Access Control Arterial” in the 2050 RTP. The posted speed limit is 45 mph north of Sky Vista Parkway and 35 mph south of Sky Vista Parkway. A diverging diamond interchange is currently under construction at the US 395 / Lemmon Drive interchange.

Sky Vista Parkway is a two-lane east-west roadway with one lane in each direction between Vista Knoll Parkway and Silver Lake Road and four lanes between Lemmon Drive and Vista Knoll Parkway. Near-term improvements on Sky Vista Parkway include widening from two lanes to four lanes between Vista Knoll Parkway and Silver Lake Road. The widening will occur prior to the subject project. It is classified as a “Medium Access Control Arterial” in the 2050 RTP. The posted speed limit is 35 mph within the study area.

Vista Knoll Parkway is a three-lane north-south roadway with one lane in each direction and a center turn lane. It is classified as a “Low Access Control Collector” in the 2050 RTP. The posted speed limit is 25 mph within the study area.

Alternative Travel Modes

Sidewalks exist on both sides of Sky Vista Parkway between Lemmon Drive and Vista Knoll Parkway. A sidewalk is constructed on the north side of Sky Vista Parkway west of Vista Knoll to the RTC bus stop. Additionally, a pedestrian/bike path exists on the south side of Sky Vista Parkway from Silver Lake Road to Vista Knoll Parkway which ties the sidewalk on the south side of Sky Vista Parkway between Vista Knoll and Lemmon Drive. Vista Knoll Parkway has sidewalk on the west side only south of the South Walmart Driveway and the east side only between the North Walmart Driveway and the South Walmart Driveway. Bike lanes exist on both sides of Sky Vista Parkway between Lemmon Drive and Silver Lake Road. The site has adequate access to bicycle and pedestrian facilities.



RTC Bus Route #7 provides public transit service to the project site with an existing stop at the Sky Vista Parkway / Vista Knoll Parkway intersection, as shown in **Exhibit 1**. This site is well served by public transit.

Crash History

Vehicle crash data was requested from NDOT for the most recent three year period (2017-2020) for the Lemmon Drive / Sky Vista Parkway / Buck Drive and Sky Vista Parkway / Vista Knolls Parkway intersections. A total of 51 crashes and 12 crashes were reported at the Lemmon Drive / Sky Vista Parkway / Buck Drive and Sky Vista Parkway / Vista Knolls Parkway intersections, respectively. The majority of the reported crashes occurring at the Lemmon Drive / Sky Vista Parkway / Buck Drive intersection were classified as angle (23) and rear-end (14) type crashes. Rear-end (6) was the most common reported crash type at the Lemmon Drive / Vista Knoll Parkway intersection. No fatalities were reported at either intersection. Complete crash data is provided in **Appendix A**.

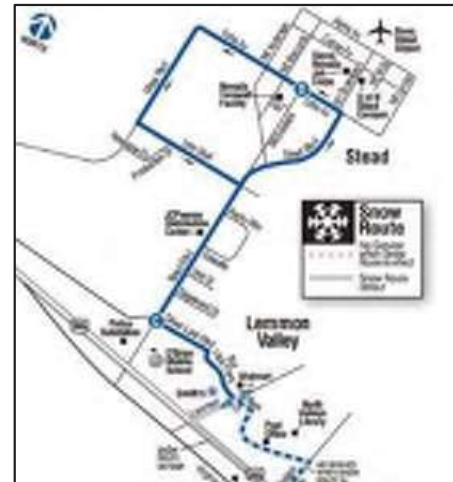


Exhibit 1. Bus Route #7

Traffic Volumes

AM and PM peak hour traffic volumes were collected at the study intersections in March of 2022 with Washoe County School District in regular session. It is important to note that during data collection there was significant construction on Lemmon Drive. The collected turning movement counts were compared to the *Traffic Analysis Memorandum for the Lemmon Drive Capacity Improvements Project* (Jacobs, February 2021). The collected traffic volumes on Lemmon Drive were significantly lower than the Jacobs study (counts collected in 2019). Therefore, existing turning movement volumes at the Lemmon Drive / Sky Vista Parkway / Buck Drive intersection from the Jacobs study were used. In addition, traffic generated by the Quick Quack Car Wash and Lemmon Drive Estates developments were added to the existing traffic volumes to obtain Baseline Conditions traffic volumes. The Baseline Conditions intersection turning movement volumes, lane configurations, and controls are shown on **Figure 3**.

Intersection Level of Service Analysis

Baseline AM and PM peak hour intersection level of service analysis was performed for the study intersections using Synchro 11 analysis software. **Table 2** shows the Baseline Condition level of service results and the technical calculations are provided in **Appendix B**.



Table 2: Baseline Intersection Level of Service

Int. ID	Intersection	Control	AM		PM	
			Delay ¹	LOS	Delay ¹	LOS
1	Vista Knoll Pkwy / North Walmart Dwy	Side Street Stop				
	Overall		4.8	A	7.9	A
	Westbound Approach		9.0	A	10.6	B
2	Vista Knoll Pkwy / South Walmart Dwy	Side Street Stop				
	Overall		1.7	A	3.7	A
	Westbound Approach		9.9	A	18.0	C
	Southbound Left		0.0	A	8.2	A
3	Sky Vista Pkwy / Vista Knoll Pkwy	Signal				
	Overall		12.4	B	19.5	B
4	Lemmon Drive / Vista Knoll Parkway	Side Street Stop				
	Overall		0.7	A	1.2	A
	Westbound Approach		28.5	D	85.5	F
	Southbound Left		11.8	B	25.9	D
5	Lemmon Dr / Sky Vista Pkwy / Buck Dr	Signal				
	Overall		27.5	C	58.6	E

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized and all way stop controlled intersections, and for the worst approach/movement for side street stop controlled intersections.

Source: Headway Transportation, 2022

As shown in the table, the study intersections currently operate overall within policy level of service thresholds during the AM and PM peak hours. The minor westbound approach at the Lemmon Drive / Vista Knoll Parkway intersection is expected to operate at LOS "F" during the PM peak hour assuming left turns out from the Lemmon Drive Estates project at this location.

PROJECT CONDITIONS

Trip Generation

Trip generation rates from the *Trip Generation Manual, 11th Edition* published by the Institute of Transportation Engineers (ITE) were used to develop trip generation estimates for the proposed project. The proposed project consists of 221 single-family units, 300 multifamily units, and 1.7 acres of commercial/retail use. Using a common Floor Area Ratio (FAR) of 0.25, the project could build approximately 18,500 square feet of commercial/retail. This study conservatively uses 20,000 square feet of commercial/retail space. It is important to note that the actual use is not identified at this time and this study assumes the Strip Retail Plaza land use. Any land use mix which generates equal to or less peak hour traffic would be considered equivalent from a traffic impact evaluation perspective.

Table 3 shows the Daily, AM peak hour, and PM peak hour trip generation estimates.



Table 3: Trip Generation Estimates

Land Use (ITE Code)	Size ¹	Trips				
		Daily	AM	AM In/Out	PM	PM In/Out
Single-Family Housing (210)	221 du	2,084	154	40 / 114	208	131 / 77
Internal Reduction		-73	-1	0 / -1	-12	-9 / -3
Multifamily Housing (220)	300 du	2,022	120	29 / 91	153	96 / 57
Internal Reduction		-91	-1	0 / -1	-12	-9 / -3
Strip Retail Plaza (822)	20 ksf	1,088	47	28 / 19	132	66 / 66
Internal Reduction		-120	-2	-2 / 0	-24	-6 / -18
Pass-by Reduction		-239	-8	-4 / -4	-36	-18 / -18
Total Trips		5,194	321	97 / 224	493	293 / 200
Internal Trip Reduction		-284	-4	-2 / -2	-48	-24 / -24
Pass-by Trip Reduction		-239	-8	-4 / -4	-36	-18 / -18
Net New Trips		4,671	309	91 / 218	409	251 / 158

Notes: 1. du = dwelling units; ksf = 1000 square feet

Source: Headway Transportation, 2022

As shown in the table, the project is expected to generate 4,671 net new Daily, 309 net new AM peak hour, and 409 net new PM peak hour trips.

Trip Distribution

Project trips were distributed to the adjacent roadway network based on existing traffic volumes, the locations of complimentary land uses, and anticipated travel patterns. Project trips were distributed based on the following:

Residential

- ▶ 65% to/from the south via Lemmon Drive
- ▶ 20% to/from the west via Sky Vista Parkway
- ▶ 10% to/from the north via Lemmon Drive
- ▶ 5% to/from the west via Buck Drive

Commercial / Retail

- ▶ 35% to/from the north via Lemmon Drive
- ▶ 30% to/from the south via Lemmon Drive
- ▶ 25% to/from the west via Sky Vista Parkway
- ▶ 10% to/from the west via Buck Drive

Figure 4 shows the project trip distribution and assignment.



Project Access

Primary access to the project site is proposed via Vista Knolls Parkway. The project proposes to construct the remaining portion of Vista Knolls Parkway from the North Walmart Driveway east to Lemmon Drive as a two lane roadway and left turn lanes at intersections. It is recognized that a traffic signal will be necessary at the proposed Lemmon Drive / Vista Knoll Parkway intersection to enable full access. A traffic signal at the Lemmon Drive / Vista Knoll Parkway intersection will provide an overall circulation benefit by reducing traffic through the Lemmon Drive / Sky Vista Parkway / Buck Drive intersection by creating an additional access to the existing commercial land uses (Walmart, Saint Mary's etc.). The traffic signal will also provide improved access for the Lemmon Drive Estates development and reduce U-turns at the Lemmon Drive / Military Road intersection. The traffic signal should be constructed under an RRIF offset agreement if not constructed by other development(s) prior to this project.

BASELINE PLUS PROJECT CONDITIONS

Traffic Volumes

Project trips (**Figure 4**) were added to the Baseline traffic volumes (**Figure 3**). Additionally, approximately fifteen percent of the existing westbound right and southbound left turning movements at the Sky Vista Parkway / Vista Knoll Parkway intersection were reassigned north to the Lemmon Drive / Vista Knoll Parkway intersection to account for the additional access as shown in **Figure 5**. The resultant Baseline Traffic Volumes, Lane Configurations, and Controls are shown in **Figure 6**.

Preliminary Signal Warrant Analysis

A preliminary traffic signal warrant analysis (Warrant 2: Four-Hour Vehicle Volume) was completed for the proposed Lemmon Drive / Vista Knoll Parkway intersection based on nationally accepted standards outlined in the current edition of the *Manual on Uniform Traffic Control Devices* (MUTCD). The MUTCD states that "If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, Figure 4C-2 (70% factor) may be used in place of Figure 4C-1. Lemmon Drive has a posted speed of 45 mph north of Sky Vista Parkway. Therefore, Figure 4C-2 (70% factor) was used in this analysis.

Off-peak baseline turning movement volumes were developed by factoring down the Baseline Plus Project PM peak hour turning movement volumes using the following resources:

- ▶ Left-turns into the project site - ITE's *Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use – Multifamily Housing* (220)
- ▶ Southbound approach volumes – historic NDOT traffic volume data (count station 0311145)

Table 4 shows the four highest PM peak hours and the volumes are plotted on **Exhibit 2**.



The MUTCD states that “at an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher of the major-street left-turn volumes as the "minor-street" volume and the corresponding single direction of opposing traffic on the major street as the "major-street" volume.” Therefore, this signal warrant analysis is performed with the northbound left turn on Lemmon Drive as the minor street volume and the southbound approach on Lemmon Drive as the major street volume in accordance with accepted MUTCD methodologies.

Table 4. Four Highest PM Peak Hours

Hour	% of Inbound Peak Hour	Hourly Northbound Left Turn (Minor Street)	% of Peak Hour Segment Volume	Hourly Southbound Approach Volume (Major Street)
3 PM – 4 PM	72.8	96	87.0	923
4 PM – 5 PM	87.7	116	100.0	1060
5 PM – 6 PM	100.0	132	96.6	1024
6 PM – 7 PM	83.3	110	71.6	759

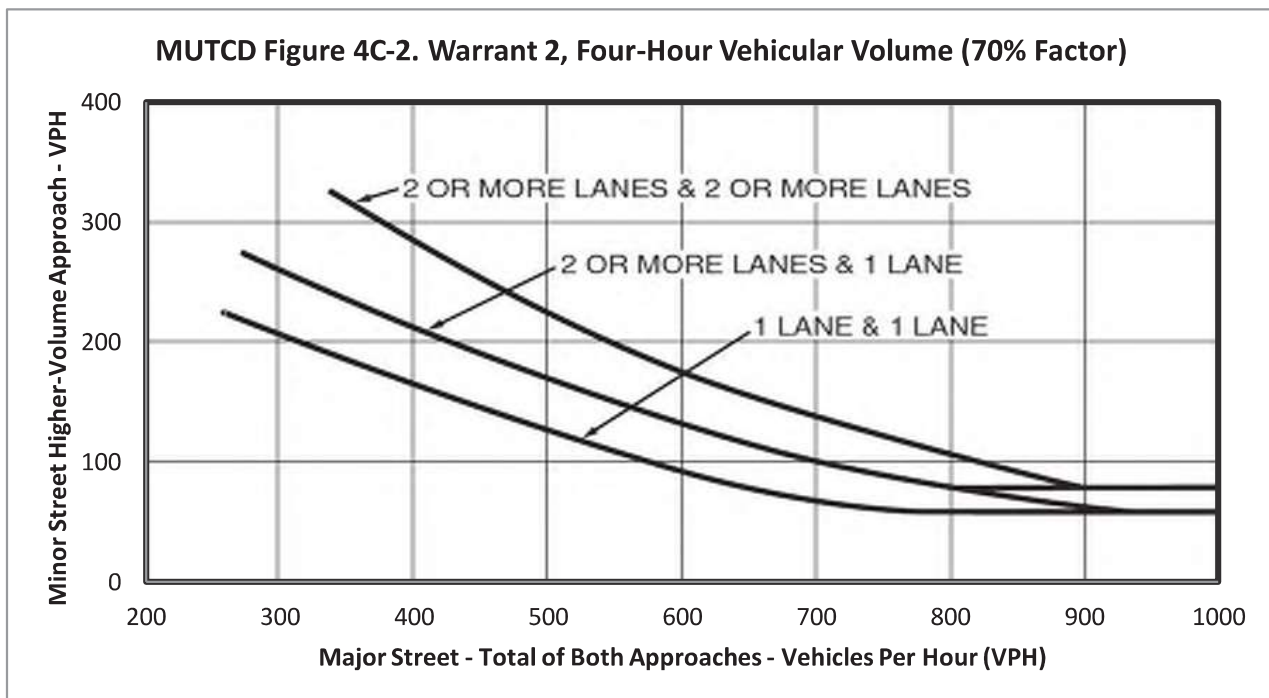


Exhibit 2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

As shown in the exhibit, all four plotted points fall above the 2 or more lanes (southbound) & 1 lane (northbound left) curve. Thus, it is anticipated that the four-hour vehicular volume signal warrant will be met under Baseline Plus Project conditions.



Intersection Level of Service

Table 5 shows the Baseline Plus Project level of service results and the technical calculations are provided in **Appendix C**. The Lemmon Drive / Vista Knoll Parkway intersection is analyzed with a traffic signal and full access.

Table 5: Baseline Plus Project Intersection Level of Service

Int. ID	Intersection	Control	AM		PM	
			Delay ¹	LOS	Delay ¹	LOS
1	Vista Knoll Pkwy / North Walmart Dwy	Side Street Stop				
	Overall		3.9	A	8.8	A
	Eastbound Approach		8.8	A	9.0	A
	Westbound Approach		10.1	B	16.1	C
	Northbound Left		7.4	A	7.4	A
	Southbound Left		7.4	A	7.6	A
2	Vista Knoll Pkwy / South Walmart Dwy	Side Street Stop				
	Overall		2.1	A	6.3	A
	Eastbound Approach		9.3	A	11.0	B
	Westbound Approach		11.3	B	32.1	D
	Northbound Left		7.5	A	8.0	A
	Southbound Left		7.7	A	8.4	A
3	Sky Vista Pkwy / Vista Knoll Pkwy	Signal				
	Overall		13.4	B	30.8	C
4	Lemmon Drive / Vista Knoll Parkway	Signal				
	Overall		13.7	B	14.2	B
5	Lemmon Dr / Sky Vista Pkwy / Buck Dr	Signal				
	Overall		29.0	C	54.6	D

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized and all way stop controlled intersections, and for the worst approach/movement for side street stop controlled intersections.

Source: Headway Transportation, 2022

As shown in the table, the study intersections and driveways are expected to operate overall within level of service policy under Baseline Plus Project conditions.

FUTURE YEAR CONDITIONS

The Future Year analysis estimates operating conditions for the 20 year horizon.

Traffic Volume Forecasts

Future Year (20-year horizon) background traffic volumes were obtained from Scenario 2 within the *Traffic Analysis Memorandum for the Lemmon Drive Capacity Improvements Project* (Jacobs, February 2021). This subject property was included as the “Lemmon & Sky Vista Shopping Center”. Trips assigned to the



Lemmon Drive / Vista Knoll Parkway intersection in the Jacobs study were removed from the study intersections for this background (without project) analysis scenario. **Figure 7** shows the Future Year (No Project) traffic volumes at the study intersections.

Intersection Level of Service

AM and PM peak hour intersection level of service analysis was performed for the study intersections using Synchro analysis software. **Table 6** shows the Future Year conditions level of service results and the technical calculations are provided in **Appendix D**. Signal timing was optimized for future volumes and signal coordination using Synchro software at the Lemmon Drive / Sky Vista Parkway / Buck Drive intersection.

Table 6: Future Intersection Level of Service

Int. ID	Intersection	Control	AM		PM	
			Delay ¹	LOS	Delay ¹	LOS
1	Vista Knoll Pkwy / North Walmart Dwy	Side Street Stop				
	Overall		4.8	A	8.2	A
	Westbound Approach		9.0	A	11.0	B
2	Vista Knoll Pkwy / South Walmart Dwy	Side Street Stop				
	Overall		1.7	A	4.4	A
	Westbound Approach		10.1	B	21.1	C
	Southbound Left		0.0	A	8.3	A
3	Sky Vista Pkwy / Vista Knoll Pkwy	Signal				
	Overall		15.0	B	20.4	C
4	Lemmon Drive / Vista Knoll Parkway	Side Street Stop				
	Overall		4.6	A	11.4	B
	Westbound Approach		>300	F	>300	F
	Southbound Left		21.5	C	85.7	F
5	Lemmon Dr / Sky Vista Pkwy / Buck Dr	Signal				
	Overall		97.9	F	133.7	F

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized and all way stop controlled intersections, and for the worst approach/movement for side street stop controlled intersections.

Source: Headway Transportation, 2022

As shown in the table, both the Lemmon Drive / Vista Knoll Parkway (unsignalized) with full movements from Lemmon Drive Estates and the Lemmon Drive / Sky Vista Parkway / Buck Drive intersections are expected to operate at LOS "F" during the AM and PM peak hours. This analysis assumes that the Lemmon Drive / Sky Vista Parkway intersection will be coordinated with the future diverging diamond interchange (DDI). All other study intersections are expected to operate within policy level of service thresholds under Future Year (no project) conditions.



FUTURE YEAR PLUS PROJECT CONDITIONS

Traffic Volumes

Project trips (**Figure 4**) were added to the Future Year traffic volumes (**Figure 7**) to develop the Future Year Plus Project conditions traffic volumes, shown on **Figure 8**. Similar to the Baseline Plus Project scenario, approximately fifteen percent of the future (no project) westbound right and southbound left turning movements at the Sky Vista Parkway / Vista Knoll Parkway intersection were reassigned north to the Lemmon Drive / Vista Knoll Parkway intersection to account for the additional access.

Intersection Level of Service

AM and PM peak hour intersection level of service analysis was performed for the study intersections based on the Future Year Plus Project traffic volumes. **Table 7** shows the level of service results and the technical calculations are provided in **Appendix E**.

Table 7: Future Plus Project Intersection Level of Service

Int. ID	Intersection	Control	AM		PM	
			Delay ¹	LOS	Delay ¹	LOS
1	Vista Knoll Pkwy / North Walmart Dwy	Side Street Stop				
	Overall		4.0	A	9.8	A
	Eastbound Approach		8.8	A	9.1	A
	Westbound Approach		10.2	B	17.8	C
	Northbound Left		7.4	A	7.6	A
	Southbound Left		7.4	A	9.1	A
2	Vista Knoll Pkwy / South Walmart Dwy	Side Street Stop				
	Overall		2.2	A	8.8	A
	Eastbound Approach		9.4	A	11.3	B
	Westbound Approach		11.5	B	45.0	E
	Northbound Left		7.5	A	8.1	A
	Southbound Left		7.7	A	8.5	A
3	Sky Vista Pkwy / Vista Knoll Pkwy	Signal				
	Overall		16.1	B	28.5	C
4	Lemmon Drive / Vista Knoll Parkway	Signal				
	Overall		19.7	B	17.6	B
5	Lemmon Dr / Sky Vista Pkwy / Buck Dr	Signal				
	Overall		97.9	F	138.0	F

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized and all way stop controlled intersections, and for the worst approach/movement for side street stop controlled intersections.

Source: Headway Transportation, 2022

As shown in the table, it is anticipated that the westbound approach at the Vista Knoll Parkway / South Walmart Driveway will operate at LOS "E" under Future Plus Project conditions. During the PM peak hour,



it is anticipated that the 95th percentile queues on the westbound approach at the Vista Knoll Parkway / South Walmart Driveway intersection will be 5.4 vehicles (135 feet). The existing westbound approach currently has at least 150 feet of storage which is anticipated to contain queuing vehicles. Additionally, traffic can also utilize the North Walmart Driveway during peak hours which is anticipated to operate at LOS "C". This is determined to be a manageable condition and no improvements are recommended.

The Lemmon Drive / Sky Vista Parkway / Buck Drive intersection will operate at poor levels of service in the 20 year horizon with or without this project. A traffic signal at the Lemmon Drive / Vista Knoll Parkway intersection will provide an overall circulation benefit by adding a new high quality connection to the Walmart shopping center and thereby reducing traffic in the Lemmon Drive / Sky Vista Parkway / Buck Drive intersection. The traffic signal will also provide improved access for the Lemmon Drive Estates development and reduce U-turns at the Lemmon Drive / Military Road intersection. Therefore, a traffic signal is recommended at the Lemmon Drive / Vista Knoll Parkway intersection and will improve operations at the Lemmon Drive / Sky Vista Parkway / Buck Drive intersection.

95th percentile queues of approximately 150' or less are anticipated for the northbound left movement at the Lemmon Drive / Vista Knoll Parkway intersection. The Washoe County RTC is currently constructing a 450' left turn pocket that will adequately provide storage for queuing vehicles.

CONCLUSIONS

The following is a list of our key findings and recommendations:

- ▶ The proposed project includes 221 single-family units, 300 multifamily units, and up to 20,000 square feet of commercial/retail space. It is important to note that the actual commercial/retail use is not identified at this time and this study assumes the Strip Retail Plaza land use. Any land use mix which generates equal to or less peak hour traffic is considered equivalent from a traffic impact evaluation perspective.
- ▶ The project is anticipated to generate approximately 4,671 net new Daily, 309 net new AM peak hour, and 409 net new PM peak hour trips on the external roadway network.
- ▶ A traffic signal at the Lemmon Drive / Vista Knoll Parkway intersection will provide an overall circulation benefit by adding a new high quality connection to the Walmart shopping center and thereby reducing traffic in the Lemmon Drive / Sky Vista Parkway / Buck Drive intersection. The traffic signal will also provide improved access for the Lemmon Drive Estates development and reduce U-turns at the Lemmon Drive / Military Road intersection. Therefore, a traffic signal is recommended at the Lemmon Drive / Vista Knoll Parkway intersection and will improve operations at the Lemmon Drive / Sky Vista Parkway / Buck Drive intersection.

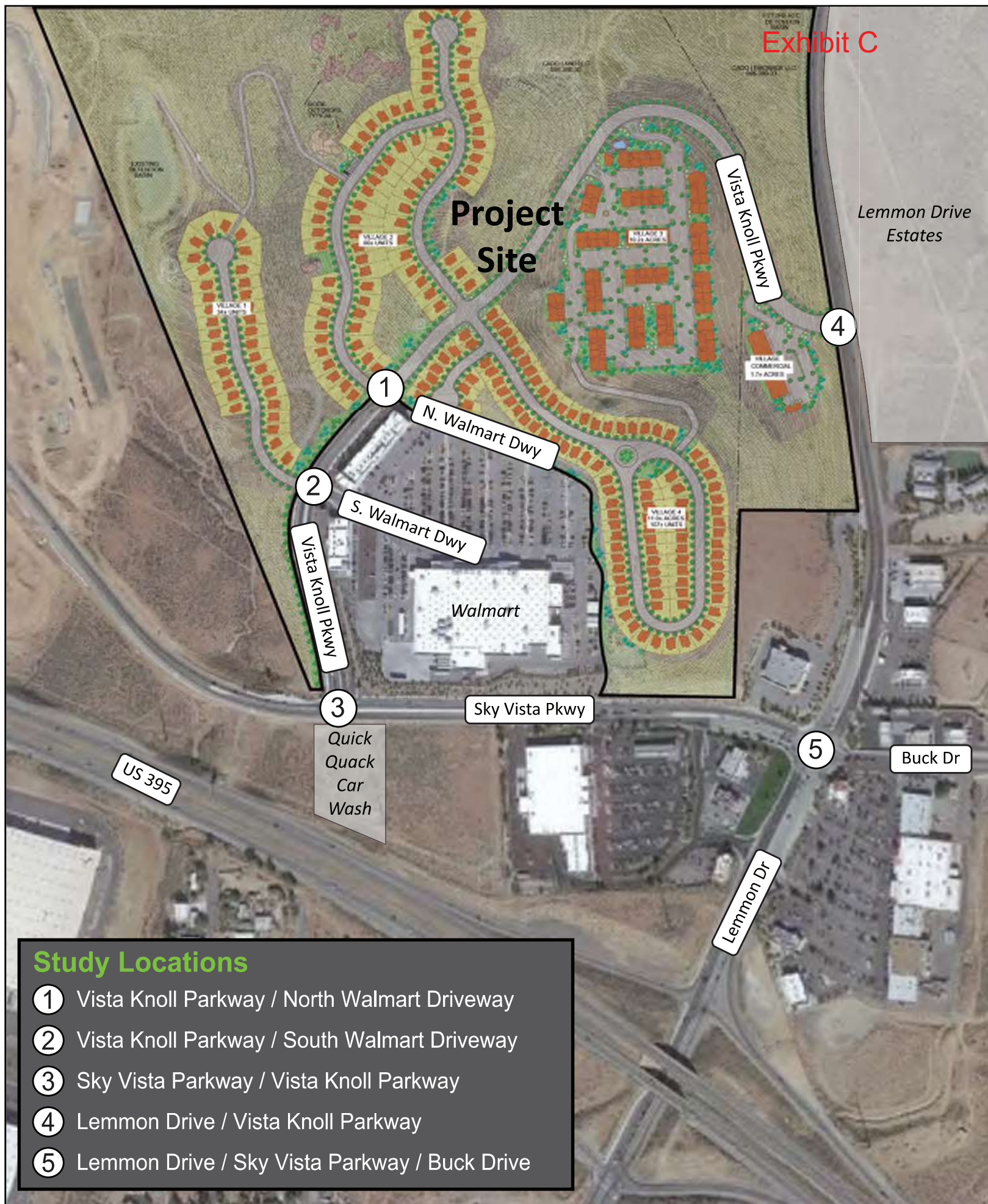


- ▶ With installation of a traffic signal, all study intersections are expected to operate within policy level of service thresholds under Baseline Plus Project conditions.
- ▶ Under Future Year (no project) conditions, the Lemmon Drive / Sky Vista Parkway / Buck Drive intersection is anticipated to operate at poor levels of service (LOS "F").
- ▶ Under Future Year Plus Project conditions, the Lemmon Drive / Sky Vista Parkway / Buck Drive intersections are anticipated to operate at poor levels of service (LOS "F").

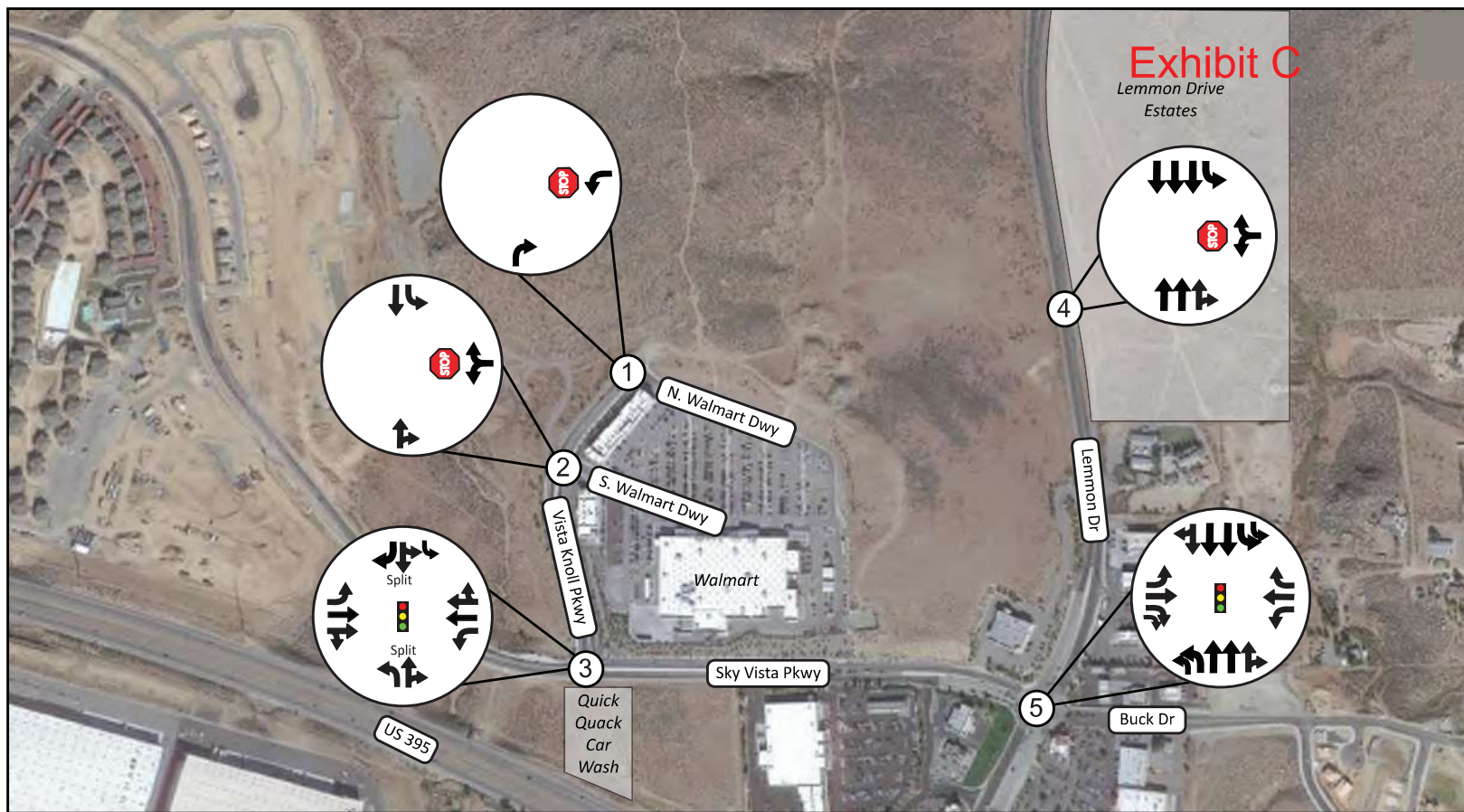
The project will construct the following improvements:

- ▶ The remaining Vista Knoll Parkway roadway segment between the North Walmart Driveway and Lemmon Drive as a two lane roadway with one travel lane in each direction and left turn lanes at intersections.
- ▶ Sidewalk connection on Vista Knoll Parkway between the North Walmart Driveway and Lemmon Drive.
- ▶ A traffic signal at the Lemmon Drive / Vista Knoll Parkway intersection, under an RRIF offset agreement, if not constructed by other development(s) prior to this project. It is anticipated that traffic signal warrants will be met under Baseline Plus Project conditions.
- ▶ All project driveways and intersections should provide adequate sight distance triangles in accordance with the current edition of AASHTO's A Policy on Geometric Design of Highways and Streets.
- ▶ The project will pay Regional Road Impact fees, or construct traffic signal improvements under an RRIF offset agreement, as mitigation for its impact on the regional roadway network.

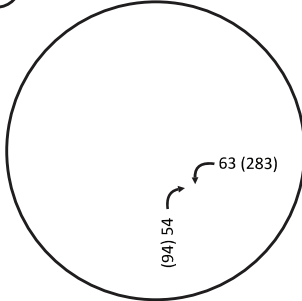




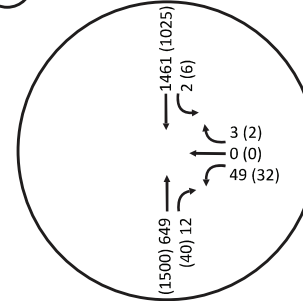




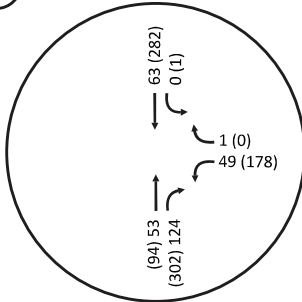
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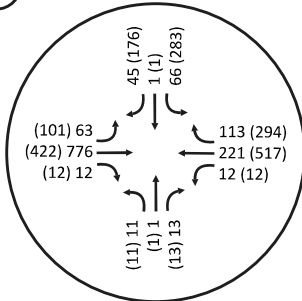
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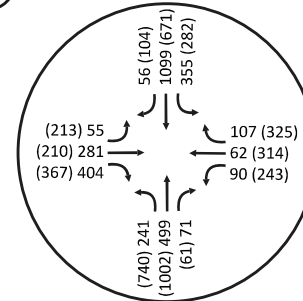
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3 Sky Vista Pkwy / Vista Knoll Pkwy



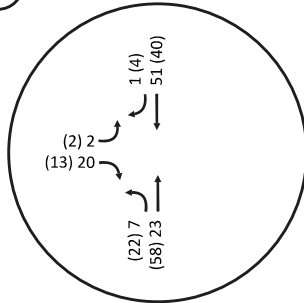
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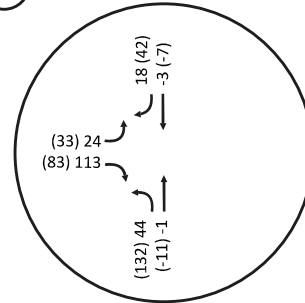
Project Site



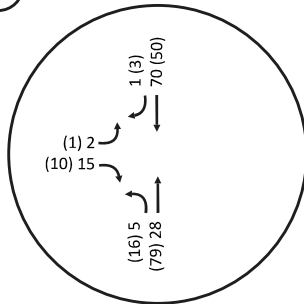
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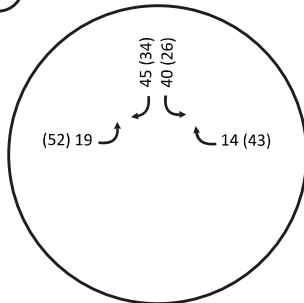
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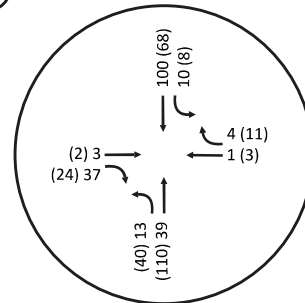
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3 Sky Vista Pkwy / Vista Knoll Pkwy



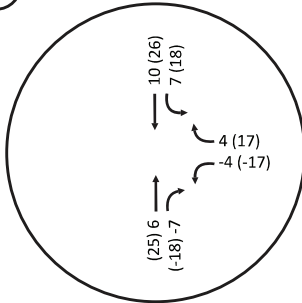
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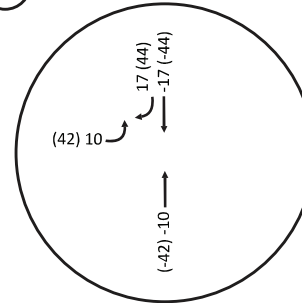
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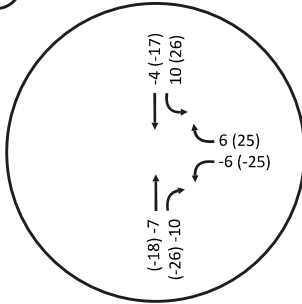
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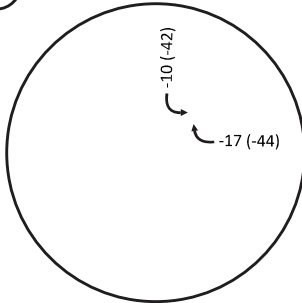
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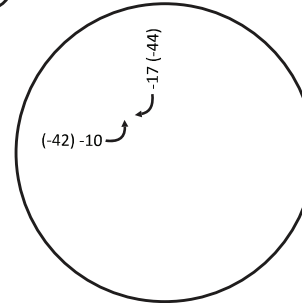
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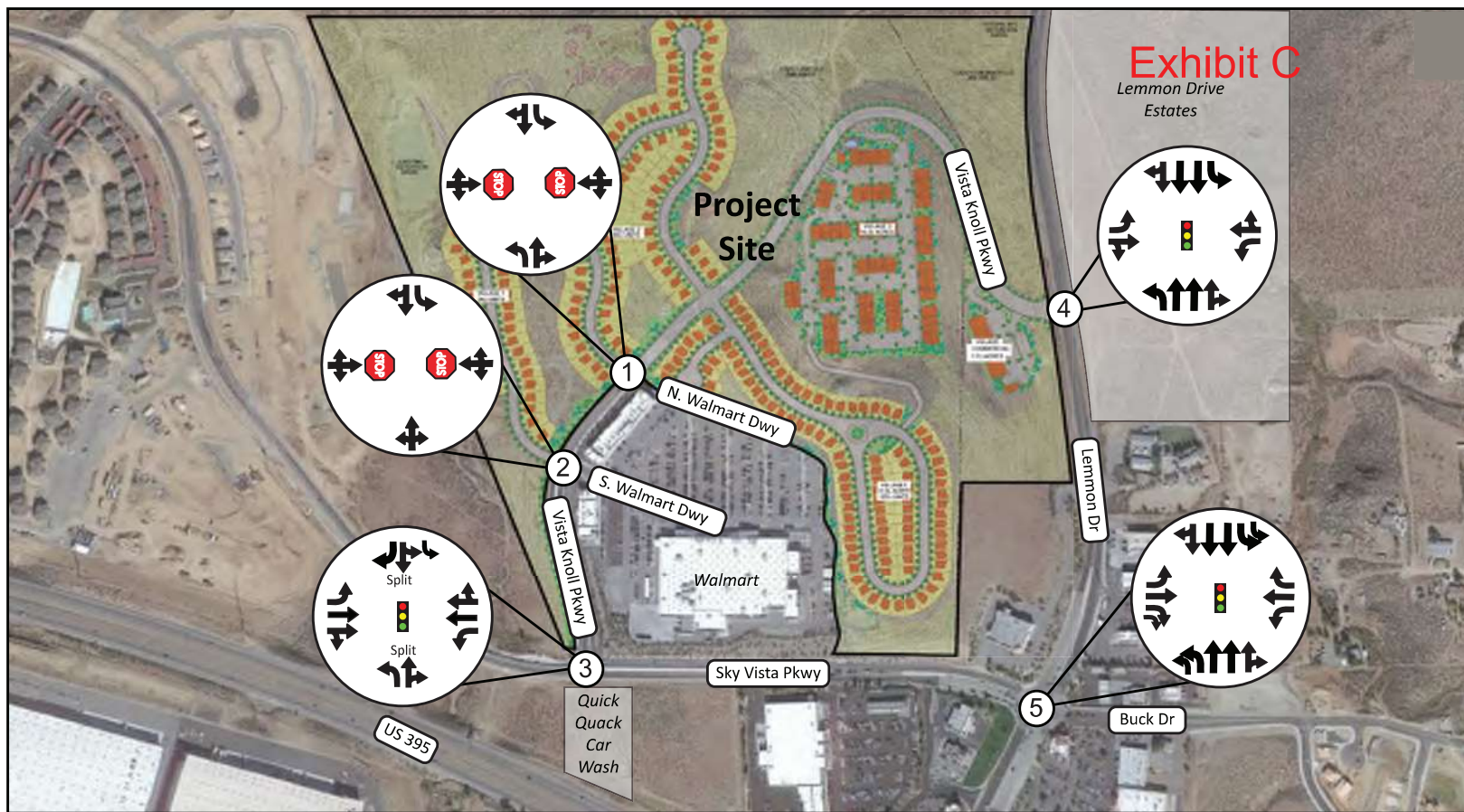
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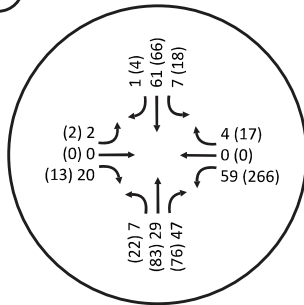
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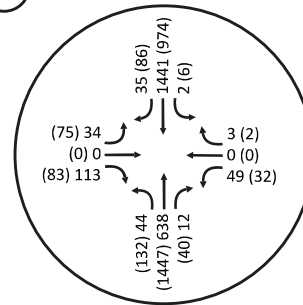
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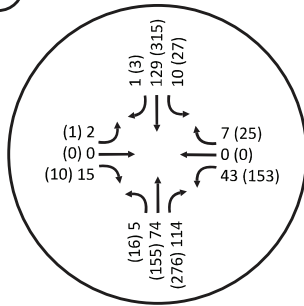
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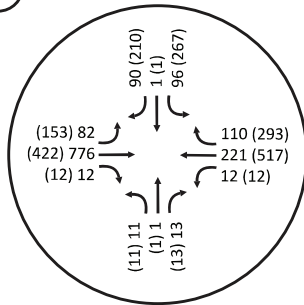
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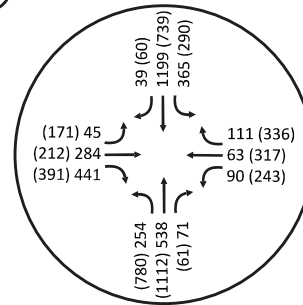
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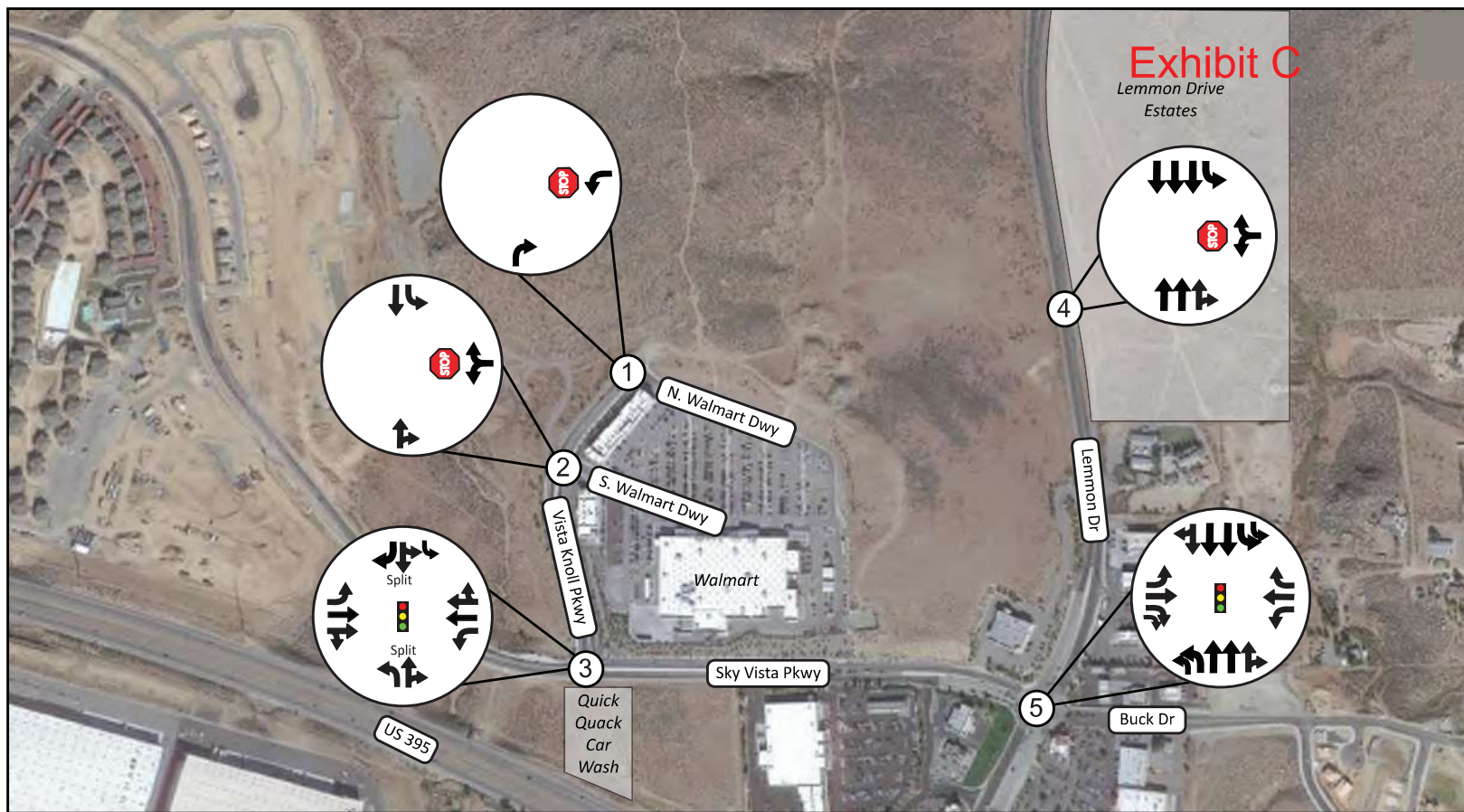


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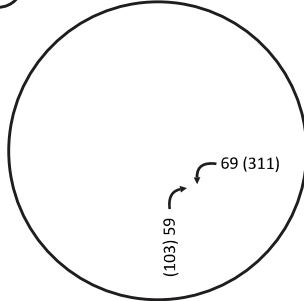


5 Lemmon Dr / Sky Vista Pkwy / Buck Dr

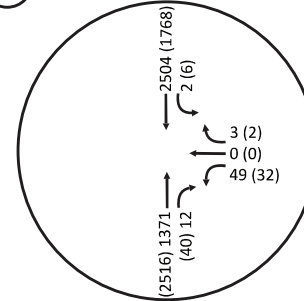




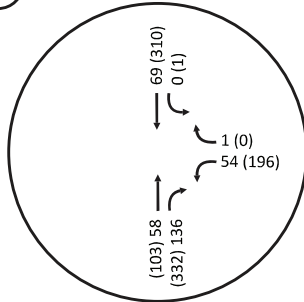
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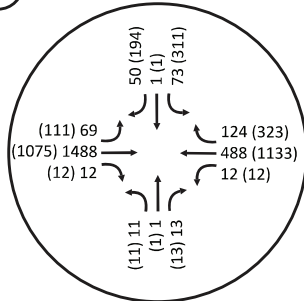
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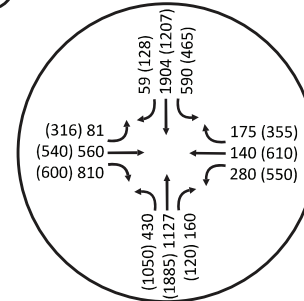
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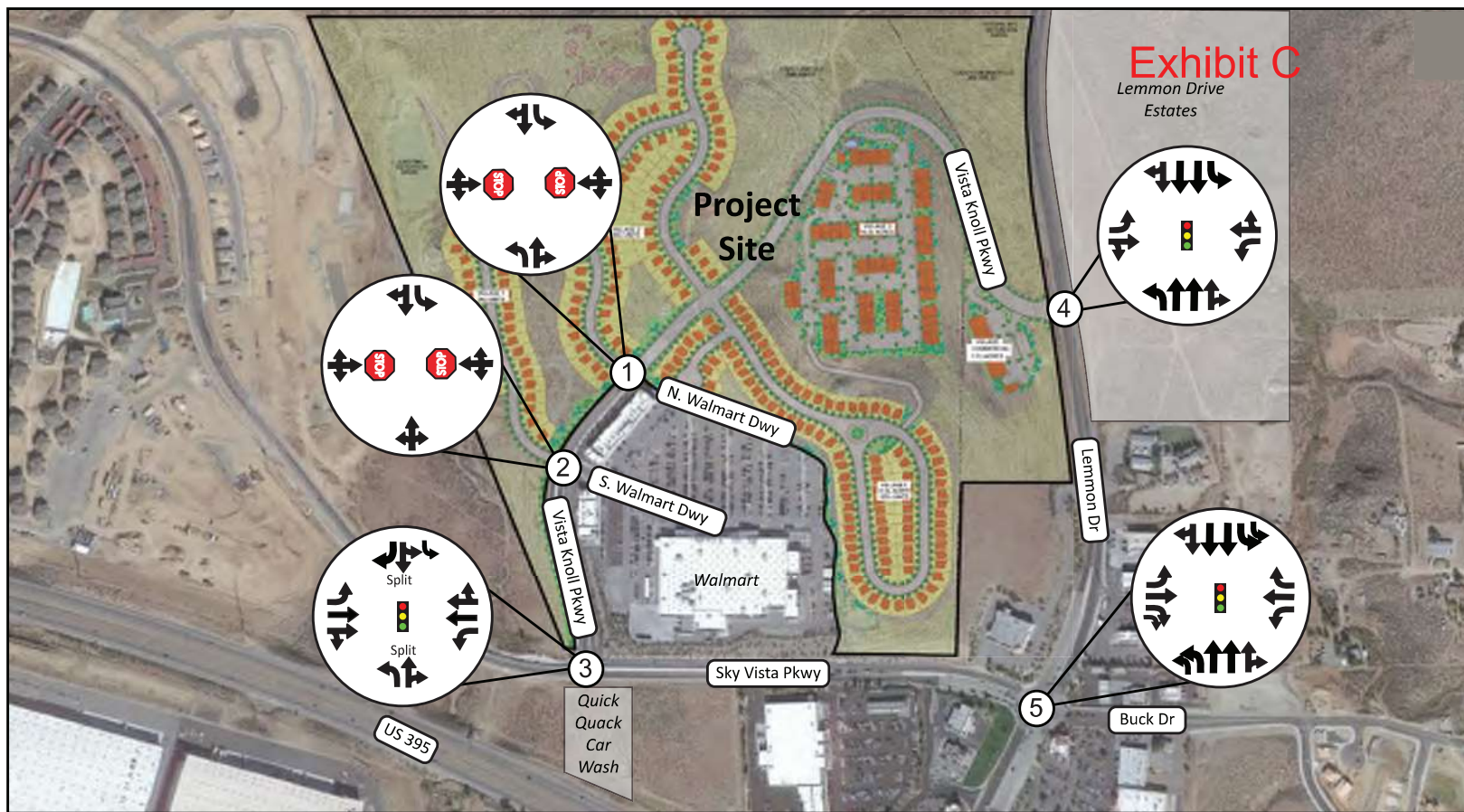


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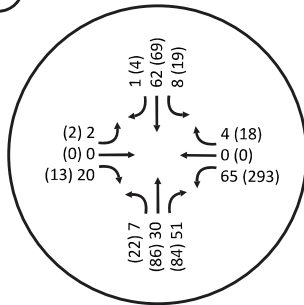


5 Lemmon Dr / Sky Vista Pkwy / Buck Dr

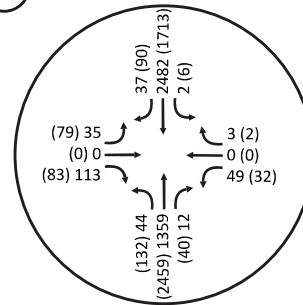




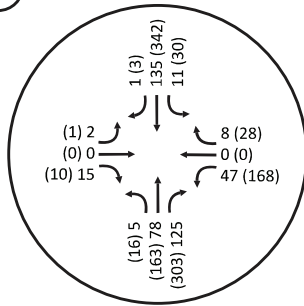
1 Vista Knoll Pkwy / N. Walmart Dwy



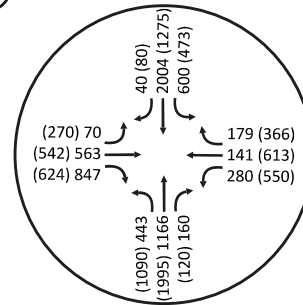
4 Lemmon Dr / Vista Knoll Pkwy



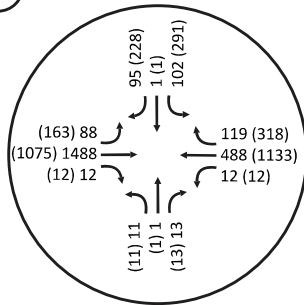
2 Vista Knoll Pkwy / S. Walmart Dwy



5 Lemmon Dr / Sky Vista Pkwy / Buck Dr



3 Sky Vista Pkwy / Vista Knoll Pkwy



Appendix A

NDOT Crash Data History

Appendix not included in Exhibit C



Proposal for Lemmon Estates Drive Project COR-03 Rev 01



Campbell Construction Co., Inc.

7788 White Fir Street

Reno, NV 89431

Contact: Ric Padilla

Phone: 775-677-9111 x1011

Fax: 775-677-9191

Quote To: Lafferty Communities
2000 Crow Canyon Place, Suite 350
San Ramon, CA 94583
Phone: (925) 355-1305
Email: GGarchar@laffertycommunities.com
Attention: Greg Garchar

Estimate No.: 22-025C-03R1
Date of Plans: SEE CONDITIONS
Plan Pages: SEE CONDITIONS
Bid Date: 5/19/23
Revision Date: 4/30/24

Proposal valid for 30 days.

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONDITIONS					
100010	Mobilization	1.00	LS	5,000.00	5,000.00
	General Conditions Subtotal				5,000.00
DEMOLITION					
101040	Saw Cut Asphalt	826.00	LF	6.45	5,327.70
101050	Saw Cut Concrete	530.00	LF	10.40	5,512.00
101060	Demo Asphalt 4" Thick	1,735.00	SF	2.25	3,903.75
101070	Demo Concrete Flatwork 4" Thick	15,410.00	SF	1.95	30,049.50
101080	Demo Type I Median Curb	790.00	LF	12.40	9,796.00
	Demolition Subtotal				54,588.95
GRADING					
200211	Finish Subgrade - Roadway	9,830.00	SF	1.30	12,779.00
200212	Finish Subgrade - Concrete Flatwork	6,030.00	SF	2.50	15,075.00
	Grading Subtotal				27,854.00
CONCRETE					
800012	Type I Median Curb w/ 6" Base	530.00	LF	55.00	29,150.00
800015	Island Infill 4" Concrete w/ 4" Base	6,030.00	SF	13.00	78,390.00
	Concrete Subtotal				107,540.00
PAVING					
900015	4" AC w/ 6" Base	9,810.00	SF	5.80	56,898.00
900017	4" AC on Existing Base	1,055.00	SF	3.65	3,850.75
900210	Slurry Seal - Roadways	10,865.00	SF	1.70	18,470.50
	Paving Subtotal				79,219.25


ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
MISCELLANEOUS					
950420	Signs & Striping	1.00	LS	24,500.00	24,500.00
	Miscellaneous Subtotal				24,500.00
	Base Contract Subtotal				298,702.20
ALTERNATES					
2200010	Over-Exc Turn Pocket 3' Deep	1,093.00	CY	8.55	9,345.15
2200011	Load Out & Off-Haul Expansive Clays	1,093.00	CY	23.05	25,193.65
2200015	Imp & Place Struct Fill (Turn Pocket 3' Deep)	1,093.00	CY	49.90	54,540.70
	Alternates Subtotal				89,079.50
GRAND TOTAL					\$387,781.70

NOTES:**TRAFFIC SIGNAL MODIFICATIONS ON LEMMON DRIVE**

1. All Electrical work is excluded from this proposal. Electrical work to be performed by others.
2. Pricing is based on CFA Civil Drawings Dated 3/11/24 Sheets C9.0 through C9.8.
3. Pricing based on this being a City of Reno Roadway.
4. 4" Asphalt to be Two Lifts Type II PG64-22 50 Blow 4% Voids w/ Rap and Lime in lieu of 4" PG64-28NV per City of Reno Standards. If the original asphalt thickness is more than stated on the drawings, we will be entitled to a price adjustment.
5. A Type II Slurry Seal is to be provided in lieu of the Chip Seal called out on Detail 1/C9.3.

All conditions and exclusions from our original proposal apply.

Respectfully Submitted,



Ric Padilla
 Estimator / Project Manager
 Campbell Construction Co., Inc.
 NCL# 47204 License Limit - Unlimited CCL# 794570

EXHIBIT 'A'

Summit Line Construction, Inc.

Item #	Item Description	Qty.	Unit	Unit Cost	Total Cost	Underground Infrastructure Totals
1	3" SCH40 PVC Conduit	1	LS	\$14,880.00	\$14,880.00	\$14,880.00
2	Trench & Backfill	1	LS	\$35,607.00	\$35,607.00	\$35,607.00
3	Metered Service w/ BBS & Foundation	1	LS	\$24,557.00	\$24,557.00	\$4,285.00
4	N-36 NV Energy Pull Box	1	LS	\$2,033.00	\$2,033.00	\$2,033.00
5	#5 T/R Pull Box	1	LS	\$10,764.00	\$10,764.00	\$10,764.00
6	#9/GE T/R Pull Box	1	LS	\$5,396.00	\$5,396.00	\$5,396.00
7	Type 30/35/30-A & 35-A Pole & Foundation	1	LS	\$233,631.00	\$233,631.00	\$57,000.00
8	1-A Pole & Foundation	1	LS	\$3,573.00	\$3,573.00	\$2,100.00
9	1W3C Signal Head	1	LS	\$21,135.00	\$21,135.00	
10	Pedestrian Signal Head	1	LS	\$9,865.00	\$9,865.00	
11	Gridsmart Camera System	1	LS	\$39,567.00	\$39,567.00	
12	25C Signal Cable	1	LS	\$19,704.00	\$19,704.00	
13	10C Signal Cable	1	LS	\$7,052.00	\$7,052.00	
14	Emergency Vehicle Detector	1	LS	\$11,518.00	\$11,518.00	
15	EVD Cable	1	LS	\$2,892.00	\$2,892.00	
16	Cable - 12C - Multi Mode (Tie-in to Existing Fiber From Buck to N	1	LS	\$23,818.00	\$23,818.00	
17	City of Reno Turn On	1	LS	\$3,836.00	\$3,836.00	
18	IISNS	1	LS	\$42,019.00	\$42,019.00	
19	Controller & Cabinet Assembly	1	LS	\$34,359.00	\$34,359.00	
20	Cabinet Foundation	1	LS	\$5,037.00	\$5,037.00	
21	Pedestrian Push Button Station	1	LS	\$9,866.00	\$9,866.00	
				Total Proposal:	\$561,109.00	
						\$137,102.00

EXHIBIT “D”
(Letter of Approval)



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

May 16, 2024

Mr. Greg Garchar
Lafferty Communities
Lemmon Drive Villas Property, LLC
5000 Executive Parkway, Suite 350
San Ramon CA 94583

Subject: Letter of Approval for Regional Road Impact Fee Waivers, April 16, 2024 Revision

Development of Record: Lemmon Drive Estates and Highland Project

Dear Garchar,

The Regional Road Impact Fee (RRIF) Administrators for the RTC and the City of Reno have reviewed and approved your application, dated April 16, 2024, to receive RRIF waivers for the installation of the traffic signal system at the intersection of Lemmon Drive/Vista Knolls Parkway/Sun Set View. The amount of RRIF waiver issued within the City of Reno is estimated to be around \$346,365 which is the remaining balance of offset eligible improvements constructed on behalf of Washoe County. A RRIF Offset Agreement for this work is being prepared and will be forwarded to the RTC Board and the Reno City Council with a recommendation for approval. Upon approval and execution of the Offset Agreement by these bodies, the agreement will be forwarded to the Developer of Record for signature.

Please feel free to contact Jeff Wilbrecht, Engineering Manager for the RTC, at (775) 335-1872 should you have any questions regarding this subject.

Sincerely,

**REGIONAL TRANSPORTATION COMMISSION
RRIF ADMINISTRATOR**

Dale Keller, P.E.
RTC RRIF Administrator

**CITY OF RENO
RRIF ADMINISTRATOR**

Mike Mischel, P.E.
City of Reno RRIF Administrator

DK/JW

Cc: Angela Fuss, AICP, Assistant Director of City of Reno Development Services

File: RRIF Offset Agreement # 513011

EXHIBIT “E”
(The Developer of Record QA/QC Program
And
RTC Special Technical Specifications
For
Regional Road Impact Fee Projects)

SPECIAL TECHNICAL SPECIFICATIONS

1.01	INSPECTION AND TESTING	1.15	BRIDGE DECKS - Deleted
1.01A	<u>ASPHALT CEMENT</u>	1.16	SLURRY SEAL
1.01B	<u>BITUMINOUS PLANTMIX</u>	1.17	MICRO-SURFACE - Deleted
1.02	REMOVAL OF EXISTING IMPROVEMENTS	1.17A	<u>GENERAL</u>
1.03	TREE ROOT MITIGATION - Deleted	1.17B	<u>CONTRACTOR PERSONNEL</u>
1.04	SUBGRADE PREPARATION- Deleted	1.17C	<u>MATERIAL</u>
1.05	OVEREXCAVATION AND STABILIZATION - Deleted	1.17D	<u>MIX DESIGN</u>
1.06	GEOSYNTHETICS - Deleted	1.17E	<u>PROPORTIONING</u>
1.06A	<u>SEPARATION</u>	1.17F	<u>MIXING AND SPREADING</u>
1.06B	<u>STABILIZATION</u>		<u>EQUIPMENT</u>
1.06C	<u>REINFORCEMENT</u>	1.17G	<u>PLACEMENT</u>
1.07	TRENCH EXCAVATION	1.18	PAVEMENT MARKINGS
1.08	PIPE - Deleted	1.18A	<u>TRAFFIC PAINT</u>
1.09	ROADBED MODIFICATION - Deleted	1.18B	<u>THERMOPLASTIC</u>
1.10	AGGREGATE BASE - Deleted	1.18C	<u>RAISED MARKERS</u>
1.11	CEMENT TREATED BASE - Deleted	1.19	FLEXIBLE MEDIAN ISLAND OBJECT MARKERS
1.11A	COMPOSITION OF MIXTURES	1.20	CHANNELIZERS
1.11B	MIXING	1.21	IMPACT ATTENUATOR - Deleted
1.11C	SPREADING	1.22	TRAFFIC SIGNS
1.11D	PROTECTION AND CURING	1.23	TRAFFIC SIGNALS
1.12	PORTLAND CEMENT CONCRETE	1.23A	<u>LOOP DETECTORS</u>
1.12A	<u>COMPOSITION OF MIXTURES</u>	1.23B	<u>TEMPORARY MODIFICATIONS DURING CONSTRUCTION</u>
1.12B	<u>SIDEWALK, CURB AND GUTTER</u>	1.23C	<u>CAMERAS</u>
1.12C	<u>THRUST BLOCKS</u>	1.24	UTILITY ADJUSTMENTS
1.12D	<u>RETAINING WALLS</u>	1.24A	<u>VERIFICATION OF DEPTH</u>
1.12E	<u>PAVING</u>	1.24B	<u>UTILITY MANHOLE AND VAULT ADJUSTMENTS</u>
1.12F	<u>UTILITY ADJUSTMENTS</u>	1.24C	<u>MANHOLE PROTECTION PLAN</u>
1.13	DETECTABLE SURFACE WARNING TILES	1.25	SURVEY MONUMENTS
1.14	BITUMINOUS PLANTMIX	1.26	CERTIFICATES OF COMPLIANCE
1.14A	<u>COMPOSITION OF MIXTURES</u>		
1.14B	<u>PAVING</u>		
	I SPREADING AND FINISHING		
	II ACCEPTANCE		
	III MITIGATION		
	IV SPECIAL PAVING CONSIDERATIONS		
	V TACK COAT		
	VI LONGITUDINAL JOINTS		
1.14C	PERMANENT PATCHING		

1.01 INSPECTION AND TESTING

Quality Assurance testing and inspection will be provided by the Agency. Quality Control shall be the Contractor's responsibility. All samples shall be furnished by the Contractor without cost to the Regional Transportation Commission of Washoe County (hereinafter designated "RTC" and/or "Agency"). The Agency may waive sampling and testing if adequate information, properly certified, is available to indicate that materials comply with the terms of specifications. Any retests due to faulty workmanship or materials shall be paid for by the Contractor.

All materials furnished and work performed, shall be done in accordance with the "Standard Specifications for Public Works Construction" (hereinafter designated "Standard Specifications") sponsored and distributed by RTC, Churchill County, Carson City, the Cities of Reno and Sparks, the City of Yerington, and Washoe County, including addenda through February 29, 2012, except as modified within the "Special Technical Specifications" for XYZ (hereinafter designated "STS"); and in accordance with the "Standard Details for Public Works Construction" (hereinafter designated "Standard Details"), including updates through December 29, 2011, except as modified by the drawings for XYZ.

1.01A ASPHALT CEMENT

1. Sampling - During hot mix operations for all paving days, the Design Engineer's designated representative shall obtain samples of all asphalt cement binders used to produce the bituminous mixture(s). During the pre-construction meeting the contractor shall provide the contact information for the certified plant representative that will be responsible for taking the asphalt cement samples. The Design Engineer's designated representative shall contact the plant representative in advance of each paving day and coordinate the sampling in accordance with the plantmix production schedule. Asphalt cement samples shall be taken at the injection point for each "lot" (500 ton) of plantmix bituminous pavement. Plant personnel sampling bituminous material are required to be qualified in the WAQTC Asphalt Module or NAQTC Specialized Test AASHTO T40 (Sampling Bituminous Material). All sampling shall be witnessed by the Design Engineer's representative. The plant representative shall properly label each sample which shall then be signed by both representatives.
2. Testing – Unless otherwise directed by the RTC Project Manager, the Design Engineer shall procure the testing of one of the samples from each paving day for compliance with Section 201 – “Bituminous Material” of the Standard Specifications at a laboratory certified to perform all required testing components.
3. **The sample to be tested shall be properly handled and sent to the State of Nevada Department of Transportation Materials Testing Laboratory, 1263 South Stewart Street in Carson City, Nevada.** The test result shall represent the binder material contained in all plantmix bituminous paving lots for the corresponding paving day. The remaining daily samples shall be stored at the Design Engineer's designated laboratory throughout the duration of the Contractor's warranty period.
4. Acceptance – Asphalt binder not conforming to Table 201.02-IV (PG64-28NV) of the Standard Specifications, Section 201 – “Bituminous Material” shall be assessed demerits in accordance with the following table:

TEST	LIMIT WITH TOLERANCE	REJECTION LIMIT	DEMERITS
Tests on Original Asphalt Cement			
Rotational viscosity (Pa.s)	3.21 Max.	3.50 Max.	21
Flash point, (°C)	222 Min.	163 Min.	21
Ductility (cm)	50 Min.	29 Min.	21
Toughness (Inch-lbs)	110 Min.	57 Min.	21
Tenacity (Inch-lbs)	75 Min.	22 Min.	21
Sieve Test (%)	1	10	21
Dynamic Shear (kPA)	0.90 Min.	0.75 Min.	21

SPECIAL TECHNICAL SPECIFICATIONS

Tests on Residue from Rolling Thin Film Oven			
Ductility (cm)	25 Min.	4 Min.	21
Dynamic Shear (kPa)	1.98 Min.	1.65 Min.	21
Average Mass Change (%)	1.00 Max.	1.01 Max.	31
Tests on Residue from Pressure Aging Vessel			
Dynamic Shear (kPa)	5500 Max.	6250 Max.	21
Stiffness Modulus (MPa)	330 Max.	375 Max.	21
Slope, m-value	0.290 Min.	0.245 Min.	21

Notes:

1. Demerits, up to the amount shown, shall be assessed for each test result that exceeds the "Limit with Tolerance."
2. The number of demerits assessed for each test result shall be calculated based on prorating the total demerits over the range from "Limit with Tolerance" to the "Rejection Limit."
3. The demerit/increment shall be multiplied by the difference between the noncompliant test result and the "Limit with Tolerance."
4. Demerit values for each test result will be rounded down to the nearest whole number.

The parties of the contract agree that damage will be sustained by the Agency in the event that the asphalt binder does not conform to the requirements of the specifications. In addition it is agreed that it is extremely difficult to quantify the actual damage the agency will sustain. Demerits will be used to determine mitigation that may include any necessary measures up to, and including, the assessment of liquidated damages or removal and replacement of the deficient material. The assessment of liquidated damages and the corresponding deduct from monies owed the contractor shall be in accordance with the schedule and corresponding notes below.

Total Number of Demerits	Liquidated Damage Dollar per Ton^{1,2}
1 – 2	10
3 – 5	20
6 – 9	30
10 – 14	50
15 – 20	100
21 - 30 ³	75% of the cost of the asphalt binder
31 - 40 ³	100% of the cost of the asphalt binder
41 or more ^{3,4}	100% + additional damages to be determined

Notes:

1. Liquidated damages will be assessed against the quantity (Tonnage) of asphalt binder used in the plantmix bituminous pavement represented by the sample tested.
2. The tons of asphalt binder shall be determined by multiplying the average of asphalt contents (by dry weight of aggregate) from all affected lots by the total tons of bituminous mixture placed.
3. Remove and replace material shown to have 21 or more demerits. Material removed shall not be paid for and all costs associated with removal shall be at the contractor's expense. Testing and inspection of replaced materials shall be as directed by the RTC Project Manager and all associated costs shall be at the contractor's expense. At the RTC Project Manager's option, materials having 21 or more demerits may be left in place and liquidated damages assessed at the percentage of asphalt binder cost shown. The cost of the asphalt binder used for assessing

- liquidated damages shall be \$675 per ton.
4. Liquidated damages as determined by the RTC Project Manager may be in excess of the cost of the asphalt binder.

Additional samples may be tested at the Contractor's request and expense and following approval of the RTC Project Manager. Liquidated damages assessed due to deficient asphalt binder material may be in addition to any mitigation measures or penalties that may be determined by other sections of the specifications.

1.01B BITUMINOUS PLANTMIX

Subsection 336.03.04 - "Bituminous Mixtures" of the Standard Specifications, is herewith amended as follows:

1. On page 336.00-6, add the following to the fourth paragraph at the bottom half of the page regarding cores and cut samples:

Measure single core or cut sample in accordance with ASTM D3549, latest version, to the nearest 0.05" and report to the nearest 0.05" per the following examples:

Individual Measurements		
Using Apparatus Capable of 2 Decimal Places	Using Apparatus Capable of 1/16 Inch	Reported Thickness After Rounding
2.23" to 2.27"	2-4/16" = 2.250"	2.25"
2.28" to 2.32"	2-5/16" = 2.313"	2.30"
2.33" to 2.37"	---	2.35"
2.38" to 2.42"	2-6/16" = 2.375"	2.40"
2.43" to 2.47"	2-7/16" = 2.438"	2.45"
2.48" to 2.52"	2-8/16" = 2.500"	2.50"

For purpose of acceptance and mitigation, the average of the rounded thickness measurements of the 3 cores or cut samples for each lot shall be reported to the nearest 0.1". A number ending in 0.05" shall be rounded up. For example, both 2.35" and 2.40" are rounded to 2.4".

2. On page 336.00-7, delete the fourth paragraph and replace as follows:

One fresh, hot sample of the bituminous mixture (HMA) for each "lot" shall be tested for conformance with the mix design test properties as required by STS 1.14A BITUMINOUS PLANTMIX, and in accordance with ASTM D2041, as qualified in the Standard Specifications.

Fresh, hot samples are defined as the samples obtained during construction, transported to the laboratory, molded and compacted on the same day. Reheating is allowed only for restoring heat lost, if any, during transport to the laboratory

and sample preparation. Refer to Note under item 4 below (STS 1.01B BITUMINOUS PLANTMIX - Item 4, “Preparing Field Sample”) regarding limitations on test results from reheated archived samples.

3. On page 336.00-7 under Subsection 336.03.04.01 - “Sampling” of the Standard Specifications, add the following sentence to the first paragraph:

When samples are obtained by two testing laboratories, the samples shall be split from a single sample or taken at the same time and at locations immediately adjacent to each other.

4. On page 336.00-7 under Subsection 336.03.04.02 - “Preparing Field Sample”, of the Standard Specifications, delete the second and third paragraphs and replace as follows:

If the temperature of the HMA is below the approved mix design’s compaction temperature, the temperature of the HMA shall be recorded and the sample shall be reheated to the approved mix design’s compaction temperature. Heating samples should be done by placing the sample in a covered container in an oven for a maximum of one hour or placing the sample in a mixing bowl on top of a hot plate or propane stove, for a maximum of 10 minutes, and continuously mixed until compaction temperature has been reached. Samples shall be discarded if burned during reheating.

Note: Samples well below the compaction temperature may require additional heating time. Reheating of samples beyond the maximums specified is not desirable. In such instances, new samples should be taken in the field, if possible. If this is not possible and samples must be reheated beyond the specified maximums, the test results from reheated archived samples shall not be used for direct comparison with results from tests on hot, fresh samples but only for relative comparisons.

1.02 REMOVAL OF EXISTING IMPROVEMENTS

This section covers the construction methods involved in removing existing improvements.

Existing Portland cement concrete (PCC) improvements shall be removed to neatly sawed edges with sawcuts made to a minimum depth of 1½ inches. No section to be replaced shall be smaller than 30 inches in length. Curb and gutter shall be sawed to depth of 1½ inches on a neat line at right angles to the curb face.

Removal of the curb and gutter shall include all existing composite material from back of curb to 12-inches in front of the lip of the gutter. The contractor shall be required to achieve a vertical, neat line in a location appropriate for the method of curb and gutter placement chosen. The Contractor shall match the existing top of curb and maintain the uniform flow line of the gutter. If a uniform flow line does not exist, the Contractor shall establish a uniform flow line as directed by the Design Engineer.

Bituminous pavement shall be removed to clean straight lines by sawcutting where the removal of existing improvements does not include the total amount of paving encountered. Where bituminous pavement adjoins a trench, the edges adjacent to the trench shall be trimmed to neat straight lines at least

9 inches wider than the trench on each side before resurfacing to insure that all areas to be resurfaced are accessible to the rollers used to compact the subgrade or paving materials. Where new pavement is to adjoin existing bituminous or concrete pavements, the existing pavement shall be sawcut or blade-cut straight.

It shall be the Contractor's responsibility to protect the integrity of the edge of pavement adjacent to the removal section.

The Contractor shall remove all existing improvements to the required depth by a method that does not damage the subgrade. Pneumatic wheel construction equipment, including, but not limited to, trucks, loaders, excavators and scrapers, will not be allowed on the exposed subgrade within the roadway section. Should the Contractor fail to utilize necessary caution to protect the subgrade or allow pneumatic wheel construction equipment on the subgrade within the roadway section after the existing surface has been removed; all overexcavation and deep stabilization shall be at the Contractor's expense.

The Contractor shall take all necessary precautions to protect existing landscaping, which may be disturbed during the execution of the work. All restoration work shall be in accordance with the applicable provisions of Section 333 – "Landscaping" of the Standard Specifications, or as specified herein.

Where lawn or landscape with topsoil has been disturbed, contaminated, or removed, the Contractor shall replace the topsoil with an imported, high quality garden topsoil to a minimum depth of 3 inches; with minimal compaction. Areas of concern may include, but are not limited to, landscaping adjacent to sidewalks, curbs and gutters, driveways, and alleys. The topsoil shall conform to Section 200.08 – "Topsoil" of the Standard Specifications.

Existing improvements; adjacent property; utilities and other facilities; and trees and plants that are not to be removed shall be protected from injury or damage resulting from the Contractor's operations.

The Contractor shall notify the U.S. Postal Service to coordinate all mailbox relocation.

Any existing improvements, including, but not limited to, retaining walls, adjacent property, utilities, sprinkler systems, signs, other facilities or appurtenances, trees and plants, which are damaged or displaced as a result of the Contractor's operation shall be replaced or restored to the original position and condition prevailing prior to start of operations at the Contractor's own expense unless otherwise directed by the RTC Project Manager or Design Engineer. In addition, removal of existing improvements shall be done in accordance with the provisions of Section 300.04 - "Protection of Utilities and Underground Facilities" of the Standard Specifications.

1.07 TRENCH EXCAVATION

Subsection 305.02 - "Maximum Length of Open Trench" of the Standard Specifications, is herewith amended as follows:

1. Add the following paragraph:

Unless otherwise directed by the Design Engineer and approved by the Agency, there shall be no unprotected open trench remaining at the end of the working day. At the end of the working day, any open trench shall be protected by plating or other means approved by the Design Engineer and the Agency.

1.12 PORTLAND CEMENT CONCRETE

1.12A COMPOSITION OF MIXTURES

The Contractor shall submit in writing for approval a mix design conforming to the requirements of Subsection 337.01 - "General" of Section 337 - "Composition of Mixtures" of the Standard Specifications. All Portland Cement Concrete, unless otherwise indicated, shall have a coarse aggregate gradation conforming to Size No. 67 in Subsection 200.05.03 - "Coarse Aggregates" of the Standard Specifications. Cement shall be Type II.

If the Contractor submits a written request to use Size No. 57 in lieu of Size No. 67, and if the Agency approves this request, then air entrainment shall be adjusted to conform to ACI requirements for severe conditions.

1.12B SIDEWALK, CURB AND GUTTER

Concrete used for curbs, gutters, sidewalks, pedestrian ramps, and driveway aprons shall conform to the requirements of Subsection 337.10.01.01 - "Portland Cement Concrete Exposed to Freeze-Thaw Cycles" of the Standard Specifications and shall be reinforced with collated, fibrillated polypropylene fibers conforming to the requirements of Subsection 202.02.02.04 - "Polypropylene Fibers" of the Standard Specifications, at 1.5 pounds per cubic yard of concrete.

Subsection 312.10.02 - "Sidewalk Surface" of the Standard Specifications is herewith amended as follows:

1. Add the following paragraphs:
 - a) When a 10-foot straightedge is placed on the sidewalk, curb, or gutter, the surface shall not vary more than ¼ inch from the edge of the straightedge, except at grade changes.
 - b) Curbs at pedestrian ramps shall **not** be placed monolithically with pedestrian ramps.

1.12C THRUST BLOCKS

Portland Cement Concrete used for thrust blocks shall have a minimum compressive strength of 3000 psi when tested at 28 days and have a 1 to 4 inch slump.

Thrust blocks shall be installed such that they bear against the pipe fitting on one side and against the undisturbed earth on the other side. The Contractor shall provide anchor blocks and support blocks on vertical bends.

Thrust block concrete shall not obstruct the removal of bolts from fittings. Concrete shall be prevented from adhering to the fittings. Either a liquid bond breaker shall be applied to the fitting, or an impervious membrane shall be used.

1.12D RETAINING WALLS

Concrete used for retaining walls shall conform to the requirements of Subsection 337.10.01.01 – “Portland Cement Concrete Exposed to Freeze-Thaw Cycles” of the Standard Specifications.

1.12E PAVING

1.12F UTILITY ADJUSTMENTS

Concrete used for utility adjustments shall conform to the requirements of Subsection 337.10.01.01 – “Portland Cement Concrete Exposed to Freeze-Thaw Cycles” of the Standard Specifications and shall be reinforced with collated, fibrillated polypropylene fibers conforming to the requirements of Subsection 202.02.02.04 – “Polypropylene Fibers” of the Standard Specifications, at 1.5 pounds per cubic yard of concrete.

The concrete used for utility adjustments shall be protected until a minimum compressive strength of 3,000 psi is attained. The RTC Project Manager shall approve the method of protection

1.13 DETECTABLE SURFACE WARNING TILES

1. The detectable surface warning tiles shall consist of precast tiles with a minimum size of 2' x 2', color dark red. Approved products include: CASTinTACT, TEKWAY DOME-TILES, ARMOR CAST WET SET TILES, and ARCIS WET SET TILES. Detectable surface warning tiles shall be constructed per manufacturer's installation guidelines and conform to ADAAG standards.
2. Proposed Substitution products are to be submitted for approval in accordance with provision 22 of the Instruction To Bidders, page ITB-4, within these documents. In order to be considered, submittal packages for alternate truncated concrete dome materials must be prepared and submitted in accordance with the requirements of STS 1.13 DETECTABLE SURFACE WARNING TILES.
3. The Contractor shall check the prefabricated panels upon delivery to verify that the proper material has been received. The panels shall be inspected by the Contractor to be free of flaws or damage occurring during manufacturing, shipping, or handling.
4. The prefabricated panels shall be installed in accordance with the Reno Standard Details and the manufacturer's recommendations.
6. Submittals shall include the following:
 - a) The product data sheet and certification from the Manufacturer that the prefabricated detectable surface warning tile panels supplied meets the requirements of STS 1.13 DETECTABLE SURFACE WARNING TILES; and
 - b) The manufacturer's installation instructions and general recommendations.

1.14 BITUMINOUS PLANTMIX

Bituminous Plantmix shall conform to the requirements of Section 320 - “Plantmix Bituminous Pavement” of the Standard Specifications, except as modified herein.

The Contractor shall submit in writing for approval a job mix formula conforming to Subsection 320.02 – “Composition of Mixtures” of the Standard Specifications. Type 2 aggregate conforming to Subsection 200.02.03 – “Plantmix and Roadmix Aggregate” shall be used unless otherwise specified. Preparation of the aggregates shall be in accordance with the Marination Method described in Subsection 401.03.08 – “Preparation of Aggregates”, of the Nevada Department of Transportation Standard Specifications for Road and Bridge Construction.

Unless otherwise approved by the Agency, Asphalt Cement shall be PG64-28NV for the full depth for all paving on this project. Asphalt binders shall conform to the requirements of Section 201 - “Bituminous Material” of the Standard Specifications.

1.14A COMPOSITION OF MIXTURES

Subsection 320.02.01 - “Job Control Grading Band” of the Standard Specifications, is herewith amended as follows:

1. Amend the gradation and asphalt cement content table as follows:

	Maximum Tolerance
Aggregate passing No. 4 and larger sieves	±7 percent
Aggregate passing No. 8 to 100 sieves	±4 percent
Aggregate passing No. 200 sieve	±2 percent
Asphalt content	-0.2% to +0.7% of total weight of mix

2. Delete the third paragraph of Subsection 337.04.01 – “Composition of Mixtures” of the Standard Specifications and replace as follows:

The optimum asphalt cement content shall be determined to 0.1 percent, by total weight of mix and dry weight of aggregate, in accordance with the Asphalt Institute’s Manual Series No. 2 (MS-2) with a target value of 3% Air Voids for light traffic conditions (design Equivalent Single Axle Load (ESAL) < 10⁴) and 4% Air Voids for medium and heavy traffic conditions (design ESAL > 10⁴). The Contractor shall use a 75-blow Marshall mix design for all streets on this project, except a 50-blow Marshall mix design for *medium/light traffic conditions shall be used on the following streets: *. The mix design and project control samples shall conform to MS-2 Table 5.2 - Marshall Mix Design Criteria as modified in STS Table 1.14A-1.

STS Table 1.14A-1: Modified MS-2 Table 5.2 - Marshall Mix Design Criteria

	Light Traffic ² Surface & Base		Medium Traffic ² Surface & Base		Heavy Traffic ² Surface & Base	
Marshall Method Mix Criteria ¹						
Compaction, Number of Blows, Each End of Specimen	50*		50		75	
Stability (pounds)	1,200 Min.*		1,200 Min.		1,800 Min.	
Flow (0.01 inches)	8 Min.	16 Max.*	8 Min.	16 Max. ⁽⁸⁾	8 Min.	14 Max. ⁽⁸⁾
Air Voids (percent)	2 Min.*	4 Max.*	3 Min.	5 Max.	3 Min.	5 Max.
Voids in Mineral Aggregate (percent)	See STS Table 1.14A-2 : MS-2 Table 5.3					
Voids Filled With Asphalt (percent)	70	80	65	78	65	75

Notes:

1. All criteria, not just stability value alone, must be considered in designing an asphalt paving mix. Hot mix asphalt bases that do not meet these criteria when tested at 140 °F are satisfactory if they meet the criteria when tested at 100 °F and are placed 4 inches or more below the surface.
 2. Traffic classifications
 Light Traffic conditions resulting in a Design ESAL < 10⁴
 Medium Traffic conditions resulting in a Design ESAL between 10⁴ and 10⁶
 Heavy Traffic conditions resulting in a Design ESAL > 10⁶
 3. Laboratory compaction efforts should closely approach the maximum density obtained in the pavement under traffic.
 4. The Flow value refers to the point where the load begins to decrease.
 5. The portion of asphalt cement lost by absorption into the aggregate particles must be allowed for when calculating percent air voids.
 6. Percent air voids are calculated at the target value.
 7. Percent voids in the mineral aggregate are to be calculated on the basis of the ASTM bulk specific gravity for the aggregate.
 8. Upon approval of Agency, flow may exceed the maximum value when polymer modified binders are used.
- * Indicates modified value from MS-2 Table 5.2.

SPECIAL TECHNICAL SPECIFICATIONS

STS Table 1.14A-2: MS-2 Table 5.3 - Minimum Percent Voids in Mineral Aggregate (VMA)

Nominal Maximum Particle Size (inches) ^{1, 2}	Voids Filled in Mineral Aggregate (percent), Min.		
	Design Air Voids (percent) ³		
	3.0	4.0	5.0
No. 16	21.5	22.5	23.5
No. 8	19.0	20.0	21.0
No. 4	16.0	17.0	18.0
3/8	14.0	15.0	16.0
1/2	13.0	14.0	15.0
3/4	12.0	13.0	14.0
1	11.0	12.0	13.0
1-1/2	10.0	11.0	12.0
2	9.5	10.5	11.5
2-1/2	9.0	10.0	11.0

Notes:

1. Standard Specifications for Wire Cloth Sieves for Testing Purposes.
2. The nominal maximum particle size is one size larger than the first sieve to retain more than 10 percent.
3. Interpolate minimum voids in the mineral aggregate (VMA) for design air void values between those listed.

1.14B PAVING**I SPREADING AND FINISHING**

Subsections 320.03 - “Construction” and 320.05 - “Spreading and Finishing” of the Standard Specifications, are herewith amended as follows:

1. Add the following subsection:

320.03.03.01 Automatic Controls. Pavers placing the final lift of the plantmix bituminous pavement for any uniform roadway section shall be equipped with an automatic control system capable of operating in conjunction with either a ski type device of not less than 30 feet in length or a taut wire set to grade. Automatic controllers are required on each side of the paver for the final lift of the plantmix bituminous pavement.

Where a paver is matching longitudinal joints, a joint matcher ski running on automatic controls is required.

The Contractor shall furnish all equipment required and shall install all stakes and wire required for the wire system.

2. Add to the introductory paragraph of Subsection 320.05 - “Spreading and Finishing” of the Standard Specifications as follows:

Refer to STS 1.14B| SPREADING AND FINISHING - Item 1, designated as Subsection 320.03.03.01 - “Automatic Controls” of the Standard Specifications, for automatic controls requirement for bituminous pavers.

3. Add to the fourth paragraph of Subsection 320.05 - “Spreading and Finishing” of the Standard Specifications as follows:

In other areas where mechanical spreading and finishing equipment is used, loose plantmix material shall not be broadcast across the mat to repair surface irregularities. Instead, the irregular surface material shall be removed and replaced with mix, which shall be placed gently on the surface and large aggregate raked off the surface and removed before rolling. At joints, bituminous material at the edges of pavement shall be pushed back off the adjoining pavement, and the edge “pinch” rolled to provide a tight, flush joint. Loose aggregate at the edges of the pavement mat shall not be pushed across the mat with the rake and rolled into the mat, but instead will be raked off the mat and removed before rolling.

4. Add the following paragraphs after the second paragraph in Subsection 320.05.02 - “Joints”:

*|The Contractor shall minimize the number of transverse joints in the final lift of pavement in any particular roadway segment.

“Hot” joints are joints where adjacent paving lifts are placed during the same work shift, when previously placed pavement is relatively “hot”. Joints constructed otherwise are considered “Cold” joints.

All TOP LIFT longitudinal joints shall be “Hot” joints unless otherwise approved or directed by the Agency or Design Engineer.

All “Cold” longitudinal joints directly below the TOP LIFT (final course of bituminous dense-grade pavement) shall be sawcut back a minimum of six (6) inches horizontally and to full depth of the lift, but not to exceed the depth of the lift.

For all sawcut joints, TOP LIFT or otherwise, a tack coat of asphaltic emulsion shall be applied to the contact surface prior to placement of the abutting lift.

The RTC reserves the right to sample cores directly at pavement joints to determine if workmanship (good in-place densities and absence of excessive voids and segregation) is acceptable within the joints.

II ACCEPTANCE

Subsection 320.06 - "Acceptance" of the Standard Specifications, is herewith amended as follows:

1. Delete the introductory paragraph and replace as follows:

Plantmix bituminous pavement shall be accepted on the basis of surface tolerance, density, thickness, surface texture, conformance with the tolerances of the job mix formula, and the Marshall properties required in this subsection and in accordance with the testing requirements of Section 336 - "Inspection and Testing" of the Standard Specifications and as modified in STS 1.01 INSPECTION AND TESTING.

2. Delete the second paragraph of Subsection 320.06.01 - "Surface Tolerances" of the Standard Specifications and replace as follows:

Surface tolerances shall be evaluated, as specified in the Bid Item, by either method as described in STS 1.14B ACCEPTANCE - Items 3 or 4, designated as Subsection 320.06.01.01 - "Profilograph Method" and Subsection 320.06.01.02 - "12-foot Straight Edge Method," respectively.

- 3.

4. Add the following subsection:

320.06.01.02 12-foot Straight Edge Method.

- a) A 12 feet long straight edge shall be used. When measured longitudinally (profile), the straight edge shall be laid on the finished surface and parallel with the centerline of the roadway. For transverse (cross section) measurements, the straight edge shall be laid in a direction transverse to the centerline and extending from edge to edge of a 12 foot traffic lane.

The RTC may use a profilograph to locate pavement surfaces which display unacceptable surface tolerance. Profilograph measurement shall be in accordance with STS 1.14B ACCEPTANCE - Item 3 (a), designated as a portion of Subsection 320.06.01.01 - "Profilograph Method." Once identified, the conformance criterion will remain as specified below in Item 4 (b), designated as a portion of Subsection 320.06.01.02 - "12-foot Straight Edge Method," that is, not subject to the conformance criterion listed for the profilograph method.

- b) The longitudinally (profile) surface shall not vary more than 1/8 inch from the lower edge of the straightedge. The transverse (cross section) slope of the finished surface shall be uniform to a degree such that no depressions greater than 1/4 inch are present. The finished grade of the asphalt surface shall vary no more than 5/8 inch from design finished grade in both profile and cross section.

Grinding shall be done in accordance with STS 1.14B. **III MITIGATION** - Item 3, designated as Subsection 320.07.01.01 - “Grinding for Conformance of Surface Tolerances.”

5. Delete Subsection 320.06.03 - “Thickness” of the Standard Specifications and replace as follows:

320.06.03 Thickness. Cut samples taken in accordance with Section 336.03.04 - “Asphalt Concrete” of the Standard Specifications and as modified in STS 1.01 INSPECTION AND TESTING shall be used to determine conformance with thickness specifications. The average thickness of cores shall be at least equal to the specified minimum thickness of the asphalt concrete pavement with no single core less than ½ inch thinner than the specified minimum thickness. Both average and single core thickness shall be compared to the specified thickness to the nearest 0.1 inch.

6. Add the following subsection:

320.06.04 Surface Texture. The finished texture of wearing course paving constructed using dense graded bituminous plantmix shall be dense and uniform in appearance, displaying a homogeneous distribution of fine and coarse aggregate with no apparent surface voids.

7. Add the following subsection:

320.06.05 Job Mix Formula and Marshall Properties. Bituminous plantmix will be tested for compliance with the job mix formula and Marshall properties on a “lot” basis. A lot is as defined in Subsection 320.06.02 - “Density” of the Standard Specifications. Each lot will be tested for job mix formula and Marshall properties compliance.

Each lot of compacted pavement will be accepted, with respect to job mix formula and Marshall properties, when test results on fresh, hot samples conform to the requirements set forth in Subsection 320.02 - “Composition of Materials” and as modified in STS 1.14 BITUMINOUS PLANTMIX, including but not limited to, Marshall air voids, stability, flow, asphalt content, and aggregate gradation. Testing shall be in accordance with Subsection 336.03.04 - “Asphalt Concrete” of the Standard Specifications and as modified in STS 1.01 INSPECTION AND TESTING.

III MITIGATION

Subsections 320.07 - “Mitigation of Unacceptable Asphalt Concrete Pavement” and 320.09 - “Basis of Payment” of the Standard Specifications, are herewith amended as follows:

1. Add an introductory paragraph and a second paragraph for Subsection 320.07 - “Mitigation of Unacceptable Asphalt Concrete Pavement” of the Standard Specifications as follows:

320.07 MITIGATION OF UNACCEPTABLE ASPHALT CONCRETE PAVEMENT. The objective of mitigation is to assure the final pavement will meet the design service life of the roadway. Those portions of the constructed work which do not comply with contract specifications, as determined in accordance with Subsection 320.06 - "Acceptance" of the Standard Specifications and as modified in STS 1.14B|| ACCEPTANCE, shall be mitigated in such a manner that the performance, service life, and maintainability expectations of the originally specified project will be achieved. Payment penalties in lieu of mitigation shall be considered as a last resort and utilized only in those cases where mitigation to achieve the expected performance, service life, and maintainability is deemed by the Agency to be not possible or practical. Most paving projects affected will exhibit a variety in the type and magnitude of deficiencies that will result in a variety of mitigation approaches which may include combinations of various physical mitigation measures and payment penalties. The Agency, at its option, will decide the appropriate mitigation measures with input from the Design Engineer, testing laboratory, and Contractor.

In the event pavement mitigation is necessary to correct deficiencies, the RTC may direct the Contractor to perform some or all pavement mitigation after normal business hours, at night, and/or on weekends, to minimize impacts sustained by the public, at the Contractor's own expense.

2. Amend Subsection 320.07.01 - "Unacceptable Surface Tolerance" of the Standard Specifications as follows:

320.07.01 Unacceptable Surface Tolerances. Unacceptable surface tolerance shall be corrected by either overlaying or grinding as directed by the Agency or Engineer. Grinding shall be done in accordance with STS 1.14B|| MITIGATION - Item 3, designated as Subsection 320.07.01.01 - "Grinding for Conformance of Surface Tolerances."

Apply fog or slurry seal to ground areas after the surface tolerance specifications have been met. The Agency shall determine the type of sealant to be used.

In areas to be corrected with an overlay, grinding, followed by tack coat, may be necessary to provide a minimum 1½ inch overlay and butt joints where matching existing pavements.

3. Add the following subsection:

320.07.01.01 Grinding for Conformance of Surface Tolerances. The grinding machine for correcting pavement surface tolerances shall be power driven, self-propelled and specifically designed to remove, profile, smooth, and texture hot mix asphalt. The Contractor shall use a grinding machine with a wheel base of not less than 12 feet, equipped with a rotating powered mandrel drum studded with diamond blades with a cutting head not less than 3 feet wide. The grinding machine shall be equipped with an effective means for controlling dust and other particulate matter.

Do not cause strain or damage to the underlying surface of the pavement with the

grinding machine. Do not use grinding and texturing equipment that causes ravels, aggregate fractures, spalls, or disturbance of joints.

The Contractor shall perform grinding in a longitudinal direction. A satisfactorily grind will produce a uniform textured surface over the surface areas designated for grinding.

The surface of the ground pavement shall have parallel corduroy-type texture consisting of grooves between 1/12- inch and 1/8-inch wide. The peaks of the ridges shall be approximately 1/16-inch higher than the bottom of the grooves with approximately 52 to 58 evenly spaced grooves per foot.

The Contractor shall perform additional grinding as necessary to extend the ground area laterally to the nearest lane line or edge of pavement and longitudinally to lines normal to the pavement centerline.

The Contractor shall correct areas that cannot not be brought into specified surface tolerances by abrasive grinding by both removal and replacement, or by placing an overlay of hot mix asphalt. The Contractor shall obtain approval of the exact method of correction.

Fog or slurry seal shall be applied to ground areas after the surface tolerance specifications have been met. The Agency shall determine the type of sealant to be used.

4. Delete Subsections 320.07.02 - "Unacceptable Density" and Table 1 in Subsection 320.09 - "Basis of Payment" of the Standard Specifications and replace as follows:

320.07.02 Guideline for In-place Density/Air Voids. The RTC and the Design Engineer will consider STS Table 1.14BIII-1 or 1.14BIII-2 "Asphalt Deficiency Mitigation Matrix for In-place Density/Air Voids", as applicable for the design traffic conditions, input from the Contractor, and sound engineering analysis and judgment before requiring mitigation (i.e. removal and replacement, increased thickness, or surface treatment) and/or payment deduction (if mitigation is not practical or possible) for plantmix bituminous pavement which deviates from specification requirements. Since the matrix does not include all factors and site conditions which may affect the overall performance of the pavement, the RTC may, upon consideration of the specific circumstances, increase, reduce or waive mitigation and/or payment reduction, or combine portions of mitigation and payment reduction.

If the RTC makes a preliminary determination that mitigation, and/or payment deduction is necessary on the basis of In-place Density/Air Voids, the Contractor may submit a written request to RTC for retests. The retests shall be in accordance with Section 336 - "Inspection and Testing" of the Standard Specifications and as modified in STS 1.01 INSPECTION AND TESTING. The retests may be performed by the Agency's quality assurance laboratory or by any other approved, independent testing laboratory (the Contractor shall request the laboratory in writing for RTC approval).

SPECIAL TECHNICAL SPECIFICATIONS

Retests shall be undertaken at the Contractor's own expense. If the results of any retests are significantly different from initial testing, a "referee" test will be performed by an independent testing lab, which is mutually acceptable to the RTC and the Contractor. The RTC may waive the "referee" test if after consulting with the Design Engineer it is determined that the "referee" test is unnecessary. Fifty percent of the cost of "referee" tests shall be paid by the RTC and 50 percent shall be paid by the Contractor. The RTC may elect to make full payment and deduct the Contractor's 50 percent from progress or final payment to Contractor. The RTC will make a final determination regarding mitigation and/or payment reduction based upon the preponderance of test results and other factors.

5. Delete subsection 320.07.03 Unacceptable Thickness and replace as follows:

320.07.03 Unacceptable Thickness. Insufficient thickness not meeting the requirements of subsection 320.06.03 – “Acceptance – Thickness” – shall be mitigated as follows:

Thickness	Mitigation
4” - 3.76”	20% pay deduct for top lift paving
3.75” – 3.51”	50% pay deduct for top lift paving
≤ 3.5”	Remove top lift & replace or add a 1.5” Type 3 overlay

For mitigation purposes in this subsection, the thickness will be the average of all cores taken, and the cost of the top lift paving is \$0.60 per square foot per one inch of thickness.

The overlay mitigation option is allowable only at where there is no curb and gutter. Grinding may be necessary to eliminate the problems associated with raising of finish grade as determined by the governing Agency or Engineer, but in all cases, the perimeter of the corrective overlay shall be placed as a flush butt-joint formed by grinding of existing pavement abutting the overlay.

6. Add the following subsection:

320.07.04 Unacceptable Surface Texture. Unacceptable surface texture shall be mitigated as directed by the Agency. Required mitigation may include any necessary measures up to, and including, removal and replacement of the deficient material. If correction of surface texture results in a visually non-uniform pavement surface, the Contractor may be required to restore the pavement surface to a uniform visual appearance as directed by the Agency. Such measures shall be done at the Contractor’s own expense.

7. Add the following subsection:

320.07.05 Guideline for Job Mix Formula and Marshall Properties. If the compacted pavement is not in compliance with the job mix formula and all Marshall properties, mitigation shall be as directed by the Agency. Due to the complexity of the deficiency matrix, it is impossible to have a mitigation table

which covers all possible combinations of the deficiencies and all factors and site conditions which may affect the overall performance of the pavement; therefore, the RTC shall evaluate the deficiency on a case by case basis and may require any necessary measures ranging from payment deductions to removal and replacement of the deficient materials, or any combination of the mitigation measures.

The RTC may consider test results from the Contractor's quality control laboratory if submitted, provided that the sampling and testing are performed, using split samples with the Agency's quality assurance laboratory, in accordance with Section 336 - "Inspection and Testing" of the Standard Specifications and as modified in STS 1.01 INSPECTION AND TESTING.

STS Table 1.14BIII-1
Asphalt Deficiency Mitigation Matrix for In-place Density/Air Voids
Light Traffic Conditions (see Note 4)

The objective of the mitigations listed on the table below is to assure the final pavement will meet the design service life of the roadway. Reductions in payment do not achieve that goal and should be considered only if mitigation is not possible or practical. The mitigation table is an attempt to provide uniformity and fairness to the evaluation process of substandard pavements. Most paving projects affected will exhibit a variety in the type and magnitude of deficiencies that will result in a variety of mitigation approaches. The appropriate mitigation requires sound engineering analysis and judgment. The Agency will, at its option, decide the appropriate mitigation measures with input from the Design Engineer, testing laboratory, and the Contractor.

	Marshall Compaction % (Note 5)	In Place Air Voids % (Rice) (Note 6)	Increase Thickness (Notes 7&8)		Surface Seal (Note 8)			Remove Replace	Payment (Note 8)		
			1"	1-1/2"	Sand Seal	Slurry Seal	Sand Blotter		100%	90%	50%
WEARING	≥ 96	<2 ≥2 & ≤ 7 >7 & ≤ 10 > 10			X (A)				X	X(A)	X
					X	X				X	
				X	X(A)	X(B)		X			X(A, B)
	< 96 & ≥ 93	≥ 4 & ≤ 7 >7 & ≤ 10 > 10		X X(A)					X		X X(A)
	< 93							X			
NON-WEARING	≥ 96	<2 ≥2 & ≤ 7 >7 & ≤ 10 > 10							X	X	X
			X							X	X
	<96 & ≥ 93	≥4 & ≤ 7 >7 & 10 > 10	X							X	X X(A)
	< 93			X				X			

Notes:

- Each 'X' represents a recommended mitigation remedy. Several X's for a single deficiency indicate alternate methods of remediation unless noted otherwise. Individual judgment must be exercised by the RTC Project Manager on each specific project.
- Each 'X' labeled either (A) or (B) represents a combination of mitigation remedies listed as group (A) or group (B).
- See STS 1.14BIII MITIGATION - Item 6, designated as Subsection 320.07.05 - "Guideline for Job Mix Formula and Marshall Properties," for mitigation required when the compacted pavement is not in compliance with the job mix design and/or Marshall properties.
- Traffic classifications:

Light	Traffic conditions resulting in a Design ESAL <10 ⁴
Medium	Traffic conditions resulting in a Design ESAL between 10 ⁴ and 10 ⁶
Heavy	Traffic conditions resulting in a Design ESAL >10 ⁶

 For light traffic conditions, see Asphalt Deficiency Mitigation Matrix for Light Traffic Conditions.
- The average Marshall Compaction for the lot shall be rounded to the nearest 1 percent in accordance with the procedure described in Section 336 - "Inspection and Testing," of the Standard Specifications, Subsection 336.03.04 - "Asphalt Concrete".
- Three significant figures shall be used throughout the calculations for in-place air voids. Individual results shall be reported to the nearest 0.1 percent. All rounding shall be in accordance with the procedure described in Section 336 - "Inspection and Testing" of the Standard Specifications, Subsection 336.03.04 - "Asphalt Concrete"
- Increase total pavement thickness by the indicated amount using approved mix.
- Mitigation may not be limited to the matrix shown on this table if the pavement is also deficient in other areas.

STS Table 1.14BIII-2
Asphalt Deficiency Mitigation Matrix for In-place Density/Air Voids
Medium & Heavy Traffic Conditions (see Note 4)

The objective of the mitigations listed on the table below is to assure the final pavement will meet the design service life of the roadway. Reductions in payment do not achieve that goal and should be considered only if mitigation is not possible or practical. The mitigation table is an attempt to provide uniformity and fairness to the evaluation process of substandard pavements. Most paving projects affected will exhibit a variety in the type and magnitude of deficiencies that will result in a variety of mitigation approaches. The appropriate mitigation requires sound engineering analysis and judgment. The Agency will, at its option, decide the appropriate mitigation measures with input from the Design Engineer, testing laboratory and the Contractor.

	Marshall Compaction % (Note 5)	In Place Air Voids % (Rice) (Note 6)	Increase Thickness (Notes 7&8)	Surface Seal (Note 8)			Remove Replace	Payment (Note 8)		
				+1½"	Sand Seal	Slurry Seal		Chip Seal	100%	90%
WEARING	≥ 96	<3					X	X	X	
		≥3 & ≤8					X			
	>8 & ≤11		X	X	X		X			
	> 11	X				X				
	< 96 & ≥ 93	≥ 4 & ≤8	X			X	X	X		
	>8 & ≤11	X(A)			X(B)	X	X(A)	X(B)		
	> 11	X(A)				X		X(A)		
	< 93						X			
NON-WEARING	≥ 96	<3					X	X	X	
		≥3 & ≤8					X			
	>8 & ≤11		X				X			
	> 11	X				X		X		
	<96 & ≥ 93	≥4 & ≤8	X					X		
	>8 & ≤11	X(A)				X		X		
	> 11	X(A)						X(A)		
	< 93						X			

Notes:

- Each 'X' represents a recommended mitigation remedy. Several X's for a single deficiency indicate alternate methods of remediation unless noted otherwise. Individual judgment must be exercised by the Engineer on each specific project.
- Each 'X' labeled either (A) or (B) represents a combination of mitigation remedies listed as group (A) or group (B).
- See STS 1.14BIII MITIGATION - Item 6, designated as Subsection 320.07.05 - "Guideline for Job Mix Formula and Marshall Properties," for mitigation required when the compacted pavement is not in compliance with the job mix design and/or Marshall properties.
- Traffic classifications:

Light	Traffic conditions resulting in a Design ESAL <10 ⁴
Medium	Traffic conditions resulting in a Design ESAL between 10 ⁴ and 10 ⁶
Heavy	Traffic conditions resulting in a Design ESAL >10 ⁶

 For light traffic conditions, see Asphalt Deficiency Mitigation Matrix for Light Traffic Conditions.
- The average Marshall Compaction for the lot shall be rounded to the nearest 1 percent in accordance with the procedure described in Section 336 - "Inspection and Testing," of the Standard Specifications, Subsection 336.03.04 - "Asphalt Concrete".
- Three significant figures shall be used throughout the calculations for in-place air voids. Individual results shall be reported to the nearest 0.1 percent. All rounding shall be in accordance with the procedure described in Section 336 - "Inspection and Testing" of the Standard Specifications, Subsection 336.03.04 - "Asphalt Concrete".
- Increase total pavement thickness by the indicated amount using approved mix.
- Mitigation may not be limited to the matrix shown on this table if the pavement is also deficient in other areas.

IV SPECIAL PAVING CONSIDERATIONS

The Contractor shall submit, at the time of traffic control submittal, a paving plan superimposed onto the striping plan to illustrate locations of paving joints in relation to striping. The paving joints in the final lift shall be located within 6" from lane stripes, unless otherwise authorized in writing by the Engineer.

Where directed by the Engineer, the Contractor shall spread blotter sand on the surface of final-lift pavement to reduce the driveway or intersection closure time and protect the pavement surface at high traffic or critical locations.

V TACK COAT

Subsection 316.03.04 - "Application of Bituminous Materials" of the Standard Specifications, is herewith amended as follows:

Unless otherwise directed by the Design Engineer, cleaning and the application of a tack coat shall be provided between all paving courses that are not constructed in the same shift. Tack coat shall consist of asphalt emulsion, Type SS-1h, conforming to the requirements of Section 201 – "Bituminous Materials" of the Standard Specifications to the cleaned, cured surface, unless otherwise directed by the Design Engineer. The tack coat shall be applied in sufficient quantity to provide a continuous membrane over the cement modified material. No more tack shall be applied than can be covered in the same shift. Place the covering course over tack that is clean, free of tracking and adequately set.

VI LONGITUDINAL JOINTS

This specification is developed in an effort to obtain longer pavement life by adding emphasis on longitudinal joint quality. This portion of the STS will apply for the sole purpose of assessing the bonus/penalty of this specification. The longitudinal joint result will not tie to the acceptance of the pavement. This portion of the STS, however, does not eliminate any requirement as listed in all other sections of the STS.

Bonus or Penalty for longitudinal joint applies only when the mat for the associated paving "lots" are acceptable according to STS 1.14BII Acceptance.

1. Testing and reporting will be performed by the quality assurance laboratory (i.e. RTC's consultant). Testing will be done on the TOP LIFT¹ only for both HOT & COLD longitudinal joints for each joint segment. Longitudinal joint segment is defined as every 1,000 feet of longitudinal joint and any remainder that is 800 feet or longer. Testing for the longitudinal joints include Thin Lift Nuclear Test and Core Test as described in the following paragraphs.
2. Thin Lift Nuclear Test (Nuclear Gauge Test) shall be performed as follows:
 - a) Frequency & Location – Nuclear gauge readings shall be taken every 200 feet on BOTH sides of a longitudinal joint segment directly across from each other, beginning at a random location within the first 200 feet as determined by the Design Engineer.

¹ TOP LIFT is defined as the final course of bituminous dense-grade pavement.

- b) Timing – To avoid additional traffic control needed for the testing operation, nuclear gauge readings shall be taken shortly following the completion of the longitudinal joint construction.
 - c) Equipment – Testing shall be performed using a gauge specifically designed for asphalt testing such as a Troxler 4640B or Troxler 3450, or approved equivalent. It is not necessary that the nuclear gauge be calibrated to the mix. However, the same nuclear gauge should be used for the same longitudinal joint segment.
 - d) Testing – One 1-minute test is to be performed at each test location. The nuclear density testing shall be performed with the long axis of the nuclear density gauge parallel to the joint and with the nearest edge of the nuclear gauge no closer than 3 inches from the joint and no further than 4.5 inches from the joint. The footprint of the gauge shall be marked with keel or other product that clearly defines the test locations. All testing shall be performed in the same direction (i.e. up or down station).
 - e) Re-Test – When the test result, t_n , differs more than 4 pounds per cubic foot (pcf) from the previous test, t_{n-1} , a re-test at the previous test location is required to assure that the previous test is not in error. Both test results shall be recorded. If the re-test is within 4 pcf of the original previous test result, use the original previous test result. Otherwise, keep record of the results t_n and t_{n-1} but do not use them for any further calculations. Instead, recalibrate the thin lift nuclear gauge, resume testing beginning at the t_{n-1} location, and use the new test results.
3. Core Test will be performed as follows:
- a) Frequency & Location – In addition to the coring required for the mat, one core test shall be performed for every longitudinal joint segment, location of which shall be determined as below:
 - i. Mean Joint Density (MJD) is the average of the readings of the Nuclear Gauge Test on each side of a longitudinal joint segment. The core is to be taken on the side with the lower MJD. If the MJD on both sides are equal, core on the side which was paved first.
 - ii. The core shall also be at a location where a Nuclear Gauge Test was performed and reasonably close to a core location for the mat. The core shall be centered inside of the previously marked footprint of the Nuclear Gauge Test. In no case shall the near edge of the core be closer than 3 inches from the joint.
 - iii. If coring is to occur at a location with pavement markings made of 3M tape or thermoplastic tape, adjust the core location up or down station as appropriate up to a distance of 20 feet maximum. Otherwise, remove necessary portions of the pavement markings before coring.
 - b) Timing – Coring at the joint shall be at the same time of coring at the mat.
 - c) Equipment – Same equipment as the standard core test for the mat.
 - d) Testing – Test procedures will be the same as the standard core test (in-place density/air voids) for the mat in accordance with STS 1.01 INSPECTION AND TESTING. Use the hot sample properties from the corresponding lot, based on the core location (i.e. stationing and which side of the joint), for calculating core test results.

- e) Re-Test – Re-testing will only be allowed at the sole discretion of the RTC. If allowed, re-testing shall be at the sole cost of the Contractor and performed by a qualified third party laboratory that meets RTC's criteria for testing. The location of the additional core(s) shall be within 5 feet up or down station from the original core and the sampling shall be witness by the Design Engineer.

4. When applicable, the bonus and penalty is calculated as follows:

$$\text{Bonus/Penalty} = \frac{\sum F_i}{N} \times A \times T \times U$$

Where

F = Factor for individual longitudinal joint segment based on joint core results per STS Table 1.14BVI-1 or 1.14BVI-2 as applicable.

N = Total number of longitudinal joint segments.

A = Total pavement area of all longitudinal joint segments (SF).

T = Thickness of the TOP LIFT (inch).

U = Unit cost of the TOP LIFT (\$/inch-SF).

For the purpose of determining Bonus/Penalty for this project, U shall be \$*/in-SF.

STS Table 1.14BVI-1
Longitudinal Joint Segment Bonus/Penalty Factor
Light Traffic Conditions (see Note 1)

Joint Core Results In-Place Air Voids % (Rice) (see Note 2)	Factor F_i
< 2	0%
≥ 2 & ≤ 7	+5%
> 7 & ≤ 10	0%
> 10 & ≤ 14	-5%
> 14	-50%

STS Table 1.14BVI-2
Longitudinal Joint Segment Bonus/Penalty Factor
Medium & Heavy Traffic Conditions (see Note 1)

Joint Core Results In-Place Air Voids % (Rice) (see Note 2)	Factor F_i
< 3	0%
≥ 3 & ≤ 8	+5%
> 8 & ≤ 11	0%
> 11 & ≤ 14	-5%
> 14	-50%

Notes:

1. Traffic classifications

Light Traffic conditions resulting in a Design ESAL < 10⁴

Medium Traffic conditions resulting in a design ESAL between 10⁴ & 10⁶

Heavy Traffic conditions resulting in a Design ESAL > 10⁶

2. Three significant figures shall be used throughout the calculations for in-place air voids. Individual results shall be reported to the nearest 0.1 percent. All rounding shall be in accordance with the procedure described in Section 336 – “Inspection and Test” (Subsection 336.03.04 – “Asphalt Concrete”).

5. Reporting – Field data associated with longitudinal joint testing shall be submitted to the RTC within a week of the testing. The report for the longitudinal joint testing shall be submitted to the RTC within two weeks upon completion of paving for the completed section tested. If top lift paving for the entire project are to be completed within two weeks, submit the report to the RTC within two weeks upon completion of paving for the entire project. The report shall include a Paving Plan and a Longitudinal Joint Summary Sheet as described below.
 - a) The Paving Plan shall be overlaid on the Striping Plans with stationing shown. It should include, for the top lift only, the longitudinal joint locations with identification number (ID), limits of each paving path, direction of paving, and the paving lot number at the core location. The paving plan can be of as small a scale as practical.
 - b) The template for the Longitudinal Joint Summary Sheet is available from the RTC website (www.rtcwashoe.com) under Streets & Highways, St & Hwy Resources. It shall be filled in with the following details:
 - i. The Longitudinal Joint Segment ID, joint type (hot lap, cold sawcut, etc.), station, side of joint (left/right in the up-station direction or north/south/west/east), individual density values measured, MJD (5 values for 1,000-foot joint segments and 4 for 800-foot joint segments) on each side of each joint segment, joint core test location, paving lot number at the core location, core Marshall Density, Rice Maximum Density, In-Place Air Voids, and the individual Longitudinal Joint Segment Bonus/Penalty Factors, F_i .
 - ii. The calculation for Longitudinal Joint Bonus/Penalty for the project shall be shown at the end of the sheet.
 - iii. For reference purpose, any re-test shall be noted to clearly identify the re-test, the unused test results, and the test result that was used in calculating the MJD.

1.14C PERMANENT PATCHING

Permanent patching material shall be Type 3 PG64-22 bituminous plantmix, utilizing a 50 blow per side Marshall mix design with target air voids of 3%, and shall conform to the Standard Specifications. Permanent bituminous plantmix patches shall be a minimum depth of 4 inches on 6 inches of aggregate base or match existing section with bituminous plantmix depth up to 12 inches.

If, at any time, during a period of 1 year dating from the date of final acceptance of the project, there is any settlement of the permanent patches requiring repairs to be made, the Owner may notify the Contractor to immediately make such repairs as may be deemed necessary at the Contractor's own expense.

1.16 SLURRY SEAL

Slurry seal shall conform to the requirements of Section 318 - "Slurry Seal" of the Standard Specifications, except as modified herein.

The Contractor shall submit in writing for approval a job mix formula conforming to the requirements of Subsection 318.02 - "Composition of Mixtures" of the Standard Specifications. Type * aggregate conforming to the requirements of Subsection 200.02.06 - "Slurry Seal and Micro Surfacing Aggregate" shall be used unless otherwise specified. Asphalt emulsions shall conform to the requirements of Section 201 - "Bituminous Material" of the Standard Specifications.

Subsection 318.02 - "Materials" of the Standard Specifications, is herewith amended as follows:

1. Add the following to Subsection 318.06.01 - "Limitations":
 - a) The slurry seal shall not be applied when precipitation is imminent or occurring.
2. Delete Subsection 318.07.02 - "Tack Coat" in its entirety.
3. Add the following to Subsection 318.08.01 - "General":
 - a) All workers shall have sufficient experience to perform properly the work assigned to them. The Contractor shall have an experienced crew on each spreader and any other equipment.
 - b) At least 48 hours shall elapse between top lift paving and application of a bituminous seal coat.
 - c) Immediately before commencing the slurry seal operations, all metal utility covers (including survey monuments) shall be protected by thoroughly covering the surface with an appropriate adhesive and oiled or plastic paper. No adhesive material shall be permitted to cover, seal or fill the joint between the frame and cover of the structure. Covers are to be uncovered and cleaned of slurry material by the end of the same day.
 - d) Hand tools shall be available in order to remove spillage. Ridges or bumps in the finished surface shall not be permitted. The mixture shall be uniform and homogeneous after spreading on the surface and shall not show separation of the emulsion and aggregate after setting.
 - e) Adequate means shall be provided to protect the slurry seal from damage from traffic until such time that the mixture has cured sufficiently so that the slurry seal will not adhere to, or be picked up by the tires of vehicles.

1.18 PAVEMENT MARKINGS

1.18A PAINTED PAVEMENT MARKINGS

Permanent painted (traffic paint or epoxy paint) pavement markings shall be in accordance with Section 632 of the latest edition of "Standard Specifications for Road and Bridge Construction" published by NDOT.

1.18A TRAFFIC PAINT

All application methods and products shall conform to Sections 632 – “Permanent Painted Pavement Markings” and 730 – “Traffic Beads”, and Subsections 729.02.01 – “General”, 729.02.02 – “Packaging”, and 729.03.05 – “Rapid Dry Waterborne Paint Material” of the NDOT Standard Specifications for Road and Bridge Construction for Type II traffic paint, with the following exception:

1. Add the following:

At least 48 hours shall elapse between application of a bituminous seal coat and permanent pavement marking.

All traffic paint shall have a minimum of 2 coats (full width of stripe) per application of the designated material placed unless otherwise directed by the RTC Project Manager or the Design Engineer’s representative.

1.18B PAVEMENT MARKING FILM

Permanent pavement marking film (pavement marking tape or thermoplastic) shall be in accordance with Section 634 – “Pavement Marking Film”, of the NDOT Standard Specifications for Road and Bridge Construction.

1.18C RAISED MARKERS

1. Hydrant markers.

A reflective, blue street marker shall be provided to identify all fire hydrant locations. The marker shall be omnidirectional type. The marker shall be visible on approach to the fire hydrant. The marker shall be placed in accordance with Reno Fire Department Policy Appendix UFC-AP904.3.1, page AP-6.

Adhesives for raised markers shall conform to Subsection 633.02.04 - “Adhesives for Pavement Markers” of the NDOT Standard Specifications for Road and Bridge Construction.

Installation of raised markers shall conform to Subsection 633.03.01 - “Pavement Marker Installation” of the NDOT Standard Specifications for Road and Bridge Construction.

1.22 TRAFFIC SIGNS

1.22A MATERIALS

Traffic signs shall be 3M Diamond Grade (DG) 3 or 3M high intensity sheeting with a clear transparent overlay 3M 1170 or approved equal.

Street name signs shall be 3M DG3, Series 4000 or approved equal with green transparent Scotchlite Electrocut Film #1177C or approved equal. White letter and border sheeting shall be retro reflective ASTM IX 3M Diamond Grade or approved equal.

1.23 TRAFFIC SIGNALS

1.23A LOOP DETECTORS

* The * requires the Contractor to lay-out traffic signal loop detectors in accordance with * standards and details. After the loop lay-out is marking in the field, the Contractor shall call * at * for loop lay-out inspection and approval.

* The Contractor shall call * at * for traffic signal loop lay-out.

All traffic signal loop detectors shall be installed prior to the placement of the final “top” lift² of the plantmix bituminous pavement material. Placement of slurry seal or micro-surface does not negate this requirement.

1.23B TEMPORARY TRAFFIC SIGNAL MODIFICATIONS DURING CONSTRUCTION

The Contractor shall coordinate with and secure approval from * (*) of * for any use of or changes to operation of existing traffic signal equipment during construction. The Contractor shall comply with * requirements without additional cost to the RTC.

1.24 UTILITY ADJUSTMENT

1.24A VERIFICATION OF DEPTH

Location of underground facilities shown on the plans are approximate and were not determined by field investigation. It shall be the responsibility of the Contractor to locate all existing utility structures, whether shown or not, and to notify all utility companies to verify in the field the location of their installations prior to construction. The Contractor shall protect all utility structures from damage. The expense of repair or replacement shall be borne by the Contractor (however, this in no way precludes the Contractor from recovering, from the utility company, costs to repair existing utilities which do not conform with standard specifications or details). The Contractor shall request field marking of existing utilities at least 48 hours in advance of beginning construction by calling Underground Service Alert at (800) 227-2600.

At existing underground traffic signal conduit crossings and at locations where new underground facilities cross existing facilities, the Contractor shall expose the existing facility and verify that sufficient horizontal and vertical clearance exists for the street improvements to be constructed in substantial compliance with the plans. At existing underground traffic signal conduit crossings, the Contractor shall field verify the depth of existing facilities before commencing any construction. At locations where new underground facilities are to be connected to existing facilities, the Contractor shall expose the existing facility and verify that the connection can be made as shown on the plans before commencing any construction. Any conflicts shall be brought to the Engineer’s attention as soon as they are discovered.

Utility depth verification requirements will be considered incidental to *, bid item *.

² TOP LIFT is defined as the final course of bituminous dense-grade pavement.

1.24B UTILITY MANHOLE AND VAULT ADJUSTMENT

Add to Subsection 323.05 - "Utility Manholes and Vaults" of the Standard Specifications as follows:

1. "Before lowering manholes and vaults, the Contractor shall take inventory of the utilities to be adjusted. The Contractor shall record the exact location and type of utility by labeling the assembly with numbers at locations visible for verification. The labeling shall include utility site, collar, and lid to ensure proper match of hardware when utility adjustment is completed at the conclusion of the project."

The Contractor shall submit the utility inventory list to the Engineer and utility companies upon completion of utility lowering activity. The Contractor shall also keep a copy of the utility location inventory list on the project work site at all times for emergency shutoff purposes. The Contractor may post the list on the backside of the RTC Project Information sign.

1.24C MANHOLE PROTECTION PLAN

The Contractor shall be responsible for the protection of all manholes and valves during all phases of construction, including but not limited to, lowering and raising covers, and grouting of them. The Contractor shall verify all manholes and valves are clear of debris at the beginning of the project and notify the utility companies if otherwise.

A "Manhole Protection Plan" shall be submitted and approved by the Engineer prior to any manhole adjustments. The plan shall clearly identify how the contractor will protect ANY debris from entering the system and a detail of how the Contractor is prepared for emergency overflows. To the minimum, the plan shall include the name, phone number, and contact of the company the contractor will use in case of an emergency. Prior to performing any adjustments or grouting, the Engineer shall observe and verify the Contractor is in compliance with the "Manhole Protection Plan".

1.25 SURVEY MONUMENTS

Survey monuments shall be removed prior to construction. Survey monuments shall be located and punched by a Nevada registered professional land surveyor and replaced after completion of improvements.

1.26 CERTIFICATES OF COMPLIANCE

The Certificate of Compliance shall be signed by the manufacturer of the material or the manufacturer of assembled materials and shall state that the materials involved conform in all respects with the requirements of the specifications for this project. A Certificate of Compliance shall be furnished with each lot of material delivered to the work and the lot so certified shall be clearly identified in the certificate.

Materials Requiring Certificate of Compliance

1. Asphalt Cement
4. Cement
5. Concrete Curing Compound
6. Signs
7. Pavement Markings
8. Personnel certification for installation of retroreflective preformed pavement markings

EXHIBIT “F”
(Standard Specifications for Public Works Construction
Section 117.00
“Material and Workmanship – Warranty of Corrections”)

EXHIBIT F

MATERIAL AND WORKMANSHIP - WARRANTY OF CORRECTIONS

Corrections ordered in accordance with General Provision 117.00, “Material and Workmanship” for items discovered in the year following final acceptance of the project shall be warranted for a one (1) year period following acceptance by the RTC of the correction. Should the correction itself prove defective, the Contractor shall be obliged to make further correction. The warranty period on the correction shall continue to be extended for one (1) year following acceptance by the RTC of the initial or any subsequent corrective actions.

EXHIBIT “G”
RRIF RATES AS OF DATE OF OFFSET AGREEMENT

REGIONAL ROAD IMPACT FEE SCHEDULE

Exhibit G

Land Use	Unit	North Service Area		South Service Area	
Residential		VMT	Dollars (\$267.95/VMT)	VMT	Dollars (\$261.35/VMT)
Single-Family	Dwelling	20.36	\$5,455.46	19.11	\$4,994.40
Multi-Family	Dwelling	12.97	\$3,475.31	12.18	\$3,183.24
Industrial					
General Light Industrial	1,000 GFA	6.48	\$1,736.32	6.08	\$1,589.01
Manufacturing	1,000 GFA	5.14	\$1,377.26	4.82	\$1,259.71
Warehouse	1,000 GFA	2.27	\$608.25	2.13	\$556.68
Mini-Warehouse	1,000 GFA	1.97	\$527.86	1.85	\$483.50
Commercial/Retail					
Commercial/Retail	1,000 GFA	29.43	\$7,885.77	27.63	\$7,221.10
Eating/Drinking Places	1,000 GFA	29.43	\$7,885.77	27.63	\$7,221.10
Casino/Gaming	1,000 GFA	60.17	\$16,122.55	56.48	\$14,761.05
Office and Other Services					
Schools	1,000 GFA	16.83	\$4,509.60	15.80	\$4,129.33
Day Care	1,000 GFA	16.83	\$4,509.60	15.80	\$4,129.33
Lodging	Room	4.38	\$1,173.62	4.11	\$1,074.15
Hospital	1,000 GFA	14.01	\$3,753.98	13.15	\$3,436.75
Nursing Home	1,000 GFA	8.68	\$2,325.81	8.14	\$2,127.39
Medical Office	1,000 GFA	45.47	\$12,183.69	42.68	\$11,154.42
Office and Other Services	1,000 GFA	12.73	\$3,411.00	11.95	\$3,123.13
Regional Recreational Facility	Acre	1.02	\$273.31	0.96	\$250.90

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