

FIGURE I
LOCATION OF PHASE I OF THE SOUTHEAST CONNECTOR
REQUEST FOR VARIANCE TO TITLE 15 OF SMC
REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY

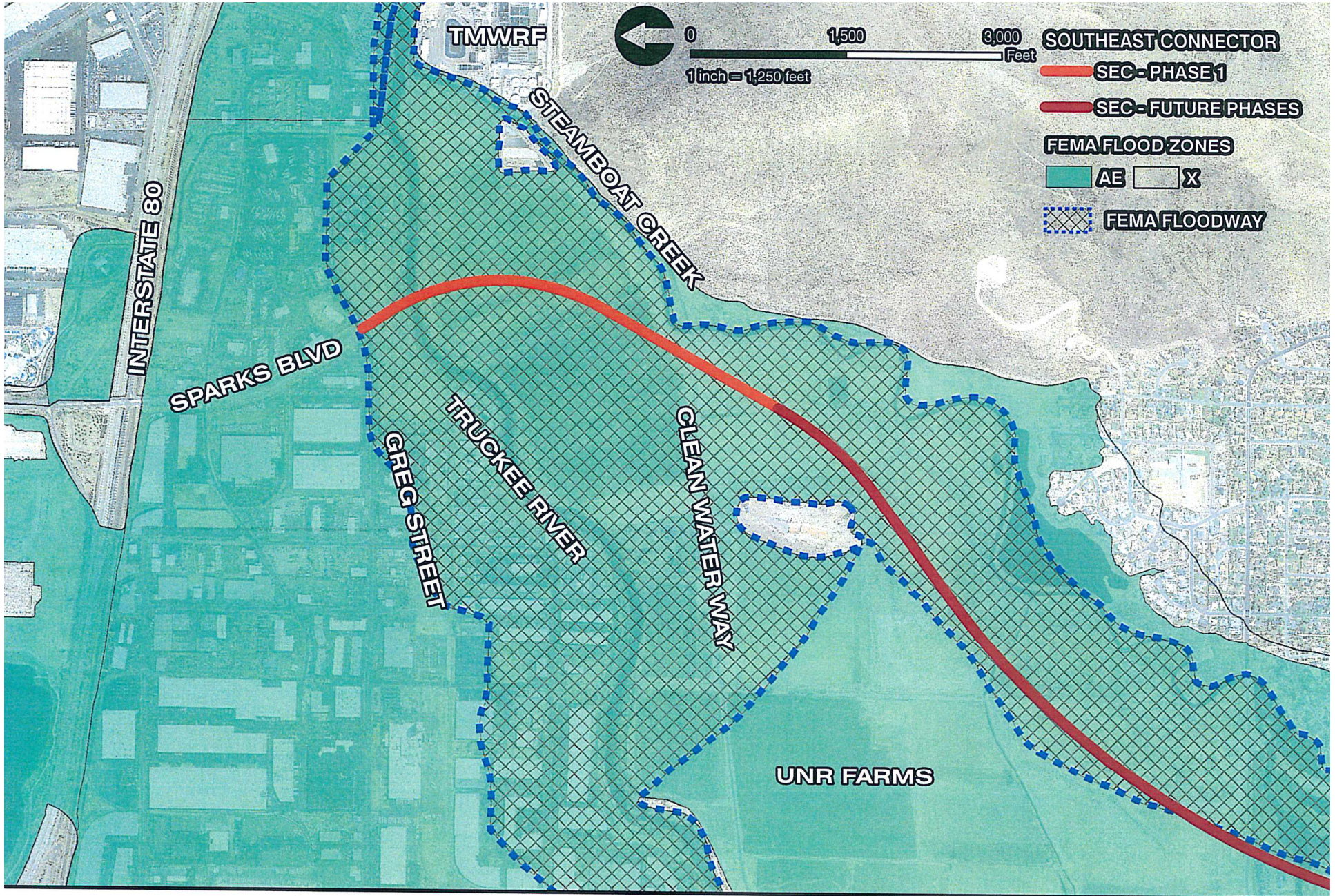


FIGURE 2
 REGULATORY FLOOD PLAIN/FLOOD WAY
 REQUEST FOR VARIANCE TO TITLE 15 OF SMC
 REGIONAL TRANSPORTION COMMISSION OF WASHOE COUNTY

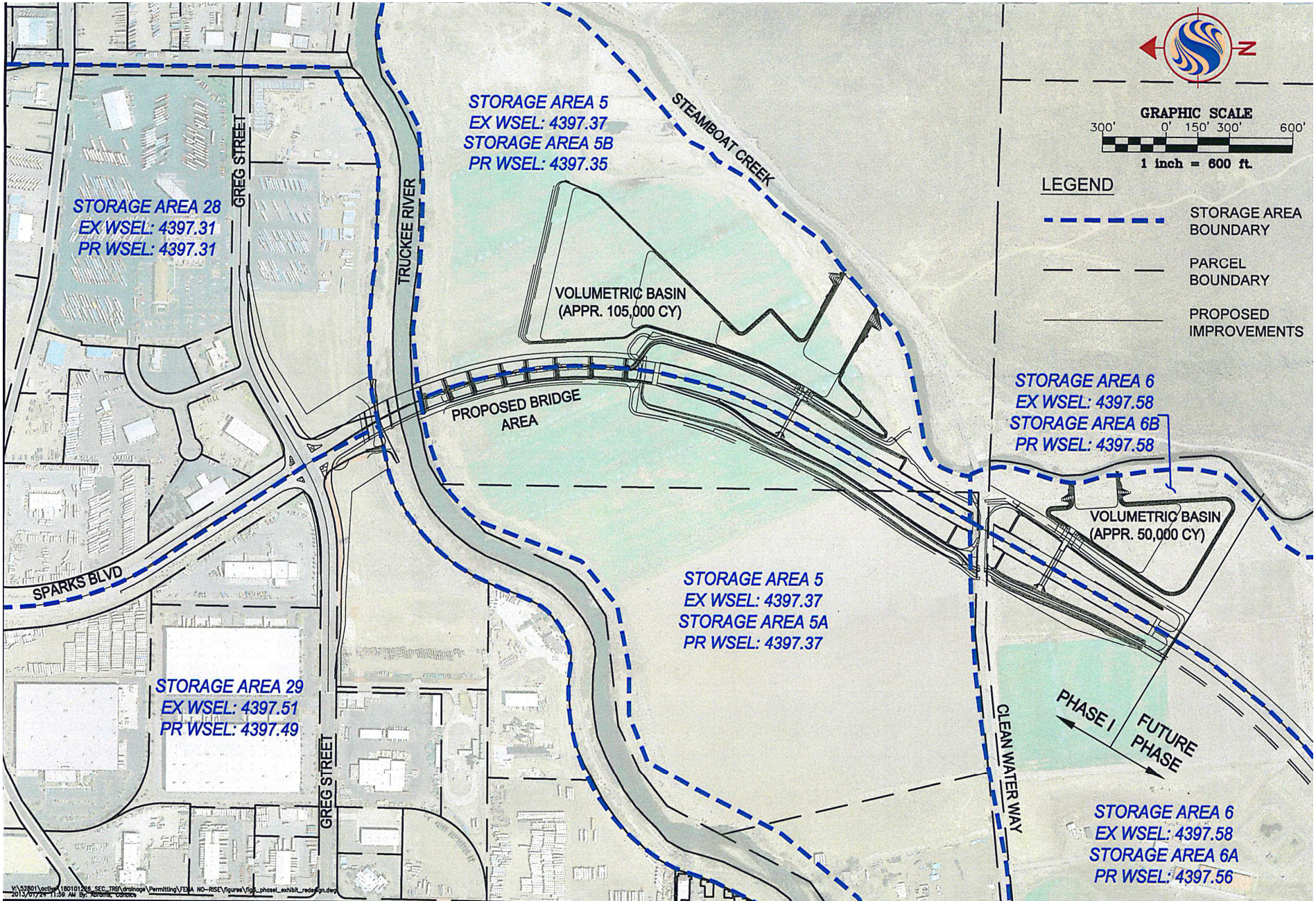


FIGURE 3
 SOUTHEAST CONNECTOR PROJECT ELEMENTS
 REQUEST FOR VARIANCE TO TITLE 15 OF SMC
 REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY



Stantec

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January 18, 2013
File: 180101226

Mr. Garth Oksol, PE
Project Manager
**REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY**
1105 Terminal Way, Suite 108
Reno, Nevada 89502

RE: South East Connector Phase I: Greg Street to Clean Water Way, FEMA Certification of “No-Rise”

Dear Mr. Oksol,

This letter has been prepared to provide documentation for the South East Connector Phase I: Greg Street to Clean Water Way *FEMA Certification of “No-Rise”* for the proposed improvements within the FEMA floodway and Zone 1 Critical Flood Pool. Project plans, dated November 2012, were prepared by T.Y.Lin International and Stantec Consulting Services, Inc.

1.0 PROJECT LOCATION AND EXISTING CONDITIONS

The Phase I project area encompasses portions of Sections 10, 11, 14 and 15 within Township 19 North, Range 20 East, M.D.M. in the City of Sparks and Washoe County, Nevada as shown on [Figure 1.0 – Vicinity Map](#). The project area is located south of Greg Street, west of Steamboat Creek, and consists of portions of the University of Nevada Farms. [Figure 2.0 – Existing Conditions Map](#) outlines the existing topography.

2.0 PROPOSED CONDITIONS

The proposed improvements consist of approximately one mile of elevated major arterial roadway, a bridge that extends over the Truckee River and south over the flood pool approximately 2,000-feet, a bridge over Clean Water Way, three equalization culverts, twelve bioswales, storm drain improvements, two volumetric mitigation basins and culverts under Clean Water Way. Proposed improvements are shown on [Figure 3.0 – Proposed Conditions Drainage Workmap](#).

The proposed South East Connector (SEC) traverses a delineated floodplain and floodway its entire length which creates a significant design consideration for the project. The floodplain is shown as a Special Flood Hazard Area Zone AE with floodway on the Federal Emergency Management Agency’s (FEMA) Flood Insurance Rate Map (FIRM) for Washoe County, Nevada and Incorporated Areas (shown on panels 3063 and 3064 of 3475, revised March 16, 2009) and is created by flows from the Truckee River, Steamboat Creek and by backwater of flood flows concentrating at the Vista Narrows. The contributing watershed is approximately 1430 square miles, with flow emanating from the Truckee River, Steamboat Creek, the North Truckee Drain and all of their tributaries. [Figure 4.0 – SouthEast Connector – Phase I FEMA Flood Map](#) outlines the extents of the FEMA boundaries near the project site.

Due to the significance of this floodplain within the valley, the Regional Water Planning Commission's 2004-2025 Washoe County Comprehensive Plan identifies the area as a Zone 1 Critical Flood Pool (CFP). Ordinance 1457 states that development within the CFP is subject to additional development criteria such as meeting a one to one (1:1) volumetric mitigation ratio. [Figure 5.0 – Truckee Meadows Flood Plain Storage Zones](#) shows the extents of Zone 1.

3.0 HYDRAULIC AND HYDROLOGIC ANALYSES FOR “NO-RISE” CERTIFICATION

The Truckee River Flood Management Agency (TRFMA) and the United States Army Corps of Engineers (USACE) have been working on alternatives to develop flood control improvements to reduce the effect of flooding from the Truckee River within the Truckee Meadows. As part of their project, an unsteady state hydraulic, Hydrologic Engineering Center River Analysis System (HEC-RAS) model of the Truckee River, Steamboat Creek, North Truckee Drain and CFP was developed to evaluate the TRFMA and USACE alternatives. This HEC-RAS model was selected over the effective FEMA HEC-2 model due to its updated hydrology, higher return interval (117-year), improved topographic and feature data, and improved computational capabilities of an unsteady state modeling technique.

Hydrographs for the TRFMA / USACE Truckee River HEC-RAS Unsteady State Model were developed by the USACE and are based upon statistical analyses of Truckee River watershed gauge data, upstream reservoir operating data, as well as the Flood of 1997 as a pattern. The USACE developed hypothetical hydrographs for the local watershed between the Reno and Vista gages for the Boynton Slough, Steamboat Creek at Huffaker Hills, Steamboat Creek at its confluence with the Truckee River, the North Truckee Drain, and the contributing area to the Truckee River below the North Truckee Drain. The hydrographs included with the HEC-RAS Unsteady state models were used without modification for both existing and proposed conditions.

Stantec utilized the TRFMA / USACE HEC-RAS model to evaluate the impacts of and develop mitigation for the project within the Zone 1 CFP. Stantec modified the HEC-RAS model to include the proposed roadway, bridges, culverts and one to one (1:1) volumetric mitigation. HEC-RAS modeling results have been included for reference. Storage areas and water surface elevations (WSE's) are shown on [Figure 3.0 – Proposed Conditions Drainage Workmap](#) and are listed below in [Table 1.0: Water Surface Elevation Comparisons](#).

Table 1.0: Water Surface Elevation Comparisons

| Existing Storage Area | Existing WSE | Proposed Storage Area | Proposed WSE |
|-----------------------|--------------|-----------------------|--------------|
| 5 | 4397.37 | 5A | 4397.37 |
| | | 5B | 4397.35 |
| 6 | 4397.58 | 6A | 4397.56 |
| | | 6B | 4397.58 |
| 28 | 4397.31 | 28 | 4397.31 |
| 29 | 4397.51 | 29 | 4397.49 |

The hydraulic modeling demonstrates that the proposed improvements do not raise the water surface elevations from existing to proposed conditions.

Stantec

January 18, 2013

Page 3 of 3

The results of the hydraulic modeling demonstrate that the proposed improvements will result in "No-Rise" of base flood water surface elevations, will have "no adverse impact" to the TRFMA's flood control improvements, water surface elevations or volumes in the Zone 1 CFP, and will be in compliance with all local ordinances.

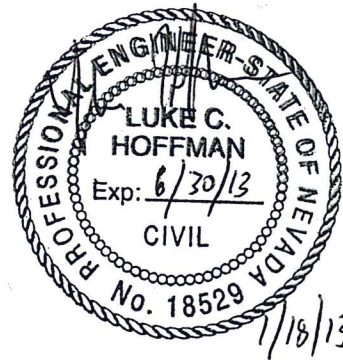
Thank you for the opportunity to have been of service to you on this project. Should you have any questions please do not hesitate to contact me at your earliest convenience.

Sincerely,

STANTEC CONSULTING SERVICES INC.



Luke Hoffman, P.E.
Civil Engineer
Tel: (775) 398-1213
luke.hoffman@stantec.com



Attachment: "No-Rise" Certification Form, Figures 1.0 – 5.0, HEC-RAS Modeling Results

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Federal Emergency Management Agency
Washington, D.C. 20472

CERTIFICATION OF A "NO-RISE" DETERMINATION
FOR A PROPOSED FLOODWAY DEVELOPMENT

City of Sparks, Nevada
Community Name

South East Connector Phase I:
Greg Street to Clean Water Way
Development Name

See attached letter dated
January 18, 2013

Loc/Property Designation
Regional Transportation
Commission of Washoe County

Property Owner

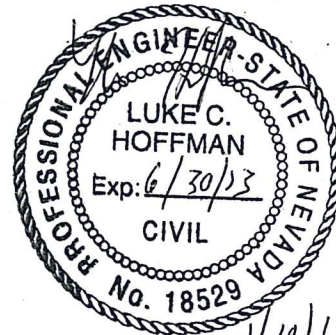
I hereby certify that the proposed remedial measures, in combination with the property development designated above, will result in no loss of flow conveyance during the occurrence of the 1 percent annual chance of exceedence (100-year flood) discharge.

I further certify that the data submitted herewith in support of this request are accurate to the best of my knowledge, that the analyses have been performed correctly and in accordance with sound engineering practice, and that the proposed structural works are designed in accordance with sound engineering practice.

January 18, 2013
Date


Registered Professional Engineer

Seal



1/18/13