

**HIGHLAND RANCH PARKWAY AND MIDNIGHT DRIVE INTERSECTION**  
**Traffic Signal Installation and Intersection Improvements**

**OFFSET AGREEMENT**  
**Offset Agreement # 0513014**

**BETWEEN**

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

**And**

**WASHOE COUNTY**  
**A political subdivision of the State of Nevada**

**And**

**TOUCHSTONE LIVING, INC.**

**Developer of Record**

**For**

**HIGHLAND VILLAGE 1**

**Development of Record**

**North Service Area**

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## **EXHIBITS**

<b>EXHIBIT “A”</b>	<b>Section X of the Regional Road Impact General Administrative Manual, Current Edition</b>
<b>EXHIBIT “B”</b>	<b>Site Plan and Phasing of Development of Record</b>
<b>EXHIBIT “C”</b>	<b>Offered Improvements Applications/Submittals</b>
<b>EXHIBIT “D”</b>	<b>Letter of Approval</b>
<b>EXHIBIT “E”</b>	<b>Developer of Record QA/QC Program RTC Special Technical Specifications for Regional Road Impact Fee Projects</b>
<b>EXHIBIT “F”</b>	<b>Standard Specifications for Public Works Construction Section 100.17 “Material and Workmanship – Warranty of Corrections”</b>
<b>EXHIBIT “G”</b>	<b>RRIF Rate Schedule as of the Date of the RRIF Offset Agreement</b>
<b>EXHIBIT “H”</b>	<b>Interim RRIF Waiver Request Schedule</b>

## **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; WASHOE COUNTY, a political subdivision of the State of Nevada (hereinafter designated “Local Government”); and Touchstone Living, Inc. (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. 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, 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. 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.
- 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 Highland Village 1. The Developer of Record owns or is the agent for the record owners of the entire Development. A site plan and proposed phasing of the Development of Record is attached hereto as Exhibit “B”.



## 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 installation of a traffic signal system and intersection improvements at the Highland Ranch Parkway and Midnight Drive intersection. 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 date of the Offset Agreement, 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 date of the Offset Agreement. 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, RRIF 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: LaShonn Ford, P.E.  
1105 Terminal Way, Suite 108  
Reno, Nevada 89502  
Telephone: (775) 332-2136

**WASHOE COUNTY  
Community Services Department**  
Attn: Dwayne Smith, P.E.  
1001 E. Ninth Street  
Reno, Nevada 89512  
Telephone: (775) 328-2043

**Developer of Record**  
Attn: Dustin Manning  
1700 South Pavilion Drive, Suite 950  
Las Vegas, NV 89135  
Telephone: 702-929-3126

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 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 offices, 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 \_\_\_\_\_, 20\_\_\_\_.

**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 17<sup>th</sup> day of October, 2025, by Bill Thomas, Executive Director of the Regional Transportation Commission.

  
Notary Public



**WASHOE COUNTY**  
**A political subdivision of the State of Nevada**

**APPROVED AS TO LEGAL FORM:**

By: \_\_\_\_\_  
Alexis Hill, Chair of the Washoe County Commission

By: \_\_\_\_\_  
County Attorney

STATE OF NEVADA     )  
  ) ss  
COUNTY OF WASHOE )

On this this \_\_\_\_\_ day of \_\_\_\_\_, 2025 before me, a Notary Public, personally appeared \_\_\_\_\_, known to me to be the chair of the Board of County Commissioners of Washoe County, who acknowledged to me that s/he executed the foregoing document on behalf of said political subdivision of the State of Nevada.

\_\_\_\_\_  
Notary Public

**DEVELOPER OF RECORD:**

Signature:\_\_\_\_\_

Name: Dustin Manning

Title: Vice President of Land Development, Touchstone Living, Inc.

STATE OF  
COUNTY OF

The above-instrument was acknowledged before me this \_\_\_\_\_day of \_\_\_\_\_, 2025 by  
\_\_\_\_\_.

\_\_\_\_\_  
Notary Public



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

**X. RRIF WAIVERS REQUESTED AFTER THE 5<sup>th</sup> EDITION RRIF GAM/CIP (3/2/2015) UPDATE**

**A. General**

**1. RRIF Waivers.**

- a. RRIF Waivers are credits against RRIF Fees for Offset-Eligible Costs in an amount equal to or less than the RRIF Fees owed for the land uses within a Development of Record.
  - b. RRIF Waivers are approved in a Notice of RRIF Waiver issued pursuant to an Offset Agreement. When a Notice of RRIF Waiver is issued, RRIF Fees assessed by the Participating Local Government will be “waived” until the RRIF Fees waived within the Development of Record cumulatively equal the amount of Offset-Eligible Costs approved in the Notice of RRIF Waiver.
  - c. In the event the land uses within the Development of Record are modified greater than 10% of the land uses as identified in the Offset Agreement, RRIF Waivers will be re-evaluated at the then-current RRIF Fee. The determination of a RRIF Waiver modification will be based on a comparison of the RRIF Fees owed for the modified land uses, including any completed portions of the development, and the RRIF Fees owed as identified in the Offset Agreement. The Local RRIF Administrator will notify the RTC RRIF Administrator of the modification for the Development of Record. The RTC RRIF Administrator will issue a new Notice of RRIF Waiver with the remaining value of RRIF Waivers expressed in dollars. All remaining RRIF Waivers shall be utilized at the then-current RRIF Fee as of the date of issuance of the building permit for each unit of development.
- 2. The RTC RRIF Administrator and legal counsel are the sole officials authorized to communicate, on behalf of the RTC, with a person submitting an application for RRIF Waivers. Representations and communications by other officials, unless expressly authorized by the RTC RRIF Administrator, may not be relied upon for purposes of RRIF Fee obligations, Offered Improvements, or the terms of a proposed Offset Agreement. The Offset Agreement shall supersede all prior written and oral communications, regardless of source.**
- 3. Any offer to dedicate or construct Offset-Eligible Improvements, pursuant to this Section and the Offset Agreement, may be withdrawn at any time prior to the transfer of legal title.**

**B. Offset Agreement**

1. With respect to improvements commenced on or before November 1, 2018, Offset Agreements must be approved prior to the start of work on any

Offset-Eligible Improvement and prior to the issuance of any building permit for which RRIF Waivers are requested. With respect to improvements commenced after November 1, 2018, Offset Agreements must be approved prior to the earliest to occur of: (i) twelve (12) months from commencement of construction of the Offset-Eligible Improvement, (ii) completion of work on any Offset-Eligible Improvement, and (iii) utilization of RRIF Waivers earned as a result of construction of any Offset-Eligible Improvement.

2. When the Offered Improvements are completed, the RTC RRIF Administrator will prepare a Notice of RRIF Waiver.
3. The Local RRIF Administrator will inspect and accept the Offset-Eligible Improvements.
4. The RTC RRIF Administrator will issue the Notice of RRIF Waiver, pursuant to the Offset Agreement, to approve the RRIF Waivers.
5. An interim Notice of RRIF Waiver may be issued during phases of construction or dedication of land that provide reasonable assurance that over-crediting shall not occur, if authorized in the Offset Agreement.
6. To the extent that Offered Improvements are ultimately not accepted, or if the Developer of Record is otherwise in material default under the Offset Agreement, the Developer of Record shall pay the actual RRIF Fees which would have otherwise been due.

C. Procedure for Offset Agreements

1. The Developer of Record shall submit an application for RRIF Waivers to the RTC RRIF Administrator on a form provided by the RTC for such purposes.
2. Upon receipt of a complete application for RRIF Waivers, the RTC RRIF Administrator will distribute the application materials to legal counsel, other appropriate RTC staff, and the Local RRIF Administrator for each Participating Local Government in which the Offered Improvements are located (the “affected Participating Local Government”).
3. The RTC RRIF Administrator will coordinate with the Local RRIF Administrator for each affected Participating Local Government to ensure all comments are received and given consideration prior to RTC Board approval of the Offset Agreement.
4. After review by legal counsel, other appropriate RTC staff, and the RRIF Administrator of each affected Participating Local Government, the RTC RRIF Administrator will prepare a staff report and Offset Agreement for consideration by the RTC Board and the governing bodies of the affected Participating Local Governments.

- a. The RTC RRIF Administrator's staff report and Offset Agreement will establish which Offered Improvements qualify as Offset-Eligible Costs and the appropriate dollar amount and approved land use designations of any resulting RRIF Waivers, according to the provisions of this Manual.
  - b. The amount of RRIF Waivers for a Development of Record may not exceed the actual Offset-Eligible Costs, as described in Section X.
  - c. RRIF Waivers shall be expressed in dollars and by the amount of RRIF Fees to be waived in terms of land uses using the fee schedule in effect as of the date of approval of the Offset Agreement.
  - d. If the RTC RRIF Administrator determines that cost estimates submitted by the Developer of Record are either unreliable or inaccurate, the final determination of the amount of RRIF Waivers shall be made by the RTC RRIF Administrator based upon reasonable engineering criteria, construction cost estimates, property appraisals, or other professionally accepted means of determining the value of the Offered Improvements.
5. Based on the staff report of the RTC RRIF Administrator, the provisions of this Manual, the RRIF Capital Improvements Plan, available funds for RTC projects, and other relevant factors, the RTC Board and the governing bodies of the affected Participating Local Governments will make a final decision whether to accept, reject, or to propose amendments to the Offset Agreement.
6. Once a final decision has been made by the RTC Board and the governing bodies of the affected Participating Local Governments, the RTC RRIF Administrator will send by registered mail a copy or copies of the approved Offset Agreement for the final consent and signature of the Developer of Record. The Offset Agreement will be deemed to have been received by the Developer of Record three (3) days after mailing by the RTC RRIF Administrator.
7. The Developer of Record must sign, date, and return the approved Offset Agreement indicating their consent to the terms therein within 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 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 reassessed 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.

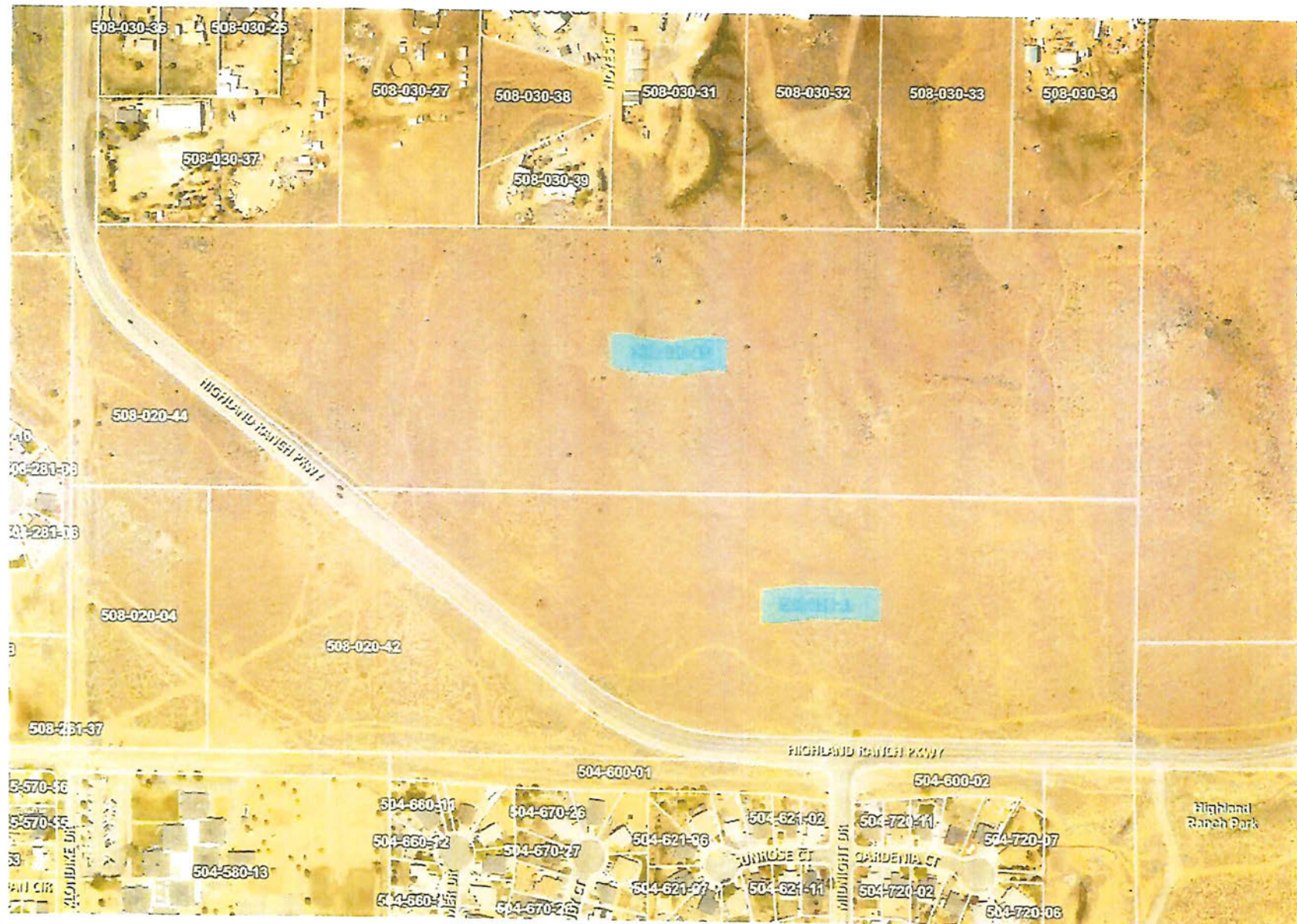
G. Usage of RRIF Waivers.

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.

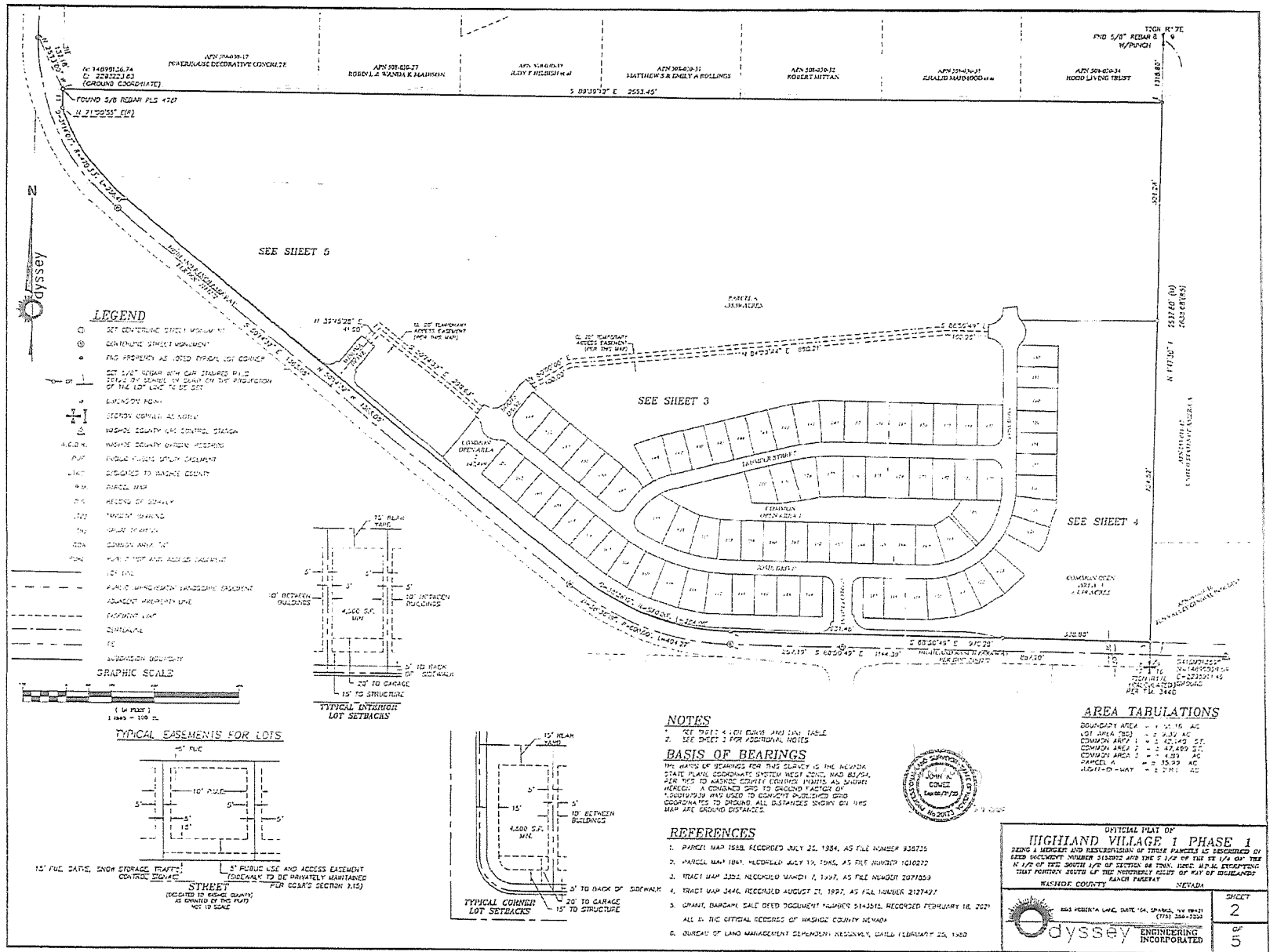
5. Upon transfer, RRIF Waivers may be used by the transferee to pay up to 100% of the RRIF Fees due as the result of development within the Development of Record.

**EXHIBIT “B”**  
**(Site Plan and Phasing of Development of Record)**

# Highland Village Parcels APN: 508-020-41 and 508-020-43



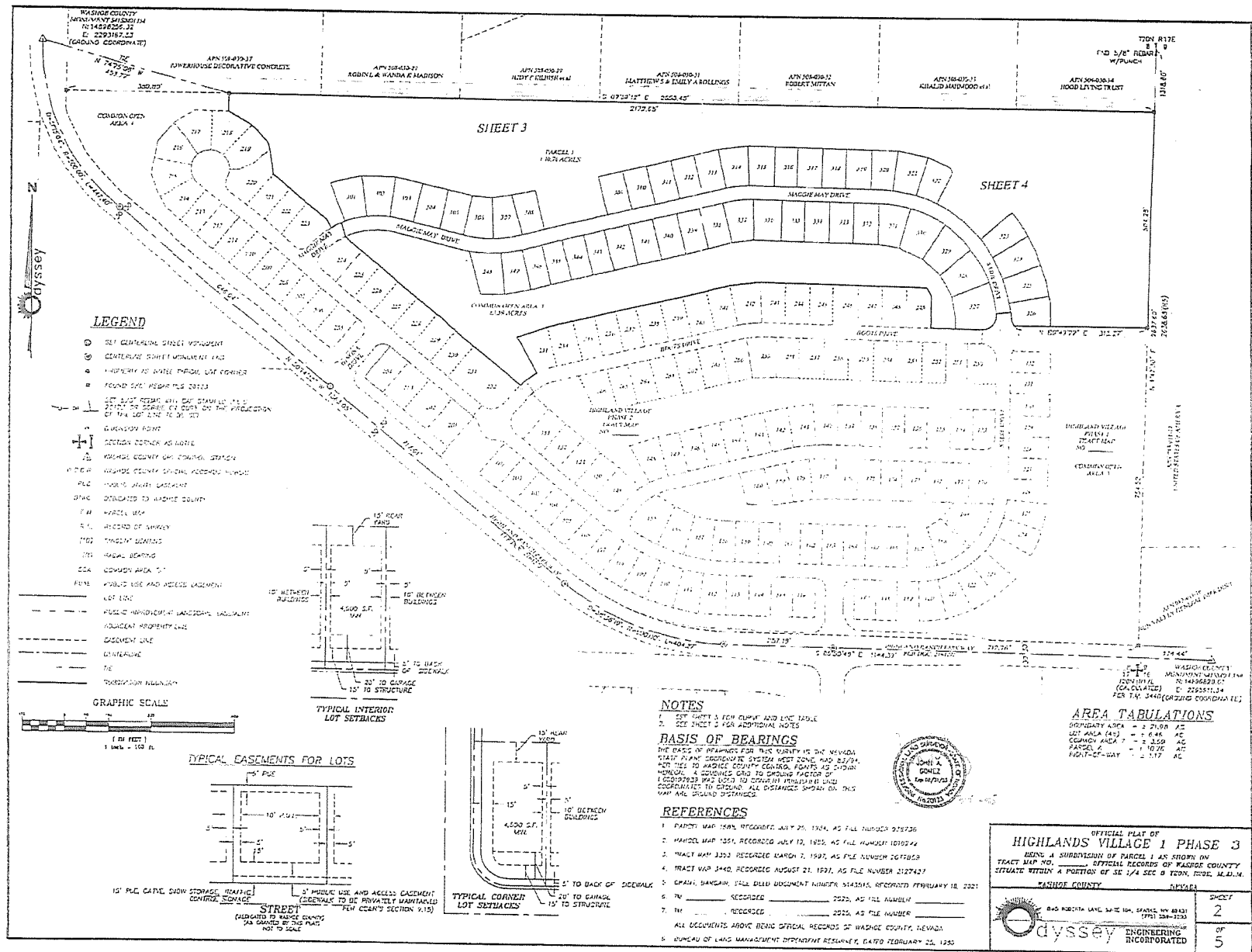
## PHASE 1





[illegible]

## PHASE 3



**EXHIBIT “C”**  
**(Offered Improvements Application/Submittals)**





August 22, 2025

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

Michon Reede, PE  
Washoe County Community Services Department  
Engineering Division  
1001 E. 9th Street  
Reno, NV 89512

Dr

**RRIF Offset Agreement Request: Highland Ranch Pkwy / Midnight Rd Signal Improvements**

Dear Jeff and Michon,

Touchstone Living, Inc. (Developer of Record) hereby formally requests initiation of a RRIF Offset Agreement and RRIF Waivers process for the installation of a traffic signal system and intersection improvements at the Highland Ranch Parkway/Midnight <sup>Drive</sup> Road intersection for the Highland Village 1 subdivision within Washoe County. Refer to *Attachment A* for the layout of the Development of Record.

The signalization of the Highland Ranch Parkway/Midnight <sup>Drive</sup> Road intersection is included in the RTC's 2050 *Regional Transportation Plan (RTP) 2025 Update* in the Capacity Projects – 2025-2034 Projects section of the RTP Project List (included in *Attachment B*). The signalization improvements, requested by Washoe County, are a programmed regional capacity improvement eligible for an RRIF Offset Agreement.

The **Capital Improvements** include:

- Dedication of public right-of-way
- Signal equipment easements
- Traffic signal system
- ADA ramps and sidewalk mods
- Signing and striping for the intersection for signalization
- Slurry seal
- Private retaining walls and grading

The public right-of-way needed for the intersection modifications and subdivision improvements will be dedicated to Washoe County with the final map for Highland Village Unit 1 subdivision. The dedicated right-of-way will be needed when Highland Ranch Parkway is widened. It is anticipated that the final map will be submitted to Washoe County for approval in September of 2025.

The signal equipment easements are in the northwest and northeast quadrants of the proposed north approach (Ophelia Drive). The non-exclusive easements would allow for the installation of signal equipment, as well as allow the HOA to install and maintain surface treatments adjacent to the entrance to the subdivision.

A fully functional regional traffic signal system will be constructed at the intersection of Highland Ranch Parkway and Midnight Road. A new Ophelia Drive approach will be constructed with the subdivision requiring a new four-way signal system.

There will be a need to modify the existing ADA ramps and sidewalk on the Midnight Road approach. The modifications are needed to properly align the new ramps on Ophelia Drive. New ramps will be required on the Ophelia Drive approach as well.

The new striping and signage will be installed in accordance with current MUTCD signalized intersection standards.

Slurry seal will be applied at the intersection and approaches to cover existing pavement markings. This will allow for a clean surface for the new striping and reduce "ghosting" of the existing striping.

The retaining walls and grading are required to establish the proper elevation of the signal pole foundations for the future widening of the Highland Ranch Parkway, coupled with the proposed subdivision. The walls will be constructed in the subdivision common area and will be the responsibility of the HOA to maintain. Again, the signal equipment on the north side of the proposed intersection has been positioned to meet the needs of the future widening of Highland Ranch Parkway.

The current intersection improvement and signalization plans (*Attachment C*) are provided for RRIF application review. Final drawings will be provided to the RTC upon permitting.

The **Developer of Record** is:

Touchstone Living, Inc  
1700 South Pavilion Dr. Suite 950  
Las Vegas, NV 89135

The **Development of Record** is:

Highland Village 1  
APN 508-020-41 & 43  
Local Government File Numbers: Site Building Permit # WFNLM24-0004

The Developer of Record may consider paying for the Regional Road Impact Fees for a portion of the single-family subdivision and being reimbursed by the RTC for those fees if the installation of the improvements associated with the RRIF offset agreement occurs within a year of the payment of the fees. The developer may also elect deferring RRIFs based upon Washoe County's established criteria.

**Approved Land Uses** within Highland Village 1 subdivision and the **Associated Regional Road Impact Fees** are based on the applicable impact fee schedule (7<sup>th</sup> Edition, Year 3 Indexing, included as *Attachment D*) are as follows:

Single-Family Residential – 194 units @ \$5,929.04/unit = \$1,150,233.76

Highland Village subdivision Total Impact Fee/Eligibility = **\$1,150,233.76**

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

GCW, Inc.  
 5482 Longley Lane, Suite B  
 Reno, NV 89511  
 Phone: (775) 322-4300  
 Email: lchilson@gcwengineering.com  
 Contact: Loren Chilson, PE

#### Qualifications for Inspection and Testing Firm

Any public improvements requiring sampling, testing, or quality assurance activities will be provided by an ACI and/or NAQTC certified firm. We will notify the RTC when the testing firm has been selected.

#### Preliminary Engineering Cost Estimate

The preliminary project cost estimate is provided below, however, the actual construction bid result will supersede the Engineer's Estimate and all costs will be updated. The estimate below is based upon the RRIF eligible improvements shown in *Attachment E*. It is important to note that the estimated cost for the right-of-way dedication and signal equipment easements will be based upon the recent purchase price for the Highland Village subdivision property and the proportional area of the dedication and easements.

#### Highland Ranch Pkwy/Midnight Drive Traffic Signal Improvements - Preliminary Cost Estimate

Item	Description	Estimated Cost	Final Cost
1	Engineering Fees	\$59,000.00	
2	Right-of-Way Dedication	\$52,281.00	
3	Signal Equipment Easements	\$22,444.20	
4	Traffic Signal System	\$850,000.00	
5	ADA Ramps & Sidewalk Mods	\$20,000.00	
6	Signing & Striping	\$9,112.55	



7	Slurry Seal	\$11,700.50	
8	Retaining Walls & Grading	\$67,800.00	
9	Inspection/Testing	\$35,000.00	
10	Street Cut/Occupancy Permit	\$3,000.00	
11	Contingency (5%)	\$56,674.41	
<b>Total</b>		<b>\$1,187,012.66</b>	
<b>RRIF Waiver Amount Requested</b>		<b>\$1,150,233.76</b>	

### Project Specifications

All work will be required to comply with the current edition of the Standard Specifications for Public Works Construction (Orange Book), consistent with RTC requirements for Public Works projects. The plans additionally require compliance with NDOT standard details for the signal installation.

### Construction Schedule

The signal and intersection improvements are anticipated to be constructed in the first quarter of 2026.

### Request for Interim Waivers

The Developer of Record will be required to bond with Washoe County for construction of the intersection improvements and traffic signal installation, which provides assurance to the RTC that the waivers will in fact be fully earned.

The Developer of Record will be requesting interim waivers upon completion of the signal underground work, including but not limited to engineering fees, right-of-way, easements, conduits, pull boxes, pole foundations, and retaining walls and grading upon completion and acceptance of these milestones of construction.

The Developer of Record has provided the following interim milestone dates:

**See Exhibit "H" - Interim RRIF Waiver Release Schedule**

- Interim Request # 1: 4<sup>th</sup> Quarter-2025 – Engineering fees, R-O-W and easements
- Interim Request # 2: 1<sup>st</sup> Quarter-2026 – Signal underground and walls and grading
- Final Request: 2<sup>nd</sup>/3<sup>rd</sup> Quarter- 2026 – Completed and accepted project

The Developer of Record anticipates the first round of C of O's in Highland Village 1 Phase 1 to be in the 2<sup>nd</sup> quarter of 2026.

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 and assistance.

Respectfully,



Jon R. Ericson, PE  
Associate  
GCW, Inc.

Attachments:

- A – Development of Record
- B – Regional Project Documentation
- C – Intersection Improvement Plans
- D – RTC RRIF Schedule – 7<sup>th</sup> Edition, Year 3 Indexing
- E – RRIF Eligible Improvements & Cost Estimate

## ATTACHMENT A – DEVELOPMENT OF RECORD





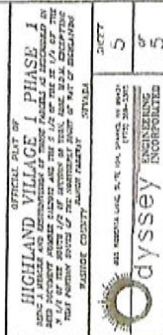
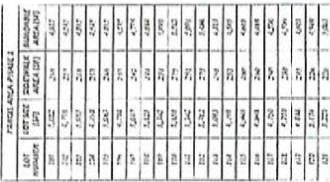
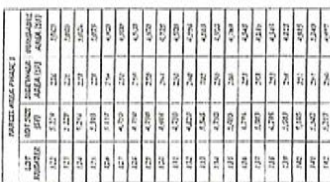
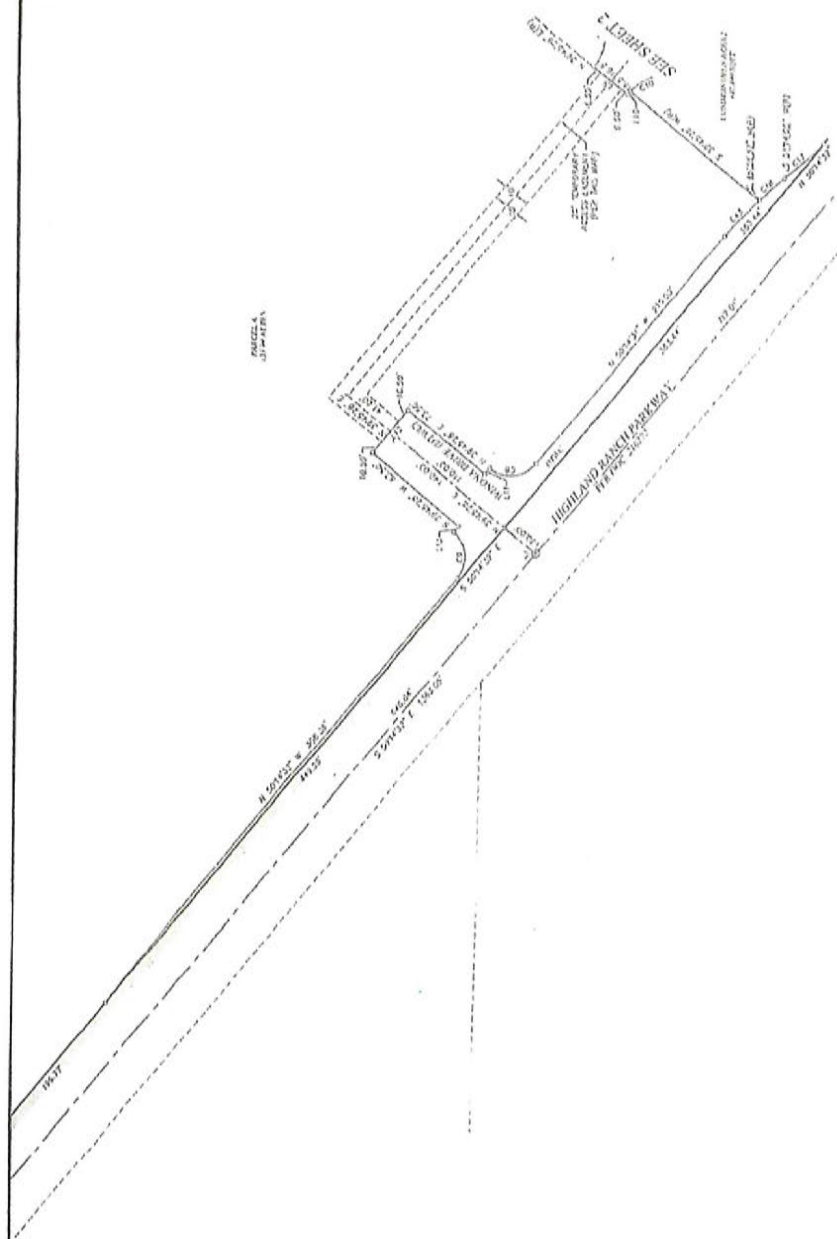




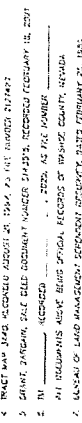


















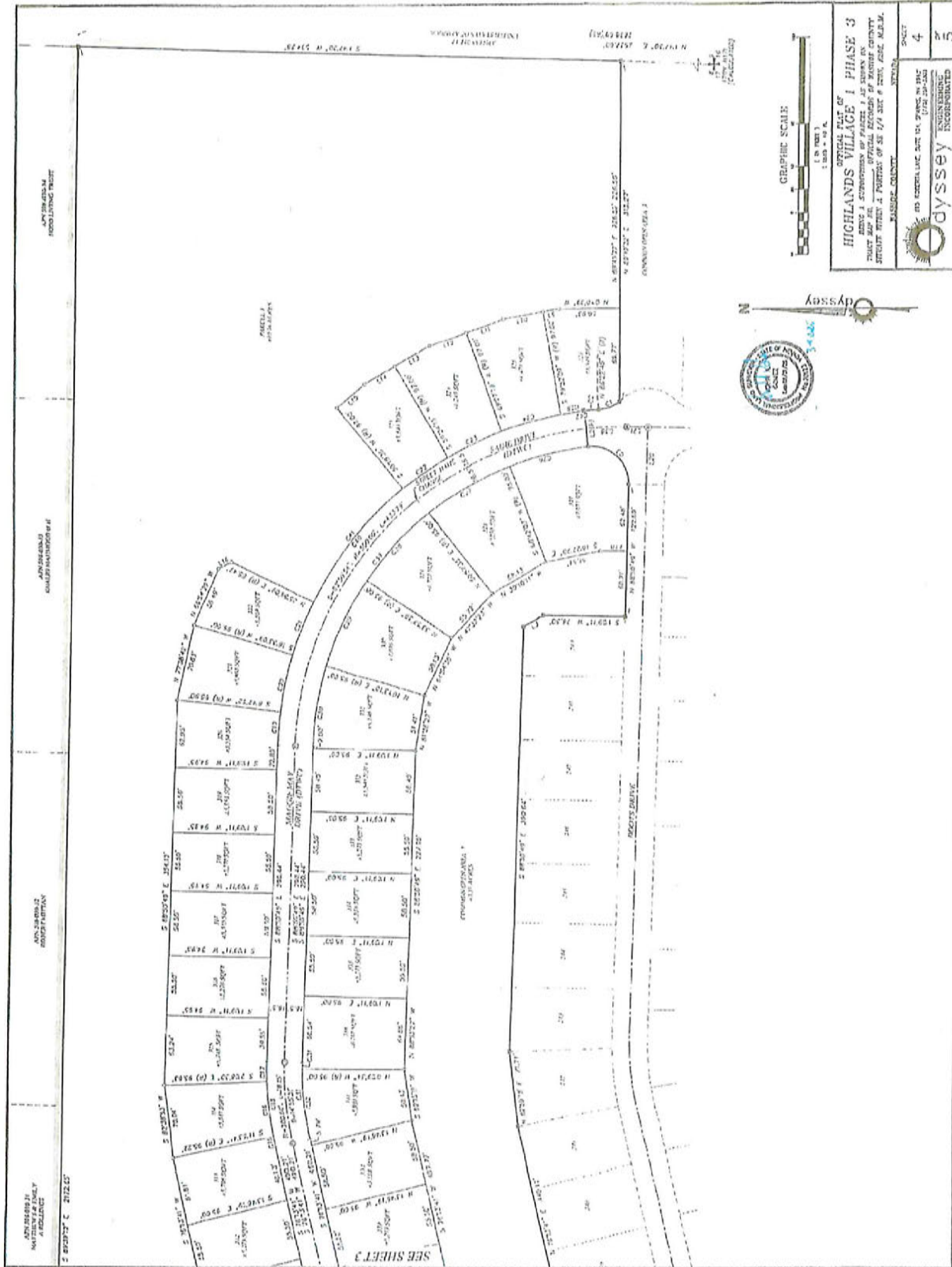














ATTACHMENT B – REGIONAL PROJECT  
DOCUMENTATION

## 2025-2034 PROJECTS

### Freeway Projects

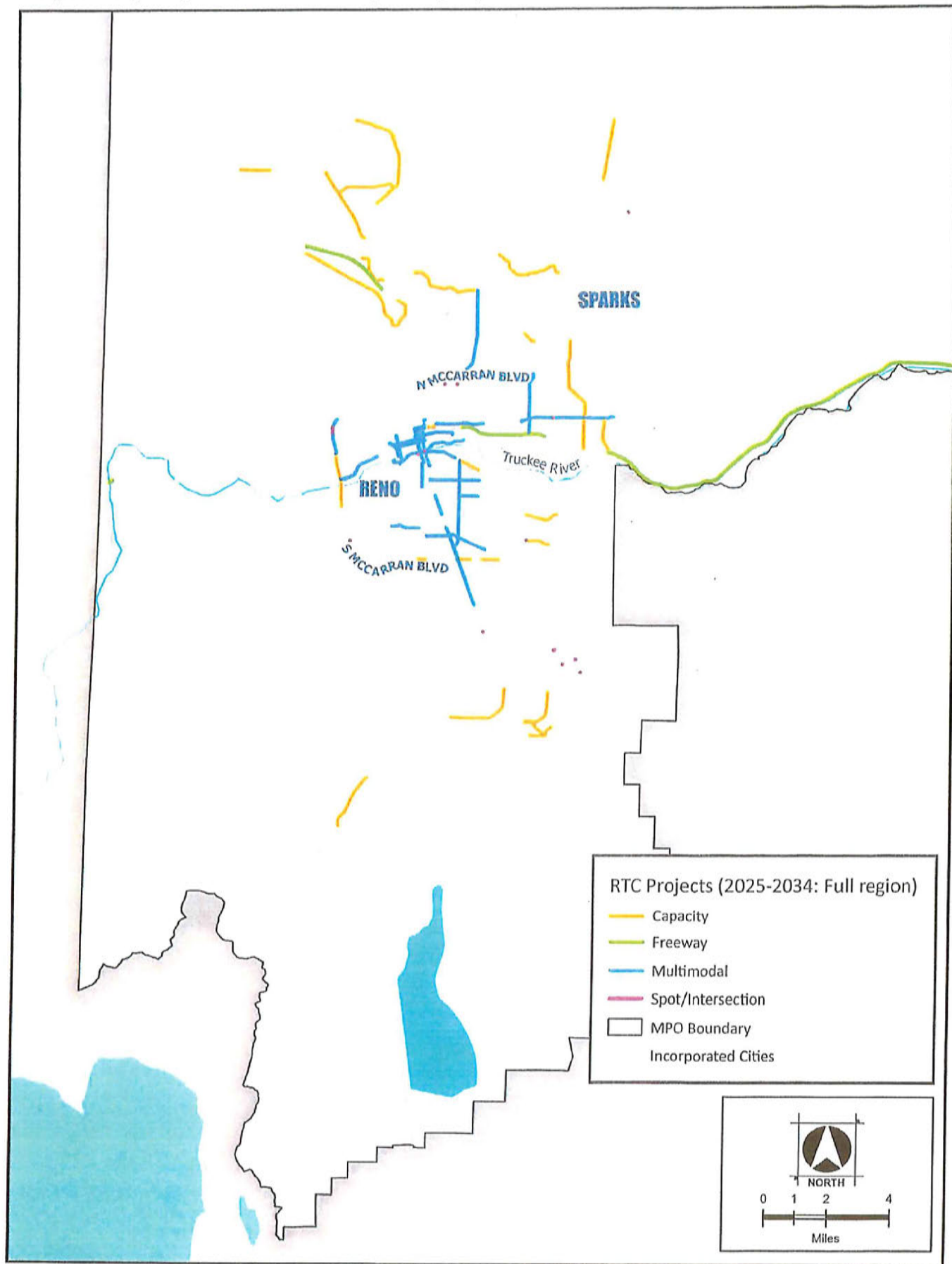
Project	Limits/Description	YOE Cost Estimate
I-80 East Widening	Vista Blvd. to USA Pkwy.	\$659,654,115
I-80 West Reno Bridges Replacement Part 1	Replace Garson Rd., Mogul Rd., W. 4th St., Mae Anne Ave. Bridges	\$155,918,245
I-80 West Reno Bridges Replacement Part 2	Replace Truckee River/RR, I-80 Business Loop, Truckee River, S Verdi Rd/RR Bridges	\$177,506,926
Reno Spaghetti Bowl Phase 2	I-80 Improvements from Spaghetti Bowl to E. McCarran Blvd.	\$809,575,505
US 395 North Valleys Phase 2	US 395 Widening from Golden Valley Rd. to Stead Blvd.	\$275,855,357

### Capacity Projects

Project	Limits/Description	YOE Cost Estimate
Arrowcreek Pkwy. Capacity	Wedge Pkwy. to Zolezzi Ln.	\$18,470,315
Buck Dr. Capacity	Lemmon Dr. to N. Hills Blvd.	\$4,797,484
Geiger Grade Road Realignment	New 4 Lane Road from Alt US 395 to Toll Rd.	\$101,346,859
→ Highland Ranch Pkwy. Capacity	Sun Valley Blvd. to Pyramid Hwy.	\$61,767,613
Lear Blvd. Connection	Military Rd. to Lemmon Dr.	\$43,777,046
Lemmon Dr. Segment 2	Fleetwood Dr. to Ramsey Way.	\$81,557,236
McCarran Blvd. Lakeside Dr. to Plumas St. Capacity	Add Lanes, Intersection Improvements, and Shared Use Paths	\$7,316,164
McCarran Blvd., Longley Ln. to Airway Dr. Capacity	Add lanes and Eastbound shared use path	\$17,990,567
McCarran Blvd., Neil Rd. to South Virginia St. Capacity	Remove Lanes and Provide Protected Shared Use Path.	\$8,395,598
McCarran Blvd., Plumb Ln. to I-80 Capacity	Add Lanes, Intersection Improvements, and Shared Use Paths	\$55,650,820
Military Rd. Capacity	Lemmon Dr. to Lear Blvd.	\$46,175,788
Mill St. Safety and Capacity	Kietzke Ln. to Terminal Way	\$38,379,876
Mira Loma Dr. Capacity	McCarran Blvd. to Veterans Pkwy.	\$16,431,384
Moya Blvd. Capacity	Red Rock Rd. to Echo Ave.	\$28,664,970
Mt. Rose Hwy. Corridor Improvements (Group 1 Projects)	Douglas Fir Dr. to Bordeaux Dr.	\$20,509,246
N. Hills Blvd. Capacity	Golden Valley Rd. to Buck Dr.	\$43,777,046
North Virginia St. Capacity	Panther Dr. to Stead Blvd.	\$101,946,545



Map B.1 Projects funded in 2025-2034 (Full Region)



R:\Current\GIS\Online Maps\All Projects\RTP\2024\1118 RTP Figure Maps\Funded Project Maps\Funded Project Maps WR.aprx 12/20/2024 09:52 T.Tsai\note

# ATTACHMENT C – INTERSECTION IMPROVEMENT PLANS

# HIGHLAND RANCH PARKWAY AND MIDNIGHT DRIVE TRAFFIC SIGNAL

DESIGN ENGINEER:

**GCV'**  
ENGINEERS & SURVEYORS  
5482 LONGLEY LANE, SUITE B  
RENO, NV 89511  
(775) 322-4300



VICINITY MAP



HIGHLAND RANCH PARKWAY/MIDNIGHT DRIVE  
TRAFFIC SIGNAL

**GCV'**  
ENGINEERS & SURVEYORS  
5482 Longley Lane, Suite B  
Reno, NV 89511  
(775) 322-4300

TITLE  
SHEET

Project # 895-025

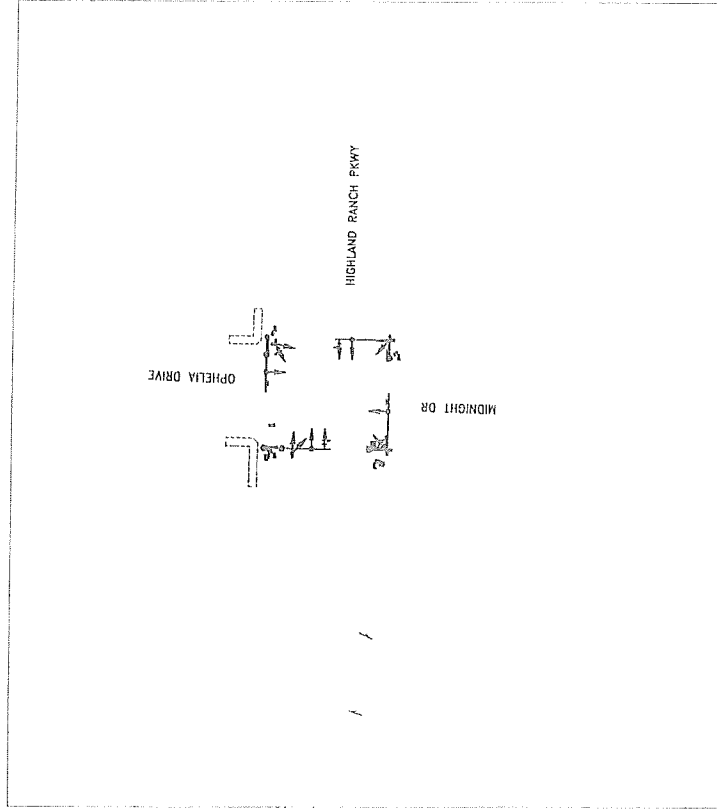
Date June 23, 2025

Sheet # 1 of 15

LEGEND:

NEW EXISTING

- PULL BOX (EXCEPT NO. 9)
- NO. 9 PULL BOX
- TRAFFIC SIGNAL CONTROLLER CABINET
- VEHICLE DETECTOR LOOP  
2 - PHASE #  
6 - GANIEL
- TRAFFIC SIGNAL OR STREET LIGHT POLE
- CONDUIT
- METERED SERVICE
- POWER SOURCE
- 3 SECTION BALL SIGNAL HEAD
- 3 SECTION ARROW SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- EMERGENCY VEHICLE DETECTOR
- INTERMEDIATE ILLUMINATED SIGN
- PAN, TILT, ZOOM CAMERA
- BELL TYPE DETECTION CAMERA
- RADIO ANTENNA
- TELEPHONE MANHOLE
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- PROPERTY LINE OR RIGHT OF WAY EASEMENT
- GAS LINE
- WATERLINE
- TELEPHONE LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE



SITE MAP  
NTS

SHEET INDEX:

SHEET #	DRAWING DESCRIPTION
1	TITLE SHEET
2	SITE MAP
3-12	NOTES, SPECIFICATIONS, & DETAILS
13	CONDUIT PLAN
14	EQUIPMENT PLAN
15	SCHEDULE PLAN

ABBREVIATIONS:

ABB.	MEANING
AWG	AMERICAN WIRE GAUGE
BW	BACK OF WALK
DLC	DETECTOR LEAD IN CABLE
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
EVD	EMERGENCY VEHICLE DETECTOR
EX	EXISTING
FFC	FRONT FACE OF CURB
FL	FLOW LINE
FYA	FLASHING YELLOW ARROW
FYG	FLUORESCENT YELLOW GREEN
IENS	INTERNALLY ILLUMINATED STREET NAME SIGN
IMSA	INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION
LED	LIGHT EMITTING DIODE
MA	MAST ARM
VAX	MAXIMUM
MD	MULTIDUCT
MIN	MINIMUM
MMU	MANFUNCTION MANAGEMENT UNIT
OHP	OVERHEAD POWER
PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
PC	PERMANENT EASEMENT
POE	POWER OVER ETHERNET
PPB	PEDESTRIAN PUSH BUTTON
PTZ	PAN, TILT, ZOOM
PUE	PUBLIC UTILITY EASEMENT
R/W	RIGHT OF WAY
SPEC	SPECIFICATION
SW	SIDEWALK
TED	TO BE DETERMINED
TC	TOP OF CURB
TCE	TEMPORARY CONSTRUCTION EASEMENT
TDC	TOP OF DEPRESSIONED CURB
TYP	TYPICAL

HIGHLAND RANCH PARKWAY/MIDNIGHT DRIVE  
TRAFFIC SIGNAL

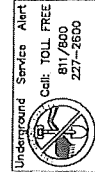
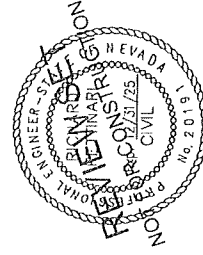
GCV  
ENGINEERS SURVEYORS  
4442 Longley Lane, Suite 10  
Reno, NV 89531  
(775) 322-7000

SITE  
MAP

Project: 995-025

Date: June 21, 2025

Sheet: 2 of 15



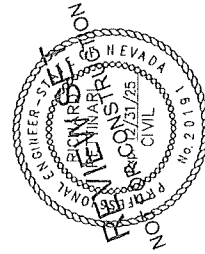
## GENERAL NOTES:

1. THE PLANS/SPECIFICATIONS STRUCTURE SHALL BE AS FOLLOWS, IN ORDER OF HIERARCHY:  
THE PROJECT PLANS, SPECIFICATIONS, AND DETAILS  
STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (ORANGE BOOK) 2012, REVISION B EDITION  
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 (UNLESS SPECIFIED 2024)  
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (ORANGE BOOK) 2012, REVISION B EDITION  
BRIDGE CONSTRUCTION CURRENT EDITION  
NDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, 2020 (UNLESS SPECIFIED 2024)  
AND THE NATIONAL ELECTRIC SAFETY CODE (NESC).  
3. THE PRECISE LOCATIONS OF UNDERGROUND UTILITIES ARE UNKNOWN, CALL FOR UTILITY LOCATES AT LEAST 48 HOURS PRIOR TO DIGGING AND PROCEED WITH CAUTION.  
4. 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.  
5. CONCRETE FLATWORK 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.  
6. 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.  
7. CONTRACTOR TO REMOVE ALL CONDUCTORS AND CABLES NOT USED IN THE FINISHED CONFIGURATION.  
8. ALL SIGNAL EQUIPMENT, HARDWARE, UNBROKEN PULL BOX LIDS, AND SIGNS REMOVED THROUGH THE COURSE OF WORK SHALL BE DELIVERED TO THE MAINTAINING AGENCY'S CORPORATE YARD, NO DIRECT PAYMENT.  
9. 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.  
10. CONTRACTOR SHALL BE RESPONSIBLE FOR PROCESSING AND OBTAINING ALL "CHANGE OF LOOP" AND SERVICE APPLICATIONS THROUGH NV ENERGY. COORDINATE ALL CONNECTIONS/DISCONNECTIONS WITH NV ENERGY. NO DIRECT PAYMENT.  
11. A WASHOE COUNTY ENCROACHMENT/EXCAVATION PERMIT (EE PERMIT) IS REQUIRED FOR THE PROJECT. THIS IS A NO-FEE PERMIT. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS OF THE PERMIT.

## EQUIPMENT SPECIFICATIONS:

THESE NOTES SUPERSEDE CITY OF RENO STANDARD DETAILS R-413F, R-413G, & R-413H.

1. THE COMPLETE WORK SHALL INCLUDE ALL CABINET AND EQUIPMENT WIRING RECONFIGURATIONS AS NECESSARY TO COMPLETE FULLY FUNCTIONAL SYSTEMS. INTERIM CONFIGURATIONS MAY BE NECESSARY TO COMPLETE THE WORK AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.  
2. METERED UNDERGROUND ELECTRICAL SERVICE SHALL BE TESCO CONTROLS MODEL 27-22BBS WITH UPS BATTERY BACKUP SYSTEM OR APPROVED EQUAL. CONSTRUCT SERVICE CABINET FOUNDATION PER DETAIL ON SHEET 5 AND UNBROKEN PULL BOX LIDS. METERED SERVICE CABINET SHALL BE UL 508 RATED. METERED SERVICES SHALL HAVE OWNERSHIP AND ADDRESS. METERED SERVICE SHALL BE PROVIDED BY THE CONTRACTOR. METERED SERVICE EQUIPMENT SCHEDULES FOR FURTHER DETAIL.  
3. TRAFFIC SIGNAL CABINET SHALL BE MAZTEC T32 TYPE 1 OR TYPE 2 SYSTEM READY CABINET PER SHEET 8 WITH R-44 FOUNDATION PER DETAIL ON SHEET 5. 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 T32 TYPE 1 CABINETS), HAVE ALL PLUG-INS, AND BE WIRED FOR EMERGENCY VEHICLE PRE-EMPTION (EVP).  
4. TRAFFIC SIGNAL CONTROLLER SHALL BE: MAZTEC COMMANDER T32, TYPE 2 NEMA AND NTPIC COMPLIANT CONTROLLER WITH ETHERNET. MULTIFUNCTION MANAGEMENT UNIT (MFMU) SHALL BE: EDI MFMU 1CD WITH ETHERNET.  
5. PROGRAMMING OF CONTROLLERS AND WMLU WILL BE PERFORMED BY WASHOE COUNTY STAFF ONLY. DELIVER CONTROLLERS AND WMLU TO WASHOE COUNTY PUBLIC WORKS AT LEAST TWENTY-ONE DAYS PRIOR TO SIGNAL TURN-ON. CONTACT WASHOE COUNTY AT LEAST SEVEN DAYS PRIOR TO DESIRED PICK-UP FOR INSTALLATION.  
6. SIGNAL EQUIPMENT SHALL BE PROVIDED AND APPROVED THROUGH THE SUBMITTAL PROCESS TO THE WASHOE COUNTY PUBLIC WORKS DEPARTMENT.  
7. THE LUMINAIRE FIXTURES SHALL BE QREI STR-LWY3WHIT08ULS7000 OR APPROVED EQUAL PHOTO CELL TO BE LOCATED IN METERED SERVICE PEDESTAL.  
8. SERVICE CONDUCTORS FROM METER TO CONTROLLER CABINET SHALL BE (3) #5 AWG THWN-2 OR LARGER. SEE CONDUIT & CONDUCTOR SCHEDULES FOR EACH LOCATION.  
9. SIGNAL HEAD BRACKETS SHALL HAVE ADEQUATE EXTENSIONS TO ALLOW SIGNAL HEAD ADJUSTMENT/ROTATION FOR DIRECT ALIGNMENT TO THE STOP BAR AT THE VIEWING LANE.  
10. THE LOCATION OF NEW SIGNAL HEADS SHALL BE APPROVED BY THE ENGINEER AND OWNING AGENCY. SIGNAL HEAD TENSORS SHALL BE PROVIDED BY A CERTIFIED WELDER, AND LOCATED IN THE CENTER OF THE VIEWING LANE, UNLESS APPROVED OTHERWISE.  
11. SIGNAL CABLE SHALL CONFORM TO INSA SPEC 19-1 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 THHN/THWN-2 OR APPROVED EQUAL. CABLES WITH 15 OR MORE CONDUCTORS SHALL HAVE #10 AWG NEUTRAL.  
12. PULL BOXES SHALL NOT BE INSTALLED IN PEDESTRIAN RAMPS WITHOUT THE ENGINEER'S PRIOR APPROVAL.  
13. THE FINAL LOCATION OF ALL POLES, PULL BOXES, CABINETS, AND CONDUIT RUNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. CONDUIT RUNS SHOWN IN THE PLANS ARE SCHEMATIC FOR THE PURPOSE OF PLAN LEGIBILITY.  
14. A FACTORY REPRESENTATIVE FROM THE MANUFACTURER OF THE SIGNAL CABINET, CONTROLLER, WMLU, AND ALL NEW OR MODIFIED SIGNAL EQUIPMENT MUST BE PRESENT FOR ALL SIGNAL TURN-ONS.  
15. FLASHING YELLOW ARROW SIGNAL SHALL NOT BE ENABLED UNTIL STAFF FROM THE OWNING AGENCY ARE PRESENT TO CONFIRM SETUP AND OPERATIONS.  
16. ALL NEW HARDWARE, EXCEPT FOR SIGNAL POLES, SHALL HAVE A FLAT BLACK POWDERCOAT FACTORY FINISH. COLOR AND FINISH SHALL BE APPROVED BY THE OWNING AGENCY PRIOR TO ORDERING.  
17. ALL NEW PEDESTRIAN PUSH BUTTONS FOR TRAFFIC SIGNALS SHALL BE 2" DIAMETER. UTILIZE POLARA IN52 NAVIGATOR 2 WIRE PUSH BUTTON STATION (NS2 P55) SYSTEM OR APPROVED EQUAL. THE COLOR OF THE STATION SHOULD BE YELLOW. NEW PUSH BUTTON STATIONS SHALL HAVE 9"x15" SIZE PEDESTRIAN (R10-30) 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.  
18. THE LOCATION OF PAVED MARKINGS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. LONGITUDINAL STRIPING SHALL BE WATERBORNE TRAFFIC PAINT. TRANSVERSE STRIPING AND SYMBOLS SHALL BE PREPARED THERMOPLASTIC.  
19. ALL TRAFFIC SIGNS SHALL BE 3M DIAMOND GRADE (DG) 3, SERIES 4000, SHEETING WITH A CLEAR TRANSPARENT OVERLAY 3M 1170C, 1160I OR APPROVED EQUAL.



HIGHLAND RANCH PARKWAY/MIDNIGHT DRIVE  
TRAFFIC SIGNAL

GCV

ENGINEERS SURVEYORS  
5021 Lugonia Lane, Suite 100  
Reno, NV 89511  
(775) 322-1300

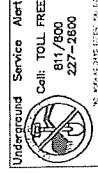
GENERAL  
SPECS &  
NOTES

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## EQUIPMENT SPECIFICATIONS CONTINUED:

20. VIDEO DETECTION SYSTEM SHALL BE MIDVISION CORE DCM - MIDVISION CORE WIRELESS CONNECTIVITY, TELEMETRY AND SENSOR PLATFORM WITH DETECTION (NA-MID-CIM-DCM1), COUNTS HARDWARE MODULE (CHM), (BON-DET-CNT) AND NEAR MISS SAFETY ANALYSIS (MIO-MSAFETY). CAMERA SHALL BE MIDVISION SHARVIEW 360 (US-CAM-SS-PIU7) WITH MIO 360 LUMINAIRE MOUNT. THE SYSTEM SHALL INCLUDE ALL EQUIPMENT AND MATERIALS NECESSARY FOR A COMPLETELY FUNCTIONAL SYSTEM.
21. DETECTION ZONES, INCLUDING ADVANCED DETECTION (NOT SHOWN ON THE PLANS) SHALL BE SET BY WASHOE COUNTY.
22. PRE-EMPTION EQUIPMENT SHALL BE GLOBAL TRAFFIC TECHNOLOGIES (GTT) OPTICOM MODEL 711 DETECTORS, MODEL 754 CHANNEL MULTIMODE PHASE SELECTOR, MODEL 780 1 SLOT 4 CHANNEL CARD RACK, AND OPTICOM 138 DETECTOR CABLE, OR APPROVED EQUAL SYSTEM FROM TOWAR ELECTRONICS.
23. 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 BOTTOM OF THE POLE. THE LETTERING OF THE TAG SHALL BE EITHER DEPRESSED OR RAISED, 1/2" TALL, LEGIBLE, AND READABLE AFTER THE POLE IS COATED AND INSTALLED. FOR POLE TYPES OTHER THAN 30A AND 35A, THE FOLLOWING INFORMATION SHALL BE ON THE TAG: POLE TYPE AND "2020 NDOT STANDARD PLANS". FOR POLE TYPES 30A AND 35A, THE FOLLOWING INFORMATION SHALL BE ON THE TAG: POLE TYPE AND "2024 NDOT STANDARD PLANS".
24. 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.
25. 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) 857-4568 AT LEAST SEVEN DAYS PRIOR TO DESIRED PICK-UP FOR INSTALLATION.
26. NOTIFY WASHOE COUNTY, MITCH FINK (775) 328-2040, AT LEAST 72 HOURS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEMS AND PRIOR TO TURN-ONS. NO MORE THAN TWO (2) SIGNAL TURN-ONS WILL BE ALLOWED PER DAY.
27. SIGNAL TURN-ONS SHALL BE SCHEDULED BETWEEN 5:00 AM AND 4:00 PM ON MONDAY THROUGH THURSDAY. COORDINATE WITH CITY OF RENO SIGNAL TECHNICIANS.

## INTERCONNECT NOTE:

1. CELLULAR ROUTER SHALL BE ETHERWAN C4G (MODEL #C4G-S-IP3W-CIM), OR APPROVED EQUAL. CONTRACTOR TO MAKE ALL CONNECTIONS TO PROVIDE A FULLY FUNCTIONAL CELLULAR INTERCONNECT.

HIGHLAND RANCH PARKWAY/MIDNIGHT DRIVE  
TRAFFIC SIGNAL

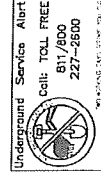
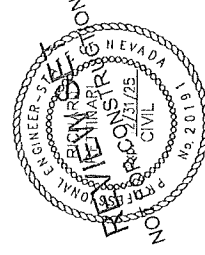
**GCV**  
ENGINEERS SURVEYORS  
3421 Ledges Lane, Suite B  
Reno, NV 89511  
(775) 321-5360

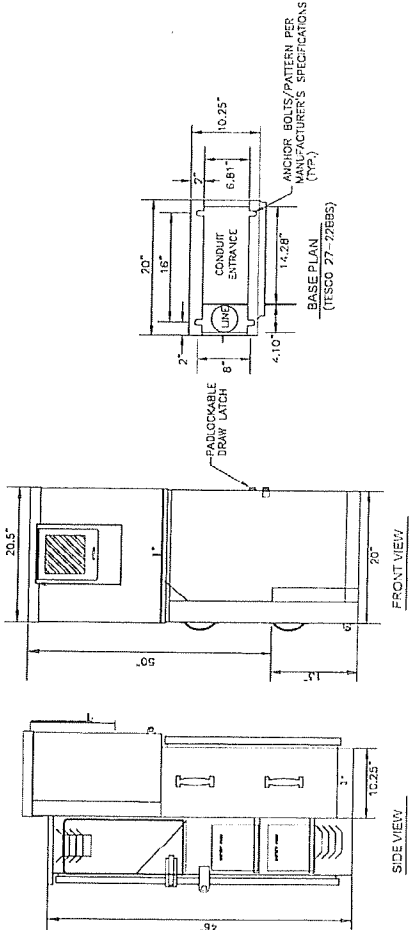
GENERAL  
SPECS &  
NOTES

Project# 895-025

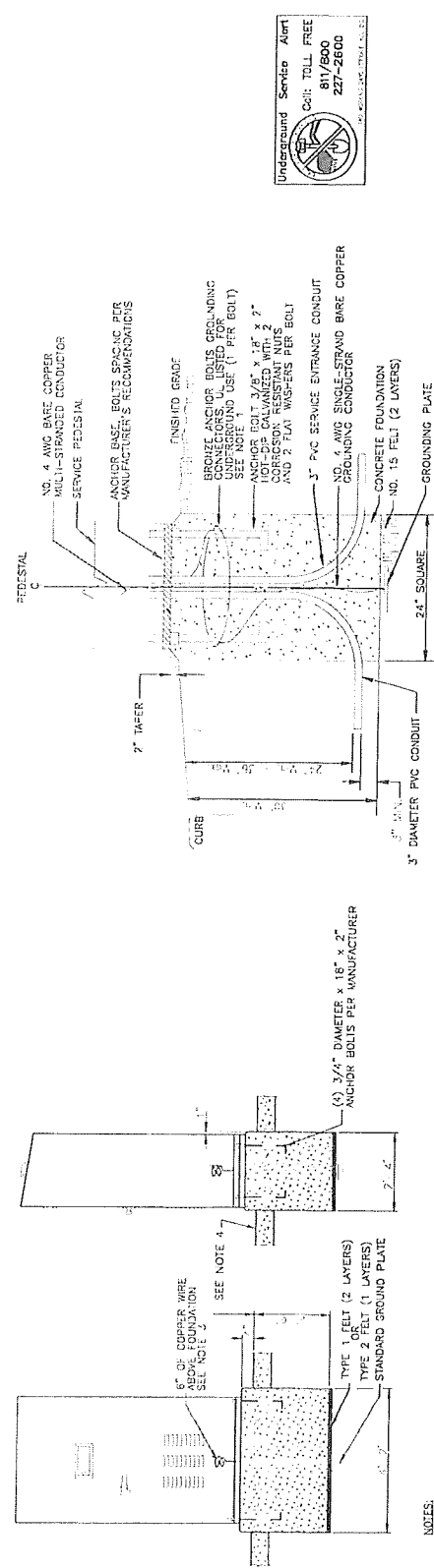
Date June 23, 2025

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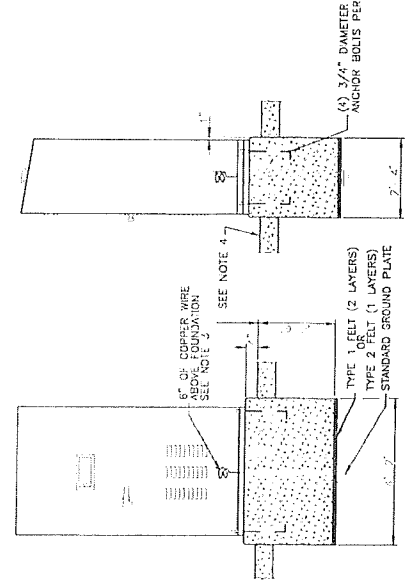


TESCO 27-22BBS - MITERED SERVICE PEDESTAL WITH BATTERY BACKUP (TYPE III - AP) DETAIL



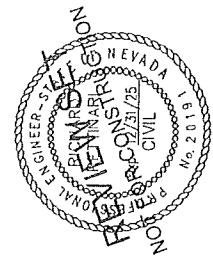
- NOTES:
1. BARE COPPER GROUNDING SHALL BE LOOPED AROUND ANCHOR BOLTS ONE THE AND CONNECTED TO EACH ANCHOR BOLT BEFORE CONTINUING DOWN TO THE GROUNDING PLATE.
  2. CABINET COVERS SHALL BE PARALLEL WITH CURB.
  3. IN AREAS WHERE ROW PERMITS, THE CONCRETE BASE SHALL BE PLACED AT THE BACK EDGE OF SIDEWALK.
  4. CABINET COVERS 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 PEDESTAL FOUNDATION DETAIL

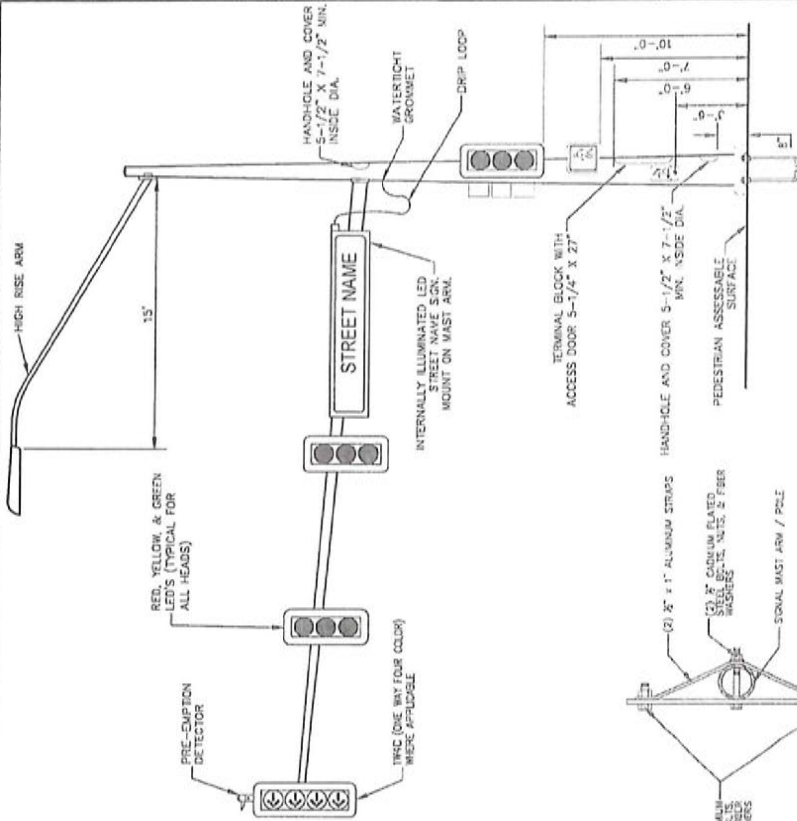


- NOTES:
1. ALL CONDUITS SHALL EXTEND ABOVE FOUNDATION A MINIMUM OF 2" AND HAVE BELL ENDS INSTALLED PRIOR TO POURING FOUNDATION. CONDUITS SHALL BE A MINIMUM OF 2" APART.
  2. ALL CABINETS SHALL BE PAINTED WHITE ON THE INSIDE AND OUTSIDE (FACTORY FINISHED).
  3. 1/2" x 86" GROUND ROD MAY BE SUBSTITUTED 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 DOOR. THE FRONT SLAB SHALL BE PLACED ON 3" OF TYPE 2, CLASS B CRUSHED AGGREGATE BASE. THE AGGREGATE BASE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION. THE TOP OF FRONT SLAB SHALL BE 4" BELOW THE TOP OF THE CABINET FOUNDATION AND NOT HAVE A SLOPE GREATER THAN 2.00% IN ANY DIRECTION.

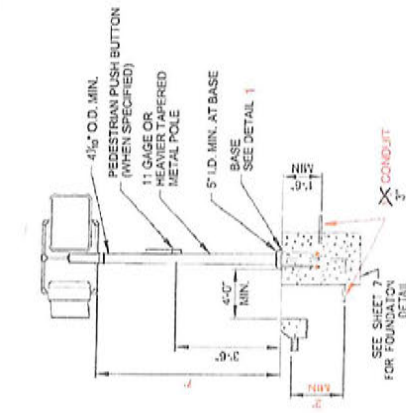
TYPE R-44 CABINET FOUNDATION DETAIL







SIGNAL POLE DETAIL  
(SEE SHEETS 11 AND 12 FOR NOTES)



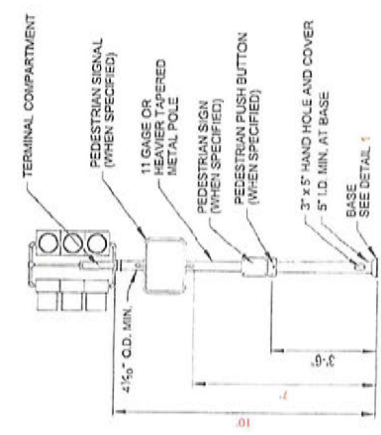
SEE SHEET 7  
FOR FOUNDATION  
DETAIL

SECTION B-B WITH PIPE

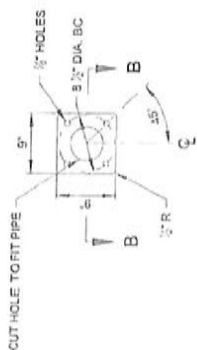
SECTION B-B WITH PIPE

TYPE 1A & 1B POLE DETAILS

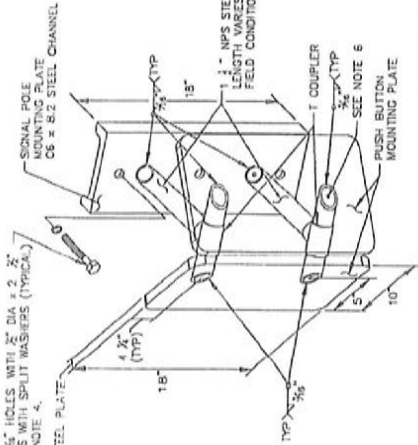
DETAIL 1



FOUNDATION SAME AS TYPE 1B



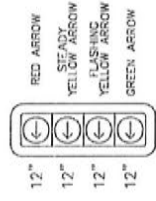
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DUAL PEDESTRIAN PUSH BUTTON EXTENSION

NOTES:

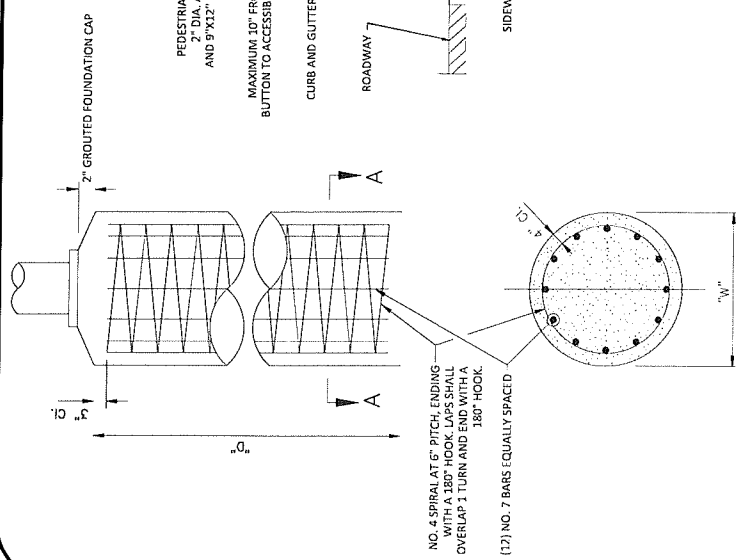
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4-SECTION FLASHING  
YELLOW ARROW HEAD

MAST ARM / POLE SIGN MOUNTING DETAIL





NOTE: CONCRETE SHALL BE MDOT CLASS A OR AA.

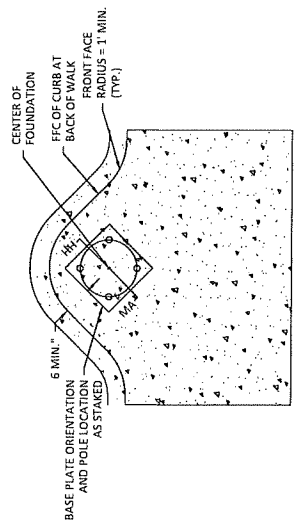
### SECTION A-A

POLE FOUNDATION TABLE

POLE TYPE	MAST ARM LENGTH	**"W"	**"D"	ANCHOR BOLTS (P)
PPB POST	N/A	1'-6"	1'-6"	(4) 1/2" x 12" x 2"
1A & 1B	N/A	3'	2'	(4) 1/2" x 18" x 4"
7	ALL	5'	2'-6"	(4) 1" x 36" x 4"
14	ALL	5'	2'-6"	(4) 1 1/2" x 48" x 4"
28	ALL	12'	3'	(4) 2" x 66" x 6"
30 AND 35	< 45'	12'	3'	(4) 1 1/2" x 60" x 6"
30A AND 35A	< 60'	20'	4'	(8) 2" x 52"

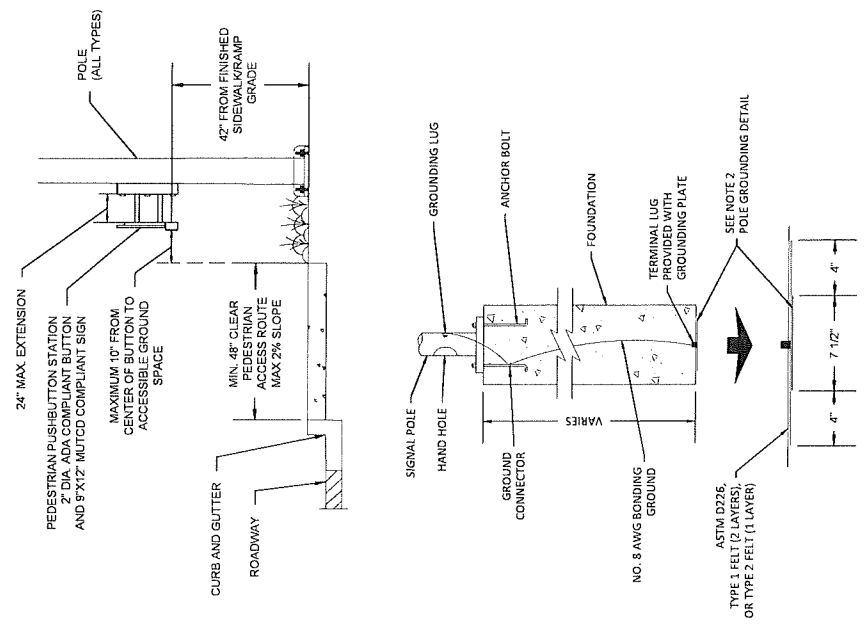
- \*\* UNLESS OTHERWISE SHOWN ON PLANS  
 • NOT APPLICABLE WHEN MOLDED STRUCTURES.  
 ① WHEN "W" = 2'-0" USE 4 NO. 5 BARS EQUALLY SPACED.  
 WHEN "W" = 2'-6" USE 8 NO. 5 BARS EQUALLY SPACED.  
 WHEN "W" = 3'-0" USE 12 NO. 7 BARS EQUALLY SPACED.  
 WHEN "W" = 4'-0" USE 20 NO. 10 BARS EQUALLY SPACED.

NOTE: SPECIFICATIONS FOR POLE FOUNDATIONS MUST HAVE FIRM, COMPACT, STABLE WALLS AND SHALL NOT BE AVOIDED. FOUNDATIONS SHALL BE 12" FEET LARGER THAN THE PLAN SPECIFIED FOUNDATION DIAMETER FOR THE FULL FOUNDATION. DRILLING EQUIPMENT THAT CONTAINS THE POLE FOUNDATION TO THE SPECIFIED SIZE. DRILLING OPTIONS MAY INCLUDE THE USE OF MDT FLOWABLE FILL (ONE SACK SLURRY OR SIMILAR) FOLLOWED BY REDRILLING THE FLOWABLE FILL, DRILLING WITH ADDITIVES THAT STABILIZE THE WALLS OR OTHER DRILLING TOOLS/TECHNIQUES AS APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR SPECIAL DRILLING TECHNIQUES OR PROCESSES.



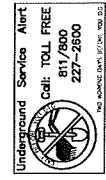
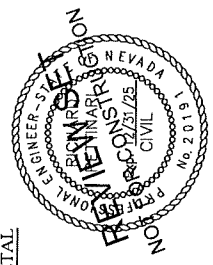
PLAN  
N.T.S.

### POLE BASE AT SIDEWALK



- CONNECT BONDING WIRE TO THE REINFORCING STEEL CAGE NEAR THE MIDPOINT OF THE FOUNDATION OR ANCHOR BOLTS.
- GROUND PLATE SHALL BE MADE OF NONFERROUS MATERIAL, BRASS OR COPPER. GROUNDING PLATE GROUNDING RESISTANCE SHALL NOT EXCEED NEC. ADD ADDITIONAL GROUNDING AS NEEDED. SUPPLY FINAL GROUNDING TEST RESULTS TO ENGINEER.

### POLE GROUNDING DETAIL



HIGHLAND RANCH PARKWAY/MIDNIGHT DRIVE  
TRAFFIC SIGNAL

GCV  
ENGINEERS & SURVEYORS  
5882 Langley Lane, Suite B  
Reno, NV 89511  
(775) 322-8300

GENERAL  
DETAILS

Project # 885-025

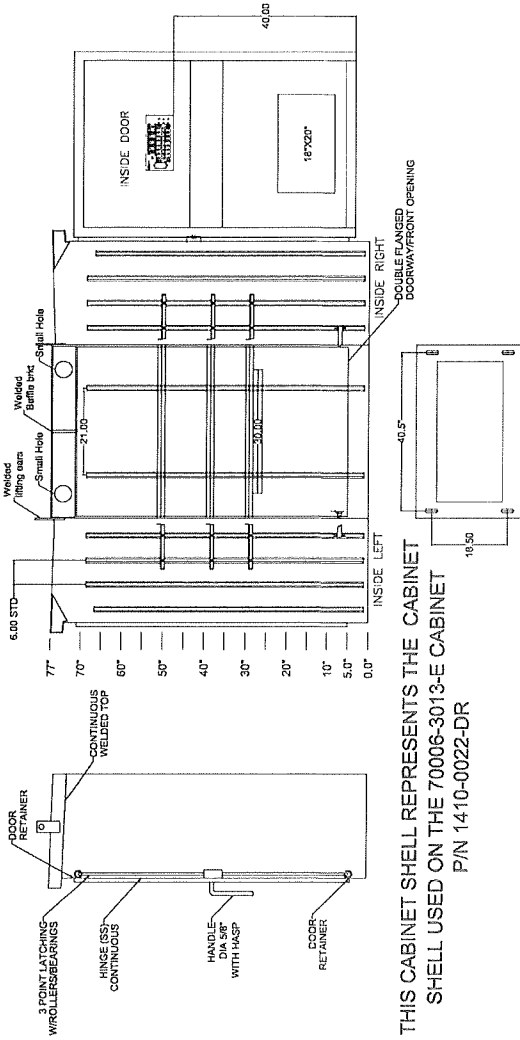
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## CONTROLLER CABINET SPECIFICATIONS:

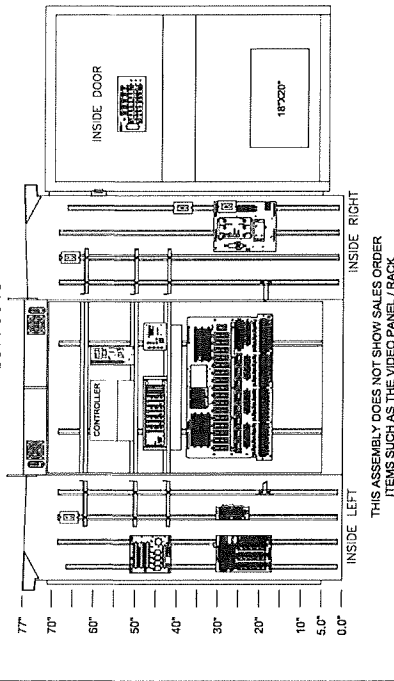
- FURNISH AND INSTALL CITY OF RENO STANDARD CABINET WITH THE FOLLOWING DIFFERENCES FOR TS2 TYPE 1 FORMAT:
1. TS2 TYPE 1 - 16 LOAD SWITCH BACKPANEL
  2. ONE DETECTOR RACK WHICH WOULD INCLUDE:
    - 2.A. 1 B.U.
    - 2.B. 16 CHANNELS OF DETECTION
    - 2.C. WIRED FOR 2 CHANNEL DETECTOR CARDS ONLY (NOT 4 CHANNEL) PREEMPTION CARD SLOTS WIRED FOR EITHER 2 - 2 CHANNEL PREEMPTION OR 1 - 4 CHANNEL PREEMPTION CARD
  3. ALL EXISTING SWITCHES ON POLICE PANELS STAY THE SAME
  4. ALL EXISTING SWITCHES ON THE INSIDE DOOR AUX PANEL STAY THE SAME EXCEPT FOR DETECTION TEST SWITCHES
  5. LOOP INTERFACE PANEL HAVE TEST SWITCHES
    - 5.A. 16 VEHICLE DETECTOR TEST SWITCHES
    - 5.B. 4 PEDESTRIAN TEST SWITCHES
    - 5.C. 4 PREEMPTION TEST SWITCHES
  6. ADD LED LIGHTING INSTEAD OF THE FLUORESCENT LIGHT UNDER THE DOCUMENT DRAWER
  7. REMOVE THE INCANDESCENT LIGHT FIXTURE AT THE TOP AND REPLACE IT WITH LED LIGHTING AT THE TOP OF THE CABINET
  8. REMOVE THE PUNCH DOWN TERMINAL BLOCK
  9. TS2 TYPE 2 CONTROLLERS SHALL BE FURNISHED AND INSTALLED SO THE TYPE 1 CABINET NEEDS THE A/C POWER ADAPTER TO CONVERT IT FROM TYPE 1 TO TYPE 2
  10. CABINET LAYOUT:
    - 10.A. KEEP THE POWER PANEL THE SAME
    - 10.B. KEEP THE SHELF PLACEMENT THE SAME
    - 10.C. KEEP THE HEIGHT OF THE PANEL MOUNTING THE SAME FROM THE FLOOR OF THE CABINET
    - 10.D. KEEP THE SAME FILTER OPENING SIZE
    - 10.E. SAME WHITE INSIDE AND OUT
    - 10.F. SAME HINGE
    - 10.G. SAME CABINET

## 1410-XXXX RENO CABINET SHELL PAINT WHITE IN/OUT



THIS CABINET SHELL REPRESENTS THE CABINET SHELL USED ON THE 70006-3013-E CABINET P/N 1410-0022-DR

## 70006-XXXX NEW RENO CABINET ASSY ESR-9915



THIS ASSEMBLY DOES NOT SHOW SALES ORDER ITEMS SUCH AS THE VIDEO PANEL / RACK

HIGHLAND RANCH PARKWAY/MIDNIGHT DRIVE  
TRAFFIC SIGNAL

**GCV**  
ENGINEERS SURVEYORS  
5102 Langley Lane, Suite B  
Reno, NV 89511  
(775) 322-1680

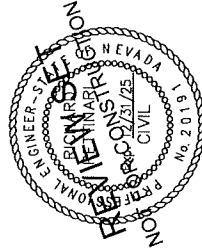
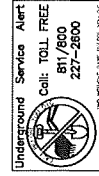
GENERAL  
DETAILS

Project # 985-025

Date June 23, 2025


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OF 15



CITY OF RENO GENERAL TRAFFIC SIGNAL NOTES

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING SUBSTRUCTURES, WHETHER SHOWN OR NOT, AND TO NOTIFY ALL UTILITY COMPANIES TO VERIFY IN THE FIELD THE LOCATION OF THEIR INSTALLATIONS AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL SUBSTRUCTURES FROM DAMAGE, AS WELL AS ANY OTHER PUBLIC INFRASTRUCTURE. THE EXPENSE TO REPAIR OR FOR REPLACEMENT SHALL BE BORNE BY THE CONTRACTOR.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION) AND THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION), AND SUPPLEMENTED BY THE STATE OF NEVADA STANDARD PLANS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).
3. THE LOCATION OF CONTROLLER, PULL BOXES WITH GROUND RODS, AND CONDUIT RUNS SHALL BE WITHIN THE EXISTING RIGHT-OF-WAY OR ANY EASEMENT GRANTED OUTSIDE THE RIGHT-OF-WAY.
4. DESIGN ENGINEER SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL ELECTRICAL, SIGNAL POLE, CONTROLLER, CONDUIT, LOOP DETECTOR, AND PULL BOXES. FINAL LOCATIONS ARE TO BE DETERMINED IN THE FIELD AND APPROVED BY THE DESIGN ENGINEER AND CITY TRAFFIC ENGINEER.
5. CONTROLLERS AND CABINETS SHALL MEET THE REQUIREMENTS OF THE NEMA STANDARD PUBLICATION (LATEST EDITION) AND THE CITY OF RENO SPECIFICATIONS FOR TRAFFIC SIGNAL CONTROLLERS AND CABINETS.
6. CONTACT THE PUBLIC WORKS TRAFFIC ENGINEERING DIVISION FOR TRAFFIC-ACTUATED CONTROLLER UNIT SPECIFICATIONS.
7. UNLESS SHOWN OTHERWISE, THE CONTROLLER CABINET SHALL BE WIRED FOR EIGHT (8) PHASE OPERATION WITH TWO (2) OVERLAYS AND SHALL BE FURNISHED WITH ALL NECESSARY MODULES, LOAD SWITCHES, AND EQUIPMENT REQUIRED FOR FULL EIGHT (8) PHASE OPERATION WITH TWO (2) OVERLAYS.
8. ALL NEW SIGNAL POLES WILL HAVE TWO (2) HANDHOLES AND AN ACCESS DOOR FOR THE TERMINAL BLOCK. SEE TRAFFIC SIGNAL POLE DETAIL DRAWING R-413A FOR TRAFFIC SIGNAL EQUIPMENT DIMENSIONS. FOR POLE DETAILS, SEE THE NEVADA DEPARTMENT OF TRANSPORTATION'S "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION" (NOT-SPB03), LATEST EDITION.
9. UNLESS SHOWN OTHERWISE, NO. 7 PULL BOX SHALL BE USED AT LOCATIONS WHERE CONDUIT RUNS CONTAIN TRAFFIC SIGNAL CABLE OR CARRY POWER. NO. 3-1/2 SHALL ONLY BE USED AS APPROVED BY CITY OF RENO TRAFFIC ENGINEER. TRAFFIC-ACTED BOX SHALL BE USED IN VEHICULAR AREAS ONLY, INCLUDING, BUT NOT LIMITED TO, TRAVEL WAY, DRIVEWAY, APPROACHES AND WITHIN PEDESTRIAN RAMPS AT INTERSECTION-CURB RETURNS. ALL PULL BOXES WITH METAL LIDS SHALL BE GROUNDED PER TRAFFIC RATED PULL BOX DETAIL.
10. ALL EXPOSED CONDUIT SHALL BE OF A RIGID PVC SCHEDULE 80 AND SHALL EXTEND TO A MINIMUM DEPTH OF 18 INCHES. ALL OTHER CONDUIT SHALL BE PVC SCHEDULE 40 MINIMUM.
11. ALL CONDUIT RUNS FOR SIGNAL CABLE SHALL CONSIST OF TWO 3" CONDUITS BETWEEN PULL BOXES AND BETWEEN THE PULL BOXES AND POLES. THERE SHALL BE THREE 3" CONDUITS FROM THE CONTROLLER CABINET TO THE PULL BOXES.
12. ALL CONDUIT RUNS TERMINATING IN A PULL BOX SHALL HAVE A MINIMUM OF SIX INCHES OF CLEARANCE FROM THE BOTTOM OF THE LID, AND SHALL RISE A MINIMUM OF THREE INCHES ABOVE THE TOP OF THE DRAIN ROCK.
13. ALL NEW CONDUIT RUNS SHALL HAVE A PULL TAPE.
14. ALL CONDUIT TERMINATIONS SHALL HAVE A "BELL END" INSTALLATION AND BE SEALED WITH CONDUIT SEALER AFTER WIRE INSTALLATION. CONDUIT ENDS SHALL NOT TERMINATE WITHIN A SWEEP SECTION. ALL CONDUITORS AND THEIR TERMINATION SHALL BE CLEARLY MARKED ON THE CABINET SCHEMATIC WIRING DIAGRAM.

	STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	DRAWING NO.
	NOTES - TRAFFIC SIGNALS & POLES	R-413F

APPROVED BY: JF | DATE: 1/2013  
MODIFIED BY: GCW

LINED OUT NOTES ARE NOT APPLICABLE TO THIS PROJECT

15. THE RED, YELLOW AND GREEN INDICATION FOR ALL NEW VEHICULAR SIGNAL HEADS SHALL BE 12 INCH LIGHT EMITTING DIODE (LED) AND INCLUDE "LinedOut" TECHNOLOGY. UTILIZE "SELEGNEE-RX44" "TOTALITE" 433 SERIES OR APPROVED EQUAL. ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE COUNTERDOWN "LED" WITH HAND SYMBOL (PORTLAND ORANGE) AND WALKING MAN SYMBOL (LUMAR WHITE).

16. ALL VEHICULAR HEADS SHALL HAVE "TUNNEL" VISORS WITH 4 INCH SLOT AT BOTTOM WITH LOUVERED BACK PLATES. ALL SIGNAL HEADS TO BE MANUFACTURED BY "ECONOLITE", "EAGLE" OR APPROVED EQUAL. IT IS DIRECTED BY THE ENGINEER THAT BACK PLATES TO BE PROVIDED FOR STREET HARDWARE SHALL BE ALUMINUM AND HAVE A BLACK FACTORY FINISH. INSTALL RETROREFLECTIVE STRIPS ON BACKPLATES PRIOR TO INSTALLATION.

17. ALL NEW PEDESTRIAN PUSH-BUTTERS SHALL BE THE 2 INCH DIAMETER WITH INTERNATIONAL WALKING MAN SYMBOL SIGN FOR MONITORING HEIGHT AND ADDITIONAL DETAILS. SEE STANDARD PLAN SHEET NOT-SPB-15-1-1 OF NOT-SPB-15-1-1 UTILIZE "TUNNEL" BUILDINGS W/ANALOGY "LED" AND YELLOW COUNTER OR APPROVED EQUAL. USE 5" X 7-3/4" SIGN FOR 14 POLES AND SHAWLER.

18. ALL INTERSECTIONS SHALL HAVE A BATTERY BACK UPS SYSTEM. THE SYSTEM SHALL BE MOUNTED TO THE METERED SERVICE CABINET OF THE SYSTEM AND WILL BE 24 VOLT OR 48 VOLT SYSTEM. THE CABINET SHALL BEAR A 508 LB LABEL. THE SYSTEM SHALL SUPPLY A MINIMUM 100 WATTED CONTINUOUS POWER SUPPLY (UPS) SERVICE FOR UP TO 2 HOURS. THE SYSTEM SHALL FEATURE AN EVENT COUNTER AND TIMER. THE SYSTEM SHALL HAVE A TWO (2) YEAR PARTS AND LABOR TRANSFERABLE WARRANTY TO THE CITY OF RENO. THE UPS UNIT AND THE METERED PEDestal SHALL BE DESIGNED AS ONE COMPLETE UNIT. THE UPS SYSTEM SHALL BE A 110V/BACK DESIGN SYSTEM AND HANG ON THE METERED SERVICE PEDestal.

19. WHEN CONTROLLER CABINETS ARE NOT LOCATED IN A SIDEWALK, THEY SHALL HAVE A CONCRETE SERVICE PAD INSTALLED IN FRONT OF THE CABINET. THE SAME WITHIN A CABINET AND AT LEAST 3 FEET LONG. NO IMPROVEMENTS SHALL BE PERMITTED TO BLOCK CABINET DOOR IN CONFORMANCE WITH THE SPRINKLER SYSTEMS SHALL BE DIRECTED AWAY FROM AND NOT ALLOWED TO SPRAY CABINET OR PULL BOXES DIRECTLY.

20. ALL NEW TRAFFIC SIGNALS SHALL BE CONNECTED INTO THE CITY OF RENO'S TRAFFIC SIGNAL CENTRAL COMPUTER SYSTEM VIA THE NEAREST RECEIVER SITE BY FIBER OPTIC OR AN APPROVED OTHER.

21. FOR FIBER OPTIC AND EQUIPMENT CONTACT CITY OF RENO TRAFFIC ENGINEERING FOR LATEST SPECIFICATIONS.


22. THE LUMINAIRE FIXTURES SHALL BE SPEC STR-LW52H/REBELS/5700 OR APPROVED EQUAL. PHOTO CELL TO BE LOCATED IN METERED SERVICE PEDestal.

23. PREEMPTION OF SIGNALS BY EMERGENCY VEHICLES SHALL BE PROVIDED BY INSTALLING OPTICON MODEL 762 PHASE SECTOR DETECTORS WITH THE MODEL 752N PHASE SELECTOR, OR AN APPROVED EQUAL. PROVIDE CABLE AND ALL INCIDENTALS FOR A FULLY FUNCTIONAL SYSTEM.

24. LOOP DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF RENO STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION (R-405A & R-4060).

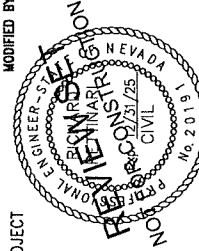
25. THE CONTRACTOR SHALL PROVIDE AN UNDERGROUND SERVICE PEDestal. THE MAIN BREAKER SHALL BE 100 AMP MINIMUM (120/240 VAC, 60 HZ, SINGLE PHASE, 3 WIRE) IN ACCORDANCE WITH NOT STANDARD PLAN T-30-1-6. INDIVIDUAL CIRCUIT BREAKERS SHALL INCLUDE 120 VOLT, 30 AMP 1-POLE CIRCUIT BREAKER FOR SIGNAL, 30 AMP 2-POLE CIRCUIT BREAKER FOR LIGHTING CONTACTOR, 20 AMP 1-POLE CIRCUIT BREAKER FOR STREET LIGHTS, 20 AMP 1-POLE CIRCUIT BREAKER FOR SIGNS, 15 AMP 1-POLE CIRCUIT BREAKER FOR CONTROL, AND A 15 AMP 1-POLE CIRCUIT BREAKER FOR GFI RECEPTACLE. THE CONDUCTOR TO THE CABINET FROM THE BREAKER SHALL BE A MINIMUM OF 16 GAUGE WIRE. SEE METERED SERVICE SCHEDULE ON SCHEDULE SHEET FOR EACH LOCATION.


26. 1/2"-20 BOLTS WITH LOCK WASHERS AND FLAT WASHERS ARE REQUIRED FOR ALL HAND HOLE AND BASE PLATE COVERS.

	STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	DRAWING NO.
	NOTES - TRAFFIC SIGNALS & POLES	R-413G

APPROVED BY: JF | DATE: 1/2013  
MODIFIED BY: GCW


LINED OUT NOTES ARE NOT APPLICABLE TO THIS PROJECT





Underground Service Alert  
Call: TOLL FREE  
811/800  
227-2600  
NO WORKING DIGITING NO. 52

26. THE CONTRACTOR SHALL COORDINATE WITH ANY ENERGY PROVIDING SERVICE FOR THE SIGNAL WITHIN ANY 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 \$1600 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 334-3534.
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-DECK. ANY DEVIATION TO THIS REQUIREMENT SHALL BE APPROVED BY THE CITY TRAFFIC ENGINEER PRIOR TO THE WORK.
31. VEHICLE DETECTOR LOOPS DAMAGED DURING CONSTRUCTION WHICH ARE PERMITTED BY THE CITY 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-466A AND NO. R-466B.
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 MDT 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. GLIM-SHELL FOR TYPE 7D POLE TO BE USED ONLY WHEN POLE IS INCLUDED AS A SIGNAL POLE. DO NOT USE GLIM-SHELL WHEN TYPE 7D POLE IS USED IN SERIES LIGHTING.
39. POLE MAY BE MANUFACTURED AS EITHER A DOUBLE OR SINGLE CANDY CANE CONFIGURATION.
40. VIDEO DETECTION SHALL BE USED.

	STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	DRAWING No.
	NOTES - TRAFFIC SIGNALS & POLES	R-413H
APPROVED BY: JF		DATE: 1/2013

LINED OUT NOTES ARE NOT APPLICABLE TO THIS PROJECT

MODIFIED BY GCW

HIGHLAND RANCH PARKWAY/MIDNIGHT DRIVE

TRAFFIC SIGNAL

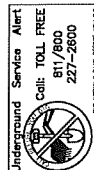
**GCV**  
ENGINEERS - SURVEYORS  
5482 Langley Lane, Suite B  
Reno, NV 89511  
(775) 322-8300

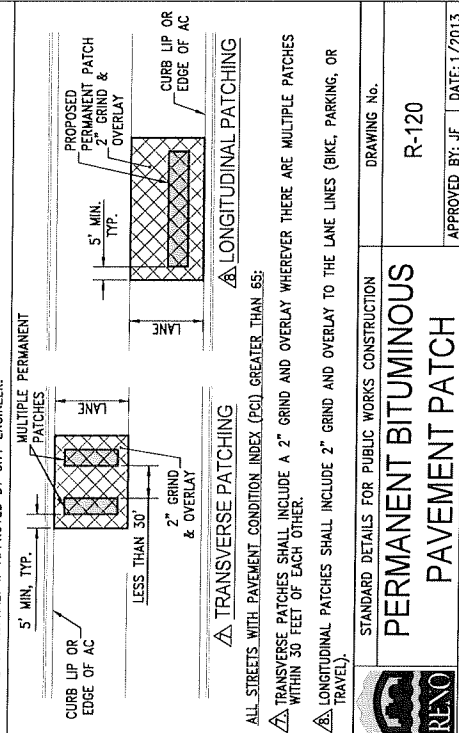
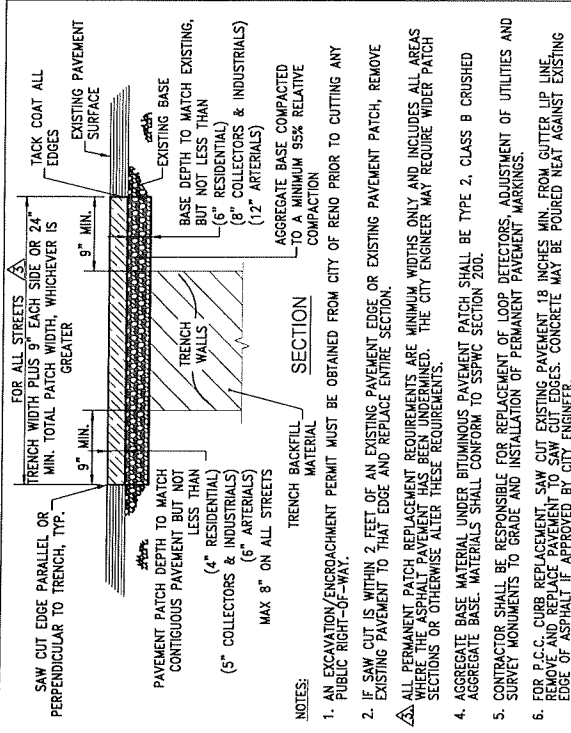
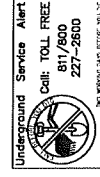
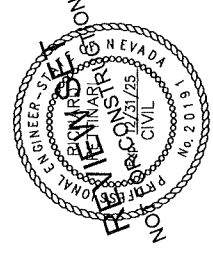
TRAFFIC SIGNAL  
DETAILS

Project # 886-025

Date June 23, 2025

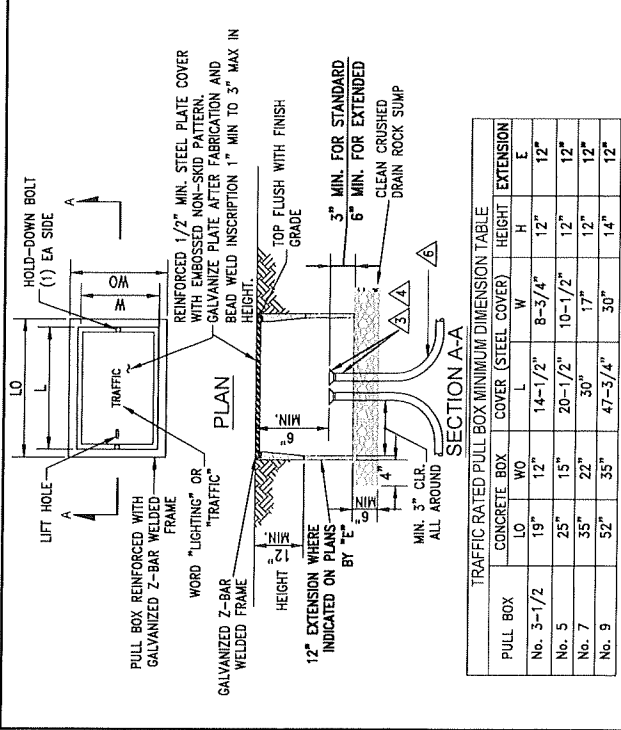
Sheet 10 of 15





DATE	REVISION	SECTION	NUMBER
		STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	100
		TEMPORARY A.C. TRENCH PATCH	W-122
			2/21/2022





**TRAFFIC RATED PULL BOX MINIMUM DIMENSION TABLE**

PULL BOX	CONCRETE BOX	COVER (STEEL COVER)	HEIGHT	EXTENSION
No.	LO	WO	L	H
No. 3-1/2	19"	12"	14-1/2"	8-3/4"
No. 5	25"	15"	20-1/2"	10-1/2"
No. 7	35"	22"	30"	17"
No. 9	52"	35"	47-3/4"	30"

**NOTES:**

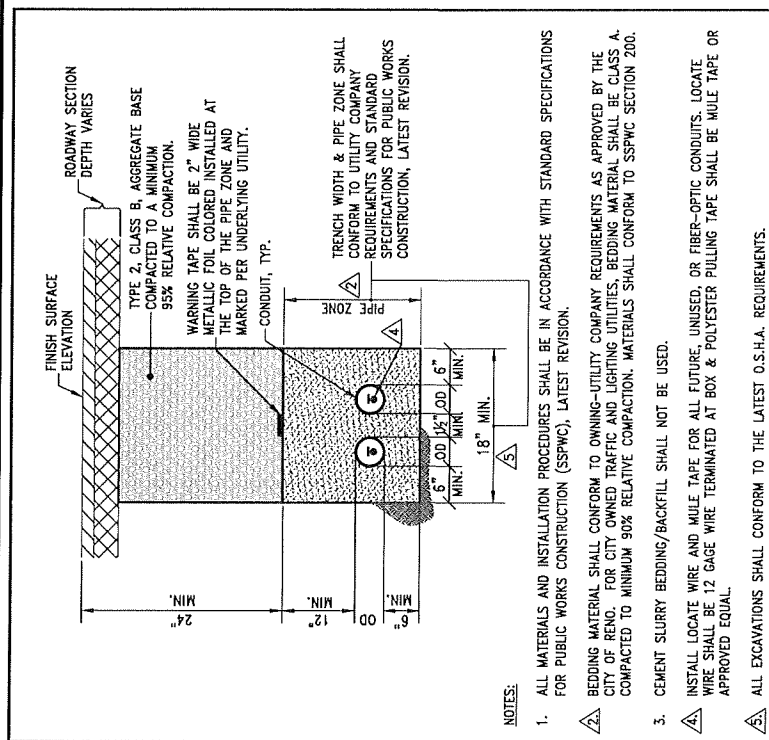
- No. 5 TRAFFIC RATED PULL BOXES SHALL BE USED AT LOCATION WHERE CONDUIT RUNS CONTAIN TRAFFIC SIGNAL CABLE OR CARRY POWER. No. 3-1/2 TRAFFIC RATED PULL BOXES SHALL ONLY BE USED AS APPROVED BY CITY OF RENO TRAFFIC ENGINEER.
- TRAFFIC RATED BOX SHALL BE USED IN VEHICULAR AREAS ONLY, INCLUDING, BUT NOT LIMITED TO TRAVEL WAY, DRIVEWAY APPROACHES AND WITHIN PEDESTRIAN RAMPS AT INTERSECTION CURB RETURNS OR AS APPROVED BY CITY OF RENO TRAFFIC ENGINEER.
- ALL CONDUIT TERMINATIONS SHALL HAVE A "BELL END" INSTALLATION AND BE SEALED WITH CONDUIT SEALER AFTER WIRE INSTALLATION.
- ALL EXPOSED CONDUIT SHALL BE RIGID PVC SCHEDULE 80, AND SHALL EXTEND TO A MINIMUM DEPTH OF 18 INCHES.
- BOX EXTENSIONS SHALL NOT BE USED UNLESS APPROVED BY CITY OF RENO TRAFFIC ENGINEER.
- CONDUIT ENDS SHALL NOT TERMINATE WITHIN A SWEEP SECTION.
- ALL METAL COVERS, METAL 7-BAR FRAME, METAL RINGS OR ANY METALLIC COMPONENT OF A PULL BOX SHALL BE BONDED TO A #8 AWG OR LARGER COPPER EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS SHALL BE BRAIDED COPPER EQUIVALENT TO #8 AWG COPPER AND MINIMUM 36" IN LENGTH AND SHALL BE ATTACHED WITH EXOTHERMIC WELDING. PROCESS IS A MOLECULAR BONDING WITH HIGH COPPER CONTENT ALLOYS (IN EXCESS OF 90%), HIGH CORROSION RESISTANCE AND HIGH CONDUCTIVITY, AND APPROVED GROUNDING LUG.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION

**TRAFFIC RATED PULL BOX**

APPROVED BY: JF DATE: 1/2013

MODIFIED BY GCW



**NOTES:**

- ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC), LATEST REVISION.
- BEDDING MATERIAL SHALL CONFORM TO OWNING-UTILITY COMPANY REQUIREMENTS AS APPROVED BY THE CITY OF RENO. FOR CITY OWNED TRAFFIC AND LIGHTING UTILITIES, BEDDING MATERIAL SHALL BE CLASS A, COMPACTED TO MINIMUM 90% RELATIVE COMPACTION. MATERIALS SHALL CONFORM TO SSPWC SECTION 200.
- CEMENT SLURRY BEDDING/BACKFILL SHALL NOT BE USED.
- INSTALL LOCATE WIRE AND MULE TAPE FOR ALL FUTURE, UNUSED, OR FIBER-OPTIC CONDUITS. LOCATE WIRE SHALL BE 12 GAGE WIRE TERMINATED AT BOX & POLYESTER PULLING TAPE SHALL BE MULE TAPE OR APPROVED EQUAL.
- ALL EXCAVATIONS SHALL CONFORM TO THE LATEST O.S.H.A. REQUIREMENTS.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION

**TRAFFIC & LIGHTING  
CONDUIT TRENCH**

APPROVED BY: JF DATE: 1/2013

HIGHLAND RANCH PARKWAY/MIDNIGHT DRIVE

TRAFFIC SIGNAL

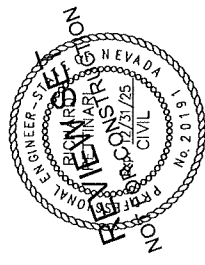
**GCV**  
ENGINEERS - SURVEYORS  
5482 Langley Lane, Suite B  
Reno, NV 89511  
(775) 322-9008

TRAFFIC SIGNAL  
DETAILS

Project # 985-025

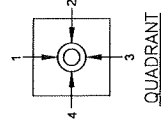
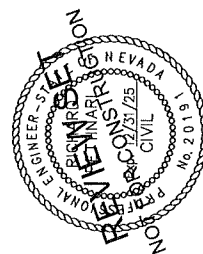
Date June 23, 2025

Sheet 12 of 15



TRAFFIC SIGNAL

- 1 FURNISH AND INSTALL SCHEDULE 40 PVC CONDUIT PER DETAIL ON SHEET 12. DISTANCE SHOWN ON PLAN REFLECTS DISTANCE BETWEEN STRUCTURES, NOT EXACT CONDUIT LENGTH.
- 2 FURNISH AND INSTALL NEW TRAFFIC RATED PULL BOX PER DETAIL ON SHEET 12.
- 3 CONSTRUCT NEW CABINET ASSEMBLY FOUNDATION PER DETAIL ON SHEET 5. MAKE ALL CONNECTIONS.
- 4 CONSTRUCT NEW SERVICE PEDESTAL FOUNDATION PER DETAIL ON SHEET 5.
- 5 CONSTRUCT POLE FOUNDATION PER DETAILS ON SHEET 7 AND POLE SCHEDULE ON SHEET 15.
- 6 FURNISH AND INSTALL SCHEDULE 40 PVC CONDUIT PER NV ENERGY TYPICAL TRENCH DETAIL TE00030. DISTANCE SHOWN ON PLANS REFLECTS DISTANCE BETWEEN STRUCTURES, NOT EXACT CONDUIT LENGTH.
- 7 FURNISH AND INSTALL NEW CABLES AND CONDUCTORS PER CONDUIT AND CONDUCTOR SCHEDULE ON SHEET 15. MAKE ALL CONNECTIONS FOR A FULLY FUNCTIONAL TRAFFIC SIGNAL SYSTEM.

QUADRANT

## CONDUIT PLAN

995-025

**JUN 23, 2025**

13

15

**Underground Service Alert**  
Call: TOLL FREE  
811/800  
227-2800

20 0 20 40  
1" = 20'  
GRAPHIC SCALE

GRAPHIC SCALE

# HIGHLAND RANCH PARKWAY/MIDNIGHT DRIVE TRAFFIC SIGNAL

**GCV**  
ENGINEERS & SURVEYORS  
5482 Langtry Lane, Suite B  
Zeno, NV 89511  
(775) 322-4300

EQUIPMENT PLAN

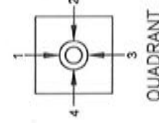
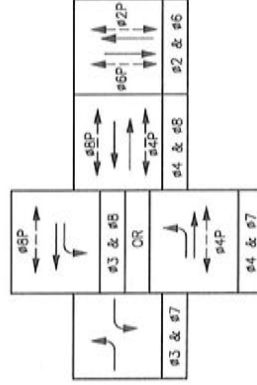
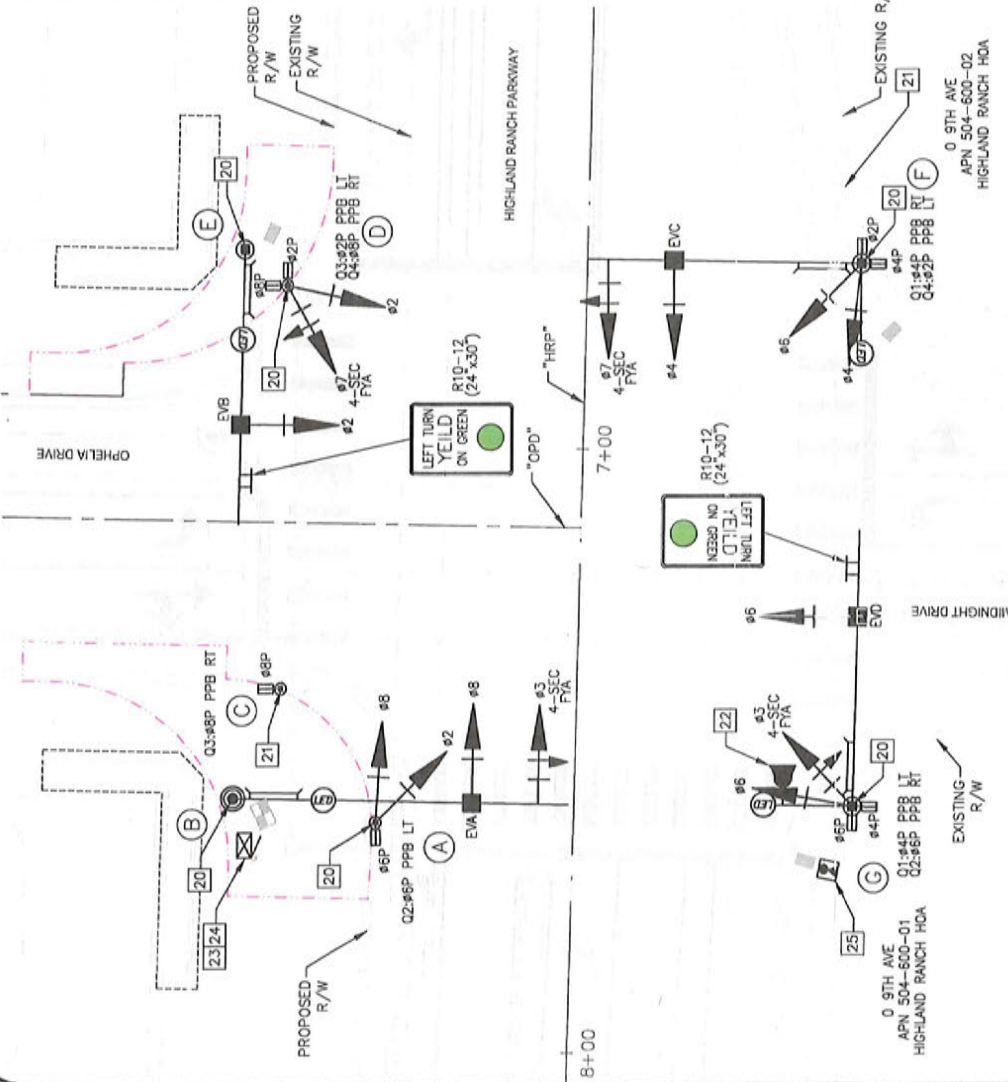
Project: 995-025

Date: June 23, 2025

Sheet: 14 of 15

## CONSTRUCTION NOTES:

- 20 FURNISH AND INSTALL SIGNAL POLE PER DETAIL ON SHEET 6 AND PER SCHEDULE ON SHEET 15.
- 21 REMOVE STREET LIGHT POLE AND ENTIRE FOUNDATION, SALVAGE POLE, LUMINAIRE, AND HARDWARE TO NV ENERGY.
- 22 FURNISH AND INSTALL BELL CAMERA ON LUMINAIRE ARM AND CABLE TO CONTROLLER. MAKE ALL CONNECTIONS.
- 23 FURNISH AND INSTALL PROCESSOR FOR BELL CAMERA SYSTEM IN CABINET PER MANUFACTURER'S SPECIFICATIONS. MAKE ALL CONNECTIONS.
- 24 FURNISH AND INSTALL NEW CONTROLLER AND CABINET ASSEMBLY. MAKE ALL CONNECTION.
- 25 FURNISH AND INSTALL 100A METERED SERVICE WITH BATTERY BACKUP PER DETAIL ON SHEET 5.



20 0 20 40  
1" = 20'  
GRAPHIC SCALE



IISNS SCHEDULE	
POLE NO.	STREET NAME
(B)	Ophelia Dr
(E)	Highland Ranch Pkwy
(F)	Midnight Dr
(G)	Highland Ranch Pkwy

IISNS ARE TO BE SINGLE SIDED.  
ALL IISNS SHOWN ARE TO BE  
FURNISHED NEW AND INSTALLED  
BY THE CONTRACTOR

CONDUIT AND CONDUCTOR SCHEDULE										
RUN NO.	FROM	TO	CONDUIT SIZE	GROUND	SIGNAL CABLE		LUMINAIRE & IISNS	SERVICE		COMMENTS
					25-1 CON (14 AWG + 14 AWG) 10 AWG)	10-1 CON (14 AWG + 14 AWG)		EVP	VIDEO	
CONDUCTORS BY NV ENERGY										
1	POWER SOURCE	METERED SERVICE	3"	2			4	3		
2	METERED SERVICE	#7E PB FOR POLE G	3"	1	2		4	3	2	1
3	#7E PB FOR POLE G	#9E HOME RUN PB	(3) 3"							
4	#9E HOME RUN PB	CONTROLLER CABINET	(6) 3"	1	6	1		3	4	1
5	#9E HOME RUN PB	POLE B	(2) 3"	1	1		4		1	
6	#9E HOME RUN PB	POLE A	3"	1	1					
7	#9E HOME RUN PB	POLE C	3"	1		1				
8	#9E HOME RUN PB	#7E PB FOR POLE E	(2) 3"	1	2		4		1	
9	#7E PB FOR POLE E	POLE E	(2) 3"	1	1		4		1	
10	#7E PB FOR POLE E	POLE D	3"	1	1		4			
11	#7E PB FOR POLE G	POLE G	(2) 3"	1	1		4		1	1
12	#7E PB FOR POLE F	#7E PB FOR POLE F	(2) 3"	1	1		4		1	
13	#7E PB FOR POLE F	POLE F	(2) 3"	1	1		4		1	
ALL CABLES AND CONDUCTORS SHOWN ARE TO BE FURNISHED NEW AND INSTALLED BY THE CONTRACTOR.										

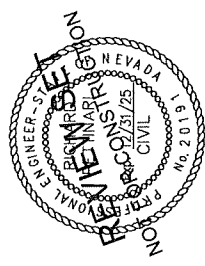
ALL CABLES AND CONDUCTORS SHOWN ARE TO BE FURNISHED NEW AND INSTALLED BY THE CONTRACTOR.

METERED SERVICE EQUIPMENT SCHEDULE	
SERVICE LOCATION	HIGHLAND RANCH/MIDNIGHT
OWNERSHIP	WASHOE COUNTY
VOLTAGE	120V/240V
MAIN BREAKER	100A, 240V, 2P
PHASE	SINGLE
SIGNAL BREAKER	30A, 120V, 1P
LIGHTING BREAKER	15A, 120V, 1P
IISNS BREAKER	15A, 120V, 1P
GFI RECEPTACLE	15A, 120V, 1P
CONTROL	15A, 1P, SWITCH

ALL EQUIPMENT SHOWN IS TO BE FURNISHED NEW AND INSTALLED BY THE CONTRACTOR

POLE SCHEDULE									
POLE NO.	SIGNAL ARM		LUM. ARM		SIGNALS - VEHICLE			SIGNALS - PED.	
	TYPE	QUAD	LENGTH	QUAD	TYPE	MOUNT	QUAD	MOUNT	QUAD
(A) 1A	-	-	-	-	1W3C/1W4C	T-2(S)	TOP	WS-1	1 2 LT
(B) 35-A	3	55'	3	15'	1W4C 1W3C	M-2 M-2	MA MA	-	-
(C) 1B	-	-	-	-	-	-	WT-1	TOP	3 RT
(D) 1A	-	-	-	-	1W3C/1W4C	T-2(S)	TOP	WS-2	2 3 4 LT
(E) 35	4	45'	4	15'	1W3C	M-2	MA	-	-
(F) 35	1	45'	4	15'	1W4C 1W3C 1W3C/1W3C	M-2 M-2 B2a	MA MA 3	WS-2	3 1 RT
(G) 35	2	45'	1	15'	1W3C 1W3C/1W4C	M-2 B2a(S)	MA 4	WS-2	4 2 RT

ALL POLES AND EQUIPMENT SHOWN ARE TO BE FURNISHED NEW AND INSTALLED BY THE CONTRACTOR.



ATTACHMENT D – RTC RRIF SCHEDULE – 7<sup>TH</sup>  
EDITION, YEAR 3 INDEXING

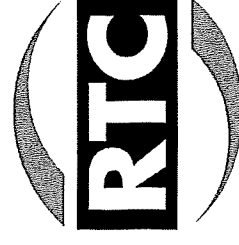
# REGIONAL ROAD IMPACT FEE SCHEDULE

**Regional Road  
Impact Fee  
(RRIF)**

**7<sup>th</sup> Edition  
Year 3 Indexing**

**Effective  
1/31/2025**

**An informational brochure  
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Land Use	Unit	North Service Area		South Service Area	
		VMT	Dollars (\$291.21/VMT)	VMT	Dollars (\$284.04/VMT)
<b>Residential</b>					
Single-Family	Dwelling	20.36	\$5,929.04	19.11	\$5,428.00
Multi-Family	Dwelling	12.97	\$3,776.99	12.18	\$3,459.61
<b>Industrial</b>					
General Light Industrial	1,000 GFA	6.48	\$1,887.04	6.08	\$1,726.96
Manufacturing	1,000 GFA	5.14	\$1,496.82	4.82	\$1,369.07
Warehouse	1,000 GFA	2.27	\$661.05	2.13	\$605.01
Mini-Warehouse	1,000 GFA	1.97	\$573.68	1.85	\$525.47
<b>Commercial/Retail</b>					
Commercial/Retail	1,000 GFA	29.43	\$8,570.31	27.63	\$7,848.03
Eating/Drinking Places	1,000 GFA	29.43	\$8,570.31	27.63	\$7,848.03
Casino/Gaming	1,000 GFA	60.17	\$17,522.11	56.48	\$16,042.58
<b>Office and Other Services</b>					
Schools	1,000 GFA	16.83	\$4,901.06	15.80	\$4,487.83
Day Care	1,000 GFA	16.83	\$4,901.06	15.80	\$4,487.83
Lodging	Room	4.38	\$1,275.50	4.11	\$1,167.40
Hospital	1,000 GFA	14.01	\$4,079.85	13.15	\$3,735.13
Nursing Home	1,000 GFA	8.68	\$2,527.70	8.14	\$2,312.09
Medical Office	1,000 GFA	45.47	\$13,241.32	42.68	\$12,122.83
Office and Other Services	1,000 GFA	12.73	\$3,707.10	11.95	\$3,394.28
Regional Recreational Facility	Acre	1.02	\$297.03	0.96	\$272.68

# ATTACHMENT E – RRIF ELIGIBLE IMPROVEMENTS & COST ESTIMATES

**RRIF OFFSET AGREEMENT REQUEST**  
**HIGHLAND RANCH PKWY / MIDNIGHT RD SIGNAL IMPROVEMENTS**  
**TOUCHSTONE LIVING LLC**  
**HIGHLAND VILLAGE SUBDIVISION**

Bid Item	Description	Unit	Qty Total	Engineers Estimate of Probable Costs	
				Unit Cost	Cost Total
1	Engineering Fees	LS	1	\$59,000.00	\$ 59,000.00
2	Right-of-Way Dedication	SF	15,700	\$3.33	\$ 52,281.00
3	Signal Equipment Easements	SF	6,740	\$3.33	\$ 22,444.20
4	Traffic Signal Equipment	LS	1	\$850,000.00	\$ 850,000.00
5	ADA Ramps and Sidewalk Modifications	EA	4	\$5,000.00	\$ 20,000.00
6	Slurry	SF	33,430	\$0.35	\$ 11,700.50
7	Retaining walls and Grading	LF	113	\$600.00	\$ 67,800.00
8	Install 4" Solid Yellow or White Pavement Striping. (Type II Waterborne) complete and in-place	LF	2167	\$0.40	\$ 866.80
9	Install 4" Single Skip White Stripe, (Type II waterborne) complete and in place	LF	305	\$0.35	\$ 106.75
10	Install 4" Double Solid Yellow Pavement Striping. (Type II Waterborne) complete and in-place	LF	1109	\$0.80	\$ 887.20
11	Install 8" Solid White Pavement Striping. (Type II Waterborne) complete and in-place	LF	321	\$0.80	\$ 256.80
12	Install 24" Solid White Stop Bar, (Thermoplastic) complete and in-place	LF	126	\$15.00	\$ 1,890.00
13	Install Solid White International Crosswalk (Thermoplastic), complete and in-place	LF	164	\$15.00	\$ 2,460.00
14	Install Performed Solid White Arrow (Thermoplastic) complete and in-place	EA	13	\$215.00	\$ 2,795.00
15	Inspection and Testing	LS	1	\$35,000.00	\$ 35,000.00
16	Street Cut/Occupancy Permit	LS	1	\$3,000.00	\$ 3,000.00
17	Contingency	LS	1	5%	\$ 56,524.41
					<b>\$ 1,187,012.66</b>

R-O-W and Easement Unit Cost

Cost of Entire Parcel \$8,000,000  
Total Acreage 55.16 AC  
Unit Cost per SF \$3.33

# ENGINEERING FEES



1004-24-131

March 3, 2025

Jeff Holbrook, Co-Manager  
LC Highland, LLC  
31103 Rancho Viejo Road, Suite D3099  
San Juan Capistrano, CA 92675

## **Proposal: Highland Ranch / Midnight Traffic Signal**

Dear Mr. Holbrook:

### **PROJECT UNDERSTANDING**

Thank you for the opportunity to submit this proposal to provide traffic signal design and RRIF Offset Agreement processing services for the Highland Ranch Pkwy/Midnight Drive intersection in Washoe County, NV. The intersection is located on a Washoe County jurisdiction roadway and will be subject to Washoe County permitting with City of Reno maintenance (effectively designed to City of Reno standards since it is expected the City will maintain the signal under contract with the County and the County does not have its own signal equipment standards).

### **Task 1: Traffic Signal Design**

We will prepare the plans, specifications, and engineer's estimate (PS&E) for installation of a traffic signal system at the intersection of Highland Ranch Parkway with Midnight Drive. Our work will include:

- Coordination with the RTC and their consultant regarding roadway layout for future conditions
- **Coordination with Odyssey Engineering on linework to determine the location of any potential additional right of way needed for the new signal based on four lanes on Highland Ranch Parkway**
- Establishing conduit, pull box, signal pole, and equipment locations consistent with the intersection configurations and curb returns
- Addressing the electrical service and coordinating with NV Energy
- Signal interconnect, limited to radio or modem technology (underground interconnect, conduit and fiber optics is excluded from this task)
- Coordinating with Washoe County and the City of Reno during permitting review
- Coordinating with Odyssey Engineering for the ADA accessible design of pedestrian push buttons coordinated with the proposed pedestrian ramp locations
- Recommending any necessary revisions to the intersection plans to Odyssey Engineering
- Providing notes, equipment schedules, conduit/conductor schedules, and details
- Special Technical Specifications based on City of Reno standards, to be included on the plans
- Engineer's Estimate(s)
- Attendance at up to two (2) design review/coordination meetings with the project team and or County during the design phase
- Address up to two (2) rounds of County/City review comments
- Provide final traffic signal plans for construction



This scope of work assumes that Odyssey Engineering will provide Headway with the topographic survey and intersection base map files for the entire intersection area, in AutoCAD format, including existing and proposed striping, utilities, and that the survey will cover all areas of the intersections where signal equipment is to be shown on the plans (generally 200 feet on the minor street approaches and 500 feet on the major street approaches (Highland Ranch Parkway).

We understand our plans will be attached to the Washoe County permit drawings to be submitted by Odyssey Engineering and that Odyssey Engineering will manage all permitting processes. Therefore, no separate permit process specific to the signal system is anticipated or included in this scope of work.

**We propose to provide the services described above for a Lump Sum Fee of \$29,000.**

#### **Task 2: RRIF Offset Agreement Application & Processing**

We will manage the RRIF application and agreement process with the Regional Transportation Commission (RTC) and Washoe County to pursue Regional Road Impact Fee (RRIF) waivers/offsets (credits) for eligible roadway improvements and the traffic signal installation.

Based on correspondence to date with the RTC and County, we believe major portions of the off-site improvements are eligible for offset/waivers, however we cannot guarantee that outcome, as the decision is discretionary by the RTC Board and Washoe County Commissioners. The fees due GCW for these services shall not be dependent on the ultimate outcome, but rest assured we will certainly strive for a successful outcome and your receipt of the waiver "credits".

We will prepare the RRIF agreement request/application and supporting materials, some of which will require signatures, application fees, plans, and cost estimates from you and/or Odyssey Engineering. We expect timely support from you and the development team on these items in order to expedite the application. Any applicable fees for appraisals (required for determining right-of-way value) and any other third party services or fees shall be paid by the client separate from our fee for this task.

We will follow through on agreement processing, attend meetings/hearings, and coordinate with the RTC, County, and client through completion of the RRIF agreement and earning of the waivers, at which point our services will end.

**We propose to provide the services described above for a Lump Sum Fee of \$10,000.**

#### **Task 3: Construction Support**

We will provide up to fifty (50) hours of professional staff time during construction of the signal to support the construction process. Work is anticipated to include:

- Inspect the contractor's critical work activities on the signal systems (full-time inspection is not included)
- Attend a pre-construction meeting
- Review material submittals
- Respond to RFIs
- Attend site visits and walk-throughs
- Schedule the substantial completion walk-through for signal items
- Assist with punchlist preparation (up to two (2) punchlists)
- Work with Washoe County, City of Reno, design team, and the contractor to resolve any issues
- Complete record drawings for the signal, if required

- Provide a letter of completion for the traffic signal, contingent upon our thorough involvement during the construction process (we must be contacted with advance notice and present for inspections prior to pouring foundations or performance of other major signal work items)

**We propose to provide the services described above on a time-and-materials basis not-to-exceed \$10,000.**

### **EXCLUSIONS**

This scope of work excludes:

- Underground Signal Interconnect design (conduit runs, pull boxes, fiber optics, or hard-wired methods)
- Traffic Data Collection or Traffic Analysis
- Signal Warrant Study
- Traffic Signal Timing/Coordination Plans
- Intersection and pedestrian ramp design (to be provided by Odyssey Engineering)
- Potholing, utility research, and depiction of existing utilities (existing utilities to be shown in the base mapping by Odyssey Engineering)
- Right-of-Way determination and depiction including centerline and stationing (to be provided by Odyssey Engineering)
- Right-of-way or easement acquisition services

The above services can be provided, if necessary, for additional fees (fees to be determined when the scope of work is formally defined).

We understand all civil engineering work for the intersection will be completed by Odyssey Engineering and that Odyssey Engineering will serve as the official Engineer-of-Record on the project.

Please note that this scope of work excludes material testing, compaction testing, concrete sampling/breaks, soils tests, and related services. These services should be anticipated as being required by the County and should be understood as necessary services to be provided by others. This scope of work also excludes construction staking as that service is anticipated to be provided by others.

### **SCHEDULE**

We will provide the signal modification plans for submittal to Washoe County within approximately ten (10) weeks of receiving written authorization to proceed and the base maps and topo files in AutoCAD format to be provided by others. Note that the critical path is typically coordination with NV Energy for electrical service. Coordination with the RTC or their consultant may be a critical path schedule item as well, and beyond our control. Schedule beyond the first submittal will be dependent on agency review(s) and cannot be predicted at this time.

The RRIF initial application can be submitted within approximately ten (10) weeks of receiving written authorization to proceed. Note that the plans must be complete enough to generate a reasonably accurate cost estimate before application can be filed. The overall RRIF Offset Agreement should be expected to take at least six (6) months.



**FEE SUMMARY**

Task Description	Amount	Type
Task 1: Traffic Signal Design	<b>\$29,000</b>	LS
Task 2: RRIF Offset Agreement Application & Processing	<b>\$10,000</b>	LS
Task 3: Construction Support	<b>\$10,000</b>	T&M
Total	<b>\$49,000</b>	

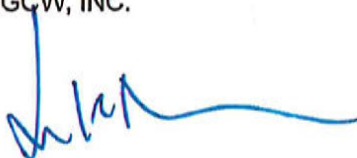
Progress billings will be forwarded to the Client monthly. These billings will include the fees earned for the billing period plus any direct costs. The Client shall make every reasonable effort to review invoices within fifteen (15) working days from the date of receipt of the invoices and notify the Consultant in writing of any items that are alleged to be incorrect.

Any additional services you request will be based upon our Hourly Rate Schedule, attached hereto. In the event, our Hourly Rate Schedule changes, the fees for any remaining time and materials will be adjusted to compensate for inflation. This proposal pricing is only valid for 90 days.

If you approve of this proposal, please sign and return the attached Agreement for Professional Services and Letter of Authorization.

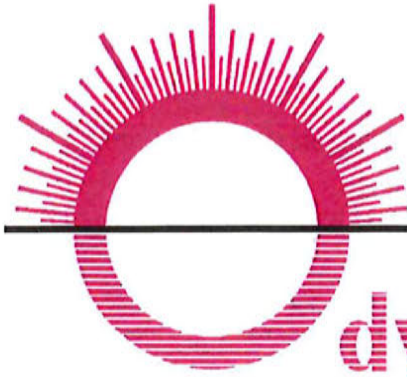
We look forward to working with you on this project. If you have any questions or clarifications, please call me at (775) 322-4300.

Cordially,  
GCW, INC.



Loren E. Chilson  
Executive Vice President

Attachments:  
Agreement for Professional Services, Letter of Authorization, and Hourly Rate Schedule



895 Roberta Lane, Suite 104, Sparks, NV 89431  
(775) 359-3303 Fax (775) 359-3329

**odyssey** ENGINEERING  
INCORPORATED

June 17, 2025

Mr. Jeffrey L. Holbrook  
LC Highland, LLC  
27132 b Paseo Espada, Suite 1226  
San Juan Capistrano, CA 92675

Re: Highlands Village 1 Traffic Signal  
Survey and Civil Support

Dear Jeff:

Odyssey Engineering is pleased to submit this proposal to provide civil engineering and survey displays for the design and for the traffic light at Midnight Drive and Highland Ranch Parkway.

We will provide the civil plans that are required for the permit. We will also provide the necessary displays, quantities and legal descriptions. We will work with GCW to get the material they need for both the permit set and the agreement for RTC credits.

Note we have reached out to Lynchpin for a proposal for the design of the masonry retaining walls required to accommodate the traffic light poles and traffic control cabinet on the north side of the Highland Ranch Parkway.

Based on that we have developed the following.

**Civil Improvement Plans and Survey Work**

We will provide final improvement plans, to include:

Site Layout Plan  
Grading & Drainage Plan  
Civil Sitework Construction Details

**Odyssey Engineering, Incorporated**  
895 Roberta Lane, Suite 104 - Sparks, Nevada 89431  
Ph: (775) 359-3303 Fax: (775) 359-3329  
[www.odyssey-civil-engineering.com](http://www.odyssey-civil-engineering.com)

We will provide the legal descriptions and display for the right of way take necessary of the traffic light.

**Fee Summary**

We propose to prepare the necessary work for the development of the traffic light and help GCW with the RTC agreement for the credits for the cost.

**Proposed Fee.....\$10,000.00**

The following work tasks and costs are not included in our proposed scope of services.

- NV Energy Applications and Processing
- Landscape plans
- Plan reproduction costs
- Construction survey and layout
- Full time construction inspection and materials testing
- Structural engineering
- Geotechnical investigation

We at Odyssey Engineering thank you for the opportunity to submit this proposal. Please call if there are any questions, or if you require additional information. If this proposal is acceptable, please sign below and provide us with email addresses for billing and correspondence as applicable.

Sincerely,

**Odyssey Engineering Incorporated**



Frank A. Bidart, P.E.  
President

Approved

**LC Highland, LLC**

\_\_\_\_\_  
Mr. Jeffery L. Holbrook

Enclosure: Fee Schedule

# ROW BACKUP

Assessor's Parcel No(s): 508-020-43, 508-020-41  
RPTT: \$32,800.00

**RECORDING REQUESTED BY:**

First Centennial Title  
1450 Ridgeview Drive  
Reno NV 89519  
Escrow No:25048341-SS

**AFTER RECORDATION RETURN AND  
MAIL FUTURE TAX STATEMENTS TO:**  
TS Highland LLC  
1700 South Pavilion Center Dr. Suite 950  
Las Vegas, NV 89135

**DOC #5547409**

06/18/2025 10:32:48 AM  
Electronic Recording Requested By  
FIRST CENTENNIAL - RENO (MAIN OFFIC  
Washoe County Recorder  
Kalie M. Work  
Fee: \$43.00 RPTT: \$32800.00  
Page 1 of 7

Real Property Transfer Tax = \$32,800  
 $\$32,800 / 2.05 \times \$500 =$  Sales Price  
Sales Price = \$8,000,000

## GRANT, BARGAIN AND SALE DEED

For value received, LC Highland, LLC, a Nevada limited liability company hereinafter referred to as "Grantor," hereby grants, bargains and sells to TS Highland LLC, a Nevada limited liability company, hereinafter referred to as "Grantee," all of Grantor's right, title, and interest in the real property located in Sun Valley, County of Washoe, State of Nevada, described on Exhibit "A" attached hereto and incorporated herein by reference (the "Real Property").

The Real Property is conveyed subject only to the following liens and encumbrances: (i) general and special county taxes and assessments not yet delinquent; (ii) covenants, conditions, restrictions, reservations, rights of way, easements, and other interests of record which are applicable to the Real Property, and (iii) N/A.

The Real Property is conveyed together with all of Grantor's right, title, and interest in the improvements located on the Real Property, and in the tenements, hereditaments, and appurtenances of the Real Property, including, without limitation, all of Grantor's right, title, and interest in all water rights appurtenant to the Real Property, and the rents, issues and profits thereof.

\*\*\*Signature and Notary Page attached hereto and made a part hereof-

Dated this 10<sup>th</sup> day of June, 2025.

Grantor:

LC Highland LLC, a Nevada limited liability Company

BY: [Signature]  
Stephen H. Hinckley, Manager

BY: \_\_\_\_\_  
Jeffrey L. Holbrook, Manager

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

This instrument was acknowledged before me on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, by  
Stephen H. Hinckley and Jeffrey L. Holbrook as Managers of LC Highland LLC, a Nevada limited  
liability company

\_\_\_\_\_  
Notary Public

SEE ATTACHED CALIFORNIA CERTIFICATE

[Signature]  
6/10/25

## CALIFORNIA ALL PURPOSE ACKNOWLEDGEMENT

CIVIL CODE SECTION 1189

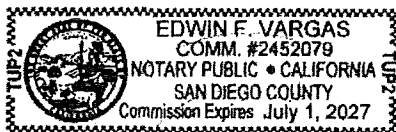
A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of San Diego

On 6/10/25 before me, Edwin F. Vargas, Notary Public  
 personally appeared Stephen H. Hinchey

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



I certify under PENALTY OF PERJURY under the Laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

Signature of Notary Public

Place Notary Seal and/or Stamp Above

## OPTIONAL

Description of Attached Document:

Grant Deed

Document Date:

6/10/25

Number of Pages:

3

Signer(s) other than named above:

None



Dated this 11<sup>th</sup> day of June, 2025.

Grantor:

LC Highland LLC, a Nevada limited liability Company

BY: \_\_\_\_\_

Stephen H. Hinckley, Manager

BY: \_\_\_\_\_

Jeffrey L. Holbrook, Manager

STATE OF

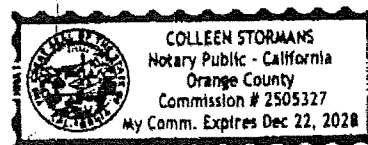
California

COUNTY OF

Orange

This instrument was acknowledged before me on this 11 day of June, 2025 by ~~Stephen H. Hinckley~~ and Jeffrey L. Holbrook as Managers of LC Highland LLC, a Nevada limited liability company

Colleen Stormans  
Notary Public



## CALIFORNIA ACKNOWLEDGMENT

CIVIL CODE § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

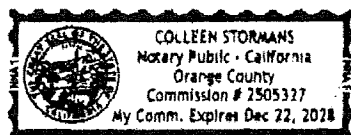
County of Orange

On June 11 2025 before me, Colleen Stormans, Notary Public  
Date Here Insert Name and Title of the Officer  
 personally appeared Jeffrey L. Holbrook  
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Place Notary Seal and/or Stamp Above

Signature

Signature of Notary Public

## OPTIONAL

Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

## Description of Attached Document

Title or Type of Document: Grant, Bargain & Sale DeedDocument Date: 6-11-2025

Number of Pages: \_\_\_\_\_

Signer(s) Other Than Named Above: \_\_\_\_\_

## Capacity(ies) Claimed by Signer(s)

Signer's Name: \_\_\_\_\_

☐ Corporate Officer – Title(s): \_\_\_\_\_☐ Partner – ☐ Limited ☐ General☐ Individual☐ Attorney in Fact☐ Trustee☐ Guardian or Conservator☐ Other: \_\_\_\_\_

Signer is Representing: \_\_\_\_\_

Signer's Name: \_\_\_\_\_

☐ Corporate Officer – Title(s): \_\_\_\_\_☐ Partner – ☐ Limited ☐ General☐ Individual☐ Attorney in Fact☐ Trustee☐ Guardian or Conservator☐ Other: \_\_\_\_\_

Signer is Representing: \_\_\_\_\_



File No.: 25048341-SS

**EXHIBIT A**

**PARCEL 1:**

The South half of the South half of the Southeast Quarter in Section 8, Township 20 North, Range 20 East, M.D.B.&M., Washoe County, Nevada.

EXCEPTING THEREFROM any portion lying Westerly of the most Eastern line of HIGHLAND RANCH PARKWAY, as it now exists.

ALSO EXCEPTING THEREFROM any portion lying within Highland Ranch Parkway, as it now exists.

FURTHER EXCEPTING THEREFROM those portions dedicated to the County of Washoe, a political subdivision of the State of Nevada, by instruments recorded December 11, 1997, in Book 5069, Page 775, as Document No. 2161272 and recorded April 8, 1998, in Book 5195, Page 906, as Document No. 2197961, of Official Records.

The above legal description was taken from prior Document No. 4727553.

APN'S: 508-020-41

**PARCEL 2:**

The North half of the South half of the Southeast Quarter in Section 8, Township 20 North, Range 20 East, M.D.B.&M., Washoe County, Nevada.

EXCEPTING THEREFROM any portion lying Westerly of the most Eastern line of HIGHLAND RANCH PARKWAY, as it now exists.

ALSO EXCEPTING THEREFROM any portion lying within Highland Ranch Parkway, as it now exists.

FURTHER EXCEPTING THEREFROM those portions dedicated to the County of Washoe, a political subdivision of the State of Nevada, by instruments recorded December 11, 1997, in Book 5069, Page 775, as Document No. 2161272 and recorded April 8, 1998, in Book 5195, Page 906, as Document No. 2197961, of Official Records.

The above legal description was taken from prior Document No. 4727553.

APN'S: 508-020-43

Said property is more particularly described in the Survey done by Kelly R. Combest, Odyssey Engineering, set forth as follows:

All that certain real property situate within a portion of the Southeast One-Quarter of Section Eight, Township Twenty North, Range Twenty East, Mount Diablo Meridian, and being more particularly described as follows:

BEGINNING at a point on the northerly right-of-way line of Highland Ranch Road as described in Deed Document Number 2161272, recorded December 11, 1997 of the Official Records of Washoe County, Nevada from which said point bears North  $01^{\circ}48'00''$  East a distance of 60.00 feet from the Southeast Section Corner of said Section 8;

THENCE coincident with said northerly right-of-way the following five (5) courses:

1. North  $88^{\circ}50'56''$  West a distance of 970.24 feet to the beginning of a curve;
2. a distance of 384.05 feet along the arc of 570.00 foot radius curve to the right, through a central angle of  $38^{\circ}36'17''$ ;
3. North  $50^{\circ}14'39''$  West a distance of 1363.05 feet to the beginning of a curve;
4. a distance of 256.44 feet along the arc of a 470.00 foot radius curve to the right, through a central angle of  $31^{\circ}15'42''$ ;
5. North  $01^{\circ}03'14''$  East a distance of 42.24 feet more or less to the northerly line of the South One-Half of the South One-Half of the Southeast One-Quarter of said Section 8;

THENCE coincident with said northerly line South  $89^{\circ}40'03''$  East a distance of 2553.69 feet more or less to the easterly line of said Section 8;

THENCE coincident with said easterly line South  $01^{\circ}48'00''$  East a distance of 1259.34 feet to the POINT OF BEGINNING.

A Portion of APN: 508-020-41

Recorder, please return to:

TS Highland, LLC

1700 South Pavilion Center Dr., Ste 950

Las Vegas, NV 89135

Mail tax statement to:

TS Highland, LLC

1700 South Pavilion Center Dr., Ste 950

Las Vegas, NV 89135

The undersigned hereby affirms that this document, including any exhibits hereby submitted for recording does not contain the personal information of any person or persons (Per NRS 239B.030)

#### **GRANT OF SIGNAL EQUIPMENT NON-EXCLUSIVE EASEMENT**

THIS Grant of a Non-Exclusive Easement, dated \_\_\_\_ of \_\_\_\_\_ of 2025, is made by and between **TS HIGHLAND, LLC**, hereinafter referred to as “Grantor”, and **WASHOE COUNTY**, hereinafter referred to as “Grantee”, their successors and assigns, the right to construct, place, inspect, maintain, repair, replace and remove, traffic signal infrastructure facilities consisting of foundations, poles, electrical cabinets, electrical services, conduit, pull boxes, vehicle detection, and other appurtenances, together with a permanent non-exclusive easement, therefore and the right of ingress thereto and egress therefrom, across, upon, in and under the following described real property in the County of Washoe, State of Nevada and “Grantor”, does hereby grant and convey to **WASHOE COUNTY**, “Grantee”, a permanent non-exclusive easement, for public use, over, across, and through a portion of Grantor’s property described as and depicted on, together as follows:

**SEE EXHIBITS “A” AND “A1” and “B” AND “B1” ATTACHED HERETO AND MADE A PART HEREOF BY REFERENCE**

It is further agreed that:

1. Grantor shall indemnify and hold Grantee harmless from and against damages to Grantee’s facilities in said easement area, except where such damage is caused by the negligence of Grantee or its employees which is subject to the liability limitations protections and immunities afforded to Grantee pursuant to Chapter 41 of the Nevada Revised Statutes and nothing contained herein is to be construed as or intended by Grantee as a waiver thereof.

2. The provisions hereof shall inure to the benefit of and bind the successors and assigns of the respective parties hereto reconstructing and operating said Facilities by GRANTEE except for those damages caused by the negligence of GRANTEE or its employees.

3 To the fullest extent permitted by law, but not to exceed the statutory limits set forth in NRS Chapter 41 if applicable to the Liability, as defined below, GRANTEE shall indemnify, hold harmless and defend GRANTOR and TS Highland, LLC officers, employees and agents from and against all liability caused in whole or in part by any act or omission of GRANTEE arising out of the use of the Non-Exclusive Easement Area, "Liability" includes all claims actions, damages, losses, judgements, injuries, costs and expenses, including but not limited to attorney's fees and costs, including those related to bodily injury, sickness, disease or death or to injury to destruction of tangible property. "Arising out of the use of" includes all construction, maintenance, operation and use of any improvements and landscaping now existing or hereafter constructed on the Non-Exclusive Easement Area. The terms "act or omission" includes any act, negligence, or omission. The terms "of GRANTEE or related party" includes GRANTEE and all officers, employees, agents, contractors and subcontractors, successors and assigns of GRANTEE.

4 GRANTOR shall be allowed to install or erect permitted Private Facilities within the Non-Exclusive Easement Area which in the reasonable judgement of GRANTEE is consistent with GRANTEE's use of Non-Exclusive Easement Area.

5 GRANTEE, its successors, assigns and agents, shall have the right to remove or clear any and all buildings, fences, structures, combustible material, trees, brush, debris, or any other obstruction from the Non-Exclusive Easement Area, which in the reasonable judgement of GRANTEE may interfere with or endanger the construction, altering, maintaining, inspecting, repairing, reconstructing and operation of said Signal Facilities.

6 GRANTEE, its successors, assigns and agents, shall have the right to cut down, trim and maintain all landscaping within, adjacent to and outside the Non-Exclusive Easement Area which may, in the reasonable judgment of GRANTEE, endanger the construction, altering maintaining, inspecting, repairing, reconstructing and operating of said Signal Facilities.

7 GRANTEE, its successors, assigns and agents, agrees to its sole cost and expense to maintain and repair the Private Facilities within the easement area during the term of this Permanent Non-Exclusive Easement.

THIS GRANT OF SIGNAL EQUIPMENT NON-EXCLUSIVE EASEMENT and the terms contained herein shall be binding upon the successors, agents and assigns of GRANTOR and GRANTEE.

TO HAVE AND TO HOLD all and singular the said premises, granted together with the appurtenance, unto said GRANTEE, its successors assigns and agents forever.

IN WITNESS WHEREOF, GRANTOR has caused these presents duly be executed the day and year first above written. GRANTOR acknowledges having read all the provisions of this grant of easement, and the GRANTOR agrees to its terms.

**GRANTOR**

TS HIGHLAND, LLC

By: \_\_\_\_\_

Dustin Manning  
Vice President of Land Development (Authorized Signer)

STATE OF NEVADA     )  
  ) SS:  
COUNTY OF WASHOE )

Before me, a Notary Public in and for said County and State, personally appeared Dustin Manning, known to me to be the Vice President of Land Development, for TS Highland, LLC , a Nevada LLC, and acknowledged the execution of the foregoing for and on behalf of said a limited liability company.

Witness my hand and Notarial Seal, this \_\_\_\_ day of \_\_\_\_\_, 2025.

\_\_\_\_\_  
Notary Public – Signature

**GRANTEE**

WASHOE COUNTY,

By: \_\_\_\_\_

Dwayne Smith, P.E.  
Director, Engineering and Capitol Projects

STATE OF NEVADA     )  
  ) SS:  
COUNTY OF WASHOE )

Before me, a Notary Public in and for said County and State, personally appeared Dwayne Smith, P.E., known to me to be the Director, Engineering and Capitol Projects, for Washoe County, and acknowledged the execution of the foregoing for Washoe County.

Witness my hand and Notarial Seal, this \_\_\_\_ day of \_\_\_\_\_, 2025.

\_\_\_\_\_  
Notary Public - Signature

**EXHIBIT A**  
**LEGAL DESCRIPTION**  
**OF**  
**TRAFFIC SIGNAL EASEMENT**

All that certain property situate within the Southeast One-Quarter (SE 1/4) of Section Twenty Eight (08), Township Eighteen (20) North, Range Twenty (20) East, Mount Diablo Meridian, City of Reno, County of Washoe, State of Nevada, being a portion of Common Area 2 per Tract Map No. \_\_\_\_\_, Recorded \_\_\_\_\_, 2025, as File No. \_\_\_\_\_, Official Records of Washoe County, Nevada and more particularly described as follows:

**COMMENCING** at a 2" aluminum cap stamped PLS 20123 at the intersection of Highlands Ranch Road as described in Document No. 2161272, Recorded December 11, 1997, Official Records of Washoe County, Nevada and Ophelia Drive as shown on said Tract Map No. \_\_\_\_\_;

**THENCE** North  $18^{\circ}09'25''$  West a distance of 61.99 feet to a point coincident with the exterior boundary of Common Area 2 and the westerly right of way of Ophelia Drive as shown on Tract Map No. \_\_\_\_\_, said point also being the **POINT OF BEGINNING**;

**THENCE** along said exterior boundary for the following Three (3) courses and distances;

- 1) North  $88^{\circ}50'49''$  West a distance of 5.50 feet to the beginning of a non-tangent curve;
- 2) from a radius that bears North  $88^{\circ}50'49''$  West, a distance of 39.77 feet along the arc of said curve to the right, having a radius of 25.00 feet, through a central angle of  $91^{\circ}08'45''$ ;
- 3) North  $87^{\circ}42'05''$  West a distance of 10.49 feet;

**THENCE** departing from said exterior boundary, North  $01^{\circ}08'02''$  East a distance of 23.49 feet;

**THENCE** South  $88^{\circ}51'58''$  East a distance of 5.01 feet to the beginning of a curve;

**THENCE** a distance of 47.11 feet along the arc of said curve to the left, having a radius of 30.00 feet, through a central angle of  $89^{\circ}58'51''$ ;

**THENCE** South  $88^{\circ}50'49''$  East a distance of 6.50 feet to a point coincident with the westerly right of way of Ophelia Drive;

**THENCE** along said westerly right of way, South 01°09'11" West a distance of 33.71 to the **POINT OF BEGINNING**.

Containing 1,131 square feet of land, more or less.

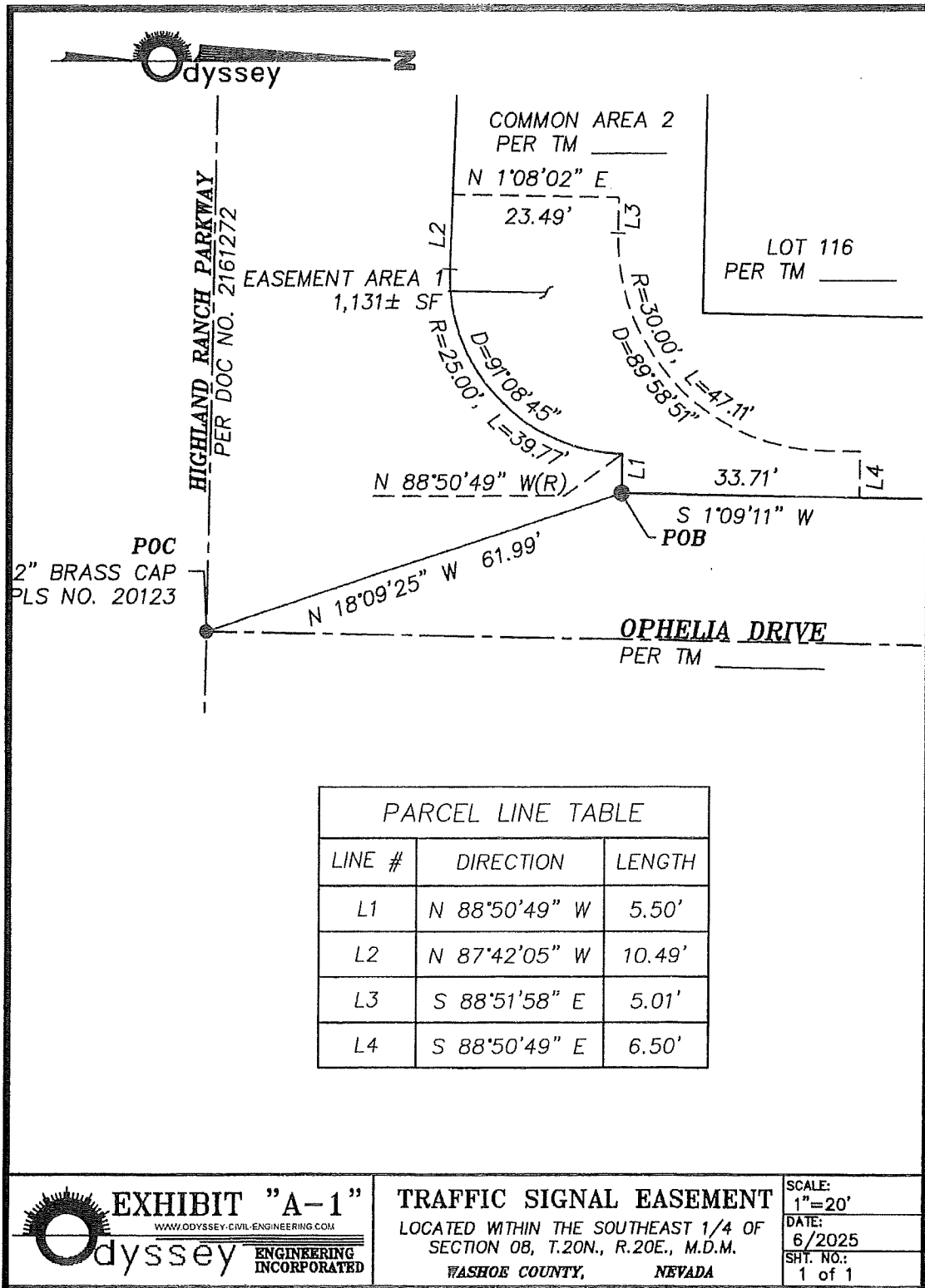
See Exhibit A-1 attached to and made apart hereof.

**BASIS OF BEARINGS** for this description is identical to that of Tract Map No. \_\_\_\_\_, Recorded \_\_\_\_\_, 2025, as File No. \_\_\_\_\_, Official Records of Washoe County, Nevada

PREPARED BY

**ODYSSEY ENGINEERING INC.**

John A. Gomez, PLS  
Nevada Certificate No. 20123  
895 Roberta Lane, Suite 104  
Sparks, NV 89431





**EXHIBIT B**  
**LEGAL DESCRIPTION**  
**OF**  
**TRAFFIC SIGNAL EASEMENT**

All that certain property situate within the Southeast One-Quarter (SE 1/4) of Section Twenty Eight (08), Township Eighteen (20) North, Range Twenty (20) East, Mount Diablo Meridian, City of Reno, County of Washoe, State of Nevada, being a portion of Common Area 3 per Tract Map No. \_\_\_\_\_, Recorded \_\_\_\_\_, 2025, as File No. \_\_\_\_\_, Official Records of Washoe County, Nevada and more particularly described as follows:

**COMMENCING** at a 2" aluminum cap stamped PLS 20123 at the intersection of Highlands Ranch Road as described in Document No. 2161272, Recorded December 11, 1997, Official Records of Washoe County, Nevada and Ophelia Drive as shown on Tract Map No. \_\_\_\_\_, Recorded \_\_\_\_\_, 2025, as File No. \_\_\_\_\_, Official Records of Washoe County, Nevada;

**THENCE** North 16°03'22" East a distance of 79.44 feet to a point coincident with the easterly right of Ophelia Drive and the exterior boundary of Common Area 3 as shown on said Tract Map No. \_\_\_\_\_ to the **POINT OF BEGINNING**;

**THENCE** along said easterly right of way of Ophelia Drive, North 01°24'25" East a distance of 15.50 feet;

**THENCE** departing said easterly right of way, South 88°35'35" East a distance of 7.01 feet;

**THENCE** South 01°24'25" West a distance of 5.00 feet to the beginning of a curve;

**THENCE** a distance of 47.12 feet along the arc of said curve to the left, having a radius of 30.00 feet, through a central angle of 90°00'00";

**THENCE** South 88°35'35" East a distance of 5.00 feet;

**THENCE** South 01°24'25" West a distance of 14.50 feet to a point coincident with said exterior boundary of Common Area 3;

**THENCE** along said exterior boundary for the following Three (3) courses and distances,

- 1) North 88°35'35" West a distance of 2.51 feet to the beginning of a curve;

- 2) a distance of 53.26 feet along the arc of said curve to the right, having a radius of 34.05 feet, through a central angle of  $89^{\circ}36'40''$ ;
- 3) North  $88^{\circ}02'47$  West a distance of 5.57 feet to the **POINT OF BEGINNING**;

Containing 608 square feet of land, more or less.

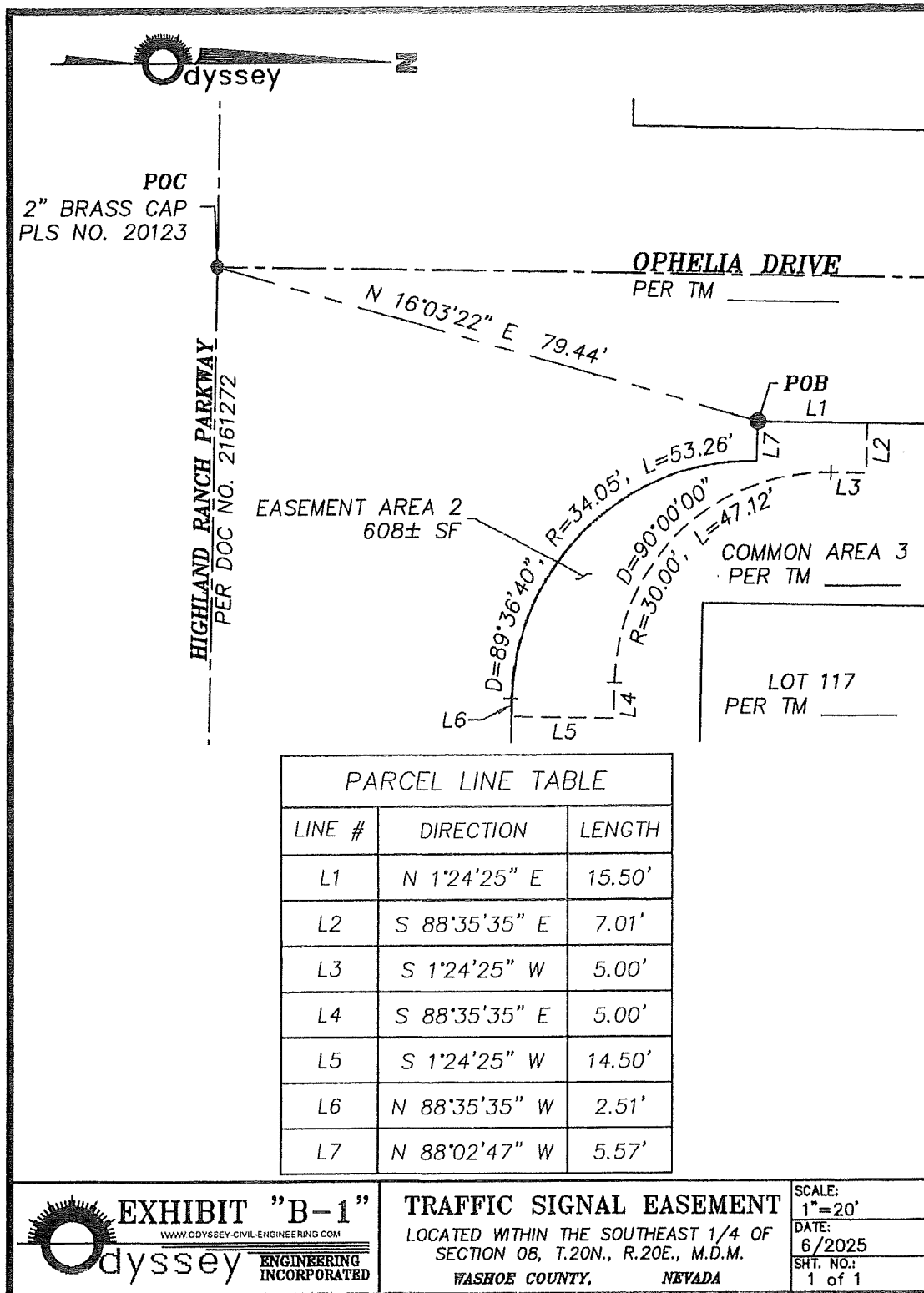
See Exhibit B-1 attached to and made apart hereof.

**BASIS OF BEARINGS** for this description is identical to that of Tract Map No. \_\_\_\_\_, Recorded \_\_\_\_\_, 2025, as File No. \_\_\_\_\_, Official Records of Washoe County, Nevada

PREPARED BY

ODYSSEY ENGINEERING INC.

John A. Gomez, PLS  
Nevada Certificate No. 20123  
895 Roberta Lane, Suite 104  
Sparks, NV 89431



PARCEL LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	N 1°24'25" E	15.50'
L2	S 88°35'35" E	7.01'
L3	S 1°24'25" W	5.00'
L4	S 88°35'35" E	5.00'
L5	S 1°24'25" W	14.50'
L6	N 88°35'35" W	2.51'
L7	N 88°02'47" W	5.57'

**HIGHLAND RANCH VILLAGE UNIT 1**  
**SITE PLAN**  
 WASHOE STATE  
 HIGHWAY 10  
 MIDNIGHT DRIVE  
 HIGHLAND RANCH PARKWAY

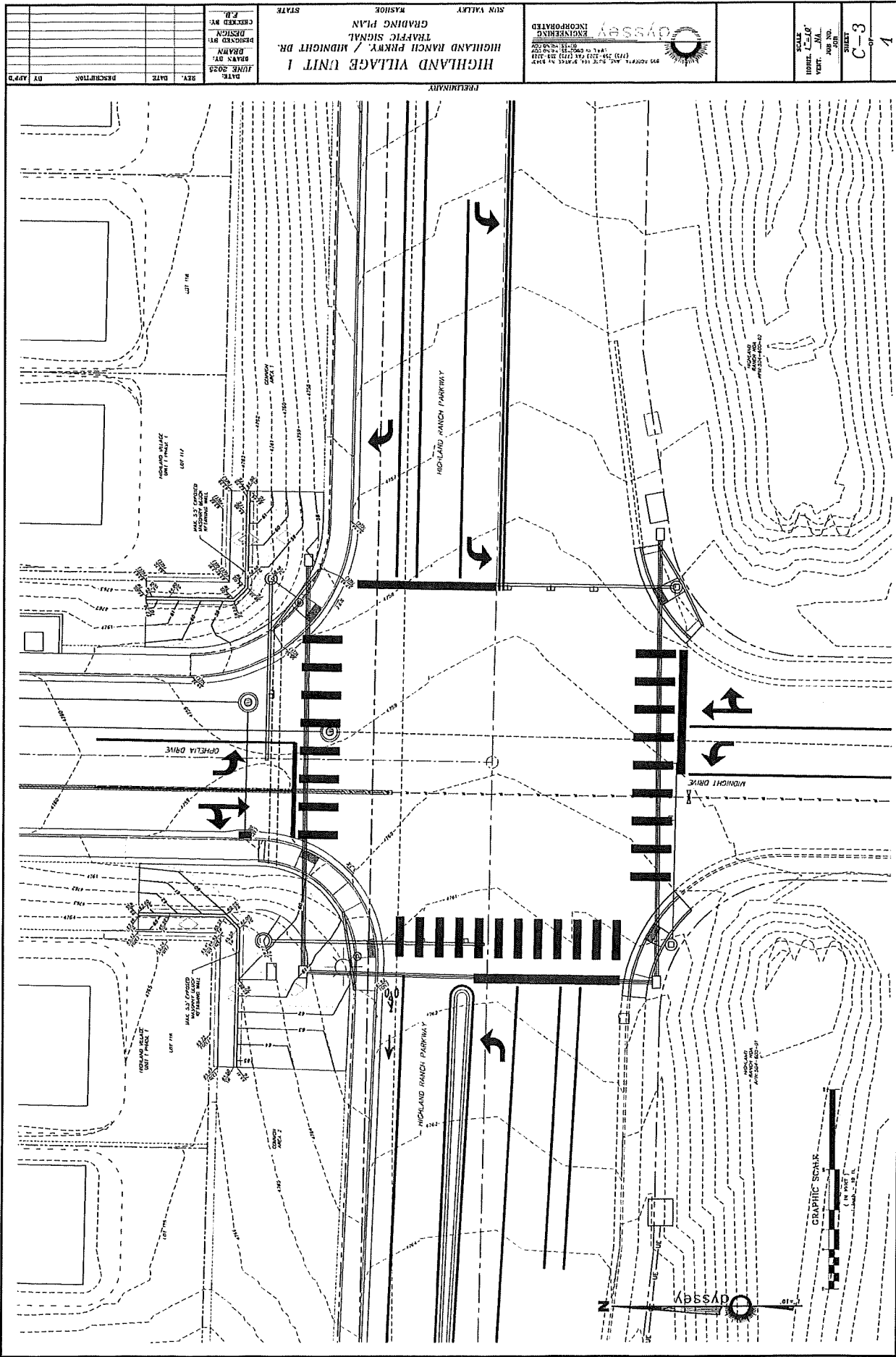
**LEGEND:**  
 - - - - - EASEMENT  
 - - - - - RIGHT OF WAY  
 - - - - - TRAFFIC SIGNAL  
 - - - - - TRAFFIC SIGNAL AND SLURRY PLAN  
 - - - - - TRAFFIC SIGNAL AND SLURRY PLAN  
 - - - - - TRAFFIC SIGNAL AND SLURRY PLAN

**GRAPHIC SCALE**  
 1" = 100'  
 (1" = 100')

**NOTES:**  
 1. ALL DIMENSIONS ARE IN FEET.  
 2. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.  
 3. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.  
 4. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.







1		C-3		SCALE		HORIZ. 1"=10'		VERT. 1"=10'		DESIGNED BY: SEAN VALLEY		CHECKED BY: KASHOE		DATE: JUNE 2020		BY: AP'D	
SUBMIT		SHEET		HORIZ. 1"=10'		VERT. 1"=10'		DESIGNED BY: SEAN VALLEY		CHECKED BY: KASHOE		DATE: JUNE 2020		BY: AP'D		BY: AP'D	
SEAN VALLEY		KASHOE		HIGHLAND VILLAGE UNIT 1		HIGHLAND RANCH PARKWAY / MIDNIGHT DR.		GRADING PLAN		TRAFFIC SIGNAL		DESIGNED BY: SEAN VALLEY		CHECKED BY: KASHOE		DATE: JUNE 2020	

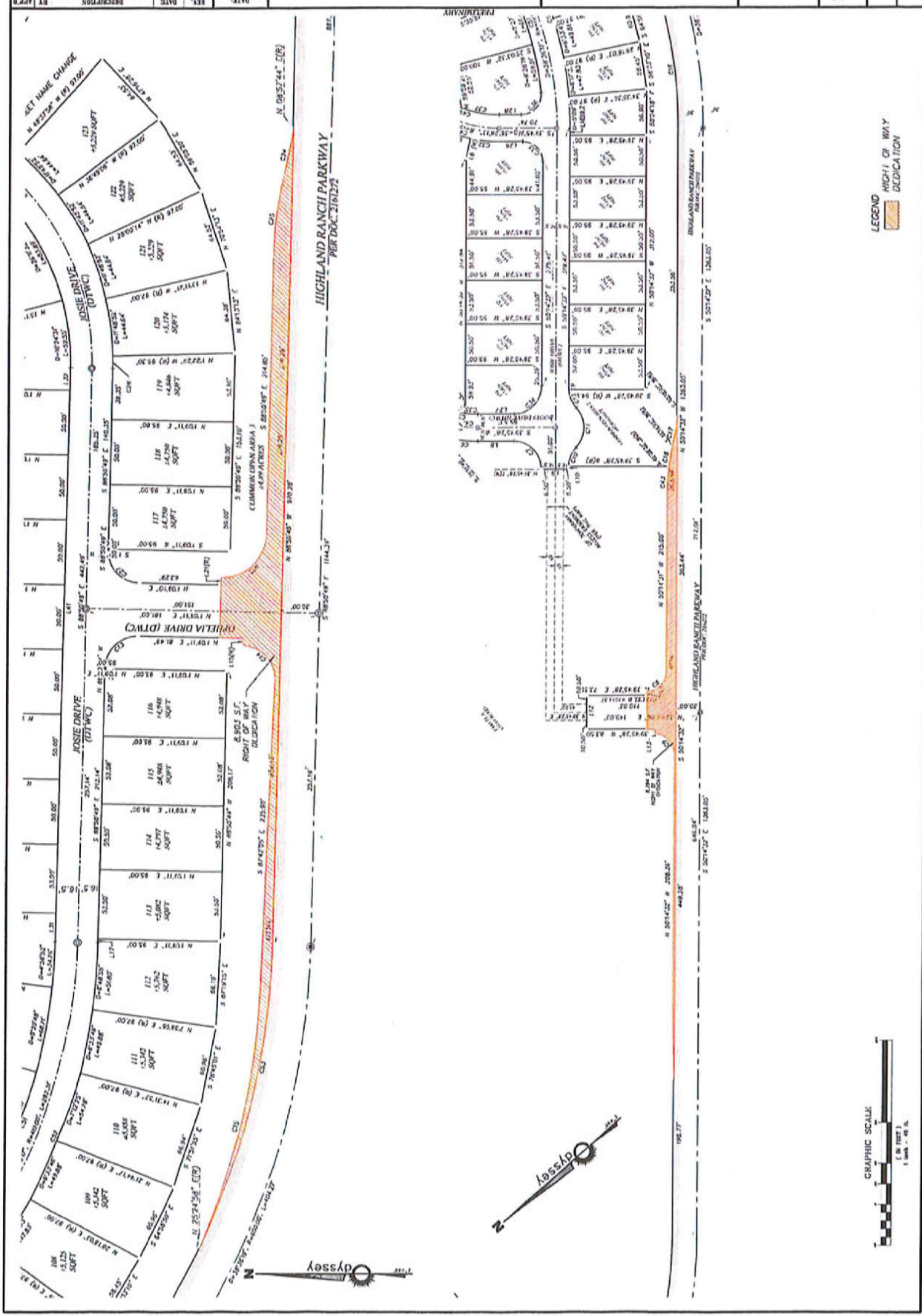


NO.	DATE	BY	DESCRIPTION
1	05/25/2017	J. HARRIS	INITIAL DESIGN
2	06/01/2017	J. HARRIS	REVISIONS
3	06/01/2017	J. HARRIS	REVISIONS
4	06/01/2017	J. HARRIS	REVISIONS
5	06/01/2017	J. HARRIS	REVISIONS
6	06/01/2017	J. HARRIS	REVISIONS
7	06/01/2017	J. HARRIS	REVISIONS
8	06/01/2017	J. HARRIS	REVISIONS
9	06/01/2017	J. HARRIS	REVISIONS
10	06/01/2017	J. HARRIS	REVISIONS

**dysssey**  
 INCORPORATED  
 1000 S. 1000 E. SUITE 100  
 SALT LAKE CITY, UT 84143  
 (801) 466-1000  
 FAX: (801) 466-1001  
 WWW.DYSSSEY.COM

**HIGHLAND VILLAGE UNIT 1**  
 HIGHWAY 100 / MIDNIGHT DR.  
 TRAFFIC SIGNAL  
 RIGHT OF WAY DISPLAY  
 STATE: UTAH  
 COUNTY: SALT LAKE

NO.	DATE	BY	DESCRIPTION
1	05/25/2017	J. HARRIS	INITIAL DESIGN
2	06/01/2017	J. HARRIS	REVISIONS
3	06/01/2017	J. HARRIS	REVISIONS
4	06/01/2017	J. HARRIS	REVISIONS
5	06/01/2017	J. HARRIS	REVISIONS
6	06/01/2017	J. HARRIS	REVISIONS
7	06/01/2017	J. HARRIS	REVISIONS
8	06/01/2017	J. HARRIS	REVISIONS
9	06/01/2017	J. HARRIS	REVISIONS
10	06/01/2017	J. HARRIS	REVISIONS



**EXHIBIT “D”**  
**(Letter of Approval)**





**REGIONAL TRANSPORTATION COMMISSION**

*Metropolitan Planning • Public Transportation & Operations • Engineering & Construction*

Metropolitan Planning Organization of Washoe County, Nevada

September 5, 2025

Dustin Manning

*[Sent via email to: dmanning@touchstoneliving.com]*

Touchstone Living, Inc.

1700 South Pavillion Drive, Suite 950

Las Vegas, NV 89135

Subject: Letter of Approval for Regional Road Impact Fee Waivers

Dear Mr. Manning,

The Regional Road Impact Fee (RRIF) Administrators for the RTC and for Washoe County have reviewed and approved your application to receive RRIF waivers for the installation of a traffic signal system and intersection improvements at the Highland Ranch Parkway and Midnight Drive intersection. A RRIF Offset Agreement for this work is being prepared and will be forwarded to the RTC Board and Washoe County Board of County Commissioners 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.

The value of the agreed upon improvements is estimated to be \$1,150,233.76 based upon RTC RRIF 7<sup>th</sup> Edition, Year 3 Indexing, for 194 Single-Family Residential units.

Please feel free to contact LaShonn Ford, Project Manager for the RTC, at (775) 332-2136 should you have any questions regarding this subject.

Sincerely,

**REGIONAL TRANSPORTATION COMMISSION  
RRIF ADMINISTRATOR**

Dale Keller, P.E.  
Director of Engineering

**Washoe County  
RRIF ADMINISTRATOR**

Michon Reede, P.E.  
Senior Licensed Engineer

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

## **EXHIBIT E**

### **INSPECTION, TESTING AND VERIFICATION AND QUALITY ASSURANCE PROGRAM**

#### **SECTION 1 - GENERAL**

It is the intent of this program to set forth the requirements and responsibilities of those parties involved in the inspection, testing, verification, and acceptance of improvements offered as capital contributions under the Regional Road Impact Fee (RRIF) system so that consistent and satisfactory quality is achieved in the constructed products.

All new construction shall have an Engineer of Record (EOR), when required by the Regional Transportation Commission (RTC), retained by the owner and reporting to the RTC Administrator. The contractor shall not retain the EOR, unless he is also the owner. The EOR shall not be the contractor. The EOR shall be responsible for all inspection, testing and verification of the constructed improvements as to compliance with this chapter, the improvement plans of record and with local development codes. The EOR is not responsible for means, methods, techniques, sequences or procedures of construction nor safety of the construction site. Quality control shall be the responsibility of the Contractor.

In addition, all new construction requiring an EOR shall have a Testing Firm responsible to the EOR and reporting to the EOR.

#### **SECTION 2 - RESPONSIBILITIES**

1. **DEVELOPER OF RECORD (DOR)**
  - a) Shall retain the services of an EOR. Shall provide a copy of this program to the EOR.
  - b) Shall retain the services of a Testing Firm which shall be responsible to the EOR and report to the EOR. Shall provide a copy of this program to the Testing Firm.
  - c) Shall make every reasonable effort to retain, as the EOR, the services of the firms or persons responsible for the preparation of the approved soils report and the improvement plans of record.
  - d) Shall retain the services of a contractor and notify said contractor of the requirements of this Chapter. Shall provide a copy of this program to the Contractor.
  - e) Shall be responsible to the RTC for the adequacy of completed work covered under this chapter. Any defective material, equipment, or workmanship, or

## **EXHIBIT E**

any unsatisfactory work which may be discovered before final acceptance, or within 1 year thereafter, shall be corrected immediately on the requirement of the EOR or RTC Administrator, without extra charge, notwithstanding that it may have been overlooked in previous inspections. Failure to ensure adequate inspection of the work shall not relieve the owner from any obligation to perform sound and reliable work.

- f) Shall designate a representative with authority to act on behalf of the owner for all work performed.
- g) The owner acknowledges the need for continuing involvement of the firms or persons responsible for the preparation of the approved project soils report and the improvement plans of record during construction. In the event the EOR is different from the above-mentioned firms or persons, the owner agrees to be financially responsible for services provided by the said firms or persons as requested by the EOR.

### 2. ENGINEER OF RECORD (EOR)

- a) Shall initiate a pre-construction conference for construction of improvements at least one week in advance of initial construction. Representatives of the owner, contractor, Local Government, RTC Administrator, EOR and testing firm shall attend.
- b) Shall provide a written summary of the pre-construction conference to the owner, contractor, Local Government and the RTC Administrator, and will also notify the participants of any significant changes in writing at least 2 working days in advance of implementing the changes.
- c) Shall notify the RTC Administrator and the Local Government of the date and hour that work on any of the following items is expected to begin. Notification shall be given not less than 24 hours in advance; and, if thereafter conditions develop to delay the start of work, the EOR shall notify the RTC Administrator and the Local Government of the delay, not less than 2 hours before the work was to begin:
  - 1. Grading, excavation, and fill operations within public right-of-way.
  - 2. Laying of sewer lines, drainage lines or appurtenances.
  - 3. Backfilling of sewer lines, drainage lines or appurtenances.
  - 4. Placing of reinforcing steel, forms and falsework for concrete structures.

## **EXHIBIT E**

5. Placing the concrete for curbs, gutters, sidewalks, alleys, valley gutters, headwalls, or structures.
  6. Placing of any type of base course or courses.
  7. Tacking bituminous or concrete surfaces.
  8. Placing asphalt concrete or Portland cement concrete pavement.
  9. Sealing asphalt concrete or Portland cement concrete pavement.
- d) Shall submit for review prior to initiation of the preconstruction conference, the qualifications of the testing firm and the field inspection and testing technician personnel for the project. Said qualifications shall meet the minimum specified in this chapter.
- e) Shall make an inspection of workmanship and materials in accordance with this chapter. No work nor materials will be accepted without such an inspection. Shall also review catalog cuts and data sheets for material submittals. The EOR will make every reasonable effort to perform inspection and testing services in a manner which will accommodate the construction schedule.
- f) Shall provide to the RTC Administrator and Local Government, on a bi-weekly basis, copies of the daily inspection/testing reports for the previous 2 weeks.
- g) Shall immediately notify the RTC Administrator and Local Government of any proposed changes from the improvement drawings of record. Should the RTC Administrator determine that the proposed change is major in nature, such change shall require prior approval by the RTC Administrator. The Local Government will not be liable for any delays caused by the review and approval of such changes.
- h) Shall arrange as part of his contract with the owner to confer and coordinate with the firms or persons responsible for the preparation of the approved project soils report and the improvement plans of record throughout the construction of the project to evaluate compliance with the requirements of this chapter. In the event that the firms or persons responsible for the preparation of the approved project soils report or improvement plans of record are not available for consultation, the EOR shall notify the RTC Administrator and Local Government of such prior to commencement of construction. In this event, the EOR and the RTC Administrator and Local Government shall agree to an alternative arrangement for providing the

## **EXHIBIT E**

necessary soils report and improvement plans of record interpretations prior to commencement of construction.

- i) Shall notify in writing the DOR, Contractor, Local Government, and the RTC Administrator, if, during the course of construction, the EOR finds that defective materials or workmanship not meeting requirements have been constructed and not satisfactorily corrected by the contractor within one week of verbal notification to the contractor. The written notification shall be supported by field reports and/or test results.
- j) Shall, upon completion of construction of improvements, provide the RTC with a letter of verification on the format provided by the RTC, verifying the adequacy of the improvements and providing verification of all final quantities and unit prices; and, that construction, inspection, and testing were performed in compliance with this chapter, improvement plans of record and RTC standards; and, provide sepia-mylars of any changes from the approved improvement plans of record or a statement that no changes were made; and, provide copies of inspection and test reports, if not already provided. The final completion and acceptance of all such improvements, including recommendations of release and return of any security, shall be subject to the approval of the RTC Administrator.
- k) Shall sign and wet-stamp, or cause to be signed and wet-stamped by a Nevada registered Civil Engineer, all drawings, reports and test data, and forward such to the RTC, Local Government, DOR, and Contractor.

### **3. RTC Administrator**

- a) Shall assign a primary contact to the EOR who shall serve as the RTC's representative during construction of bonded improvements. This primary contact shall be known as the RTC Quality Assurance Inspector (QAI). The qualifications of the QAI, as a minimum, will meet the qualifications of a Public Works Construction Inspector.
- b) Shall attend the preconstruction conference initiated by the EOR.
- c) Shall check and evaluate that adequate inspection personnel are on-site during the construction of bonded improvements. Should the QAI determine that adequate personnel are not available on-site for inspection, the QAI shall immediately advise the EOR of the situation and so record the incident in his daily report.
- d) Shall keep a daily report of construction activities he observes, including pertinent conversations with the EOR.

## **EXHIBIT E**

- e) Shall, on a bi-weekly basis, review the daily inspection/testing reports submitted by the EOR. Any unsatisfactory test results shall be called to the attention of the EOR.
- f) Shall review the qualifications of the EOR to determine if they meet the minimum requirements of this chapter. If it is determined that the EOR does not meet said minimum requirements, the owner shall review the improvement agreement (Exhibit C) and retain an EOR meeting the qualifications of this chapter as determined by the RTC Administrator.
- g) Shall review the qualifications of the EOR's field inspection personnel to determine if the qualifications meet the minimum requirements of this chapter. If it is determined that the EOR's field inspection personnel do not meet said requirements, substitute field personnel will be required.
- h) Shall evaluate the performance of the EOR's field inspection personnel. The RTC Administrator shall have the authority to reject the selection of the testing firm, testing technicians or field inspection personnel for the project. The RTC Administrator shall also have the authority to reject the field inspection personnel or testing technician and direct substitute personnel in the event of unsatisfactory performance by said personnel in the opinion of the RTC Administrator.

### **4. CONTRACTOR**

- a) Shall be responsible for construction of improvements and quality control. This responsibility shall include the means, methods, techniques, sequence, and procedures of construction and safety of the construction site. All such construction shall conform to the requirements of both the most recently adopted version of the Standard Specifications for Public Works Construction (SSPWC), Standard Details for Public Works Construction (SDPWC), the Special Technical Specifications for RRIF Offset Agreements (STS for RRIF Offset Agreements), the approved plans, and the requirements of this chapter.
- b) Shall attend the pre-construction conference initiated by the EOR. The contractor shall present a proposed construction schedule including construction milestones and designate a representative who has the authority to resolve issues during construction.
- c) Shall provide accessibility and exposure of all construction work subject to inspection until inspected by the EOR. Neither the RTC nor the EOR shall be liable for expenses entailed in the removal or replacement of any material

## **EXHIBIT E**

required to allow inspection.

- d) Shall notify the EOR two (2) working days in advance of initiating construction or resuming construction after any unscheduled interruptions.

### **SECTION 3 - INSPECTION REQUIREMENTS**

#### 1. **GENERAL**

For the purpose of implementing the requirements of this chapter, full-time inspection shall mean the EOR or his field inspector shall be present at all times to observe the operations of the contractor during the designated construction activity.

#### 2. **GRADING, EXCAVATION, AND FILLS**

Full-time inspection of all materials, native or imported, to evaluate their compliance with the SSPWC and this chapter; that the subgrade is prepared according to the SSPWC; that all subgrade materials encountered are as expected according to the approved soils report, or if not, are appropriately addressed by over-excavation and stabilization with suitable material or as otherwise recommended in the approved soils report or by redesign of the pavement section.

#### 3. **STREET**

Inspection to determine that alignment and grade of the street conforms to the improvement plans of record.

#### 4. **UNDERGROUND UTILITIES**

- a) Inspection of pipe materials and bedding prior to the placing of any pipe to evaluate conformance with the SSPWC. Collection of applicable manufacturer's certifications.
- b) Inspection of installation of pipe laid to grade, mortar jointed or gasketed pipe prior to placing any material around or above pipe to evaluate conformance with the SSPWC.
- c) Full-time inspection of each lift of backfill to evaluate conformance with the SSPWC.
- d) Inspection for pipe installation, not including backfill, by utility company shall be the responsibility of the appropriate utility.



## **EXHIBIT E**

- e) Inspection of construction and/or installation of manholes, catch basins, and drop inlets to evaluate compliance with the SSPWC.
- f) Inspection of alignment and elevations to evaluate compliance with the improvement plans of record and specifications.

### 5. AGGREGATE BASE COURSES FOR STREETS, CURBS, GUTTERS, SIDEWALKS, AND ALLEYS

Inspection of all material brought to the site to evaluate uniformity with tested and approved samples; inspection of placement and compaction of aggregate base to evaluate compliance with the SSPWC and this chapter and to confirm that grades conform to those specified in the improvement plans of record.

### 6. REINFORCING STEEL, FORMS AND FALSEWORK

Inspection of reinforcing steel, forms, and falsework prior to placement of concrete to evaluate compliance with the improvement plans of record, specifications, shop drawings and the SSPWC.

### 7. PORTLAND CEMENT CONCRETE

Full-time inspection of all concrete pours including curb, gutter, sidewalks, driveway apron, alleys, valley gutters, structures, headwalls, slope paving and roadway pavement to evaluate compliance with the improvement plans of record, specifications, details, the SSPWC and this chapter.

### 8. ASPHALT CONCRETE

- a) Full-time inspection to evaluate compliance with the improvement plans of record, details, specifications, the SSPWC, and this chapter.
- b) Inspection at the plant may be required by the RTC Administrator or the EOR to monitor oil content, aggregate grading, mineral filler content and temperature.

### 9. PRIME COAT, TACK COAT, SEAL COAT AND SURFACE TREATMENT

Sufficient inspection to evaluate compliance with the SSPWC.

### 10. SEWER AND PRESSURE LINES

In addition to inspection required in Paragraph 4b above:

## **EXHIBIT E**

- a) Sewer Lines: Ball and flushing operations shall be done in the presence of the EOR or his field inspector and the local governmental inspector.
- b) Pressure Tests: To be accomplished in presence of the EOR or his field inspector to evaluate conformance with the SSPWC and this chapter.

### **11. LANDSCAPING WITHIN THE RTC RIGHT-OF-WAY OR WITHIN A PUBLIC IMPROVEMENT EASEMENT, COMMON AREA AMENITIES**

Sufficient inspections to evaluate compliance with SSPWC, the improvement plans of record, and specifications.

## **SECTION 4 - TESTING REQUIREMENTS**

Shall comply to the requirements set forth in the latest revision of the SSPWC and the STS for CCFEAs.

## **SECTION 5 - PERSONNEL QUALIFICATIONS**

### **1. ENGINEER OF RECORD (EOR)**

An Engineer of Record who is retained as a consultant by the owner is required to be legally authorized to practice civil engineering in the State of Nevada in accordance with Nevada Revised Statutes (NRS) Chapter 625.

A firm, a co-partnership, a corporation or joint-stock association may engage in the practice of Engineer of Record for the RTC, if the member or members of the firm, co-partnership, corporation or joint-stock association immediately responsible for engineering work performed in the RTC are Nevada registered professional civil or geological engineers in accordance with NRS Chapter 625.

Every office or place of business of any firm, co-partnership, corporation or joint-stock association engaged as an Engineer of Record under these requirements shall have a registered professional civil engineer in residence and in direct responsible supervision of the work needed to satisfy the requirements of this chapter conducted in such office or place of business.

## **EXHIBIT E**

An Engineer of Record shall be familiar with the SSPWC, SDPWC, RTC and local government design standards, and all associated testing procedures.

### **2. FIELD INSPECTOR**

- a) General: The field inspector's qualifications shall include sufficient education and experience to assure understanding of the quality control principles and the ability to implement the procedures related to their assigned duties.

The education and experience requirements specified below shall not be treated as absolute when other factors provide reasonable assurance that a person can competently perform a particular task. One factor may be "demonstrated capability" in a given job through previous performance.

- b) Education and Experience: To be considered qualified as a RTC approved field inspector, a candidate must meet the general requirements as mentioned above and satisfy at least one of the following requirements:
1. High school graduate plus at least three years of construction quality control experience in equivalent testing, or inspection activities, or
  2. Completion of college level work leading to an associates degree in a related discipline plus at least six months of construction control experience in equivalent testing, examination or inspection activities.

The field inspector shall be familiar with the SSPWC and this chapter, as well as all associated testing procedures.

### **3. TESTING TECHNICIAN**

To be considered qualified as a RTC approved testing technician, a candidate must meet the general requirements mentioned in 2a) above and satisfy at least one of the following requirements:

- a) One year of construction quality control experience in equivalent testing or inspection activities, or
- b) High school graduate plus at least six months of construction quality control experience in equivalent testing or inspection activities, or
- c) Completion of college level work leading to an associates degree in a related construction quality control discipline plus at least three months of experience in equivalent testing or inspection activities.

## **EXHIBIT E**

- d) Completion of at least two years of college level work towards a four-year degree in a related discipline plus at least three months of construction quality control experience in equivalent testing or inspection activities.

The testing technician shall be familiar with the testing procedures outlined in the SSPWC and this chapter.

### **4. TESTING FIRM**

- a) General: The testing services of the testing firm shall be under the direction of a registered civil or geological engineer in the State of Nevada who is a full-time employee of the firm and has at least 5 years engineering experience in the inspection and testing of soil, concrete, and asphalt.
- b) Laboratory: The testing firm is responsible for laboratory testing of soil, concrete and asphalt and shall have suitable test equipment and laboratory facilities for storing, preparing and testing samples. The firm shall have the capability of performing all laboratory testing associated with its intended functions according to governing procedures and shall have the facilities and equipment required for all laboratory testing performed. If at any one-time equipment or expertise in the performance of a specialized test is not available in-house, the services of a subconsultant or his equipment may be utilized.

As evidence of its competence to perform the required tests or inspections, the agency shall have its laboratory procedures and equipment inspected at intervals of not more than 3 years by a qualified authority in accordance with a recognized plan.

- c) Quality of Testing Systems: The firm shall make available information (as applicable) describing its procedural systems (procedures which directly affect the quality of services offered). In addition, the firm shall maintain documentation which provides evidence of compliance with the requirements of its procedural systems. The agency's procedural systems shall include the following:
  - 1. Equipment calibration programs.
  - 2. Standardization of methods of test, measurement, and determination.
  - 3. Data recording, processing, and reporting.
  - 4. A current quality assurance manual.

**SPECIAL TECHNICAL SPECIFICATIONS**

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

**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
<b>Tests on Original Asphalt Cement</b>			
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

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<b>Tests on Residue from Rolling Thin Film Oven</b>			
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
<b>Tests on Residue from Pressure Aging Vessel</b>			
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.

<b>Total Number of Demerits</b>	<b>Liquidated Damage Dollar per Ton<sup>1,2</sup></b>
1 – 2	10
3 – 5	20
6 – 9	30
10 – 14	50
15 – 20	100
21 - 30 <sup>3</sup>	75% of the cost of the asphalt binder
31 - 40 <sup>3</sup>	100% of the cost of the asphalt binder
41 or more <sup>3,4</sup>	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

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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:

<b>Individual Measurements</b>		
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



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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

## **SPECIAL TECHNICAL SPECIFICATIONS**

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:

	<b>Maximum Tolerance</b>
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) < 10<sup>4</sup>) and 4% Air Voids for medium and heavy traffic conditions (design ESAL > 10<sup>4</sup>). 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.

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

	Light Traffic <sup>2</sup> Surface & Base		Medium Traffic <sup>2</sup> Surface & Base		Heavy Traffic <sup>2</sup> Surface & Base	
Marshall Method Mix Criteria <sup>1</sup>						
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. <sup>(8)</sup>	8 Min.	14 Max. <sup>(8)</sup>
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 < 10<sup>4</sup>  
 Medium Traffic conditions resulting in a Design ESAL between 10<sup>4</sup> and 10<sup>6</sup>  
 Heavy Traffic conditions resulting in a Design ESAL > 10<sup>6</sup>
  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.

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

	Voids Filled in Mineral Aggregate (percent), Min.		
Nominal Maximum Particle Size (inches) <sup>1, 2</sup>	Design Air Voids (percent) <sup>3</sup>		
	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.

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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.

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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 1.14BII 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 1.14BIII 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

## SPECIAL TECHNICAL SPECIFICATIONS

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).

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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

## **SPECIAL TECHNICAL SPECIFICATIONS**

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	
				X	X(A)	X(B)		X			X(A, B)
	< 96 & ≥ 93	≥ 4 & ≤ 7 >7 & ≤ 10 > 10		X						X	
				X(A)				X			X(A)
	< 93							X			
NON-WEARING	≥ 96	<2 ≥2 & ≤ 7 >7 & ≤ 10 > 10							X	X	X
			X							X	
			X							X	X
	<96 & ≥ 93	≥4 & ≤ 7 >7 & 10 > 10	X								X
				X				X			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 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 <sup>4</sup>
Medium	Traffic conditions resulting in a Design ESAL between 10 <sup>4</sup> and 10 <sup>6</sup>
Heavy	Traffic conditions resulting in a Design ESAL >10 <sup>6</sup>

 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%	50%
WEARING	≥ 96	<3					X		X	X
		≥3 & ≤8						X		
	< 96 & ≥ 93	>8 & ≤11		X	X	X			X	
		> 11	X				X			
NON-WEARING	≥ 96	≥4 & ≤8	X				X		X	
		>8 & ≤11	X(A)			X(B)	X		X(A)	X(B)
	< 96 & ≥ 93	> 11	X(A)				X			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<sup>4</sup>  
 Medium Traffic conditions resulting in a Design ESAL between 10<sup>4</sup> and 10<sup>6</sup>  
 Heavy Traffic conditions resulting in a Design ESAL >10<sup>6</sup>  
 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 LIFT<sup>1</sup> 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.

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

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- 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.

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- 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 witnessed 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%
$\geq 2$ & $\leq 7$	+5%
> 7 & $\leq 10$	0%
> 10 & $\leq 14$	-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%
$\geq 3$ & $\leq 8$	+5%
> 8 & $\leq 11$	0%
> 11 & $\leq 14$	-5%
> 14	-50%

Notes:

1. Traffic classifications

Light Traffic conditions resulting in a Design ESAL < 10<sup>4</sup>

Medium Traffic conditions resulting in a design ESAL between 10<sup>4</sup> & 10<sup>6</sup>

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- Heavy Traffic conditions resulting in a Design ESAL  $> 10^6$
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](http://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” lift<sup>2</sup> 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 \*.

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<sup>2</sup> 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 Rate Schedule as of the Date of the RRIF Offset Agreement)**

## **REGIONAL ROAD IMPACT FEE SCHEDULE**

Land Use		North Service Area		South Service Area	
Residential	Unit	VMT	Dollars (\$291.21/VMT)	VMT	Dollars (\$284.04/VMT)
Single-Family	Dwelling	20.36	\$5,929.04	19.11	\$5,428.00
Multi-Family	Dwelling	12.97	\$3,776.99	12.18	\$3,459.61
<b>Industrial</b>					
General Light Industrial	1,000 GFA	6.48	\$1,887.04	6.08	\$1,726.96
Manufacturing	1,000 GFA	5.14	\$1,496.82	4.82	\$1,369.07
Warehouse	1,000 GFA	2.27	\$661.05	2.13	\$605.01
Mini-Warehouse	1,000 GFA	1.97	\$573.68	1.85	\$525.47
<b>Commercial/Retail</b>					
Commercial/Retail	1,000 GFA	29.43	\$8,570.31	27.63	\$7,848.03
Eating/Drinking Places	1,000 GFA	29.43	\$8,570.31	27.63	\$7,848.03
Casino/Gaming	1,000 GFA	60.17	\$17,522.11	56.48	\$16,042.58
<b>Office and Other Services</b>					
Schools	1,000 GFA	16.83	\$4,901.06	15.80	\$4,487.83
Day Care	1,000 GFA	16.83	\$4,901.06	15.80	\$4,487.83
Lodging	Room	4.38	\$1,275.50	4.11	\$1,167.40
Hospital	1,000 GFA	14.01	\$4,079.85	13.15	\$3,735.13
Nursing Home	1,000 GFA	8.68	\$2,527.70	8.14	\$2,312.09
Medical Office	1,000 GFA	45.47	\$13,241.32	42.68	\$12,122.83
Office and Other Services	1,000 GFA	12.73	\$3,707.10	11.95	\$3,394.28
Regional Recreational Facility	Acre	1.02	\$297.03	0.96	\$272.68

### **Regional Road Impact Fee (RRIF)**

**7<sup>th</sup> Edition  
Year 3 Indexing**

Effective  
1/31/2025

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**EXHIBIT “H”**  
**(Interim RRIF Waiver Release Schedule)**

**Exhibit “H” - Interim RRIF Waiver Request Schedule**

Offset Agreement #0513014

RTC Project Number: 0513014

Development of Record: Highland Village 1

Developer of Record: Touchstone Living, Inc.

Interim Waivers Request Schedule:

- Request #1: 4<sup>th</sup> Quarter of 2025 – Right of Way and easements
- Request #2: 1<sup>st</sup> Quarter of 2026 - Signal underground, walls, and grading
- Request #3: Final Request - 2<sup>nd</sup>/3<sup>rd</sup> Quarter of 2026 – Engineering fees, completed and accepted project