PUBLIC DRAFT

ENVIRONMENTAL ASSESSMENT

OF THE PROPOSED RENOVATION AND MODERNIZATION OF THE

SIERRA NEVADA VA HEALTHCARE SYSTEM CAMPUS

975 KIRMAN AVENUE
RENO, WASHOE COUNTY, NEVADA

DEPARTMENT OF VETERANS AFFAIRS

VA SIERRA NEVADA HEALTHCARE SYSTEM

975 KIRMAN AVENUE

RENO, NEVADA

PREPARED BY:

TTL Associates, Inc.

JULY 29, 2016

ENVIRONMENTAL ASSESSMENT
ABSTRACT

LEAD AGENCY:	Department of Veterans Affairs (VA)
COOPERATING AGENCIES:	None
TITLE OF PROPOSED ACTION:	Proposed Renovation and Modernization of the VA Sierra Nevada Healthcare System Campus
AFFECTED JURISDICTION:	Reno, Washoe County, Nevada
POINT OF CONTACT:	Ms. Arlee Fisher, Facility Planner, VA Sierra Nevada Healthcare System, 975 Kirman Avenue (001), Reno, Nevada 89502-2597; Tel.: (775) 789-6625
PROPONENTS:	Department of Veterans Affairs (VA)

DOCUMENT DESIGNATION: Draft Environmental Assessment (Draft EA)

ABSTRACT: This Draft Environmental Assessment (EA) evaluates the Proposed Action of VA to renovate and modernize the Sierra Nevada VA Healthcare System (VASNHCS) campus located at 975 Kirman Avenue in Reno, Washoe County, Nevada. The Proposed Action is needed because existing facilities are antiquated and inadequately sized to provide the modern delivery of healthcare services needed by Reno area Veterans. These deficiencies are projected to grow in the future as the patient workload for the VASNHCS increases. In addition, the VASNHCS campus does not meet all modern VA design standards and Federal setback and security requirements. This EA discusses two alternatives: (1) *Proposed Action Alternative* – the implementation of various construction and renovation projects to renovate and modernize the existing VASNHCS campus facilities; and (2) the *No Action Alternative*. The EA evaluates possible effects to aesthetics; air quality; cultural resources; geology and soils; hydrology and water quality; wildlife and habitat, including threatened and endangered species; noise; land use; floodplains, wetlands, and coastal zone management; socioeconomics; community services; solid and hazardous materials; transportation and parking; utilities; and environmental justice. The Draft EA concludes there would be no significant adverse impact, either individually or cumulatively, to the local environment or quality of life associated with implementing the Proposed Action Alternative, provided general best management practices (BMPs) and management measures specified in this Draft EA are implemented. Therefore, this Draft EA concludes that a Finding of No Significant Impact (FONSI) is appropriate, and that an Environmental Impact Statement (EIS) is not required.

EXECUTIVE SUMMARY

This Environmental Assessment (EA) has been prepared to identify, analyze, and document the potential physical, environmental, cultural, and socioeconomic impacts associated with the Department of Veterans Affairs (VA's) proposed renovation and modernization of the existing Sierra Nevada VA Healthcare System (VASNHCS) campus located at 975 Kirman Avenue in Reno, Washoe County, Nevada. Preparation of this EA is required in accordance with the National Environmental Policy Act of 1969 ([NEPA]; 42 United States Code [USC] 4321 *et seq*.), the President's Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and 38 CFR Part 26 (*Environmental Effects of the Department of Veterans Affairs Actions*). This EA has also been prepared in accordance with *VA NEPA Interim Guidance for Projects* dated September 30, 2010.

PROPOSED ACTION

VA's Proposed Action would renovate and modernize the existing VASNHCS campus facilities to meet the current and growing needs of area Veterans. The Proposed Action is needed because existing facilities are antiquated and inadequately sized to provide the modern delivery of healthcare services needed by Reno area Veterans. These deficiencies are projected to grow in the future as the patient workload for the VASNHCS increases. In addition, the VASNHCS campus does not meet all modern VA design standards and Federal safety, setback and security requirements.

Several renovation and modernization projects are proposed for the VASNHCS campus. Those projects included within the Proposed Action include:

- Construction of New Community Living Center Pod 2
- Demolition of Small Eastern Campus Buildings
- Construction of a New Parking Structure
- Installation of New North Campus Backup Power Generators
- Renovation of Ward B3 Space Adjacent to the New Intensive Care Unit
- Renovate and Right-Size Operating Rooms and Operating Room Suite
- Expand and Renovate Magnetic Resonance Imaging Area
- Renovate Sterile Processing Service Area
- Renovate Vacated Primary Care Space for Pharmacy

VA would design and complete the proposed VASNHCS campus renovation and modernization projects in compliance with modern VA design criteria, nationally recognized building codes, and State and local building codes, to the maximum extent practicable. Prior to construction, VA would obtain all applicable Federal, State, and local permits for the proposed construction from appropriate government authorities. VA would incorporate the best management practices (BMPs) and management measures identified in this EA into the design process to ensure potential environmental effects are maintained at less-than-significant levels.

PURPOSE AND NEED

The ***purpose*** of the Proposed Action is to provide modern, adequately-sized VASNHCS healthcare facilities to meet the current and growing future needs of Reno area Veterans and Federal design standards, setbacks and security requirements.

The Proposed Action is ***needed*** because existing VASNHCS campus facilities are antiquated and inadequately sized to provide the modern delivery of healthcare services needed by Reno area Veterans. Existing VASNHCS campus facilities were mostly constructed in the late 1930s and early 1990s, are not designed to modern VA standards, and do not meet the needs of today's Veterans. In addition, Reno area Veteran needs for healthcare services have increased dramatically. From FY 2007 to FY 2014, the number of patients receiving healthcare services at VASNHCS grew from 25,000 per year to over 35,000 per year (an increase of over 40 percent) and the number of outpatient visits increased from 244,000 per year to 420,000 per year (over 70 percent increase). These Veteran patient service deficiencies are projected to grow in the future as the patient workload for the VASNHCS continues to increase. In addition, the existing VASNHCS campus does not meet all modern VA design standards and Federal safety, setback and security requirements.

Over the past several years, VA has made a strong national commitment to provide high quality, accessible healthcare to all former members of the nation's military because of the service they provided to the country. This commitment has resulted in the dramatic increase in VASNHCS workload, budget and staffing. VA projections indicate additional increases in workload for VASNHCS in the future, particularly in outpatient services. It is in consideration of the additional workload projections and the estimated increase in population in the Reno, Nevada area (estimates show a projected population growth in Washoe County of 30 percent between 2014 and 2033) that VA is in the process addressing long term VASNHCS facility needs.

ALTERNATIVES

VA undertook a sequential planning and screening process, seeking reasonable alternatives for the development of a modern, adequately-sized VASNHCS facility in general, and the Proposed Action in specific. After identifying existing onsite capability shortfalls and deficiencies, VA began developing alternatives to support a more modern, adequately-sized VASNHCS facility, Alternatives considered included renovating and reconfiguring the existing VASNHCS facilities, constructing a replacement facility at the current location or some new site in the Reno area, and outsourcing healthcare services to other existing medical facilities in the Reno area.

VA developed a list of screening criteria to guide the alternative review, evaluation, and selection process. These screening criteria included the physical, operational, and location requirements of the VASNHCS facility, as well as land availability, overall project costs, environmental issues, and other factors.

VA then reviewed the possible development alternatives against the screening criteria to determine locations and facilities best suited to meet the purpose of and need for the Proposed Action. Through this analysis, VA concluded that only the renovation and modernization of the current VASNHCS campus met the screening criteria and was reasonable to meet the purpose and need of the Proposed Action.

This EA examines in-depth two alternatives, the Proposed Action Alternative and the No Action Alternative, defined as follows:

Proposed Action Alternative

VA's Proposed Action is the renovation and modernization of existing VASNHCS campus facilities. The following projects are included in the Proposed Action Alternative:

Construction Projects

- Construction of New Community Living Center (CLC) Pod 2
  - Construct a new 2-story, approximately 16,700 square foot (SF) CLC building on the southeast corner of Locust and E. Taylor Streets, which is currently used as a paved VASNHCS, surface-level parking lot

- Demolition of Small Eastern Campus Buildings
  - Demolition of small underutilized support buildings east of Kirman Avenue, including Buildings 15A, 15B, F, K and 138
  - Provides space for master planned expansions

- Construction of a New Parking Structure
  - Construct a new three-level parking garage located at the southeastern corner of the VASNHCS campus that would be accessed via Belli Drive
  - Needed to help address current and projected VASNHCS campus parking deficiency (580 parking spaces)
  - Approximately 320 new parking spaces provided

- Installation of New North Campus Backup Power Generators
  - Backup generators to support the CLC and Specialty Clinic

Renovation Projects

- Renovate Building B3 Space Adjacent to New Intensive Care Unit (ICU)
  - Renovate 5,000 SF of space for improved staff and patient workflow

- Renovate and Right-Size Operating Rooms and Operating Room Suite
  - Renovate existing space to expand Operating Rooms and correct facility condition assessment deficiencies
  - Renovate existing space to construct Operating Room support spaces
  - Small building addition into courtyard area (north) of current Operating Rooms.

- Expand/Renovate Magnetic Resonance Imaging (MRI) Area
  - Renovation of existing MRI Wing area to provide space for new MRI unit, control room, prep and recovery area and other support spaces
  - Small building addition for second MRI area

- Renovate Sterile Processing Service Area
  - Renovate existing space in Building 1D to correct deficiencies.

- Renovate Vacated Primary Care Space for Pharmacy
  - Renovate vacant space in Building 12 to consolidate Pharmacy into one location.

No Action Alternative

Under the No Action Alternative, the renovation and modernization projects included in the Proposed Action would not be implemented and operations at the VASNHCS would continue as currently conducted. This alternative would not allow VA to provide required and necessary medical care to Veterans living within the Reno area. Patients would continue to lack privacy within antiquated facilities; operations would continue under inefficient, inadequate, un-safe, and outdated conditions; and existing medical center space deficiencies would remain and increase in the future. In addition, patients, staff and the community would face continued and increasing parking and safety challenges as on-campus parking space shortages would continue.

While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, this alternative is assessed in this EA to provide a comparative baseline against which to analyze the effects of the Proposed Action, as required under CEQ Regulations. The No Action Alternative reflects the *status quo*, serving as a standard against which VA can evaluate the effects of the Proposed Action.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The affected environment or the Region of Influence (ROI) of the Proposed Action, the VASNHCS campus and the immediate surrounding area, is discussed in Section 3 of this EA.

The two considered alternatives, the Proposed Action Alternative and the No Action Alternative, are evaluated in this EA to determine their potential direct or indirect impact(s) on the physical, environmental, cultural, and socioeconomic aspects of the Proposed Action's ROI. Technical areas evaluated in this EA include:

- *Aesthetics*
- *Air Quality*
- *Cultural Resources*
- *Geology, Topography, and Soils*
- *Hydrology and Water Quality*
- *Wildlife and Habitat*
- *Noise*
- *Land Use*
- *Floodplains, Wetlands, and Coastal Zone Management*
- *Socioeconomics*
- *Community Services*
- *Solid and Hazardous Materials*
- *Transportation and Parking*
- *Utilities*
- *Environmental Justice*
- *Cumulative Impacts*
- *Potential for Generating Substantial Controversy*

<u>Proposed Action Alternative</u>

The Proposed Action Alternative would result in the impacts identified throughout Section 3. These include less-than-significant adverse impacts to aesthetics, air quality, cultural resources, soils and geology, hydrology and water quality, noise, land use, socioeconomics, solid and hazardous materials, transportation and parking, utilities, and environmental justice. All of these impacts are less-than-significant and would be further reduced through careful coordination and implementation of the general best management practices (BMPs) and management measures,

and compliance with regulatory requirements as identified throughout Section 3 and summarized in Section 5 of this EA.

No adverse effects to wildlife and habitat; wetlands, floodplains, coastal zones, or community services would be anticipated. In addition, no health or safety risks to children are anticipated.

The Proposed Action Alternative would result in significant long-term beneficial socioeconomic impacts by providing improved and modernized healthcare facilities and services to regional Veterans. The Proposed Action Alternative would also result in significant long-term positive effects to parking conditions at the VASNHCS and on the neighboring streets. In addition, the Proposed Action Alternative would provide additional temporary construction jobs in the private sector, thus providing short-term socioeconomic benefit to the area.

The EA also examines the potential cumulative effects of implementing the Proposed Action in consideration of other recently completed and planned projects at the VASNHCS and surrounding area. In addition to the proposed VASNHCS campus renovation and modernization projects included within the Proposed Action, VA is planning the partial demolition of Building 1 and the construction of an approximately 160,000 square foot, 5-story addition to the east of Building 1 to provide expanded outpatient services (Building 1 Seismic Upgrade and Clinical Expansion Project); the acquisition of up to 11 residential parcels adjacent to the north and east of the campus for surface parking; and the reduction of Kirman Avenue to one lane between the eastern and western portions of the campus to improve the safety of patients and staff crossing from parking facilities east of Kirman Avenue to medical center buildings west of Kirman Avenue (Land Acquisition and Kirman Avenue Modification Project). No other non-VA projects are known to be planned for the VASNHCS area.

The other planned VASNHCS projects have been assessed in separate EAs as separate proposed actions; however, the cumulative effects of these other planned projects in conjunction with the planned projects included in this Proposed Action are assessed in this EA.

This analysis finds that implementation of the Proposed Action with the general BMPs and management measures specified in this EA and the mitigation measured specified in the other EAs (cultural resources and traffic), and close and ongoing coordination between VA and the City of Reno and the Nevada State Historic Preservation Office (SHPO), would not result in significant adverse cumulative impacts to onsite or regional natural or cultural resources, and would maintain or enhance the socioeconomic environment of the area through the renovation and modernization of the existing VASNHCS campus facilities to meet the current and growing needs of area Veterans, including the provision of additional on-campus parking to reduce parking on neighboring streets.

No Action Alternative

Under the No Action Alternative, the renovation and modernization projects included in the Proposed Action would not be implemented and operations at the VASNHCS would continue as currently conducted. This alternative would not allow VA to provide required and necessary medical care to Veterans living within the Reno area. Patients would continue to lack privacy within antiquated facilities; operations would continue under inefficient, inadequate, un-safe, and outdated conditions; and existing medical center space deficiencies would remain and increase in the future. In addition, patients, staff and the community would face continued and increasing parking and safety challenges as on-campus parking space shortages would continue.

AGENCY AND PUBLIC INVOLVEMENT

Agencies consulted for this EA include: US Fish and Wildlife Service (USFWS); US Environmental Protection Agency (USEPA); US Army Corps of Engineers (USACE); Nevada Division of Environmental Protection (NDEP); Nevada Department of Conservation and Natural Resources (NCDNR); Nevada State Historic Preservation Office (SHPO); Nevada Department of Transportation (NDOT), United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), Washoe County Air Quality Management Division (AQMD); Reno Economic Community Development Department (RECDD), Reno Economic Development and Redevelopment Department (REDRD), Reno Department of Public Works (RDPW), and Regional Transportation Commission of Washoe County (RTC). Agency information and comments have been incorporated into this EA. Copies of relevant correspondence can be found in Appendix A.

The following summarizes information provided by the agencies consulted:

- The **US Environmental Protection Agency (USEPA)** Environmental Review Section, in a letter dated October 19, 2015, stated that the Proposed Action appears to be part of the same VASNHCS campus renovation efforts as the Site Acquisition and Kirman Avenue Modification Project and the Building 1 Seismic Upgrading, Renovation, and Expansion Project. USEPA expressed concern that the separate evaluation of these three projects could affect VA's ability to determine if the cumulative impacts of these projects could be significant and recommended that VA evaluate the appropriateness of dividing the three projects. VA decided to complete separate NEPA EAs for these three projects due to the separate timing and funding constraints of these projects. However, VA recognizes that impacts of these projects may overlap and have the potential to be cumulatively significant; therefore, this EA includes a cumulative effects analysis for each resource area (Section 3) that considers all three projects.

  USEPA also stated that the VASNHCS campus vicinity includes low-income populations and the EA should include a full assessment of impacts to communities with environmental justice concerns and should include commitments to the level of mitigation necessary to reduce impacts below the level of significance for this population. USEPA's specific environmental justice concerns related to VA's planned project to acquire up to 11 residential parcels adjacent to the VASNHCS for use as surface parking (Land Acquisition and Kirman Avenue Modification Project), which was addressed in detail in a separate EA. Environmental justice impacts associated with the Proposed Action and cumulative environmental justice impacts are discussed in Section 3.16.

  USEPA recommended that a plan be developed to address the potential impacts from house demolition (including impacts from lead-based paint), project construction (noise, vehicle emissions, dust), routing of construction vehicles, and increased traffic. Air quality, noise, and transportation impacts and management measures are discussed in Sections 3.3. 3.8, and 3.14.

  USEPA stated that the EA should provide a detailed discussion of ambient air conditions (existing conditions), National Ambient Air Quality Standards (NAAQS), criteria pollutant non-attainment areas, potential air quality impacts of the Proposed Action (including cumulative and indirect impacts), and construction-related impacts. Potential air quality impacts and management measures are discussed in Section 3.3.

USEPA noted that the VASNHCS is located in an area designated as non-attainment (serious) for the PM_{10} NAAQS. In addition, USEPA stated the site is located in a maintenance area for carbon monoxide, indicating that general conformity regulations still apply because of its maintenance designation. In December 2015, following the receipt of USEPA's input regarding the Proposed Action, USEPA redesignated the Reno area as attainment (maintenance) for the PM_{10} NAAQS.

USEPA stated that the EA should include an analysis of air quality impacts associated with the Proposed Action, including emission estimates of all criteria pollutants and diesel particulate matter (DPM), disclose the available information about the health risks associated with vehicle emissions and mobile source air toxics, and recommended a Construction Emissions Mitigation Plan (CEMP) for fugitive dust and DPM. Potential air quality impacts and management measures are discussed in Section 3.3.

USEPA recommended that VA use CEQ's December 2014 NEPA Revised Draft Greenhouse Gas (GHG) guidance document (GHG Guidance Document) to help outline the framework for its analysis of GHG emissions associated with the Proposed Action, relevant climate change impacts, reasonable alternatives and/or practicable mitigation measures to reduce project-related GHG emissions, and design of the Proposed Action to incorporate GHG reduction measures and resilience to foreseeable climate change effects. GHG emissions and climate change are discussed in Section 3.3.

The USEPA stated that VA should identify ways to minimize the Proposed Action footprint and reduce impervious surfaces by implementing low-impact development (LID) features that divert runoff from parking areas and roadways into stormwater treatment structures, such as bioretention areas, infiltration trenches or basins, and/or filter strips on-site. Potential erosion and sedimentation and stormwater impacts and management measures are discussed in Sections 3.5 and 3.6.

The USEPA stated that the EA should describe how the project will meet the restoration of native plant and tree species requirements of Executive Order 13112 on Invasive Species and should consider the federal memorandum issued in June 2014 entitled Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators which directs Federal agencies to take steps to protect and restore domestic populations of pollinators. Wildlife and habitat are discussed in Section 3.7.

- According to the **US Fish and Wildlife Service (USFWS), Reno Fish and Wildlife Office (RFWO)**, information pertaining to threatened, endangered, and candidate species and critical habitat can be obtained from the USFWS Information, Planning, and Conservation System (IPAC) internet website. VA reviewed the IPAC website for information regarding the protected species in Washoe County. Based on the lack of natural habitat at the VASNHCS, no protected species identified on the IPAC website are likely to be present. Protected species are discussed in Section 3.7.

- The **Nevada Division of Environmental Protection (NDEP), Bureau of Waste Management (BWM)** indicated that they maintain a Resource Conservation and Recovery Act (RCRA) file for the VASNHCS campus, but provided no input or comment regarding the Proposed Action.

- The **Regional Transportation Commission of Washoe County (RTC)** provided no comments specific to the Proposed Action, but reiterated its previous comments regarding VA's plan to modify the section of Kirman Avenue that bisects the VASNHCS campus. The RTC noted that Kirman Avenue is a regional road and should the road be abandoned (which was being considered by VA at one time, but is no longer under consideration), the regional transportation plan and travel demand model would need to be updated to reflect the change and the bus transit line (Route 13) that serves this area and uses Kirman Avenue would need to be altered. RTC stated that the abandonment of Kirman Avenue (no longer considered by VA) would have clear impacts to transit, but RTC believed that those impacts could be mitigated as long as VA is required to maintain current transit access or create new and better access to the facility. VA plans to modify the section of Kirman Avenue that bisects the campus, but will maintain one of the two current through lanes to allow the continued flow of traffic on the road. The impacts of the planned modification of Kirman Avenue were evaluated in the Proposed Acquisition of Land for the Construction and Operation of Surface Parking Lots and Proposed Modification of Kirman Avenue Final EA dated February 4, 2016. VA will continue to work with the City of Reno to address traffic impacts associated with the modification of Kirman Avenue. Potential traffic impacts and management measures are discussed in Section 3.14.

- In a letter dated October 19, 2015, the **City of Reno** concurred with VA that this EA must evaluate the cumulative effects of all the planned VASNHCS renovation projects. The City of Reno noted that VASNHCS had reported issues with the pedestrian crossing at Kirman Avenue between the eastern and western portions of the campus and that any additions to the east side of the campus (the proposed parking garage) should address this issue. The City of Reno indicated that VA should consider the installation of an elevated pedestrian walkway over Kirman Avenue. (Federal regulations do not permit the construction of pedestrian skywalks over public roads due to new security standards). The City of Reno stated that it was not opposed to the reduction of Kirman Avenue to one lane and described the procedures and requirements for the proposed roadway reduction (addressed in the Proposed Acquisition of Land for the Construction and Operation of Surface Parking Lots and Proposed Modification of Kirman Avenue Final EA dated February 4, 2016). Potential traffic impacts and management measures are discussed in Section 3.14.

Several Federally-recognized Native American Tribes were identified as having possible ancestral ties to the VASNHCS region (listed in Section 10). In addition, SHPO identified two Nevada organizations, Preserve Nevada and Nevada Architectural History Alliance, and requested that VA include these agencies in their consultation. These tribes and organizations were contacted by VA for input regarding the Proposed Action. As of the date of this EA, no responses have been received from the tribes (VA 2016).

VA, as the proponent of the Proposed Action, will publish and distribute the Draft EA for a 30-day public comment period, as announced by a Notice of Availability (NOA) published in *The Reno Gazette-Journal*, a local newspaper of general circulation. The Draft EA will be made available for public review at the VASNHCS and the Washoe County Library. Based on comments received from the public review of the Draft EA, VA will respond to provided comments within the Final EA and will issue a Finding of No Significant Impact (FONSI), presuming there are no substantive public comments that would warrant further analysis.

CONCLUSIONS

The analysis performed in this Draft EA concludes there would be no significant adverse impact, either individually or cumulatively, to the local environment or quality of life associated with implementation of the Proposed Action, provided general BMPs and management measures, specified in this Draft EA are implemented. This Draft EA's analysis determines, therefore, that an Environmental Impact Statement (EIS) is unnecessary for implementation of the Proposed Action Alternative, and that a FONSI is appropriate.

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SECTION 1: INTRODUCTION

1.1 Introduction

This Environmental Assessment (EA) has been prepared to identify, analyze, and document the potential physical, environmental, cultural, and socioeconomic impacts associated with the Department of Veterans Affairs (VA), a Federal agency, proposed renovation and modernization of the VA Sierra Nevada Healthcare System (VASNHCS) campus in Reno, Nevada to meet the current and growing needs of area Veterans. The VASNHCS campus is located at 975 Kirman Avenue in Reno, Washoe County, Nevada. Refer to Figures 1 through 5, which depict the location and features of the VASNHCS campus.

Existing VASNHCS campus facilities, mostly constructed between the late 1930s and early 1990s, are antiquated and inadequately sized to provide the modern delivery of healthcare services currently needed by Reno area Veterans. These deficiencies are projected to grow in the future as the patient workload for the VASNHCS continues to increase. In addition, the VASNHCS campus does not meet all modern Federal setback and security requirements. Through a series of proposed renovation and modernization construction projects, the VASNHCS would renovate and modernize facilities to meet these requirements.

This Introduction section provides the reader with necessary introductory and background information concerning the renovation and modernization of the VASNHCS campus for proper analytical context, identifies the purpose of and need for the Proposed Action, and the Federal decision to made after considering the EA findings. Section 2 provides detailed information regarding the Proposed Action and the alternatives considered by VA. Section 3 describes the existing environmental, cultural, and socioeconomic conditions at the VASNHCS campus and the surrounding area and identifies the potential direct and indirect effects of the Proposed Action. Management measures and mitigation measures (project-specific requirements, not routinely implemented as part of construction projects, necessary to reduce identified potentially significant adverse environmental impacts to less-than-significant levels), if any, that would be employed to minimize potential adverse effects of the Proposed Action are presented for each resource area in Section 3 and are summarized in Section 5. Section 4 describes the VA public and agency outreach and involvement process for this EA. Section 6 provides the conclusions of this EA, based on the analysis presented in Section 3.

Preparation of this EA is required in accordance with the National Environmental Policy Act of 1969 ([NEPA]; 42 United States Code [USC] 4321 *et seq*.), the President's Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and 38 CFR Part 26 (*Environmental Effects of the Department of Veterans Affairs Actions*). This EA also has been prepared in accordance with VA's *NEPA Interim Guidance for Projects* (2010).

In accordance with the above NEPA regulations, this EA: allows for public input into the Federal decision-making process; provides Federal decision-makers, before making decisions, with an understanding of potential environmental effects; identifies measures the Federal decision-maker could implement to reduce potential environmental effects; and documents the NEPA process. A summary of public/agency involvement (and key issues identified) is provided in Section 4. Federal, State, and local regulations applicable to the Proposed Action are identified in Section 11.

This EA examines in-depth two alternatives: Renovation and Modernization of the VASNHCS Campus (the Proposed Action Alternative), and the No Action Alternative, defined as follows:

Proposed Action Alternative: Renovation and Modernization of the existing VASNHCS Campus. The following VASNHCS campus proposed renovation and modernization projects are included in the Proposed Action:

Construction Projects:

- Construction of New Community Living Center (CLC) Pod 2
- Demolition of Small Eastern Campus Buildings
- Construction of New Parking Structure
- Installation of New North Campus Backup Power Generators

Renovation Projects:

- Renovate Ward B3 Space Adjacent to New Intensive Care Unit (ICU)
- Renovate and Right-Size Operating Rooms and Operating Room Suite
- Expand and Renovate Magnetic Resonance Imaging (MRI) Area
- Renovate Sterile Processing Service Area
- Renovate Vacated Primary Care Space for Pharmacy

Proposed Action construction project locations are illustrated on Figure 6.

No Action Alternative: Do not implement the Proposed Action as identified and continue with operations as currently conducted at the VASNHCS campus.

1.2 Other Planned and Future VASNHCS Campus Projects

In addition to the proposed VASNHCS campus renovation and modernization projects included within this Proposed Action, VA is planning other VASNHCS expansion, renovation and modernization projects. Other planned projects include:

Land Acquisition and Kirman Avenue Modification Project

- Acquisition of up to 11 residential properties adjoining to the north and east of the current VASNHCS campus, across East Taylor Street and Kirman Avenue, for surface level parking (up to 200 parking spaces).

- Reduction of Kirman Avenue to one lane between western and eastern portions of the VASNHCS campus to connect the two portions of the campus and provide safe patient and staff access from parking facilities east of Kirman Avenue with medical center buildings west of Kirman Avenue.

Building 1 Seismic Upgrade and Clinical Expansion Project

- Clinical Expansion Building
  - Construction of a 160,000 SF, 5-story addition to the east of Building 1 to provide expanded outpatient services

- Upgrading and Renovation of Building 1
  - demolition of 50,000 SF of Building 1
  - seismic upgrading of Building 1 to meet current building codes
  - renovation of the remaining 97,000 SF of Building 1 to provide better delivery of services

These other planned VASNHCS projects were assessed as separate proposed actions in separate EAs and hence are not analyzed in this EA. However, the cumulative effects of these other planned VASNHCS campus projects in conjunction with the planned projects that are included in this Proposed Action are assessed in this EA throughout Section 3.

VA is also considering additional, future VASNHCS campus renovation and modernization projects, including:

- Additional Community Living Center Space (Pods 1 and 3)

- Either construction of new or renovation of existing space to provide a New Inpatient Mental Health Facility

- Construction of an additional New Parking Structure (to replace existing parking garage with a more permanent structure and with added capacity)

- Construction of New Wellness Center

- Replace Existing Chillers with More Efficient Chillers

- Construct Sanitary Sewer Storage System to Meet Emergency Management Requirement

- Construct Potable Water Storage System to Meet Emergency Management Requirement

Details of these future projects, such as proposed project locations or exact need, have not yet been determined. Therefore, these future projects are not included in this Proposed Action. Should these planned future projects remain viable, and VA justifies and receives Federal (Congressional) funding, additional NEPA analyses of these projects, as appropriate, will be conducted in the future.

1.3 Background

The VASNHCS provides primary and secondary care to a large geographic area that includes 21 counties in northern Nevada and northeastern California. In addition, VA offers regional medical care in four Outpatient Clinics located in Minden and Fallon, Nevada and Auburn and Susanville, California. Additionally, VASNHCS operates a Rural Outreach Clinic in Winnemucca, Nevada, provides offsite primary care services at the VASNHCS East Campus at 1201 Corporate Boulevard, and also operates a Homeless Clinic at 250 Capitol Hill Avenue and an Eye Clinic at 2295 Kietzke Lane, all in Reno, Nevada.

Prior to the late 1930s, the land that the VASNHCS campus currently occupies was unimproved. The construction of Building 1A, located in the central portion of the VASNHCS campus and west of Kirman Avenue, was approved in 1935 and the VA hospital opened in 1939. The area east of Kirman Avenue remained unimproved land until the late 1970s. The VASNHCS campus was expanded from the late 1970s through the early 1990s, including the construction of the current Specialty Clinic, Community Living Center, Dining and Canteen, and Clinical buildings west of Kirman Avenue; and the current Boiler Plant and Laundry buildings, and surface-level parking east of Kirman Avenue. An additional expansion of the VASNHCS campus occurred in the late 1990s with the addition of the Bed Tower, ED Wing, and MRI Wing buildings west of Kirman Avenue; and the Maintenance and Research buildings east of Kirman Avenue.

The VASNHCS campus is land locked on an approximately 12.5-acre area, which currently supports over 540,000 square feet of patient care, related structures, a two-story parking garage, and seven small parking lots. The VASNHCS campus is currently divided into east and west portions by Kirman Avenue with the majority of medical care operations located west of Kirman Avenue and the majority of support functions and parking located east of Kirman Avenue (Refer to Figures 1 through 5).

In excess of 120,000 Veterans reside within the VASNHCS region, with the City of Reno representing the largest urban area. The VASNHCS campus is the site of the Ioannis A. Lougaris VA Medical Center (VAMC), which operates 56 hospital beds and 60 Transitional Care Unit beds. During Fiscal Year (FY) 2014, VASNHCS provided care to over 35,000 individual patients, which accounted for approximately 420,000 outpatient visits and more than 3,000 inpatients. These numbers represent a dramatic increase since FY 2007, at which time the facility was treating 25,000 individual patients, which resulted in 244,000 outpatient visits and 2,800 inpatients.

Over the past several years, VA has made a strong national commitment to provide high quality, accessible healthcare to all former members of the nation's military because of the service they provided to the country. This commitment has resulted in the dramatic increase in VASNHCS workload, budget and staffing. VA projections indicate additional increases in workload for VASNHCS in the future, particularly in outpatient services. It is in consideration of the additional workload projections and the estimated increase in population in the Reno, Nevada area

(estimates show a projected population growth in Washoe County of 30 percent between 2014 and 2033) that VA is in the process addressing long term VASNHCS facility needs.

Starting in 2010, VA began a multi-year effort to reconfigure the VASNHCS campus to provide for additional and more efficient medical care to Veterans. Specifically, VA is in the process of planning or designing projects that would correct existing shortcomings or increase the capacity of the facility to provide the following services:

- Primary and Specialty Care Services
- Dental Services
- Diagnostic Imaging Services
- Same Day (Outpatient) Surgical Services
- Intensive Care Unit
- Community Living Center
- Eye Clinic Services
- Audiology Services

In addition to positioning the facility to address the projected increases in the above listed areas, VA is also in the process of planning improvements to the VASNHCS campus as a whole to allow enhanced access to the site for all patients and staff, along with improvements to the surrounding neighborhood. These campus improvements would vastly enrich the experience of all patients who come to the facility for healthcare services, while simultaneously enriching the residents in the community immediately surrounding the facility. Planned campus improvements include:

- Construction of parking garages as necessary to provide a sufficient number of onsite parking stalls to meet the demand of patients and staff.
- Construction of a pedestrian mall off the old Locust Street main facility entrance.
- Partial closure of Kirman Avenue where it bisects the facility campus.
- Demolition of old structures and modular buildings on the east side of Kirman Avenue which no longer support the functions of the facility and replacement with new, appropriate permanent structures.

FIGURE 1 **REGIONAL LOCATION MAP** ENVIRONMENTAL ASSESSMENT PROPOSED VASNHCS CAMPUS RENOVATION AND MODERNIZATION RENO, NEVADA	PREPARED FOR **U.S. DEPARTMENT OF VETERANS AFFAIRS** TTL PROJECT NO. 12181.03

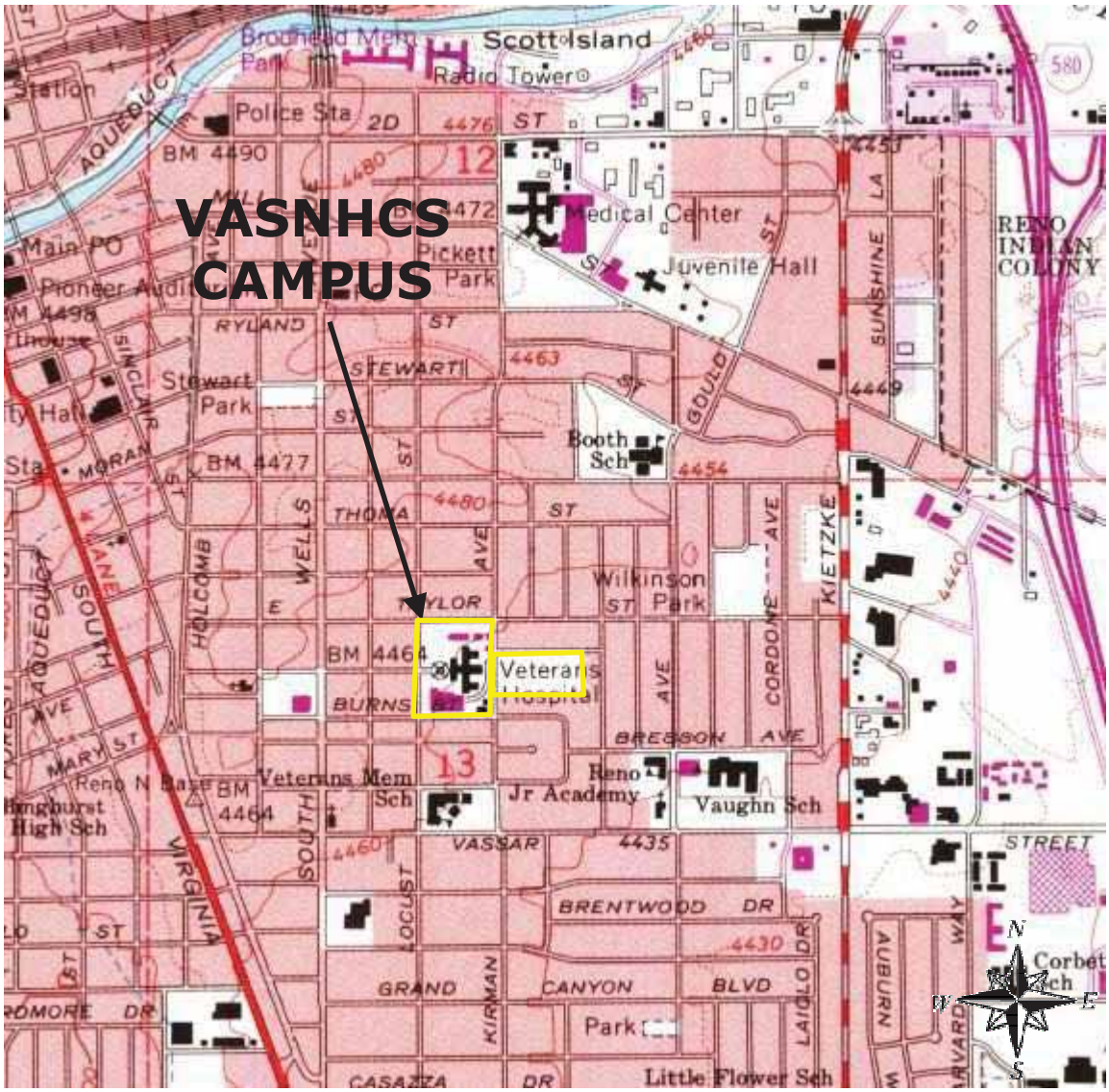

FIGURE 2

VICINITY TOPOGRAPHIC MAP

ENVIRONMENTAL ASSESSMENT
PROPOSED VASNHCS CAMPUS
RENOVATION AND MODERNIZATION
RENO, NEVADA

PREPARED FOR

U.S. DEPARTMENT OF VETERANS AFFAIRS

TTL PROJECT NO.
12181.03

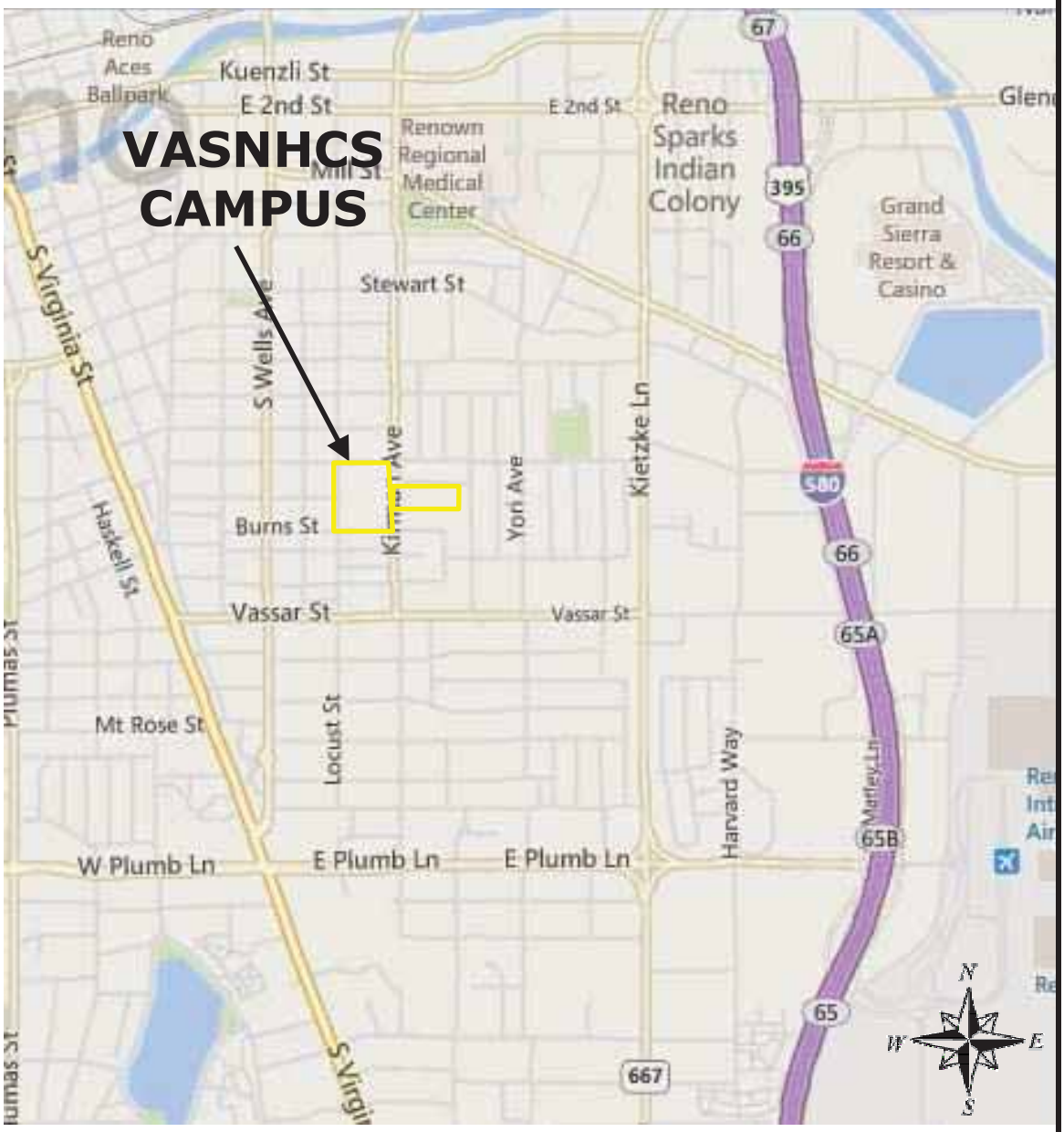

FIGURE 3

VICINITY STREET MAP

ENVIRONMENTAL ASSESSMENT
PROPOSED VASNHCS CAMPUS
RENOVATION AND MODERNIZATION
RENO, NEVADA

PREPARED FOR

U.S. DEPARTMENT OF VETERANS AFFAIRS

TTL PROJECT NO.
12181.03

FIGURE 4 **2014 AERIAL PHOTOGRAPH** ENVIRONMENTAL ASSESSMENT PROPOSED VASNHCS CAMPUS RENOVATION AND MODERNIZATION RENO, NEVADA	PREPARED FOR **U.S. DEPARTMENT OF VETERANS AFFAIRS** TTL PROJECT NO. 12181.03

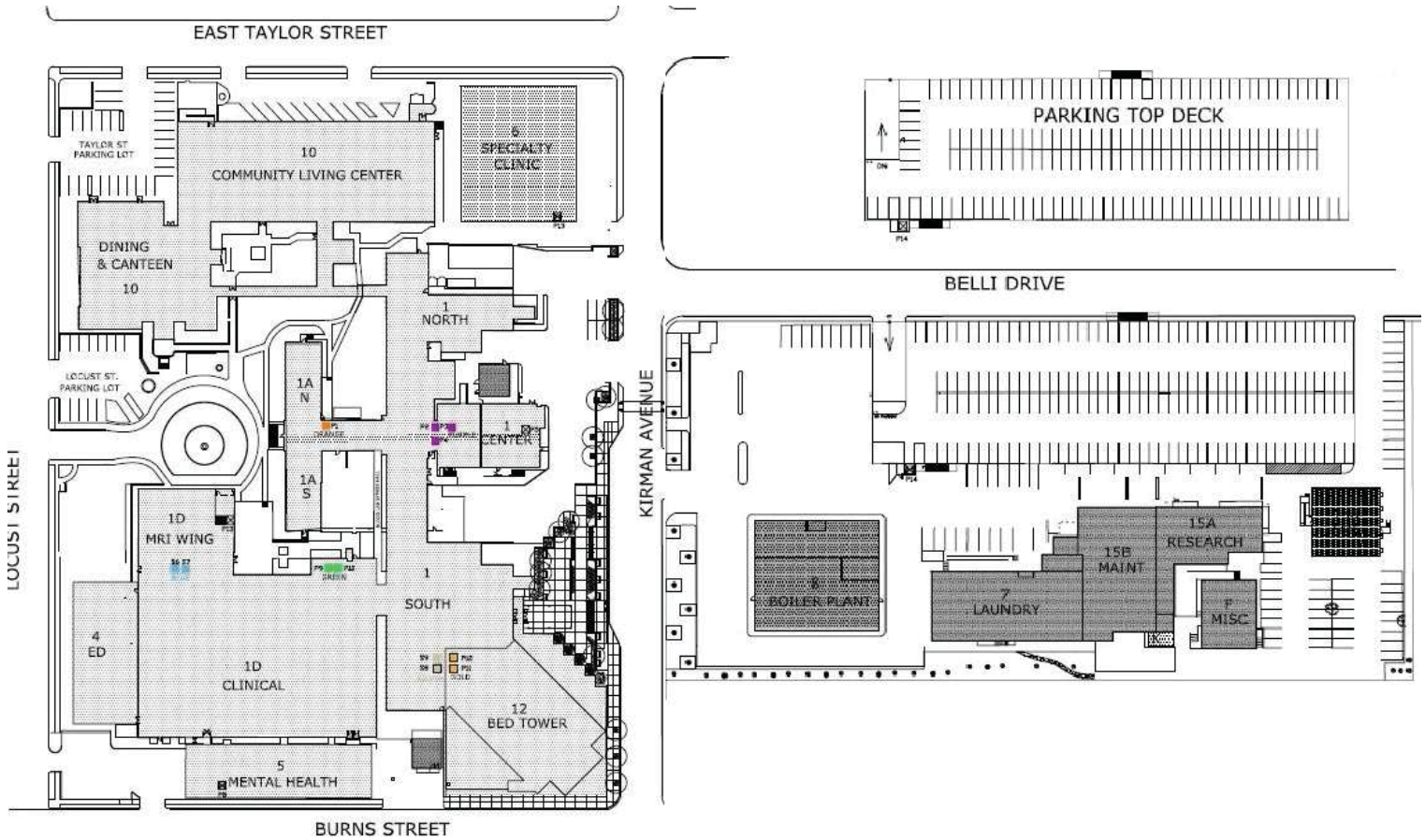

FIGURE 5
VASNHCS CAMPUS MAP

ENVIRONMENTAL ASSESSMENT PROPOSED VASNHCS CAMPUS RENOVATION AND MODERNIZATION RENO, NEVADA

PREPARED FOR

U.S. DEPARTMENT OF VETERANS AFFAIRS

TTL PROJECT NO. 12181.03

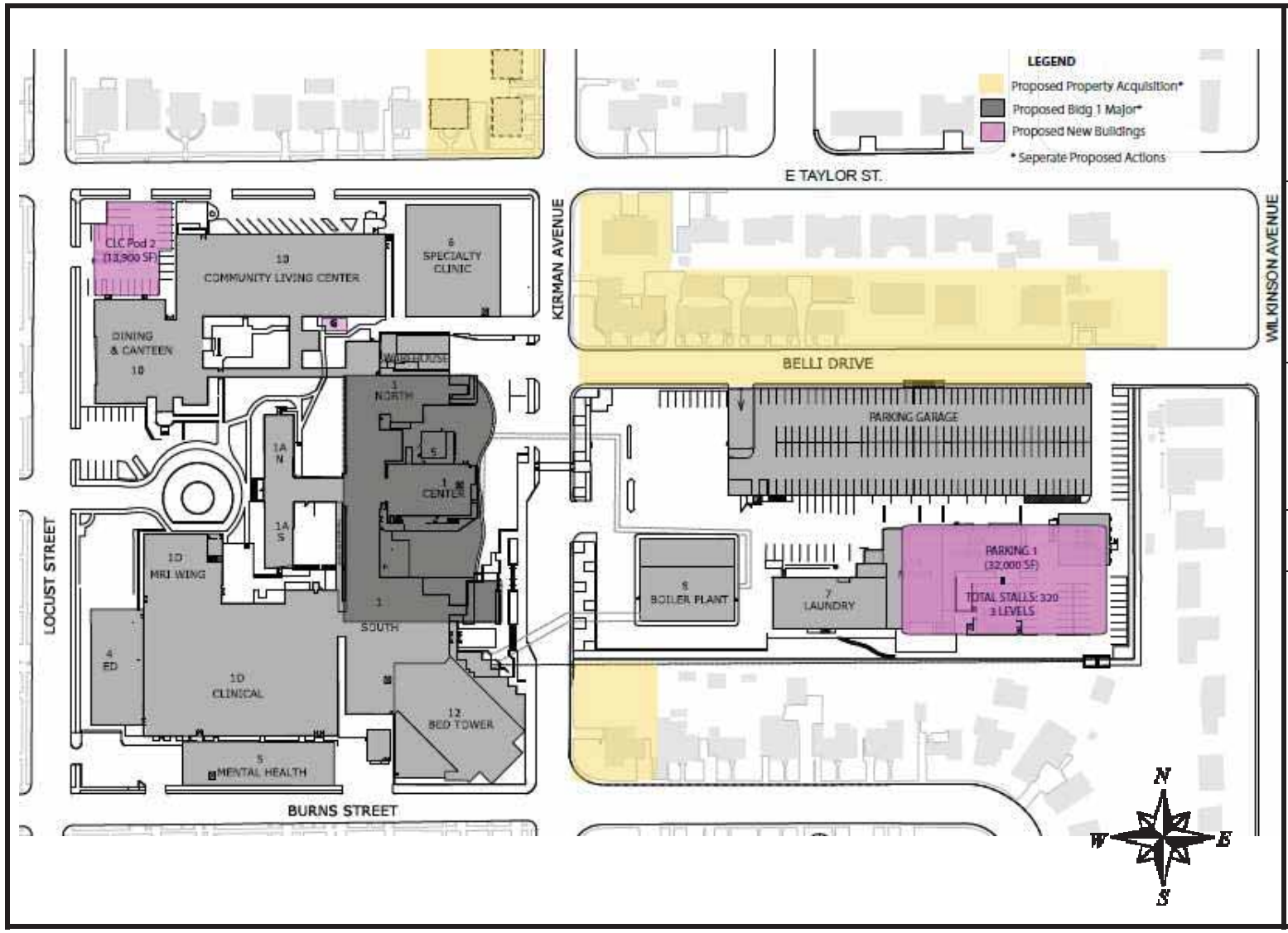

FIGURE 6
PROPOSED VASNHCS CAMPUS CONSTRUCTION PROJECTS

ENVIRONMENTAL ASSESSMENT
PROPOSED VASNHCS CAMPUS RENOVATION AND MODERNIZATION
RENO, NEVADA

PREPARED FOR

U.S. DEPARTMENT OF VETERANS AFFAIRS

TTL PROJECT NO. 12181.03

1.4 Purpose and Need

The ***purpose*** of the Proposed Action is to provide modern, adequately-sized VASNHCS healthcare facilities to meet the current and growing future needs of Reno area Veterans and Federal design standards, setbacks and security requirements.

The Proposed Action is ***needed*** because existing VASNHCS campus facilities are antiquated and inadequately sized to provide the modern delivery of healthcare services needed by Reno area Veterans. Existing VASNHCS campus facilities were mostly constructed in the late 1930s and early 1990s, are not designed to modern VA standards, and do not meet the needs of today's Veterans. In addition, Reno area Veteran needs for healthcare services have increased dramatically. From FY 2007 to FY 2014, the number of patients receiving healthcare services at VASNHCS grew from 25,000 per year to over 35,000 per year (an increase of over 40 percent) and the number of outpatient visits increased from 244,000 per year to 420,000 per year (over 70 percent increase). These Veteran patient service deficiencies are projected to grow in the future as the patient workload for the VASNHCS continues to increase. In addition, the existing VASNHCS campus does not meet all modern VA design standards and Federal safety, setback and security requirements.

VASNHCS campus needs are many and wide-ranging. As noted in Sections 1.1 and 1.2, VA has planned and is implementing many initiatives to renovate, modernize, and expand the VASNHCS campus to meet the current and projected healthcare needs of Reno area Veterans. Descriptions of the projects included in this Proposed Action are provided in Section 2.2. Specific VASNHCS campus needs that would be addressed by the projects included in this Proposed Action are as follows:

Construction Projects

<u>New Community Living Center Pod 2</u>

The proposed new CLC building would provide needed additional space to transform nursing home services provided by VASNHCS. The CLC buildings would provide space for patient activities and a physical layout conducive with a home-like environment that cannot be provided in the existing nursing home building. At the end of the proposed project, the facility would have long term care buildings that are compliant with current VA long term care standards, which would provide much improved patient safety, corrected infrastructure deficiencies, an improved environment for infection control measures, and increased quality of life.

<u>Demolition of Small Eastern Campus Buildings</u>

Five small buildings on the eastern side of the campus (Buildings 15A & 15B, F, K, and 138), constructed approximately 20 to 35 years ago, have exceeded their life expectancy, are not compliant with current VA space allocations and contain numerous utility deficiencies. The VASNHCS campus is fully developed and land-locked within an urban area with limited available space for new construction necessary to meet the current needs of the facility. As part of the Proposed Action, VA would demolish the underutilized and functionally obsolete buildings (Buildings 15A and 15B, F, K and 138). This would create valuable additional space in the southeastern portion of the campus for future development opportunities (the proposed new parking structure).

Construction of New Parking Structure

The VASNHCS is currently experiencing an approximately 580-space on-campus parking deficiency that is projected to grow in the future as Veteran use of the facility increases. The VASNHCS currently relies on street parking in the residential neighborhoods surrounding the VASNHCS campus to accommodate the on-campus parking deficiencies. This has resulted in over utilization of the residential street parking, traffic congestion, and pedestrian hazards. Additional on-campus parking is needed to address the on-campus parking deficiency and the off-site parking concerns. The proposed new parking structure, to be located in the vacant area that would be created by the proposed eastern campus small building demolition project, would provide approximately 320 on-campus parking spaces.

New North Campus Backup Power Generators

Additional backup electrical power generators are needed to address numerous existing emergency power deficiencies at the north side of the VASNHCS campus, specifically the current CLC and Specialty Clinic buildings. These buildings are currently supported by a single, undersized backup generator. A second backup electrical generator would be added to close the existing emergency power gap for these buildings and a third backup generator would be added to meet VA's emergency power redundancy requirements. This project would also replace the existing diesel underground storage tank (UST) used to fuel the generators, which is aged and in need of replacement.

Renovation Projects

Renovate Ward B3 Space Adjacent to New Intensive Care Unit

Approximately 5,000 SF of Ward B3 space adjacent to the new ICU was formerly used as part of the facility's inpatient ward that was moved to Ward B5. This functionally obsolete area would be renovated to improve staff and patient efficiency of services.

Renovate and Right-Size Operating Rooms and Operating Room Suite

VASNHCS Operating Rooms do not meet current VA design criteria – they are undersized, have low ceilings, and lack a clean core. All four of the facility's Operating Rooms are smaller than current VA space criteria. In addition, the Operating Rooms have faulty piping and electrical issues, and an antiquated air handling system that does not provide a sufficient number of air exchanges per hour per current VA criteria. This project would renovate and right-size the Operating Rooms, including an expansion of approximately 1,300 SF. The renovation and new construction would occur in the approximately 14,000 SF vacated space that formerly housed the ICU. This project would provide Operating Room support spaces and address current design issues, including a lack of clean core, and undersized Operating Rooms with low ceilings. In addition, this project would correct current utility issues. Better designed space, with updated utilities and size corrections, would improve the flow in the Operating Room suite, allowing for an increase in output. This would ensure rooms are able to accommodate expanding workload and ensure low wait times. The larger Operating Rooms to be provided by this project would also accommodate additional equipment within the room, allowing for better patient care.

Expand and Renovate Magnetic Resonance Imaging (MRI)

VASNHCS currently provides MRI services with a single MRI unit and is unable to meet current patient demand for these services, resulting in extended patient wait times and/or the need to outsource these services to other non-VA medical facilities. Patient demand for MRI services at the facility is projected to grow in the future. VA plans to expand and renovate the existing MRI Wing to add the new space necessary for a second MRI unit, control room, prep and recovery areas, and other associated support spaces. This project would allow the facility to close the entire projected gap for MRI services and; therefore, reduce patient wait times, eliminate the expenditures associated with sending these services off site, and maintain better coordinated quality healthcare services for Veteran patients.

Renovate Sterile Processing Service Area

The VASNHCS Sterile Processing Service Area is undersized for the current facility's needs and is outdated, resulting in inefficiencies. VA plans to renovate and expand the Sterile Processing Service Area to increase capacity to meet the facility's needs for medical equipment sterilization.

Renovate Vacated Primary Care Space for Pharmacy

The VASNHCS campus currently includes small pharmacies at numerous locations throughout the facility, with a division between the inpatient and outpatient pharmacies, resulting in operational inefficiencies. The current 20,000 SF Primary Care area in Building 12 will be vacated following the completion of VA's proposed Building 1 Seismic Upgrade and Clinical Expansion Project. VA plans to renovate the 20,000 SF to-be-vacated Primary Care area within Building 12 to consolidate pharmacy services into one convenient location.

1.5 Decision-Making

This EA has been prepared to identify, analyze, and document the potential physical, environmental, cultural, and socioeconomic impacts associated with VA's proposed renovation and modernization of the VASNHCS campus.

VA, as a Federal agency, is required to incorporate environmental considerations into their decision-making process for the actions they propose to undertake. This is done in accordance with the regulations identified in Section 1.1.

In accordance with these regulations, VA has prepared this EA. This EA allows for public input into the Federal decision-making process; provides Federal decision-makers with an understanding of potential environmental effects of their decisions, before making these decisions; and documents the NEPA process.

Ultimately, VA will decide, in part based on the analysis presented in this EA and after having taken potential environmental, cultural, and socioeconomic effects into account, whether it should implement the Proposed Action and, as appropriate, carry out mitigation and management measures to reduce effects on the environment.

1.6 Related Environmental Documents

Related environmental documents include:

- A Historic Context for the Wells Neighborhood, Reno, Nevada, Summit Envirosoultions, Inc., July 2014.
- Cultural and Historic Resources Survey, VA Sierra Nevada Healthcare System. Diablo Green Consulting, Inc., February 2015.
- Reno Planning Commission Staff Report, City of Reno, October 2012.
- VA Sierra Nevada Healthcare System Renovation and Modernization Traffic Study Report, GHD, Inc. June 2016.
- Final Environmental Assessment, Proposed Acquisition of Land for the Construction and Operation of Surface Parking Lots and Proposed Modification of Kirman Avenue for the VA Sierra Nevada Healthcare System, TTL Associates, Inc., February 2016.
- Draft Environmental Assessment, VA Sierra Nevada Healthcare System, Reno Campus Clinical Expansion and Building 1 Seismic Upgrade, Klienfelder, Inc., June 2016.

SECTION 2: DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Introduction

This Section provides the reader with necessary information regarding the Proposed Action and its alternatives, including those that VA initially considered, but eliminated, and the reasons for eliminating them. The screening criteria and process developed and applied by VA to hone the number of viable alternative are described, providing the reader with an understanding of VA's rationale in ultimately analyzing one action alternative, the Proposed Action Alternative, in this EA.

2.2 Proposed Action

VA's Proposed Action would renovate and modernize the existing VASNHCS campus facilities to meet the current and growing needs of area Veterans. The Proposed Action is needed because existing facilities are antiquated and inadequately sized to provide the modern delivery of healthcare services needed by Reno area Veterans. These deficiencies are projected to grow in the future as the patient workload for the VASNHCS increases. In addition, the VASNHCS campus does not meet all modern VA design standards and Federal safety, setback and security requirements.

Several renovation and modernization projects are proposed for the VASNHCS campus. Those projects included within the Proposed Action include:

- Construction of New CLC Pod 2
- Demolition of Small Eastern Campus Buildings
- Construction of a New Parking Structure
- Installation of New North Campus Backup Power Generators
- Renovation of Ward B3 Space Adjacent to the New ICU
- Renovate and Right-Size Operating Rooms and Operating Room Suite
- Expand and Renovate MRI Area
- Renovate Sterile Processing Service Area
- Renovate Vacated Primary Care Space for Pharmacy

VA would design and complete the proposed VASNHCS campus renovation and modernization projects in compliance with modern VA design criteria, nationally recognized building codes, and State and local building codes, to the maximum extent practicable. Prior to construction, VA would obtain all applicable Federal, State, and local permits for the proposed construction from appropriate government authorities. VA would incorporate the general best management practices and management measures identified in this EA into the design process to ensure potential environmental effects are maintained at less-than-significant levels (see Section 5).

2.3 Alternatives Analysis

The NEPA, CEQ Regulations, and 38 CFR Part 26 require all reasonable alternatives to be rigorously explored and objectively evaluated. Alternatives that are eliminated from detailed study must be identified along with a brief discussion of the reasons for eliminating them. For purposes of analysis, an alternative was considered "reasonable" only if it would enable VA to accomplish the primary mission of providing modern, adequately-sized VASNHCS healthcare facilities that meet the purpose of and need for the Proposed Action. "Unreasonable" alternatives would not enable VA to meet the purpose of and need for the Proposed Action.

2.3.1 Alternatives Development

VA undertook a sequential planning and screening process, seeking reasonable alternatives for the development of a modern, adequately-sized VASNHCS facility in general, and the Proposed Action in specific. After identifying existing onsite capability shortfalls and deficiencies, VA began developing alternatives to support a more modern, adequately-sized VASNHCS facility, Alternatives considered included renovating and reconfiguring the existing VASNHCS facilities, constructing a replacement facility at the current location or some new site in the Reno area, and outsourcing healthcare services to other existing medical facilities in the Reno area.

VA developed a list of screening criteria to guide the alternative review, evaluation, and selection process. These screening criteria included the physical, operational, and location requirements of the VASNHCS facility, as well as land availability, overall project costs, environmental issues, and other factors, as described below.

The screening criteria included:

1. **Location**: An alternative site for the VASNHCS facility should be located within or the Reno area in a suitable configuration to accommodate the Proposed Action.

2. **Size:** An alternative site should provide adequate land to accommodate the Proposed Action.

3. **Cost:** The alternative needs to be able to be developed to suit VA's needs and mission at reasonable costs.

4. **Continuous Operations:** The alternative should allow for continuous VA operations and services and should not impact VA's ability to provide these services to regional Veterans. The proposed facilities must not conflict with ongoing use of the VASNHCS during construction or operation. Implementation of the Proposed Action should maintain continuous, seamless operation of all existing VASNHCS functions.

5. **Availability:** An alternative site should be available for acquisition by VA from willing landowners to facilitate design and construction of the Proposed Action.

6. **Land Use Compatibility:** An alternative site should be located in an area with compatible offsite land use and appropriate local zoning, as designated by the local government.

7. **Environmental:** An alternative site should have few environmental concerns, such as hazardous waste contamination, asbestos, lead-based paint, wetlands, floodplain or flooding issues, geotechnical, cultural or biological concerns, or other regulated environmental resource concerns.

VA then reviewed the possible development alternatives against the screening criteria to determine locations and facilities best suited to meet the purpose of and need for the Proposed Action. Through this analysis, VA concluded that only the renovation and modernization of the current VASNHCS campus met the screening criteria and was reasonable to meet the purpose and need of the Proposed Action. The proposed renovation and modernization projects associated with the Proposed Action are described in Section 2.3.2. Alternatives eliminated from further consideration, including the development of a modern replacement facility at the current VASNHCS campus location or at a new site, and outsourcing healthcare services to other medical facilities, are discussed in Section 2.3.3.

2.3.2 Evaluated Alternatives

This EA examines in-depth two alternatives, the Proposed Action Alternative and the No Action Alternative, defined as follows:

Proposed Action Alternative

VA's Proposed Action is the renovation and modernization of existing VASNHCS campus facilities. The following projects are included in the Proposed Action Alternative:

Construction Projects

New Community Living Center Pod 2

This project would construct a new CLC building at the southeast corner of Locust and E. Taylor Street, which is currently used as a VASNHCS paved, surface-level parking lot. The newly constructed two-story, approximately 16,700 gross SF building would include an estimated 12,900 SF of CLC space and 1,000 SF of common space and would provide 12 to 20 beds. In addition, the existing CLC building would undergo interior renovations. The CLC buildings would provide needed space for patient activities and a physical layout conducive with a home-like environment that is compliant with current VA long term care standards and cannot be provided in the existing nursing home building.

Demolition of Small Eastern Campus Buildings

This project would include the demolition of five underutilized and functionally obsolete single story buildings (Buildings 15A & 15B, F, K, and 138) located east of the Boiler Plant and Laundry in the southeastern portion of the campus and the relocation of the functions from these structures to other existing VASNHCS buildings. This project would create valuable additional space in the southeastern portion of the campus for future development opportunities (the proposed new parking structure).

Construction of New Parking Structure

This project would include the construction of a new, three-level parking garage in the southeastern portion of the VASNHCS campus in the vacant area created by the proposed

eastern campus small building demolition project. The parking garage has not been designed yet, but is anticipated to have a footprint of approximately 32,000 SF, be approximately 36 to 42 feet above ground level, and provide approximately 320 on-campus parking spaces. Access to the parking structure would be provided by a drive from Belli Drive.

Installation of New North Campus Backup Power Generators

This project would include the installation of two additional backup electrical generators on the northern portion of the campus, adjacent to Blockhouse 10 (south of the existing CLC), where an existing, undersized backup electrical generator is located. The electrical output of the new generators has not been determined; however, the generators would be fueled by diesel fuel. The generators would be equipped with mufflers and emission control equipment to reduce noise, vibration, and air emissions during operation. Neither generator would be routinely used during normal VASNHCS operations; they would be used in the event of a power failure associated with the local utility provided electrical service. The generators would be operated periodically for short periods without power failure to ensure functionality in the event of a power failure. This project would also replace the existing diesel UST used to fuel the current backup generator with a new, double-walled UST with interstitial monitoring that would fuel the existing generator as well as the two new generators.

Renovation Projects

Renovate Ward B3 Space Adjacent to New ICU

This project would renovate approximately 5,000 SF of Ward B3 space adjacent to the new ICU for improved staff and patient efficiency of services.

Renovate and Right-Size Operating Rooms and Operating Room Suite

This project would renovate and right-size the Operating Rooms, including an expansion of approximately 1,300 SF into the courtyard area (north) for the Operating Rooms and renovation the existing Operating Room space. The renovation and new construction would occur in the approximately 14,000 SF vacated space that formerly housed the ICU, allowing for continuous operations of current Operating Rooms while project is under construction. This project would provide Operating Room support spaces and address current design issues, including a lack of clean core, and undersized Operating Rooms with low ceilings. This project would also correct utility issues, including grandfathered air handling, faulty piping, and electrical issues.

Renovate and Expand MRI Wing

This project would include an approximately 4,000 SF building addition to the existing MRI Wing to provide space necessary for a second MRI unit, control room, prep and recovery areas, and other associated support spaces. The project would also include renovating the existing 3,400 SF MRI area. This project would allow the facility to close the entire projected gap for MRI services.

Renovate Sterile Processing Service Area

This project would renovate and expand the Sterile Processing Service Area in Building 1D by approximately 3,000 SF to meet the facility's needs for medical equipment sterilization.

Renovate Vacated Primary Care Space for Pharmacy

This project would renovate the current 20,000 SF Primary Care area in Building 12 that will be vacated following the completion of the proposed Building 1 Seismic Upgrading, Renovation, and Expansion Project to consolidate pharmacy services into one convenient location.

The Proposed Action Alternative effectively provides the best alternative to renovate and modernize the VASNHCS to provide the modern delivery of healthcare services needed by Reno area Veterans. The Proposed Action would help meet current and projected needs for the VASNHCS.

No Action Alternative

Under the No Action Alternative, the renovation and modernization projects included in the Proposed Action would not be implemented and operations at the VASNHCS would continue as currently conducted. This alternative would not allow VA to provide required and necessary medical care to Veterans living within the Reno area. Patients would continue to lack privacy within antiquated facilities; operations would continue under inefficient, inadequate, un-safe, and outdated conditions; and existing medical center space deficiencies would remain and increase in the future. In addition, patients, staff and the community would face continued and increasing parking and safety challenges as on-campus parking space shortages would continue.

While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, this alternative is retained to provide a comparative baseline against which to analyze the effects of the Proposed Action, as required under CEQ Regulations (40 CFR Part 1502.14). The No Action Alternative reflects the *status quo*, serving as a standard against which VA can evaluate the effects of the Proposed Action.

2.3.3 Alternatives Eliminated From Further Consideration

As described in Section 2.3.1, VA eliminated other initially considered alternatives to renovating and modernizing the existing VASNHCS campus. Each of these alternatives failed to meet VA's screening criteria. The following provides a brief discussion of VA's rationale for eliminating these alternatives.

New VA Medical Facility at the Current Location

Under this alternative, VA would demolish the existing, outdated medical center facilities at the current VASNHCS campus site and construct a new, modern medical center at this property. This alternative would provide modern VA healthcare facilities that would meet Reno area Veterans needs for the foreseeable future. However, the complete demolition and reconstruction of the medical center would require several years to accomplish, during which time, Veterans using the VASNHCS would need alternate healthcare facilities. No alternate VA facilities are located in the region. In addition, this alternative would be much more expensive than the renovation of the campus, well beyond the VA funding that is available. This alternative was considered to be too disruptive to VA's provision of healthcare and cost-prohibitive and thus, was eliminated from further consideration.

New VA Medical Facility at New Location

Under this alternative, VA would acquire and develop a new, modern medical center at a new site in the Reno metropolitan area. This alternative would maintain the continuity of healthcare provided by VA during the new medical center construction and would provide a modern VA healthcare facility that would meet Reno area Veterans needs for the foreseeable future. However, site acquisition and construction costs must be reasonable to be an appropriate use of taxpayers' funds. The cost of purchasing a new site and constructing an entirely new VA medical center facility would be far greater than the renovation and modernization of the existing VASNHCS campus. As such, this alternative was considered cost-prohibitive and was eliminated from further consideration.

Outsourcing Healthcare Services

Under this alternative, VA would send Veteran patients to other existing medical facilities in the Reno metropolitan area where they could receive the privacy and/or more modern care the VASNHCS is currently struggling to provide. While Veterans may, with many exceptions (Veteran special needs care) receive the care they require under this alternative, this alternative would not allow the VA to fulfill its purpose of providing the best and most comprehensive medical care possible to Veterans. In addition, VA would not be able to effectively control the quality and consistency of outsourced medical care and the high cost of outsourcing would be cost-prohibitive. This alternative does not meet the purpose of or need for the Proposed Action and does not address existing space and care deficiencies at the VASNHCS. As such, this alternative was not considered reasonable and was eliminated from further consideration.

SECTION 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This Section describes the baseline (existing) environmental, cultural, and socioeconomic conditions at the VASNHCS campus and its general vicinity (see Figures 1-5) with emphasis on those resources potentially impacted by the Proposed Action. Under each resource area, the potential direct and indirect effects of implementing the Proposed Action Alternative and the No Action Alternative on these environments are identified. Potential cumulative impacts associated with the Proposed Action and other planned VASNHCS campus projects are also discussed under each resource area and Section 3.17.

In this EA, impacts are identified as significant, less-than-significant (i.e., common impacts that would not be of the context or intensity to be considered significant under the NEPA or CEQ Regulations), or no impact. As used in this EA, the terms “effects” and “impacts” are synonymous. Where appropriate and clearly discernible, each impact is identified as either adverse or positive.

The CEQ Regulations specify that in determining the significance of effects, consideration must be given to both “*context*” and “*intensity*” (40 CFR 1508.27):

Context refers to the significance of an effect to society as a whole (human and national), to an affected region, to affected interests, or to just the locality. In other words, the context measures how far the effect would be “felt.”

Intensity refers to the magnitude or severity of the effect, whether it is beneficial or adverse. Intensity refers to the “punch strength” of the effect within the context involved.

In this EA, the significance of potential direct, indirect, and cumulative effects has been determined through a systematic evaluation of each considered alternative in terms of its effects on each individual environmental resource component.

Significance criteria for resource areas considered in this EA are as follows:

- *Aesthetics.* An alternative could significantly affect visual resources if it resulted in abrupt changes to the complexity of the landscape and skyline (i.e., in terms of vegetation, topography, or structures) when viewed from points readily accessible by the public.

- *Air quality.* An alternative could have a significant air quality effect if it would result in substantially higher air pollutant emissions or cause established air quality standards to be exceeded.

- *Cultural resources.* An alternative could have a significant effect on cultural resources if it would: result in damage, destruction, or demolition to an archaeological site or building that is eligible or listed on the National Register of Historic Places; promote neglect of such a resource, resulting in resource deterioration or destruction; introduce audio or visual intrusion to such a resource; or decrease access to resources of value to federally recognized Native American tribes. Impact assessment for cultural resources focuses on properties that are listed in or considered eligible for the National Register of Historic Places or are National Historic Landmarks.

- *Geology and Soils.* If an alternative would result in an increased geologic hazard or a change in the availability of a geologic resource, it could have a significant effect. Such geologic and soil hazards would include, but not be limited to, seismic vibration, land subsidence, and slope instability.

- *Hydrology and Water Quality.* If an alternative would result in a reduction in the quantity or quality of water resources for existing or potential future use, it could have a significant effect. A significant effect could occur if the demand exceeded the capacity of the potable water system.

- *Wildlife and Habitat.* The effect of an alternative on biological resources and ecosystems could be significant if it would disrupt or remove any endangered or threatened species or its designated critical habitat. The loss of a substantial number of individuals of any plant or animal species (sensitive or non-sensitive species) that could affect the abundance or diversity of that species beyond normal variability could also be considered significant. The measurable degradation of sensitive habitats, particularly wetlands, could also be significant.

- *Noise.* An alternative could have a significant noise effect if it would generate new sources of substantial noise, increase the intensity or duration of noise levels to sensitive receptors, or result in exposure of more people to unacceptable levels of noise.

- *Land use.* If an alternative would conflict with adopted plans and goals of the affected community or if it would result in a substantial alteration to the present or planned land use of an area, it could have a significant direct effect. If an alternative would result in substantial new development or prevent such development elsewhere, it could have a significant indirect effect. In addition, an alternative could significantly affect visual resources if it resulted in abrupt changes to the complexity of the landscape and skyline (i.e., in terms of vegetation, topography, or structures) when viewed from points readily accessible by the public.

- *Floodplains, Wetlands, and Coastal Zone Management.* An alternative could have a significant effect on water resources if it would cause substantial flooding or erosion, if it would subject people or property to flooding or erosion, or if it would adversely affect a significant water body, such as a stream or lake.

- *Socioeconomics.* If an alternative would substantially alter the location and distribution of the population within the geographic “region of influence” cause the population to exceed historical growth rates, or substantially affect the local housing market and vacancy rates, the effect would be significant. Significant effects could occur if an

alternative caused disproportionate risks to children that resulted from environmental health risks or safety risks. In addition, an alternative could have a significant effect if it would create a need for new or increased fire or police protection, or medical services, beyond the current capability of the local community, or would decrease public service capacities so as to jeopardize public safety. *It is important to note that, per CEQ Regulations (40 CFR 1508.14), social or economic effects are not intended by themselves to require preparation of an EIS.* Only when social or economic effects are interrelated with natural or physical environmental effects will all of these effects be analyzed as part of the NEPA process.

- *Community Services.* An alternative could have a significant effect on infrastructure if it would increase demand over capacity, requiring a substantial system expansion or upgrade, or if it would result in substantial system deterioration over the current condition.

- *Solid and Hazardous Materials.* An alternative could have a significant effect if it would result in a substantial increase in the generation of hazardous substances, increase the exposure of persons to hazardous or toxic substances, increase the presence of hazardous or toxic materials in the environment, or place substantial restrictions on property use due to hazardous waste, materials, or site remediation. Data provided in the site-specific ESAs and other prior HTMW studies helps to identify these potential impacts, as well as their significance.

- *Transportation and Parking.* An alternative could have a significant effect on infrastructure if it would increase demand over capacity, requiring a substantial system expansion or upgrade, or if it would result in substantial system deterioration over the current condition. For instance, an alternative could have a significant effect on traffic if it would increase the volume of traffic beyond the existing road capacity, cause parking availability to fall below minimum local standards, or require new or substantially improved roadways or traffic control systems.

- *Utilities.* An alternative could have a significant effect on infrastructure if it would increase demand over capacity, requiring a substantial system expansion or upgrade, or if it would result in substantial system deterioration over the current condition.

- *Environmental Justice.* Significant effects could occur if an alternative would disproportionately affect minority or low-income populations.

3.2 Aesthetics

The VASNHCS campus is located in an urban, fully developed area approximately 1.2 miles southeast of the center of the City of Reno, Nevada. The approximately 12.5-acre VASNHC campus is divided into eastern and western portions by Kirman Avenue. The eastern portion of the VASNHCS campus is generally bounded by Kirman Avenue to the west, Belli Drive to the north, residential properties along the west side of Wilkinson Avenue to the east, and residential properties on the north side of Balzar Circle to the south. The eastern portion of the VASNHCS campus currently includes a two-story parking garage, the VASNHCS Boiler Plant (Building 8), Laundry (Building 7), Maintenance Department (Building 15B), Research Department (Building 15A), Engineering Department (Building 138), Safety Department (Building F), Research Conference Room (Building K), paved areas, and surface-level parking. The western portion of

the VASNHCS campus is generally bounded by East Taylor Street to the north, Kirman Avenue to the east, Burns Street to the south, and Locust Street to the west. The western portion of the VASNHCS campus currently includes a CLC (Building 10), Specialty Clinic (Building 6), Dining and Canteen (Building 10), and the main hospital building, including Buildings 1 North, 1 Center, 1 South, 1A North, 1A South, 12 (Bed Tower), 1D (Clinical/OR and MRI Wing), 4 (ER), and 5 (Mental Health), and four small surface-level parking lots.

The western portion of the VASNHCS campus is adjoined to the north across East Taylor Street, to the south across Burns Street, and to the west across Locust Street by residential properties; and to the east across Kirman Avenue by the eastern portion of the VASNHCS campus and residential properties. The eastern portion of the VASNHCS campus is adjoined to the north across Belli Drive, to the east, and to the south by residential properties; and to the west across Kirman Avenue by the western portion of the VASNHCS campus.

Aesthetics are managed by the City of Reno through the Chapter 8.32 (Trees and Shrubs), Chapter 18.12 (General Development and Design Standards), and Chapter 18.08 (Zoning) of the Reno Land Development Code (RLDC).

3.2.1 Effects of the Proposed Action Alternative

The Proposed Action would result in less-than-significant adverse aesthetic impacts. The VASNHCS campus is located in an urban, mixed institutional and residential use area, dominated by the existing VASNHCS campus, which has occupied the area since 1939. The Proposed Action projects would change the appearance of the VASNHCS campus, but would not result in an abrupt change to the visual resources of the area. The Proposed Action projects would be designed and implemented in a way that is visually consistent with the existing VASNHCS campus and surrounding areas. Aesthetic effects associated with each Proposed Action project are discussed below.

Construction Projects:

<u>New Community Living Center Pod 2</u>

This project would be located at the southeast corner of Locust and East Taylor Street, which is currently used as a paved, VASNHCS surface-level parking lot. The new two-story building would be approximately 16,700 gross square feet and would adjoin the western side of the existing CLC. In addition, the existing CLC building would undergo interior renovations, which would not be visible outside of the building. The new CLC building would be visible from adjoining residential properties to the north and west across East Taylor and Locust Streets. However, the proposed new CLC building would be designed to match the general character of the existing adjacent CLC building and the rest of the more massive existing VASNHCS campus, as such, the aesthetic impacts associated with the new CLC building are anticipated to be minor and less-than-significant.

<u>Demolition of Small Eastern Campus Buildings</u>

This project would include the demolition of (Buildings 15A & 15B, F, K, and 138), five underutilized and functionally obsolete single story buildings in the southeastern portion of the campus for the construction of a new parking structure (see below). The demolition of these small buildings would have minimal aesthetic impact.

Construction of New Parking Structure

This project would include the construction of a new, three-level (one ground level, two elevated levels) parking garage in the southeastern portion of the VASNHCS campus in the vacant area created by the proposed small building demolition project. The parking garage has not yet been designed, but is anticipated to have a footprint of approximately 32,000 SF and extend to a height of approximately 36 to 42 feet above grade. The new parking garage would be located adjacent to the existing two-level parking structure on the eastern portion of the campus. The parking garage would be partially visible from adjoining residential properties to the east and south of the campus and would be shielded from view from the residential properties to the north of the campus by the existing two-story parking garage. The proposed parking structure would be taller than the existing single story structures and more visible to surrounding areas. The parking structure could also shade easterly adjacent residential properties during late afternoon and evening hours. However, the eastern portion of the VASNHCS campus is already occupied by a parking structure and the construction of an additional parking structure in this area would not represent an abrupt change to the visual resources of the area. The aesthetic impacts associated with the new parking garage are anticipated to be moderate and less-than-significant.

Installation of New North Campus Backup Power Generators

This project would include the installation of two additional backup electrical generators on the northern portion of the campus, adjacent to Blockhouse 10 (south of the existing CLC). The two additional backup electrical generators would be located in the interior portion of the VASNHCS campus and entirely shielded from view from the surrounding properties by the existing campus buildings. As such, there would be no aesthetic impacts associated with the two additional backup electrical generators.

Renovation Projects:

Renovate and Right-Size Operating Rooms and Operating Room Suite

This project would renovate and right-size the Operating Rooms, including an expansion of approximately 1,300 SF into an existing VASNHCS courtyard area (north). The small exterior expansion associated with this project would be located in the interior of the VASNHCS campus and entirely shielded from view from the surrounding properties. The remaining portions of this project are entirely within the interior of existing VASNHCS buildings and would not be visible. As such, there would be no aesthetic impacts associated with this project.

Renovate and Expand MRI Wing

This project would include an approximately 4,000 SF building addition to the existing wing, located on the western portion of the campus. The 4,000 SF building addition would be visible from surrounding properties to the west, but would be shielded from view from the north, east, and south by existing buildings associated with the VASNHCS campus. The proposed 4,000 SF MRI building addition would be designed to match the general character of the rest of the VASNHCS campus and would be a very minor addition to the large campus, as such, the aesthetic impacts associated with this project would be minimal and less-than-significant.

The remaining Proposed Action renovation projects would be entirely within the interior of existing VASNHCS buildings, would not be visible to the surrounding area, and would have no aesthetic impacts.

3.2.2 Cumulative Impacts

With the exception of the proposed construction of CLC Pod 2 and the new parking structure, the Proposed Action projects would have minimal or no aesthetic impacts and would not contribute to cumulative impacts. CLC Pod 2 and the new parking structure would be visibly noticeable from certain areas surrounding the campus; however, these structures would be designed to match the general character of the VASNHCS campus and would be consistent with similar structures of like use in these areas of the campus. Therefore, their aesthetic impacts would be less-than-significant and would have minor contribution to cumulative aesthetic impacts. Through general BMPs, project-specific management measures, and coordination and consultation with the City of Reno and community representatives, VA has considered and minimized the aesthetic impacts of each of its planned projects. The proposed modifications of Kirman Avenue will include additional landscaping and pedestrian-friendly improvements that will have a positive aesthetics impact. The largest and most noticeable project, the proposed five-story clinical addition to the eastern side of Building 1, will be designed to remain visually consistent with existing Building 1 massing and height, yet provide a modern, attractive entrance and addition to the medical center building. VA has conducted community and Veteran outreach efforts for the design and appearance of the clinical addition. No significant adverse cumulative aesthetic impacts are anticipated. Close and ongoing coordination between VA and the City of Reno, and other community agencies and representatives would serve to manage and control cumulative effects within the ROI.

3.2.3 Effects of the No Action Alternative

Under the No Action Alternative, no demolition, construction, or renovation by VA would occur. No aesthetic impacts by VA would occur as the VASNHCS campus would continue its current operations.

3.2.4 Mitigation/Management Measures

No significant adverse aesthetic impacts are anticipated and project-specific mitigation measures are required.

Aesthetic impacts in general, would be maintained at less-than-significant levels through project planning and development, to the extent practicable, in accordance with Chapter 8.32 (Trees and Shrubs), Chapter 18.12 (General Development and Design Standards), and Chapter 18.08 (Zoning) of the RLDC. In addition, VA would implement the following BMP to reduce aesthetic impacts:

- Maintain landscaping along site boundaries with residences.
- Design the new parking structure to maintain setback distances from the surrounding residential properties to the extent possible.
- The Proposed Action projects would be designed and implemented in a way that is visually consistent with the existing VASNHCS campus.

3.3 Air Quality

3.3.1 Regulatory Background

Ambient Air Quality

The ambient air quality in an area can be characterized in terms of whether or not it complies with the primary and secondary National Ambient Air Quality Standards (NAAQS). The Clean Air Act, as amended (CAA and CAAA) requires the USEPA to set NAAQS for pollutants considered harmful to public health and the environment. NAAQS are provided for the following principal pollutants, called “criteria pollutants” (as listed under Section 108 of the CAA):

- Carbon monoxide (CO)
- Lead (Pb)
- Nitrogen oxides (NO_x)
- Ozone (O_3)
- Particulate matter (PM), divided into two size classes:
  - Aerodynamic size less than or equal to 10 micrometers (PM_{10})
  - Aerodynamic size less than or equal to 2.5 micrometers ($PM_{2.5}$)
- Sulfur dioxide (SO_2)

Areas are designated by the USEPA as “attainment”, “non-attainment”, “maintenance”, or “unclassified” with respect to the NAAQS. Regions in compliance with the standards are designated as “attainment” areas. In areas where the applicable NAAQS are not being met, a “non-attainment” status is designated. Areas that have been classified as "non-attainment" but are now in compliance can be re-designated "maintenance" status if the state completes an air quality planning process for the area. Areas for which no monitoring data is available are designated as “unclassified”, and are by default considered to be in attainment of the NAAQS.

In October 2015, as part of the EA scoping process, the USEPA stated that the VASNHCS is located in an area designated as non-attainment (serious) for the PM_{10} NAAQS. In addition, USEPA stated that the VASNHCS is located in a maintenance area for carbon monoxide; indicating that general conformity still applies because of its maintenance designation.

Updated information (2016) from Washoe County Air Quality Management Division and USEPA indicates that the Reno area attained the PM_{10} NAAQS in 2011 and subsequent air quality monitoring data demonstrated that the area has continued to the attain the PM_{10} NAAQS since that time. In December 2015, USEPA redesignated the Reno area as attainment (maintenance) for $PM_{10.}$ The Reno area of Washoe County is currently designated as a *maintenance* area for the PM_{10} and carbon monoxide. Washoe County is designated as *full-attainment* or is not classified for all other criteria pollutants (Washoe County Air Quality Management Division, 2016).

Greenhouse Gases and Climate Change

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some greenhouse gases, such as carbon dioxide occur naturally and are emitted to the atmosphere through natural processes and human activities. Other greenhouse gases (e.g., fluorinated gases) are created and emitted solely through human activities.

The principal greenhouse gases that enter the atmosphere because of human activities are:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Fluorinated gases (e.g., hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride)

Gases in the atmosphere can contribute to the greenhouse effect both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other greenhouse gases, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the earth. It is now well established that rising global atmospheric GHG emission concentrations are significantly affecting the Earth's climate. Based primarily on scientific assessments, the USEPA has issued a finding that the changes in our climate caused by increased concentrations of atmospheric GHG emissions endanger public health and welfare. However, the Federal government has not adopted any comprehensive national strategy to reduce GHG emissions.

The USEPA requirements for Mandatory Reporting of Greenhouse Gases Rule (74 FR 56260), which requires reporting of greenhouse gas data and other relevant information from large sources and suppliers in the United States, are designed to collect accurate and timely GHG data to inform future policy decisions. EOs 13423 and 13514 require Federal agencies to reduce GHG emissions.

In December 2014, the CEQ released its Revised Draft Guidance on the Consideration of Greenhouse Gas Emissions and the Effects of Climate Change (GHG Guidance Document), which describes how Federal agencies should consider the effects of GHG emissions and climate change in their NEPA decision-making documents. The guidance indicates that Federal agencies should consider both the potential effect of a proposed action on climate change, as indicated by its estimated GHG emissions, and the implications of climate change for the environmental effects of a proposed action. The guidance indicates that the agency analysis should be commensurate with the projected GHG emissions and climate impacts of the proposed action. It recommends that agencies consider 25,000 metric tons of carbon dioxide equivalent emissions on an annual basis as a threshold below which quantitative analysis of GHG is not recommended.

Operating Permits

The CAA regulates criteria pollutants as well as 188 specifically listed hazardous air pollutants (HAPs). The Title V Operating Permit Program under 40 CFR 70 requires sources that meet the definition of a "major source" of criteria pollutants or HAPs to apply for and obtain a Title V operating permit. A major source of HAPs has the potential to emit (PTE) more than 10 tons per year (tpy) of any individual HAP, or 25 tpy of any combination of HAPs. The definition of major source for criteria pollutants is dependent on the air quality attainment status of the region where the source is located (i.e., areas that are in attainment or non-attainment with the NAAQS). Major sources have a PTE more than 100 tpy of any criteria pollutant in an attainment area or lower levels in various classifications of non-attainment (i.e., marginal, moderate, serious, severe, and extreme).

The VASNHCS currently generates air emissions (e.g., from boilers, generators, or other minor equipment); however, the VASNHCS is not considered to be a major source of criteria pollutants. The VASNHCS does not have and is not required to have a Title V operating permit.

State and Local Regulations

Nevada Administrative Code (NAC) Chapter 445B (Air Control) contain provisions to protect Nevada's air quality through monitoring, inspection, permitting, and rules, and is administered by the Nevada Division of Environmental Protection (NDEP); however, according to the NDEP, Bureau of Air Pollution Control, the responsibility of maintaining air quality in the City of Reno has been delegated by the NDEP to the Washoe County Air Quality Management Division (AQMD). The Washoe County Air Quality Management Division air quality regulations require a permit for the construction of a new air emissions source, modifying an existing air emissions source, or operating a new air emissions source.

Conformity with State Implementation Plans

The General Conformity Provision of the CAA of 1970 (42 USC 7401 *et seq*.; 40 CFR Parts 50-87) Section 176(c), including the USEPA's implementation mechanism, the General Conformity Rule (40 CFR Part 51, Subpart W), prohibits the Federal government from conducting, supporting, or approving any actions that do not conform to a USEPA-approved State Implementation Plan (SIP). A SIP is a state's self-authored blueprint for achieving and maintaining compliance with the goals of the CAA.

Federal agencies prepare written Conformity Determinations for Federal actions in or affecting NAAQS non-attainment areas or maintenance areas when the total direct and indirect emissions of non-attainment or maintenance pollutants exceed specified thresholds. Conformity with the SIP is demonstrated, and Conformity Determinations are not required, if project emissions fall below the threshold values.

According to the Washoe County Air Quality Management Division and USEPA, the Reno area of Washoe County is designated as a *maintenance* area for PM_{10} and carbon monoxide. Washoe County is designated as *full-attainment* or is not classified for all other criteria pollutants (Washoe County Air Quality Management Division, 2016).

3.3.2 Sensitive Receptors

Sensitive air quality receptors in the vicinity of VASNHCS campus include the surrounding residential neighborhoods. In addition, Veterans Memorial Elementary School (1200 Locust Street) is located approximately 600 feet south of the campus; Bailey Charter elementary School (1090 Bresson Avenue) is located approximately 600 feet southeast of the campus; Vaughn Middle School (1200 Bresson Avenue) is located approximately 900 feet southeast of the campus; and Booth Elementary School (425 East 9th Street) is located approximately 1,300 feet north of the campus. There are no other hospitals or schools located within 2,000 feet of VASNHCS campus. No other sensitive air quality receptors were identified in the site area.

3.3.3 Effects of the Proposed Action Alternative

Air emissions generated from the Proposed Action would have less-than-significant direct and indirect, short- and long-term adverse impacts to the existing air quality environment around the

VASNHCS campus. Impacts would include short-term increased air emission levels as a result of demolition and construction activities and long-term increased air emission levels associated with the operation of the renovated and modernized VASNHCS campus.

Demolition and construction activities would be performed in accordance with Federal, State and local air quality requirements. Requirements would include compliance with WCAQMD regulations and an approved permit for construction under Section 030.020 of the District Board of Health Regulations Governing Air Quality Management. Construction emissions are generally short-term, but may still have adverse impacts on air quality, primarily due to the production of dust. Dust can result from a variety of activities, including excavation, grading, and vehicle travel on paved and unpaved surfaces. Dust from construction can lead to adverse health effects and nuisance concerns, such as reduced visibility on nearby roadways. Implementing dust control measures (BMPs) significantly reduces dust emissions from construction. The amount of dust is dependent on the intensity of the activity, soil type and conditions, wind speed, and dust suppression activities used. Construction-related emissions also include the exhaust from the operation of construction equipment, including diesel particulate matter (DPM). The use of newer construction equipment with emissions controls and minimizing the time that the equipment is idling (BMPs) reduce construction equipment exhaust emissions. Implementation of BMPs, discussed below in Section 3.3.5, including the preparation and implementation of a CEMP, would minimize the anticipated less-than-significant adverse, short-term air quality impacts.

The structures to be renovated or demolished at the VASNHCS may contain asbestos-containing building materials (ACM) and lead-based paint (LBP). Predemolition/renovation asbestos surveys would be conducted for each of the structures to be renovated or demolished as part of the Proposed Action. The surveys would identify and quantify ACMs, which would be removed by licensed asbestos abatement contractors in accordance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) and Washoe County requirements prior to building renovation or demolition. Asbestos abatement procedures require the removal of ACM with various controls and monitoring to prevent asbestos emissions. The demolition of buildings containing LBP can result in the generation of LBP-containing dust. Standard demolition BMPs to control dust would reduce LBP dust emissions during demolition to less-than-significant levels.

The electrical output of the new backup power generators has not been determined; however, the generators would be fueled by diesel fuel. The generators would be equipped with emission control equipment to reduce air emissions during operation. Neither generator would be routinely used during normal VASNHCS operations; they would be used in the event of a power failure associated with the local utility provided electrical service. The generators would be operated periodically for short periods without power failure to ensure functionality in the event of a power failure. The two new backup generators would be more efficient and would individually require less fuel to be operated than the existing, undersized backup generator. As such, the two new backup generators would likely only result in a minor incremental increase in fuel to operate. Air emissions from the backup power generators would have less-than-significant adverse impacts to the existing air quality environment around the VASNHCS campus.

The Proposed Action would not have a significant adverse air quality impact during operation of the renovated and modernized VASNHCS facilities. A traffic study completed by GHD Inc. (GHD) estimated the Proposed Action would generate approximately 160 additional one-way

trips to/from the VASNHCS campus per day, a minor increase in traffic. The proposed parking structure would not have a significant impact on air quality. Vehicles that would use the proposed parking structure currently park on the streets in the residential areas surrounding the VASNHCS campus. The parking structure would not draw additional vehicles to the area. Therefore, there would be only a minor increase in vehicles (approximately 80 per day), vehicle miles travelled, and associated air emissions (including GHG emissions) as a result of the Proposed Action.

The VASNHCS is located in a *maintenance* area for PM_{10} and carbon monoxide. The minor air emissions from the Proposed Action renovation and modernization projects are not anticipated to exceed the *de minimis* emission levels for these NAAQS criteria pollutants.

The Proposed Action would have a negligible contribution to long-term global climate change. Direct GHG emissions from the short-term use of vehicles and mechanical equipment during construction of the Proposed Action projects would cease after the construction has been completed. Indirect GHG emissions from the use of electricity and from the minor increased vehicle traffic to and from the VASNHCS are also anticipated to be less-than-significant. GHG emissions as a result of Proposed Action construction and operational activities are anticipated to be well below the threshold of 25,000 metric tons of CO_2 annually.

Under Executive Order 13693, energy consumption per gross square foot of Federal buildings must be reduced by 2.5 percent per year in fiscal years 2015 through 2025. In addition, 10 CFR 433, as amended July 9, 2013, sets requirements for energy efficiency in new Federal buildings. Energy consumption by the Proposed Action projects would likely be reduced as a result of implementing more energy efficient building materials, equipment, and construction practices to meet these Federal requirements.

3.3.4 Cumulative Impacts

Air quality impacts associated with the Proposed Action are anticipated to be minor and would be reduced through careful coordination and implementation of the general BMPs and management measures, and compliance with regulatory requirements as outlined in Section 3.3.6. VA would implement similar management measures for each of its other planned projects. The less-than-significant air quality effects of the Proposed Action would have minor contribution to cumulative air quality impacts and would be properly managed working in close cooperation with pertinent regulatory agencies. Overall, no significant adverse cumulative air quality impacts to the environment, induced by changes by the Proposed Action, are anticipated within the ROI. Close and ongoing coordination between VA and the City of Reno, and other community agencies and representatives would serve to manage and control cumulative air quality effects within the ROI.

3.3.5 Effects of the No Action Alternative

Under the No Action Alternative, no air quality effects from the Proposed Action would occur.

3.3.6 Mitigation/Management Measures

No significant adverse air quality impacts are anticipated and no project-specific mitigation measures are required.

VA would implement the following BMPs and would comply with all applicable Federal, State and local air quality permitting requirements to maintain short-term and long-term air quality effects (i.e., air emissions) at acceptable, less-than-significant levels. These measures would include:

- Complete predemolition asbestos surveys for each building proposed for renovation or demolition.
- Remove identified ACM from buildings to be demolished by Nevada-licensed abatement contractors as required under NESHAP, State and local regulations.
- Use dust suppressants during building demolition to control potential LBP-containing dust emissions.
- Comply with the Washoe County regulations regarding fugitive dust emissions.
- Comply with the Washoe County air quality regulations and obtain an approved permit for construction activities.
- Develop and implement a Construction Emissions Mitigation Plan (CEMP) to reduce impacts from fugitive dust and diesel particulate matter. The CEMP would include measures such as the use of newer construction equipment with emissions controls, minimizing the time that equipment is idling, etc. to reduce construction equipment exhaust emissions.
- Use appropriate dust suppression methods during onsite demolition/construction activities. Available methods include application of water, dust palliative, or soil stabilizers; use of enclosures, covers, silt fences, or wheel washers; and suspension of demolition and earth-moving activities during high wind conditions.
- Maintain an appropriate speed to minimize dust generated by vehicles and equipment on unpaved surfaces.
- Cover haul trucks with tarps.
- Stabilize previously disturbed areas through re-vegetation or mulching if the area would be inactive for several weeks or longer.
- Visually monitor all construction activities regularly, particularly during extended periods of dry weather, and implement dust control measures when appropriate.

In addition, VA would secure and comply with any required air emissions permits from the Washoe County, as appropriate.

3.4 Cultural Resources

Cultural resources are the physical evidence of our heritage. Cultural resources are: historic properties as defined in the National Historic Preservation Act (NHPA), cultural items as defined in the Native American Graves Protection and Repatriation Act (NAGPRA), archaeological resources as defined in the Archaeological Resources Protection Act (ARPA), sacred sites as defined in EO 13007 to which access is provided under the American Indian Religious Freedom Act (AIRFA), and collections as defined in 36 CFR 79, *Curation of Federally Owned and Administered Collections*. Requirements set forth in NEPA, NHPA, ARPA, NAGPRA, AIRFA, 36 CFR 79, EO 13007, and Presidential Memorandum on *Government-to-Government Relations with Native American Tribal Governments* define the basis of VA's compliance responsibilities

for management of cultural resources. Regulations applicable to VA's management of cultural resources include those promulgated by the Advisory Council on Historic Preservation (ACHP) and the National Park Service (NPS).

3.4.1 Architectural and Archaeological Resources

VA completed cultural and historic resources surveys and assessments of the VASNHCS campus and surrounding area in 2014 and 2015. These assessments included a review of readily available data pertinent to the history, prehistory, ethnography, and environment of the area of VASNHCS, identified experts and others likely to be interested in and knowledgeable about the history, archaeology, and culture of the area, and completed a field inspection of the study area. Based on these analyses, and in consultation with the Nevada State Historic Preservation Office (SHPO), VA identified four historic properties/districts within the Area of Potential Effect (APE) of VA's various planned projects for the VASNHCS campus. None of these properties/districts are currently listed on the National Register of Historic Places (NRHP); however, all four were determined to be eligible for listing on NRHP. The four NRHP-eligible historic districts include:

- VASNHCS Campus Historical District (SHPO Resource D191). This district includes the original VA hospital on the western portion of the VASNHCS campus, which opened in 1939. Specific elements included within this district include: Building 1A, Building 1, the concrete flagpole base and flagpole, and the entry drive.

- City of Reno Wells Avenue Neighborhood Conservation District. This district, dedicated by the City of Reno in March 2013, has not formally been determined to be eligible for inclusion in NRHP, but for the purpose of VA's Section 106 of the NHPA and NEPA analyses, is considered to be NRHP-eligible. The Wells Avenue Neighborhood Conservation District is located west of the western portion of the VASNHCS campus (west of Locust Street). The district is designated from Ryland Street south to Vassar Street, and Holcomb Avenue east to Locust Street. The Wells Avenue Neighborhood Conservation District's period of significance is from 1904 to 1945.

- The Burke's Addition Historic District (SHPO Resource D189). This district is eligible for listing in the NHRP as an important example of masonry mid-twentieth century style architecture from 1904 through 1945. Burke's Addition was developed as an addition to the Wells Avenue Neighborhood with the majority of the buildings built prior to 1945. Burke's Addition includes a good representative mix of single-family housing styles of good integrity that reflect the period of significance (1904 to 1945). The Burke's Addition Historic District is located north and south of the western portion of the VASNHCS campus, but does not include the campus. The northern portion of the district is bounded to the north by Roberts Street, to the east by Kirman Avenue, to the south by East Taylor Street, and to the west by Locust Street. The southern portion of the district is bounded to the north by Burns Street, to the east by Kirman Avenue, to the south by Wander Street, and to the west by Locust Street.

- The Belli Addition Historic District (SHPO Resource D190). This district is eligible for listing in the NRHP as an important example of masonry mid-twentieth century style architecture from 1940 through 1965. As a whole, the subdivision retains very good integrity, particularly the continuity of architectural design, and represents an important period in the history of Reno's suburban growth and development of multi-family housing. Most of the housing

developed in the Belli Addition was rental units, perhaps geared to the divorce and gaming industries, as well as employees at the VA hospital. This district is located north of the eastern portion of the VASNHCS campus and is bounded by Roberts Street to the north, Wilkinson Avenue to the east, Belli Drive to the south, and Kirman Avenue to the west.

The boundaries of the NRHP-eligible historic districts are depicted on Figures 7 and 8.

The cultural resource assessments included and archaeological evaluation and determined that it is unlikely that significant archaeological resources are present at the VASNHCS campus.

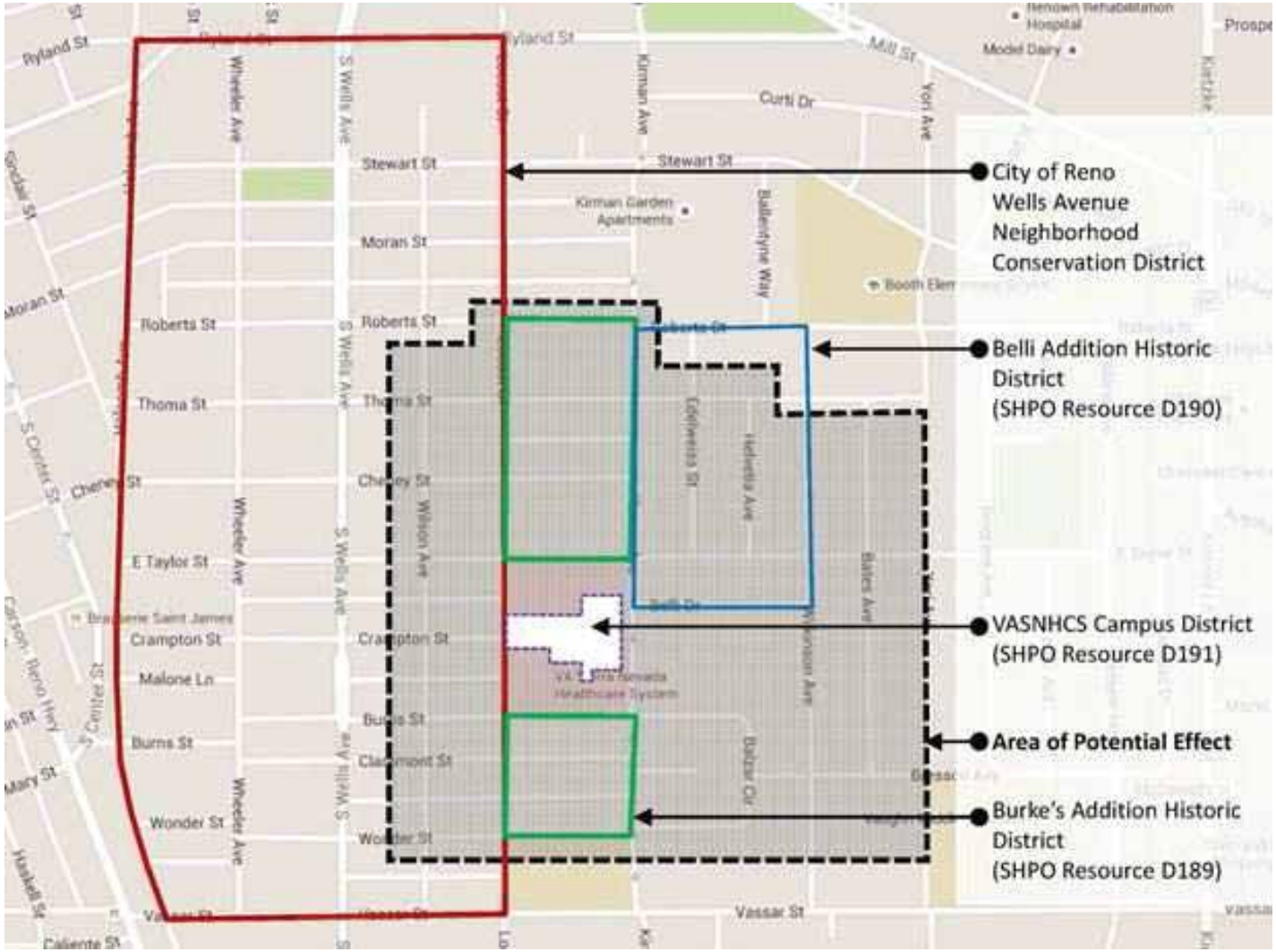

FIGURE 7
AREA HISTORIC DISTRICTS

ENVIRONMENTAL ASSESSMENT
PROPOSED VASNHCS CAMPUS RENOVATION AND MODERNIZATION
RENO, NEVADA

PREPARED FOR

U.S. DEPARTMENT OF VETERANS AFFAIRS

TTL PROJECT NO. 12181.03

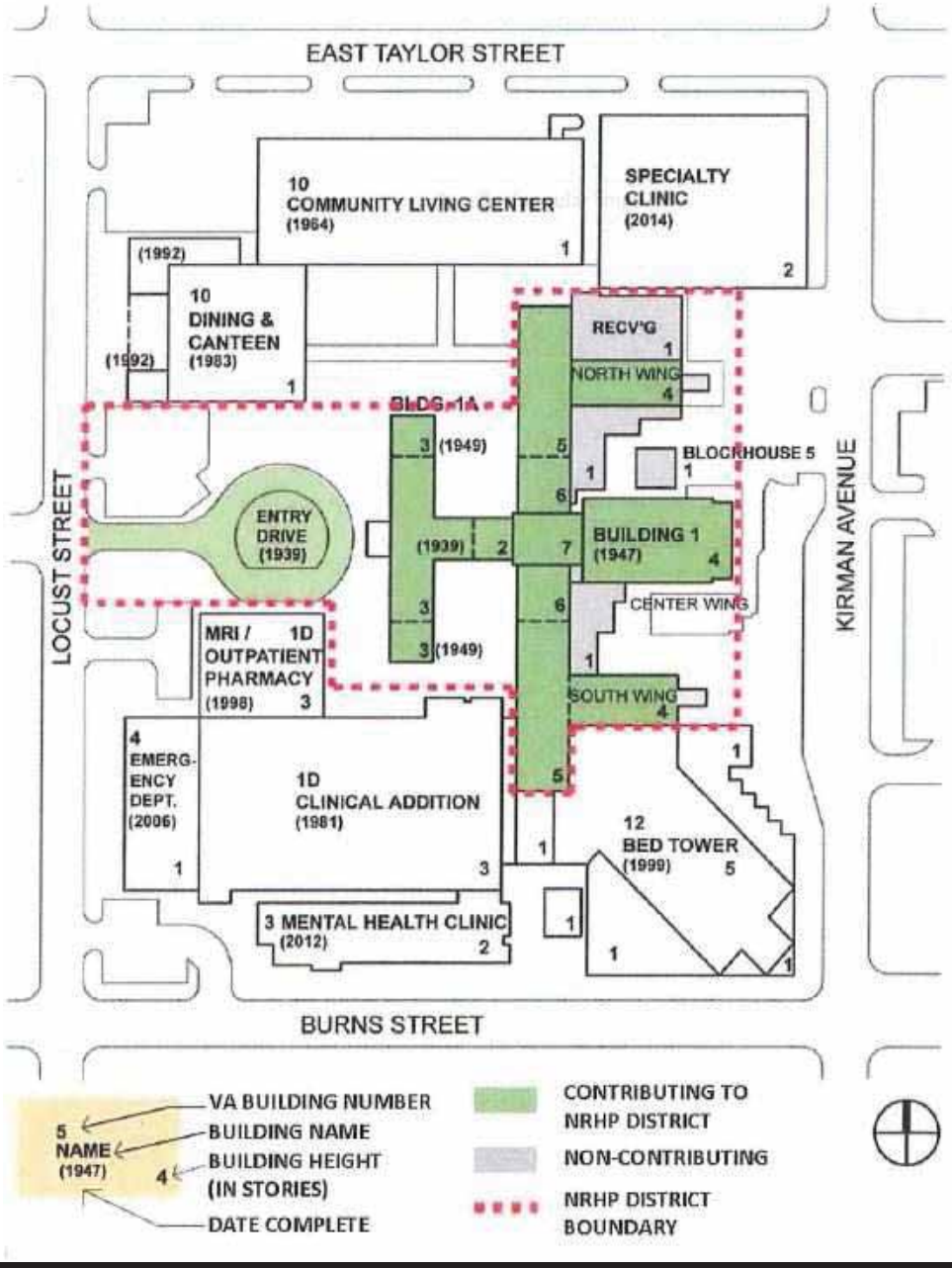

FIGURE 8
VASNHCS CAMPUS HISTORIC DISTRICT

ENVIRONMENTAL ASSESSMENT
PROPOSED VASNHCS CAMPUS
RENOVATION AND MODERNIZATION
RENO, NEVADA

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12181.03

3.4.2 Native American Consultation/Coordination

For proposed actions, Federal agencies are required to consult with Federally-recognized Native American Tribes in accordance with the NEPA, NHPA, NAGPRA, and EO 13175. VA consulted with 13 Federally-recognized Native American tribes as part of this NEPA process, in accordance with 36 CFR 800.2 and EO13175, *Consultation and Coordination with Indian Tribal Governments*, 6 November 2000. These tribes, identified as having possible ancestral ties to the area as identified by the SHPO and/or the Native American Consultation Database (NACD), were invited by VA to participate in the EA process as Sovereign Nations per EO 13175. A list of the tribes that were consulted is provided in Section 10. As of the date of this EA, no responses have been received from the tribes (VA 2016).

3.4.3 Effects of the Proposed Action Alternative

The Proposed Action would have a less-than-significant adverse effect to cultural resources. None of the Proposed Action projects would alter or directly affect the components of the VASNHCS Campus Historic District or the off-campus historic districts. The Proposed Action would result in less-than-significant indirect adverse effects to the historic districts by altering the appearance of the VASNHCS campus.

In February 2016, VA submitted Section 106 of the NHPA consultation letters to SHPO for the proposed new CLC, proposed demolition of existing east campus buildings, and the proposed new parking structure in the southeastern portion of the campus. These are the primary construction projects of the Proposed Action (the projects most likely to have an adverse cultural resource effect) and are projects proposed to begin prior to the other Proposed Action projects. The consultation letters described the proposed project, VA's analysis of the potential cultural resources effects, and VA's determination that the projects would have no adverse effect on cultural resources. In letters dated April 15, 2016 and April 19, 2016, SHPO concurred with VA's determination that these projects would have no adverse effects on historic properties. The SHPO concurrence letters are included in Appendix A.

VA is currently working with the SHPO and ACHP to establish a Programmatic Agreement (PA) to address VA's Section 106 consultation requirements for the remaining Proposed Action projects and other future projects associated with the renovation and modernization of the campus. The Draft PA was submitted to SHPO on July 7, 2016. The PA will establish a stream-lined process for Section 106 consultation. The PA establishes a list of possible VA activities that would have limited or no potential to affect historic properties and would require no further Section 106 consultation. Activities such as the Proposed Action interior renovations are included on this list. Activities not included on the list would require VA assessment of potential adverse effects to historic properties. Projects determined to have no adverse historic property effects would be documented in an annual report submitted to SHPO. If VA determines that a proposed project would have an adverse effect to historic properties, VA will notify SHPO of the potential adverse effects with a proposed mitigation plan for review and concurrence. The PA also describes other procedures and requirements, such as required actions in the event of the discovery of an unanticipated archaeological site and reporting requirements.

3.4.4 Cumulative Impacts

The VASNHCS campus and surrounding area includes four NRHP-eligible historic districts that could be adversely affected by the Proposed Action and other planned projects at the VASNHCS campus. However, VA has determined and SHPO has concurred that the primary Proposed Action construction projects would have no adverse effect on historic properties. The remaining Proposed Action projects also are not anticipated to have an adverse effect on historic properties. As such, the Proposed Action would not contribute to cumulative cultural resource impacts.

VA has had on-going consultation with the SHPO regarding the Proposed Action, the Land Acquisition and Kirman Avenue Modification Project, the Building 1 Seismic Upgrade and Clinical Expansion Project, and other more distant potential future VASNHCS campus projects. Through this process, VA had address/is addressing individual projects as well as the comprehensive planned transformation of the VASNHCS campus, thereby addressing potential cumulative impacts.

The residential land acquisition project could result in an adverse effect to the Belli Addition Historic District as some of the structures proposed for acquisition and demolition contribute to the historic district. In consultation with SHPO, VA developed a plan to mitigate cultural resource effects associated with the Land Acquisition and Kirman Avenue Modification Project. The mitigation measures have been formalized in a Draft Memorandum of Agreement (MOA) between VA and SHPO and other interested parties.

The Building 1 Seismic Upgrade and Clinical Expansion Project would result in a visual change to the western portion of the VASNHCS campus and VA, in consultation with SHPO, has concluded that this project would adversely affect the VASNHCS Campus Historic District. In consultation with SHPO, VA has developed and finalized a MOA to mitigate cultural resource effects associated with the Building 1 Seismic Upgrade and Clinical Expansion Project.

Future projects at the VASNHCS will be addressed through the PA. Compliance with the PA will ensure that significant cultural resources impacts, if any, would be mitigated.

3.4.5 Effects of the No Action Alternative

Under the No Action Alternative, no activities by VA would occur and there would be no cultural resources impacts.

3.4.6 Mitigation/Management Measures

No project-specific mitigation measures are anticipated to be required for the Proposed Action; VA and SHPO have determined that the primary construction/demolition projects of the Proposed Action would not adversely affect historic properties. VA would ensure that the Proposed Action would have no significant cultural resource effects by:

- Finalizing the PA in conjunction with SHPO and ACHD and complying with the PA requirements.

In addition, implementing BMPs to reduce impacts during construction would further minimize potential impacts to local cultural resources. All contractors involved in site preparation and

ground disturbing construction would be advised that all work must stop immediately in the event that archaeological features, artifacts, or remains are discovered during project construction. The construction contractor would immediately cease work until VA, a qualified archaeologist and the SHPO are contacted to properly identify and appropriately treat discovered items in accordance with the PA.

3.5 Geology and Soils

According to the Physiographic Regions of the US, dated 2003 and published by the United States Geological Survey (USGS), the City of Reno is located near the western boundary of the Basin and Range physiographic province and is characterized by Cenozoic continental deposits, early and late Cenozoic volcanic rocks, and Mezozoic granite rocks. The area is located in the Washoe Valley, resulting from enormous volumes of material (i.e., sediment) that were eroded from the surrounding mountains beginning in middle Miocene time period (about 17 million years before present), including an average sediment thickness of about 2,000 feet.

The Basin and Range physiographic province is characterized by lithospheric (crust and upper mantle) extension and thinning. Data suggest that a discontinuity in the earth's crust and upper mantle associated with the San Andreas Fault caused vertical thinning and horizontal extension in the Basin and Range physiographic province (Earth System History, S.M. Stanley, 2005). As a result, the Reno area is proximal to several fault lines and is classified as seismically active. Fault lines in the region include the Sierra Nevada Frontal fault system and the Mount Rose, the Spanish Springs Valley, the Peavine Peak fault zones, located at least three miles from the VASNHCS campus. However, these fault zones are not known to be currently active and the VASNHCS campus area has not been designated as an earthquake fault zone.

The Reno, Nevada USGS Topographic Quadrangle (dated 2015) indicates that surficial topography at the VASNHCS campus area [elevation approximately 4,460 feet above mean sea level (amsl)] gently slopes down to the southeast. The nearest surface water body is the Truckee River, located approximately 4,300 feet north of the campus.

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the VASNHCS campus contains two soil types identified as Washoe gravelly sandy loam, 0 to 4 percent slopes (majority of campus) and Oest bouldery sandy loam, 2 to 8 percent slopes (northwest portion of campus). These soils are characterized as well drained soils with moderately high to high permeability and water table greater than 80 inches below ground surface (bgs). Site soils are shown on Figure 9.

According to a water well log for 801 Belli Drive, provided by the Washoe County Health District (WCHD), the soils in the site vicinity consist of sandy clay and rock from the ground surface to at least 272 feet bgs and intervals of sand and gravel and sandy clay from 272 to 320 feet bgs.

Previous subsurface explorations in the vicinity of the VASNHCS campus identified medium dense to very dense sandy soil with gravel, cobbles, and boulders (Kleinfelder, 2016).

3.5.1 Prime and Unique Farmland Soils

Prime and Unique Farmlands are regulated in accordance with the Farmland Protection Policy Act (FPPA) (7 USC 4201, *et seq*.) to ensure preservation of agricultural lands that are of Statewide or local importance. Soils designated as prime farmland are capable of producing

high yields of various crops when managed using modern farming methods. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion. Unique farmlands are also capable of sustaining high crop yields and have special combinations of favorable soil and climate characteristics that support specific high-value foods or crops. According to the USDA NRCS Web Soil Survey, the soils on the VASNHCS campus are classified as farmland of statewide importance.

3.5.2 Soil Erosion and Stormwater Management

The City of Reno has been granted a National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) permit which authorizes the discharge of municipal storm water runoff associated with construction and operation of public and private projects to the receiving waters of the Truckee River. It also requires the continued administration, implementation, and enforcement of a Storm Water Management Plan (SWMP) to mitigate pollution in stormwater runoff within the Truckee Meadows MS4 permit area. NDEP has issued a General Permit for Stormwater Discharges Associated with Construction Activity (NVR100000) which details specific requirements for owners and operators of applicable private and public construction sites to control erosion, sediment and waste discharges to the municipal storm drain system. Construction projects that propose to disturb more than one acre of the ground surface must obtain an NPDES permit and comply with the NPDES requirements. The NPDES permitting process is administered by the Truckee Meadows Stormwater Quality Management Program (TMSQMP) and includes specific details regarding construction site BMPs, structural controls, and low impact development (LID) practices.

3.5.3 Effects of the Proposed Action Alternative

No significant changes to topography or drainage at the VASNHCS campus would be expected as a result of the Proposed Action. The construction projects associated with the Proposed Action would be designed and implemented in concert with the site's current topography and drainage and would be designed and implemented to drain to the municipal stormwater system.

All of the soils on the VASNHCS campus are classified as farmland of statewide importance. However, based on the current use of the site as a fully developed medical campus within an urban area of the City of Reno, there would be no loss of prime farmland soils due to the Proposed Action. In addition, the VASNHCS campus is located in a designated urban area and is exempt from the FPPA requirements.

Less-than-significant impacts to geology are anticipated. Based on currently available data, no active significant faults are known to occur in the VASNHCS campus area and the area has not been designated as an earthquake fault zone. As such, no impacts associated with seismic hazards are identified. No significant impacts to mineral resources are anticipated, as the Proposed Action would not involve the commercial extraction of mineral resources, nor affect mineral resources considered important on a local, state, national, or global basis.

During demolition and construction, less-than-significant, direct and indirect, short-term adverse soil erosion and sedimentation impacts would be possible as the construction projects associated with the Proposed Action are implemented. Demolition and construction would disturb the soil surface. The exposed soil would then be susceptible to erosion by wind and

surface runoff. Exposure of the soils during demolition and construction has the potential to result in off-site discharges of sediment-laden runoff. However, such potential adverse erosion and sedimentation effects would be prevented through utilization of appropriate BMPs and adherence to the terms of the NPDES General Permit for Construction Activity permit.

Once demolition and construction are complete, no long-term erosion and sedimentation impacts would be anticipated due to the nature of the Proposed Action. Existing Proposed Action construction areas are almost entirely covered with impervious surfaces and will remain so following the completion of the Proposed Action. Stormwater collection and runoff would be controlled by an appropriately designed stormwater system, to be included as part of final Proposed Action project design.

3.5.4 Cumulative Impacts

The VASNHCS campus is fully developed with mostly impervious surfaces. The Proposed Action projects and other planned VASNHCS projects would include general BMPs and management measures to control erosion and sedimentation. As such, no significant adverse cumulative soil and erosion impacts are anticipated.

3.5.5 Effects of the No Action Alternative

Under the No Action Alternative, no demolition, construction, or renovation by VA would occur and there would be no impacts to soil, topography or geology.

3.5.6 Mitigation/Management Measures

No significant adverse geology and soil impacts are anticipated and no project-specific mitigation measures are required.

Implementing BMPs to reduce erosion and sedimentation impacts during construction would further minimize the potential impacts on local soils and water quality. VA would design site improvements in accordance with the requirements of EO 13514/EISA Section 438 with respect to stormwater runoff quantity and characteristics.

VA would develop, submit to the TMSQMP, and have approved, a NPDES General Permit for Construction Activity for the implementation of the Proposed Action construction and demolition activities. The NPDES permit would require storm water runoff and erosion management through structural controls, LID practices, earth berms, detention basins, vegetative buffers and filter strips, and spill prevention and management techniques. The construction contractor would implement the following as appropriate and necessary to protect surface water quality, as part of NPDES permit:

- Implement sediment and erosion control measures as required by the NPDES permit.
- Install and monitor erosion-prevention measures, such as silt fences and water breaks, detention basins, filter fences, sediment berms, interceptor ditches, straw bales, rip-rap, and/or other sediment control structures; re-spread stockpiled topsoil; and seed/re-vegetate areas temporarily cleared of vegetation.
- Retain on-site vegetation to the maximum extent possible.

- Plant and maintain soil-stabilizing vegetation on disturbed areas.
- Use native vegetation to re-vegetate disturbed soils.

The construction contractor would obtain all required permits before any proposed construction activities commence and would adhere to permit conditions during all onsite construction activities.

If measures in the NPDES permit are approved and correctly utilized for site development, direct soil erosion and resulting indirect sedimentation impacts would be minimized to less-than-significant levels. Successful implementation of these measures would ensure that the Proposed Action is in compliance with State and Federal water quality standards and minimizes both the short- and long-term potential for erosion and sedimentation.

FIGURE 9 **SOILS MAP** ENVIRONMENTAL ASSESSMENT PROPOSED VASNHCS CAMPUS RENOVATION AND MODERNIZATION RENO, NEVADA	PREPARED FOR **U.S. DEPARTMENT OF VETERANS AFFAIRS** TTL PROJECT NO. 12181.03

3.6 Hydrology and Water Quality

3.6.1 Surface Waters

The VASNHCS campus is located in the Truckee River Watershed. Stormwater runoff from the campus infiltrates into onsite soils or discharges into the municipal storm sewer system. The nearest surface water body to the campus is the Truckee River, located approximately 4,300 feet north. No surface water features are located at the VASHNCS campus or the surrounding properties.

3.6.2 Groundwater

According to the Groundwater Atlas of the United States, the VASNHCS campus is not underlain by significant usable aquifers. However, Basin-Fill aquifers are regionally located around Reno and are characterized by unconsolidated sand and gravel of Quaternary and Tertiary age. The water well log for 801 Belli Drive, provided by the WCHD, indicated that the well is screened from 271 to 320 feet bgs, and the static groundwater level was 270 feet bgs. According to a NDEP Complaint/Spill Report Form for 805 Belli Drive, dated January 14, 2002, shallow groundwater in the vicinity of the Site parcels is anticipated to be between 20 and 21 feet bgs.

3.6.3 Effects of the Proposed Action Alternative

The Proposed Action would not result in significant adverse impacts to surface water resources, provided the BMPs described in Sections 3.5.6 and 3.6.6 are implemented. These BMPs would control construction-related impacts of soil erosion and sedimentation, and would provide a proper onsite storm water management system. These practices would prevent adverse impacts to surface waters near the VASNHCS campus.

The Proposed Action would have less-than-significant impacts to groundwater quality. It is not anticipated that groundwater would be encountered during the construction activities or that excavation dewatering would be required. No groundwater use is planned as part of the Proposed Action.

3.6.4 Cumulative Impacts

The VASNHCS campus is already fully developed with mostly impervious surfaces, and the Proposed Action projects and other planned VASNHCS projects would include general BMPs and management measures to control erosion and sedimentation and surface water impacts. As such, cumulative surface water impacts would be less-than-significant.

3.6.5 Effects of the No Action Alternative

Under the No Action Alternative, no demolition, construction, or renovation by VA would occur and there would be no impacts to hydrology and water quality.

3.6.6 Mitigation/Management Measures

No adverse hydrology and water quality impacts are anticipated and no mitigation measures are required.

To minimize potential adverse impacts to surface waters in the site area, VA would implement the following BMPs:

- VA would implement BMPs to reduce erosion and sedimentation impacts during construction as described in Section 3.5.6.
- VA would ensure that the Proposed Action design includes sufficient stormwater management so as not to adversely affect the flood elevations or water quantity/quality of downstream receiving waters. Post-project hydrology shall replicate pre-project hydrology through the appropriate engineering design and implementation of a stormwater management system at the site.
- Site improvements would be designed in accordance with the requirements of EO 13514/EISA Section 438 with respect to stormwater runoff and characteristics.

Implementation of these BMPs would ensure identified water resources impacts are maintained at less-than-significant levels.

3.7 Wildlife and Habitat

3.7.1 Vegetation and Wildlife

The VASNHCS campus is fully developed with buildings, paved areas, and limited landscaping. No natural vegetation communities supportive of wildlife species are present on the VASNHCS campus. The lands immediately adjacent to the VASNHCS campus are fully developed with residential land uses. Vegetative communities are not likely to support wildlife; the surrounding lands are likely to support minimal wildlife species associated with urban areas in the City of Reno.

Vegetation and landscaping are managed by the City of Reno through the Chapter 8.32 (Trees and Shrubs), Chapter 18.12 (General Development and Design Standards), and Chapter 18.08 (Zoning) of the RLDC.

3.7.2 Threatened and Endangered Species

As part of the preparation of this EA, the US Fish and Wildlife Service (USFWS), Reno Fish and Wildlife Office (RFWO), NDEP, and Nevada Department of Conservation and Natural Resources (NDCNR), Natural Heritage Program (NHP) were contacted to identify any potential for presence of State or Federally-listed threatened or endangered species on or in the vicinity of the VASNHCS campus.

According to the USFWS RFWO, information pertaining to threatened, endangered, and candidate species and critical habitat can be obtained from the USFWS Information, Planning, and Conservation System (IPAC) internet website. According to the USFWS IPAC website, one Federally-listed endangered fish species, one Federally-listed endangered plant species, and

one Federally-listed endangered insect species are known to occur within Washoe County, Nevada. Two Federally-listed threatened fish species and one Federally-listed threatened plant species are known to occur within Washoe County. In addition, two Federally-listed candidate bird species and one Federally-listed candidate bird species are known to occur within Washoe County. Based on the lack of natural habitat at the VASNHCS campus and immediate surrounding area, none of the identified species are likely to be present.

The NDCNR NHP stated that there are no recorded “at risk” species in the vicinity of the VASNHCS campus. However, the NDCNR NHP stated that there is potential habitat for the Tricolored Blackbird, a species classified as Critically Imperiled, and the Spotted Bat, a species classified as a Nevada Bureau of Land Management (NBLM) Sensitive Species. The NDCNR recommended that VA consult with the Nevada Department of Wildlife (NDOW) for additional information.

According to the NDOW internet website, Tricolored Blackbird habitats include annual grasslands, wet and dry vernal pools, and other seasonal wetlands. Spotted Bat habitats include wetlands, riparian, rock, cliff, desert, shrubland, grassland, or woodland habitats usually near a permanent water source. They roost in caves and rock crevices mainly, but may also occasionally use mines, caves, and buildings as roost sites. Based on the habitat requirements for these species and the developed nature of the VASNHCS campus and surrounding area, it is unlikely that these species are present.

3.7.3 Effects of the Proposed Action Alternative

The Proposed Action at the VASNHCS campus would have less-than-significant adverse effects on biological resources. The Proposed Action construction activities may include the removal of small landscaped areas; however, no special status species are anticipated to occur in these areas.

Based on the habitat requirements of the Federally-listed and State-listed special status species for Washoe County and the highly developed, urban nature of VASNHCS campus and surrounding area, these species are not likely to be present in the area or affected by the Proposed Action.

3.7.4 Cumulative Impacts

Based on the highly developed, urban nature of the VASNHCS campus and surrounding area, no significant cumulative wildlife or habitat effects are anticipated with the Proposed Action in conjunction with the other planned VASNHCS projects.

3.7.5 Effects of the No Action Alternative

Under the No Action Alternative, no demolition, construction, or renovation by VA would occur. No impacts to biological resources would occur.

3.7.6 Mitigation/Management Measures

No mitigation measures are required. VA would implement the following BMPs to reduce biological resources impacts during construction and operation:

- Native species would be used to the extent practicable when re-vegetating land disturbed by facility construction to avoid the potential introduction of non-native or invasive species per the requirements of EO 13112.

- Incorporate pollinator friendly practices based on CEQ's *Supporting the Health of Honey Bees and other Pollinators* when designing landscaped areas.

- VA would comply with, to the extent practicable, Chapter 8.32 (Trees and Shrubs), Chapter 18.12 (General Development and Design Standards), and Chapter 18.08 (Zoning) of the RLDC.

3.8 Noise

The existing noise environment around the VASNHCS campus is dominated by vehicle traffic along Kirman Avenue. Locust Street, and East Taylor Street, and to a lesser degree, Belli Drive, Wilkinson Avenue, Burns Street, and Balzar Circle. In addition, the operations and equipment associated with the VASNHCS play a noticeable role in the noise environment in the vicinity of the VASNHCS campus. No other notable noise-generating sources are present in the immediate vicinity of the VASNHCS campus. As such, the noise environment of the site can be characterized as that typical of a primarily residential, urban area.

The City of Reno maintains Ordinance 6286 (Noise Ordinance). The ordinance prohibits any continuous noise above 65 decibels (dB). The ordinance also limits times of construction activities to between 6:00 am and 7:00 pm.

3.8.1 Effects of the Proposed Action Alternative

Noise generated from the Proposed Action would have short-term impacts to the existing noise environment due to the demolition, construction, and some of the renovation activities at the VASNHCS campus. Noise generating sources during demolition, construction, and renovation activities would be associated primarily with standard construction equipment and construction equipment transportation. These increased noise levels could directly affect the neighboring area, including the residential properties located in the vicinity of the VASNHCS campus.

Demolition and construction activities generate noise by their very nature and are highly variable, depending on the type, number, and operating schedules of equipment. Demolition and construction projects are usually executed in stages, each having its own combination of equipment and noise characteristics and magnitudes. Demolition and construction activities are expected to be typical of other similar projects and would include mobilization, demolition, site preparation, excavation, utility development, heavy equipment movement, construction, and paving roadways and parking areas. The most prevalent noise source is the internal combustion engine. General construction equipment using engines includes, but is not limited to: heavy, medium, and light equipment such as excavators; roller compactors; front-end loaders; bulldozers; graders; backhoes; dump trucks; water trucks; concrete trucks; pump trucks; utility trucks; cranes; man lifts; forklifts; and lube, oil, and fuel trucks.

Peak noise levels vary at a given location based on line of sight, topography, vegetation, and atmospheric conditions. In addition, peak noise levels would be variable and intermittent because each piece of equipment would only be operated when needed. However, peak noise levels would be considerably higher than existing noise levels. Relatively high peak noise levels

in the range of 93 to 108 dBA (decibels, A-weighted scale) would occur on the active construction site, decreasing with distance from the construction area. Table 1 presents peak noise levels that could be expected from a range of construction equipment during proposed demolition and construction activities.

Generally speaking, peak noise levels within 50 feet of active demolition and construction areas and material transportation routes would most likely be considered “striking” or “very loud”, comparable to peak crowd noise at an indoor sports arena. At approximately 200 feet, peak noise levels would be loud - approximately comparable to a garbage disposal or vacuum cleaner at 10 feet. At 0.25 mile, demolition, construction, and renovation noise levels would generally be quiet enough so as to be considered insignificant, although transient noise levels may be noticeable at times.

Combined peak noise levels, or worst-case noise levels when several loud pieces of equipment are used in a small area at the same time as described in Table 1, are expected to occur rarely, if ever, during a project. However, under these circumstances, peak noise levels could exceed 90 dBA within 200 feet of the demolition and construction areas, depending on equipment being used.

Although noise levels would be higher in the immediate area, the intermittent nature of peak demolition and construction noise levels would not create the steady noise level conditions for an extended duration that could lead to hearing damage. Demolition and construction workers would follow standard Federal Occupational Safety and Health Administration (OSHA) requirements to prevent hearing damage.

Areas that could be most affected by noise from demolition and construction activities include those closest to the construction footprint, including the VASNHCS campus and surrounding residential neighborhoods. Veterans Memorial Elementary School, located approximately 600 feet south of the VASNHCS campus, and Bailey Charter Elementary School, located approximately 600 feet southeast of the campus, would be less affected by noise from the Proposed Action. Indoor noise levels would be expected to be 15-25 decibels lower than outdoor levels.

Indirect impacts during demolition and construction include noise from workers commuting and material transport. Area traffic volumes and noise levels would increase slightly as employees commute to and from work at the project area, and delivery and service vehicles (including trucks of various sizes) transit to and from the site. Because trucks are present during most phases of demolition and construction and would enter and exit the site via local thoroughfares, truck noises tend to impact more people over a wider area. For this Proposed Action, persons in the residential areas near the VASNHCS campus would experience temporary increases in truck traffic noise during day-time hours. These effects are not considered to be significant because they would be temporary, intermittent, and similar to existing traffic noise levels in the area.

Table 1. Peak Noise Levels Expected from Typical Construction Equipment

Source	Peak Noise Level (dBA, attenuated)							
	Distance from Source (feet)							
	0	**50**	**100**	**200**	**400**	**1,000**	**1,700**	**2,500**
Heavy Truck	95	84-89	78-93	72-77	66-71	58-63	54-59	50-55
Dump Truck	108	88	82	76	70	62	58	54
Concrete Mixer	108	85	79	73	67	59	55	51
Jack-hammer	108	88	82	76	70	62	58	54
Scraper	93	80-89	74-82	68-77	60-71	54-63	50-59	46-55
Bulldozer	107	87-102	81-96	75-90	69-84	61-76	57-72	53-68
Generator	96	76	70	64	58	50	46	42
Crane	104	75-88	69-82	63-76	55-70	49-62	45-48	41-54
Loader	104	73-86	67-80	61-74	55-68	47-60	43-56	39-52
Grader	108	88-91	82-85	76-79	70-73	62-65	58-61	54-57
Pile driver	105	95	89	83	77	69	65	61
Forklift	100	95	89	83	77	69	65	61

Worst-Case Combined Peak Noise Level (Bulldozer, Jackhammer, Scraper)					
Combined Peak Noise Level	Distance from Source (feet)				
	50	**100**	**200**	**¼ Mile**	**½ Mile**
	103	97	91	74	68

Source: Tipler 1976

Upon completion of the Proposed Action, vehicle traffic to and from the campus would comprise the majority of the noise environment around the VASNHCS campus; similar to existing conditions. Vehicle traffic using the proposed new parking structure would not produce excessive noise. Vehicles that would use the parking structure currently park on the streets in the residential neighborhoods around the VASNHCS campus. The Proposed Action is estimated to increase traffic to the VASNHCS by approximately 80 vehicles per day. As such, the Proposed Action would produce less-than-significant adverse noise impact on surrounding land uses.

3.8.2 Cumulative Impacts

Based on proximity and timing, the Proposed Action could have cumulative short-term noise impacts during construction, in conjunction with the other planned VASNHCS construction projects. Cumulative noise impacts after construction, during routine medical center operation, would remain at approximate current levels.

Peak noise levels would occur in the active construction areas and would decrease with distance away from these active areas. VA would implement general BMPs to reduce noise during each of its construction projects, as outlined in Section 3.8.4, which would maintain cumulative noise impacts as less-than-significant levels. Upon completion of the various planned VASNHCS projects, vehicle traffic to and from the campus would comprise the majority of the noise around the VASNHCS campus; similar to existing conditions. The increased vehicle traffic to the campus as a result of the planned projects would not produce excessive noise; noise levels would be consistent with existing noise levels in the area. As such, the cumulative noise impacts of the Proposed Action and the other planned VASNHCS projects would be less-than-significant on surrounding land uses.

3.8.3 Effects of the No Action Alternative

Under the No Action Alternative, the noise environment surrounding the VASNHCS campus would not change. The VASNHCS campus would continue its current operations.

3.8.4 Mitigation/Management Measures

No significant adverse noise impacts are anticipated and no project-specific mitigation measures are required.

Implementing BMPs to reduce noise generated during demolition and construction would further minimize the potential impacts on the local noise environment. To minimize the potential for adverse, short-term noise impacts, the contractor would implement the following typical noise control BMPs, as applicable. These measures would be briefed to the contractor at a kick-off meeting and daily at tailgate safety meetings. The onsite construction manager would be responsible to immediately address noise issues, if they arise. These BMPs include:

- Comply with the City of Reno Noise Ordinance, to the extent practicable.
- Make best efforts to conduct demolition and construction activities between the hours of 6:00 am and 7:00 pm, Monday through Saturday.
- Limit construction activities on Sundays.
- Coordinate proposed construction activities in advance with adjacent sensitive receptors. Let the local residents know what operations would be occurring at what times, including when they would start and when they would finish each day. Post signage, updated daily, at the entry points of the site providing current construction information, including schedule and activity.
- Locate stationary equipment as far away from sensitive receptors as possible.
- Select material transportation routes as far away from sensitive receptors as possible.
- Shut down noise-generating heavy equipment when it is not needed.
- Maintain noisy equipment per manufacturer’s recommendations.
- Encourage construction personnel to operate equipment in the quietest manner

practicable (e.g., speed restrictions, retarder brake restrictions, engine speed restrictions, etc.).

Implementation of these BMPs would reduce the potential for short-term adverse noise impacts to acceptable levels, notably for nearby sensitive receptors (nearby residents and schools).

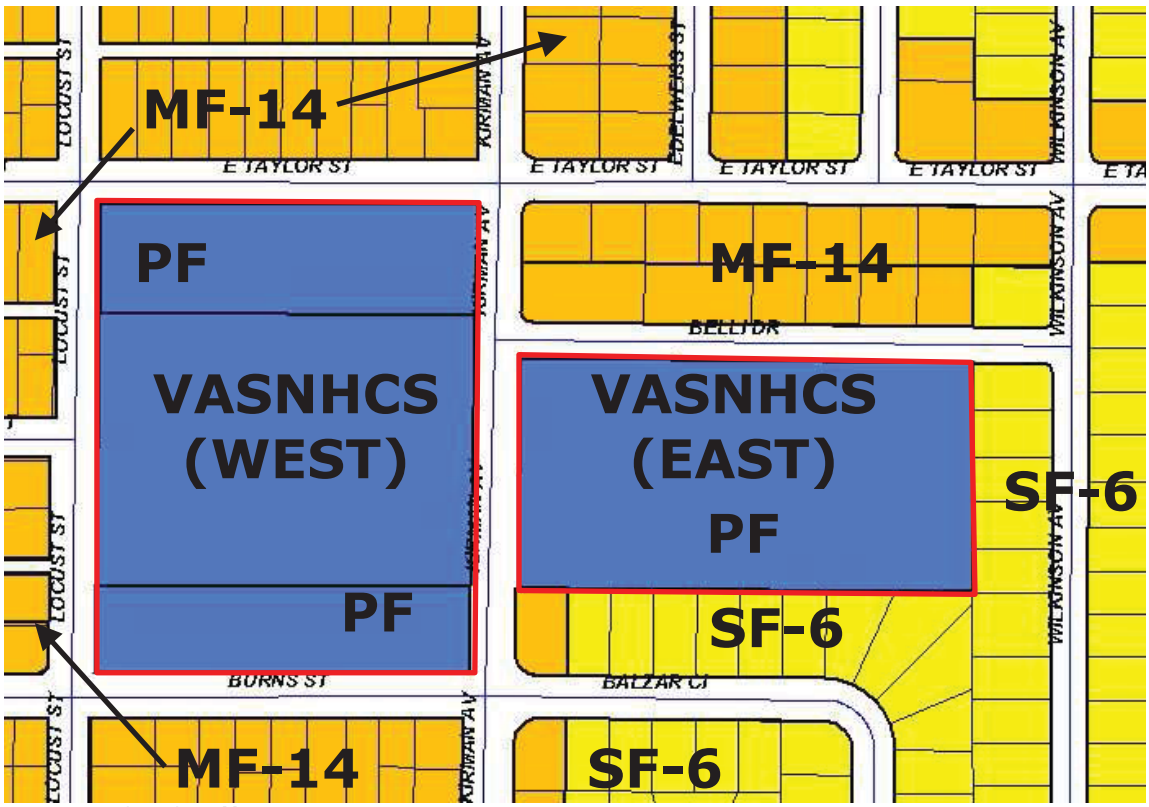
3.9 Land Use

The VASNHCS campus is located in an urban, fully developed area approximately 1.2 miles southeast of the center of the City of Reno. The approximately 12.5-acre VASNHCS campus is divided into eastern and western portions by Kirman Avenue. The eastern portion of the VASNHCS campus is generally bounded by Kirman Avenue to the west, Belli Drive to the north, residential properties along the west side of Wilkinson Avenue to the east, and residential properties on the north side of Balzar Circle to the south. The eastern portion of the VASNHCS campus currently includes a two-story parking garage, the VASNHCS Boiler Plant, several small VASNHCS support buildings and limited surface-level parking. The western portion of the VASNHCS campus is generally bounded by East Taylor Street to the north, Kirman Avenue to the east, Burns Street to the south, and Locust Street to the west. The western portion of the VASNHCS campus contains the campus medical facilities and administrative offices and includes the main hospital building, other medical buildings, and four small surface-level parking lots.

The western portion of the VASNHCS campus is adjoined to the north across East Taylor Street to the south across Burns Street, and to the west across Locust Street by residential properties, and to the east across Kirman Avenue by the eastern portion of the VASNHCS campus and residential properties. The eastern portion of the VASNHCS campus is adjoined to the north across Belli Drive, to the east and south by residential properties, and to the west across Kirman Avenue by the western portion of the VASNHCS campus.

The City of Reno, Building, Planning, and Engineering Department (RBPED) is responsible for long-range planning and zoning. According to the RBPED, the VASNHCS campus is located on land zoned Public Facility (PF). The properties surrounding the VASNHCS campus are zoned Multi-Family Residential (MF-14) and Single-Family Residential, 6,000 square feet (SF-6). Current zoning designations for the VASNHCS campus and the surrounding area are depicted on Figure 10.

The City of Reno also identified the VASNHCS area as a Special Planning Area, which allows any individual land use, or land uses in combination, that are compatible and complementary within the project boundaries and with adjoining properties (City of Reno Land Development Code, Chapter 18.08 – Zoning).



PF – PUBLIC FACILITY
MF-14 – MULTI-FAMILY RESIDENTIAL, 14 UNITS PER ACRE
SF-6 – SINGLE-FAMILY RESIDENTIAL, 6,000 SQUARE FEET

FIGURE 10 **ZONING MAP** ENVIRONMENTAL ASSESSMENT PROPOSED VASNHCS CAMPUS RENOVATION AND MODERNIZATION RENO, NEVADA	PREPARED FOR **U.S. DEPARTMENT OF VETERANS AFFAIRS**
TTL PROJECT NO. 12181.03	TTL associates inc Environmental, Geotechnical Engineering & Testing

3.9.1 Effects of the Proposed Action Alternative

The Proposed Action would result in less-than-significant land use effects within the vicinity of the VASNHCS campus. The VASNHCS campus is used as a medical facility with support buildings, such as the Boiler Plant and a parking structure on the eastern portion of the campus, consistent with current zoning. The Proposed Action includes projects that will renovate and modernize the existing campus; the overall use of the campus will not change and will remain consistent with local zoning. Although, as a Federal agency, VA is not subject to local zoning regulations or restrictions, the Proposed Action projects would be designed and implemented in consonance with local plans and in accordance with local building codes to ensure they are consistent with other VASNHCS and surrounding area developments. No adverse on-site building function or architecture impacts are anticipated.

3.9.2 Cumulative Impacts

The Proposed Action, in conjunction with the other planned VASNHCS projects, would have less-than-significant land use effects as land use at the VASNHCS and surrounding area would mostly remain unchanged. Small residential parcels that adjoin the VASNHCS campus would be acquired and redeveloped with surface parking as part of the Site Acquisition and Kirman Avenue Modification Project; however, this change in land use is generally consistent with the VASNHCS campus.

3.9.3 Effects of the No Action Alternative

Under the No Action Alternative, no land use impacts due to VA's Proposed Action would occur.

3.9.4 Mitigation/Management Measures

No project-specific mitigation or management measures are required.

3.10 Wetlands, Floodplains, and Coastal Zone Management

3.10.1 Wetlands

This section discusses wetlands at or near the VASNHCS campus and surface waters (streams) as they pertain to wetlands. Additional information regarding surface waters is provided in Section 3.6.

No surface water features (or wetlands) were identified on or adjacent to the VASNHCS campus during the site reconnaissance. The USFWS Online Wetland Mapper indicated that no mapped wetlands are located on or near the VASNHCS campus.

3.10.2 Floodplains

According to available FEMA floodplain mapping, the VASNHCS campus and surrounding areas are not located in the 100-year or 500-year floodplain (FEMA Flood Insurance Rate Map No. 32031C3043G, dated March 16, 2009).

3.10.3 Coastal Zone

The Coastal Zone Management Act (CZMA) was promulgated to control nonpoint pollution sources that affect coastal water quality. The CZMA of 1990, as amended (16 USC 1451 *et seq.*) encourages States to preserve, protect, develop, and where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as the fish and wildlife using those habitats. The State of Nevada does not participate in the National Coastal Zone Management Program (CZMP). The VASNHCS campus is not included in a designated coastal zone.

3.10.4 Effects of the Proposed Action Alternative

No wetlands were identified on or near the VASNHCS campus. In addition, the VASNHCS campus is not included in the 100-year or 500-year floodplain or a designated coastal zone. No impacts to wetlands, floodplains, or coastal zones would occur with the implementation of the Proposed Action.

3.10.5 Cumulative Impacts

No cumulative impacts to wetlands, floodplains, or coastal zones would occur with the implementation of the planned VASNHCS projects.

3.10.6 Effects of the No Action Alternative

No impacts to wetland, floodplains, or coastal zones would occur.

3.10.7 Mitigation/Management Measures

No mitigation or management measures are required.

3.11 Socioeconomics

The following subsections identify and describe the socioeconomic environment of the City of Reno, Washoe County and the State of Nevada. Presented data provide an understanding of the socioeconomic factors that have developed the area. Socioeconomic areas of discussion include the local demographics of the area, regional and local economy, local housing, and local recreation activities. Data used in preparing this section were collected from the 2010 Census of Population and Housing (US Census Bureau), subsequent US Census Bureau data, and the US Department of Commerce Bureau of Economic Analysis (BEA).

3.11.1 Demographics

The City of Reno's estimated population in 2015 was 241,445 citizens. Washoe County's estimated population in 2015 was 446,903 citizens. The estimated population total for Nevada was 2,890,845 residents in 2015. Population totals for the City of Reno, Washoe County, and Nevada have increased from 1990 to 2015 (see Table 2).

Table 2. Population Totals for the City of Reno, Washoe County, and Nevada			
Area	**1990**	**2000**	**2015 (estimates)**
Nevada	1,201,833	1,998,257	2,890,845
Washoe County	254,667	339,486	446,903
City of Reno	134,747	183,973	241,445
Sources: US Census Bureau, 2010 Census and 2015 Estimates, Profile of General Demographic Characteristics.			

Baseline information identified that the City of Reno and Washoe County have lower minority populations than the State of Nevada as a whole (Table 3).

Table 3. Regional Population by Race and Ethnicity							
Area	**All Individuals**	**White (%)**	**African-American (%)**	**American Indian and Alaska Native (%)**	**Asian or Pacific Islander (%)**	**Other Race (%)**	**Hispanic or Latino* (%)**
Nevada	2,890,845	76.7	9.0	1.6	8.8	3.9	27.5
Washoe County	446,903	85.7	2.6	2.1	6.4	3.2	23.3
City of Reno	241,445	74.2	2.9	1.3	7.0	4.2	24.3
Note: People of Hispanic or Latino origin may be of any race. Note: The six percentages reported by the US Census Bureau for each geographic region may total more than 100% because individuals may report more than one race. Source: US Census Bureau, 2010 Census and 2015 Estimates, Profile of General Demographic Characteristics.							

The City of Reno, Washoe County, and the State of Nevada have similar educational attainment levels. Educational attainment data are presented in Table 4.

Table 4. Educational Attainment: City of Reno, Washoe County, and Nevada			
Educational Attainment	**City of Reno**	**Washoe County (%)**	**Nevada (%)**
High school graduate (incl. equivalency)	85.7	86.9	84.6
Bachelor's degree or higher	28.9	27.3	22.4
Source: US Census Bureau, 2010 Census and 2014 Estimates, Profile of General Demographic Characteristics.			

3.11.2 Employment and Income

The Reno – Sparks, Nevada metropolitan area employment is distributed amongst the following types of occupations (greatest number of jobs to least number of jobs): arts, entertainment, and recreation; accommodation and food services; healthcare; education services; construction; and professional, scientific, and technical services (Bureau of Labor Statistics, January 2015).

The unemployment rates for the City of Reno and Washoe County were slightly lower than the State of Nevada as a whole in March 2016 (see Table 5). Median household incomes were slightly lower in the City of Reno than Washoe County and the State of Nevada. The percent of

the population below the poverty level was slightly higher in the City of Reno than Washoe County and the State of Nevada.

Table 5. Regional Income

Area	Number of Households	Median Household Income ($)	Per Capita Income ($)	Population Below Poverty Level (%)	Unemployment Rate (%) March 2016
Nevada	999,016	52,800	26,589	15.2	5.9
Washoe County	163,198	53,040	28,670	15.4	5.5
City of Reno	90,071	46,770	26,472	19.1	5.1

Source: US Census Bureau, 2010 Census and 2014 Estimates, Profile of General Demographic Characteristics.

3.11.3 Commuting Patterns

Residents of the City of Reno are largely dependent on personal automobiles for transportation to and from work. Other methods of transit include public transportation (buses), carpooling, and walking. The average commuting times in the greater Reno area was approximately 19 minutes in 2013. Public transportation for the City of Reno is provided by the Regional Transportation Commission of Washoe County (RTC). The nearest bus route to the VASNHCS is Bus Route 13, which runs north along Locust Street and south along Kirman Avenue between the eastern and western portions of the VASNHCS campus and includes stops at the VASNHCS.

3.11.4 Housing

Rates of owner-occupied housing in the City of Reno are lower than Washoe County and the State of Nevada as a whole. This is likely reflective of the more urban character of Reno relative to the rest of the county and state with an increase in renter-occupied housing. The median values of housing in the City of Reno and Washoe County are higher than the State of Nevada as a whole (see Table 6).

Table 6. Regional Housing Characteristics

Area	Total Housing Units	Occupied (%)	Owner-Occupied (%)	Median Value ($)	Renter-Occupied (%)	Median Contract Rent ($)
Nevada	1,186,879	N/A	56.7	169,100	N/A	N/A
Washoe County	185,305	N/A	58.0	203,300	N/A	N/A
City of Reno	102,582	N/A	47.4	202,100	N/A	N/A

Source: US Census Bureau, 2010 Census and 2014 Estimates, Profile of General Demographic Characteristics.

3.11.5 Protection of Children

Because children may suffer disproportionately from environmental health risks and safety risks, EO 13045, *Protection of Children From Environmental Health Risks and Safety Risks*, was introduced in 1997 to prioritize the identification and assessment of environmental health risks and safety risks that may affect children and to ensure that Federal agencies' policies, programs, activities, and standards address environmental risks and safety risks to children. This section identifies the distribution of children and locations where numbers of children may be proportionately high (e.g., schools, childcare centers, family housing, etc.) in areas potentially affected by the Proposed Action.

Children are present in the residential neighborhoods surrounding the VASNHCS campus. The percentage of the population under age 18 is similar within the City of Reno, Washoe County, and the rest of Nevada (see Table 7).

Table 7. Total Population Versus Population Under Age 18

Area	Total Population	Population Under 18	
		Number	Percent
Nevada	2,890,845	685,130	23.7
Washoe County	446,903	101,894	22.8
City of Reno	241,445	55,050	22.8

Source: US Census Bureau, 2010 Census and 2014 Estimates, Profile of General Demographic Characteristics.

3.11.6 Effects of the Proposed Action Alternative

The Proposed Action is not anticipated to have significant adverse socioeconomic effects. The Proposed Action would provide additional temporary construction jobs in the private sector, thus providing short-term socioeconomic benefit to the area. In addition, the Proposed Action would provide minor additional long-term employment for the area through needed additional employees at the VASNHCS campus. The Proposed Action would also result in significant long-term beneficial socioeconomic impacts by providing additional parking and improved and modernized healthcare facilities and services to regional U.S. Veterans.

No significant adverse health or safety risks to children are anticipated to result from the Proposed Action. Children would only be present at the VASNHCS campus as visitors, as all Veterans are above the age of 18. Demolition, construction, and renovation areas would be secured to prevent unauthorized access by children from the nearby residential areas. The construction contractor would limit and control dust and noise, as discussed in Sections 3.3 and 3.8, thereby minimizing adverse effects to children in the area.

3.11.7 Cumulative Impacts

Cumulatively, the planned VASNHCS projects are anticipated to provide short-term and long-term socioeconomic benefit to the area through increased jobs and incidental spending. The proposed projects would provide short-term construction jobs and additional long-term employment for the area through needed additional employees at the VASNHCS campus. The

proposed projects would also result in significant long-term beneficial socioeconomic impacts by providing improved and modernized healthcare facilities and services to regional U.S. Veterans.

Socioeconomic impacts associated with the Site Acquisition and Kirman Avenue Modification Project are anticipated to be less-than-significant. VA would only acquire parcels from willing landowners through amicable negotiation and would provide relocation assistance for displaced residents and residential tenants.

3.11.8 Effects of the No Action Alternative

The No Action Alternative would result in no construction and no increased short- or long-term economic benefit due to VA's action.

Most importantly, the No Action Alternative would not enable VA to provide additional parking and improved and modernized healthcare facilities and services to regional U.S. Veterans. With a projected increase in patient stops for the VASNHCS, the No Action Alternative would exacerbate already antiquated and inadequately sized healthcare facilities, resulting in significant negative effects on hospital operations.

3.11.9 Mitigation/Management Measures

No project-specific mitigation or management measures are required.

3.12 Community Services

The VASNHCS campus is located within the Washoe County School District (WCSD). This school district includes 61 elementary schools, 14 middle schools, 17 high schools, and one online school (WCSD 2015). Schools in the vicinity of the VASNHCS campus include Veterans Memorial Elementary School (1200 Locust Street), located approximately 600 feet south of the campus; Bailey Charter elementary School (1090 Bresson Avenue), located approximately 600 feet southeast of the campus; Vaughn Middle School (1200 Bresson Avenue), located approximately 900 feet southeast of the campus; and Booth Elementary School (425 East 9th Street), located approximately 1,300 feet north of the campus. No other schools are located with 2,000 feet of the VASNHCS campus (Google Earth 2015).

The City of Reno Police and Fire Departments provide police and fire protection and emergency medical services to the VASNHCS campus area.

The City of Reno and the Nevada Department of Transportation (NDOT) provide maintenance to primary roads and bridges in the vicinity of the VASNHCS campus.

There are no developed recreational facilities in the immediate vicinity of the VASNHCS campus.

In addition to the VASNHCS campus, the Reno Regional Medical Center (1155 Mill Street) is located approximately 0.5-mile northeast of the VASNHCS campus, West Hills Hospital (1240 E. Ninth Street) is located approximately 1.3 miles north of the VASNHCS campus, and St. Mary's Regional Medical Center (235 W. Sixth Street) is located approximately 1.4 miles northwest of the VASNHCS campus. No other hospitals are located within 5 miles of the VASNHCS campus.

3.12.1 Effects of the Proposed Action Alternative

No significant additional load is expected to be placed on the fire or police departments as the result of implementing the Proposed Action. Use of other public or community services as a result of the Proposed Action is not expected. As such, the Proposed Action is expected to have a negligible impact on local public services.

3.12.2 Cumulative Impacts

Cumulatively, the Proposed Action, in conjunction with the other planned VASNHCS projects, would have less-than-significant community services effects. None of these projects are anticipated to place a significant additional load on the fire or police departments or other public or community services.

3.12.3 Effects of the No Action Alternative

Under the No Action Alternative, no demolition, construction, or renovation by VA would occur and no impacts to community services would be anticipated.

3.12.4 Mitigation/Management Measures

No project-specific mitigation or management measures are required.

3.13 Solid and Hazardous Materials

Hazardous and toxic materials or substances are generally defined as materials or substances that pose a risk (i.e., through either physical or chemical reactions) to human health or the environment. Regulated hazardous substances are identified through a number of Federal laws and regulations. The most comprehensive list is contained in 40 CFR 302, and identifies quantities of these substances, when released to the environment, that require notification to a Federal agency. Hazardous wastes, defined in 40 CFR 261.3, are considered hazardous substances. Generally, hazardous wastes are discarded materials (e.g., solids or liquids) not otherwise excluded by 40 CFR 261.4 that exhibit a hazardous characteristic (i.e., ignitable, corrosive, reactive, or toxic), or are specifically identified within 40 CFR 261. Petroleum products are specifically exempted from 40 CFR 302, but some are also generally considered hazardous substances due to their physical characteristics (i.e., especially fuel products), and their ability to impair natural resources.

Environmental Data Resources, Inc. (EDR) was contracted to perform a search of ASTM-specified federal, state and tribal databases to obtain information pertaining to potential environmental concerns associated with the VASNHCS campus and surrounding properties. The VASNHCS campus was identified on the Resource Conservation and Recovery Act (RCRA) – small quantity generator (SQG), Hazardous Waste/Materials (HAZNET), and UST databases. The RCRA database is a listing of facilities that are required to register for tracking purposes due to the amount of hazardous waste generated and are not necessarily sites with reported contamination incidents. The RCRA database indicated that the VASNHCS campus has been a generator of hazardous wastes since approximately 1950. The RCRA database indicated that the VASNHCS received several administrative/informal violations associated with their RCRA status between 2000 and 2012; however, each of the violations was resolved through additional compliance inspections. The HAZNET database is a partnership between the

California EPA and the USEPA to collect information regarding the generation of hazardous wastes. The HAZNET database indicated that the VASNHCS campus generator of hazardous wastes; however, wastes are stored in bulk and then transferred to licensed waste disposal facilities.

The UST database indicates that the VASNHCS campus currently includes four USTs, including one 1,000-gallon diesel UST (installed in 1998), one 15,000-gallon diesel UST (installed in 2009), and two 10,000-gallon diesel USTs (installed in 1997 and 2013). The UST database also indicated that the VASNHCS campus formerly had two 5,000-gallon diesel USTs, one 500-gallon gasoline UST, one 4,000-gallon diesel UST, two 10,000-gallon diesel USTs, one 350-gallon diesel UST, and one 1,000-gallon diesel UST classified as “permanently out of use”. None of the USTs identified at the VASNHCS campus have had reported releases from the UST systems.

EDR identified 17 properties in the vicinity of the VASNHCS on the State Hazardous Waste Site (SHWS) list due to heating oil releases, including properties adjoining to the north of the western portion of the campus (635 East Taylor Street), adjoining to the north of the eastern portion of the campus (805 Belli Drive), adjoining to the south of the eastern portion of the campus (713 Balzar Circle), and adjoining to the south of the western portion of the campus (610 and 634 Burns Street). In all cases, soil was reported as impacted and the releases received regulatory closure from NDEP.

3.13.1 Effects of the Proposed Action Alternative

The Proposed Action would result in short-term, less-than-significant adverse impacts due to the increased presence and use of petroleum and hazardous substances during demolition, renovation, and construction activities. An increase in construction vehicle traffic would increase the likelihood for release of vehicle operating fluids (e.g., oil, diesel, gasoline, antifreeze, etc.) and maintenance materials. As such, a less-than-significant, direct, short-term adverse impact is possible. Implementation of standard construction BMPs would serve to ensure this impact is further minimized.

The Proposed Action would include the removal of the diesel UST used to fuel the backup power generator on the northern portion of the campus, adjacent to Blockhouse 10, and the installation of a new replacement diesel UST. The current UST would be emptied and removed by licensed contractors following the required safety precautions to prevent a release from the UST system. Any petroleum-impacted soil encountered during the removal of the existing UST would be remediated (removed) to required applicable standards. The aged single-walled UST would be replaced with a new double-walled UST with interstitial monitoring that would enable VA to identify and address a potential future diesel release more quickly. In addition, the double-walled construction provides intrinsic secondary containment that prevents a diesel release to the environment. The replacement of the existing diesel UST with a new double-walled UST and the remediation of any identified petroleum impacts associated with the existing UST would provide beneficial soil and hazardous material effects.

Buildings that would be renovated/demolished as part of the Proposed Action may contain ACMs and LBP. Identification and abatement of the ACM that would be disturbed would be key components of the Proposed Action. Licensed inspectors would conduct predemolition/renovation asbestos surveys of each structure to be demolished or renovated as part of the Proposed Action. ACM would be removed by licensed abatement contractors prior to

building renovation/demolition to prevent exposure of these materials to surrounding property occupants. The demolition of buildings containing LBP could result in the generation of LBP-generating dust. Standard demolition BMPs to control dust would reduce dust emissions to less-than-significant levels.

No significant adverse long-term impacts during future operations of the VASNHCS campus are anticipated. The Proposed Action would not result in a substantial increase in the generation of solid or hazardous wastes, increase the exposure of persons to hazardous or toxic substances, increase the presence of hazardous or toxic materials in the environment, or place substantial restrictions on property use due to hazardous waste, materials, or site remediation. Storage, handling, or use of petroleum or hazardous substances would be similar to current operations and managed in a similar manner in compliance with Federal, state, and local laws and regulations.

3.13.2 Cumulative Impacts

Cumulative solid and hazardous materials impacts associated with the Proposed Action, in conjunction with the other planned VASNHCS projects, would be less-than-significant.

Many of the planned projects would include the renovation or demolition of structures that may contain ACM and LBP. Identification and abatement of the ACM and damage/peeling LBP that would be disturbed by these projects would be key components of each project. In addition, each demolition project would include dust control measures to reduce potential LBP dust emissions. These measures, all standard BMPs, would prevent unacceptable ACM and LBP exposures to site workers and the surrounding property occupants.

In addition, none of the planned projects would result in a substantial increase in the generation of solid or hazardous wastes, increase the presence of hazardous or toxic materials in the environment, or increase the exposure of persons to hazardous or toxic substances during future VASNHCS campus operations.

3.13.3 Effects of the No Action Alternative

Under the No Action Alternative, no construction by VA would occur, none of the building materials would be disturbed, and the aged diesel UST currently used for the backup power generator for the northern portion of the campus would not be replaced. No ACM within the campus buildings would be removed and there would be a greater risk of a diesel release from the UST than with the replacement UST included as part of the Proposed Action.

3.13.4 Mitigation/Management Measures

No significant adverse solid and hazardous materials impacts are anticipated and no project-specific mitigation measures are required.

To reduce potentially adverse solid and hazardous materials effects, VA would implement the following management and BMPs. Implementation of these measures, including complying with all regulatory requirements, would maintain potential adverse effects at less-than-significant levels.

- Complete ACM surveys of all buildings planned for renovation or demolition by Nevada-certified inspectors.
- Remove identified ACM and damaged/peeling LBP from buildings to be renovated or demolished by Nevada-licensed abatement contractors as required under NESHAP, State and local regulations.
- Use dust suppressants during building demolition to control potential LBP-containing dust emissions.
- Empty and remove the diesel UST associated with the northern campus backup power generator by a licensed contractor.
- Remediate to required applicable standards any identified soil contamination.

In addition, VA would implement standard construction BMPs to ensure that construction equipment and activities do not result in releases to the environment. During operation, VA would manage operation-related solid and hazardous materials in accordance with VA's solid and hazardous materials SOPs and applicable Federal and State laws.

3.14 Transportation and Parking

Patient and visitor access to the VASNHCS campus medical facilities is primarily provided from the western side of Kirman Avenue. Ambulance access is located in the southwestern corner of the campus with entrances from both Locust Street and Burns Street.

In 2016, VA retained GHD to conduct a traffic impact analysis to evaluate the existing traffic conditions in the vicinity of the VASNHCS campus and the potential traffic impacts associated with this Proposed Action, the proposed Building 1 Seismic Upgrade and Clinical Expansion Project, the proposed Land Acquisition Project, and the planned reduction of Kirman Avenue between the eastern and western portions of the VASNHCS campus to one lane (Projects). Roadways adjacent to the VASNHCS are summarized below in Table 8 and depicted on Figures 3-5 and Figure 11.

Table 8. Roadways Adjacent to VASNHCS

Type	Route	Direction	2016 Daily Traffic Volumes (VPD)	Road Width (feet)	Lanes	Capacity (VPD)	V/C Ratio
Arterial	Locust Street: Burns Street - Crampton Street	One-way North	2,533	35	2*	12,000	0.21
Arterial	Locust Street: East Taylor Street to Cheney Street	One-way North	2,209	35	2*	12,000	0.18
Collector	East Taylor Street: Wilson Avenue - Locust Street	East/West	2,280	35	2*	12,000	0.19
Collector	East Taylor Street: Locust Street - Kirman Avenue	East/West	2,773	35	2*	12,000	0.23
Collector	East Taylor Street: Kirman Avenue - Edelweiss Street	East/West	3,122	35	2*	12,000	0.26
Collector	Kirman Avenue: Cheney Street – East Taylor Street	One-way South	3,305	35	2*	12,000	0.28
Collector	Kirman Avenue: East Taylor Street - Belli Drive	One-way South	4,334	35	2*	12,000	0.36
Collector	Kirman Avenue: Belli Drive - Burns Street	One-way South	3,994	35	2*	12,000	0.33
Local	Belli Drive: West Driveway - Kirman Avenue	East/West	782	35	2*	2,000	0.39
Local	Belli Drive: East Driveway - Wlikinson Avenue	East/West	1,471	35	2*	2,000	0.74
Local	Wilkinson Avenue: East Taylor Street - Belli Drive	North/South	1,475	30	2*	2,000	0.74
Local	Burns Street: Locust Street - Kirman Avenue	East/West	1,433	30	2*	2,000	0.72

*-Denotes street-side parking in addition to traffic lanes.
Traffic counts conducted in February 2016.
VPD = vehicles per day
V/C Ratio = Volume to capacity ratio. A V/C Ratio under 0.85 indicates that the roadway is operating under capacity. Excessive delays are not anticipated. A V/C Ratio between 0.85 and 0.95 indicates that the roadway is operating near capacity. A V/C ratio greater than 1.00 indicates that demands exceed available capacity of the roadway. Excessive delays are anticipated.

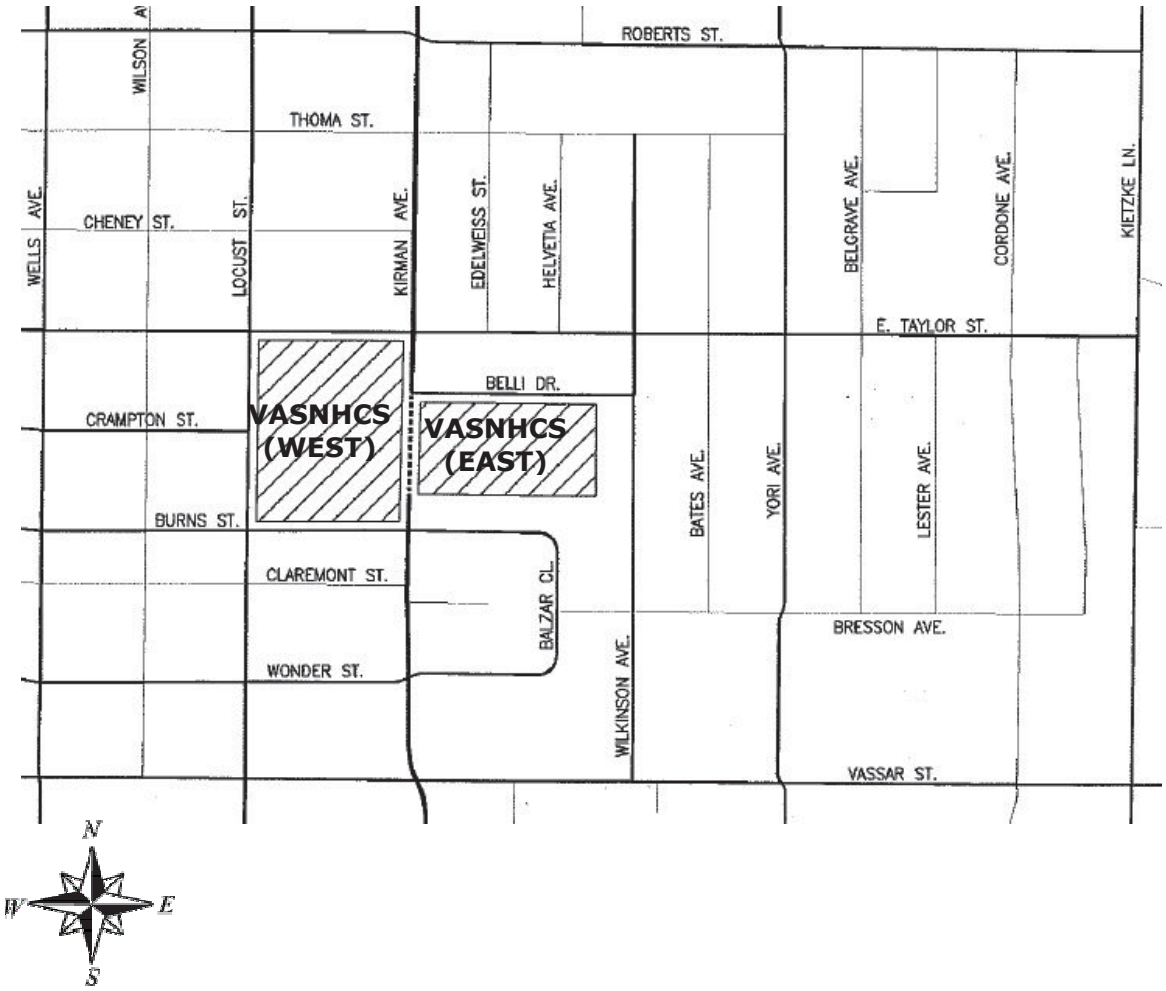


FIGURE 11
AREA ROADWAYS MAP

ENVIRONMENTAL ASSESSMENT
PROPOSED VASNHCS CAMPUS
RENOVATION AND MODERNIZATION
RENO, NEVADA

PREPARED FOR

U.S. DEPARTMENT OF VETERANS AFFAIRS

TTL PROJECT NO.
12181.03

The GHD VASNHCS Renovation and Modernization Traffic Study Report, dated June 2016 (GHD report), evaluated 23 intersections and 19 roadway segments adjacent to and in the vicinity of the VASNHCS campus for existing traffic conditions (2016) and the predicted future traffic conditions in 2025 (with and without the Projects) and 2035 (with and without the Projects). GHD evaluated worst-case peak traffic conditions, during the a.m. and p.m. weekday rush hours. The following intersections were evaluated:

- Wells Avenue/Roberts Street
- Wells Avenue/East Taylor Street
- Wells Avenue/Crampton Street
- Wells Avenue/Burns Street
- Wells Avenue/Vassar Street
- Locust Street/East Taylor Street
- Locust Street/Crampton Street
- Locust Street/Burns Street
- Kirman Avenue/East Taylor Street
- Kirman Avenue/Belli Drive
- Kirman Avenue/North Driveway
- Kirman Avenue/Middle Driveway
- Kirman Avenue/South Driveway
- Kirman Avenue/Burns Street – Balzar Circle
- Kirman Avenue/Wonder Street – Balzar Circle
- Kirman Avenue/Vassar Street
- Belli Drive/West Driveway
- Belli Drive/East Driveway
- Wilkinson Avenue/East Taylor Street
- Wilkinson Avenue/Belli Drive
- Wilkinson Avenue/Vassar Street
- Kietzke Lane/Roberts Street
- Kietzke Lane/East Taylor Street

The following roadway segments were evaluated:

- Wells Avenue north of Roberts Street
- Wells Avenue north of East Taylor Street
- Wells Avenue South of Crampton Street
- Locust Street north of East Taylor Street
- Locust Street south of Crampton Street
- Locust Street north of Wonder Street
- Kirman Avenue north of East Taylor Street
- Kirman Avenue south of East Taylor Street
- Kirman Avenue north of Burns Street
- Kirman Avenue north of Vassar Street
- Wilkinson Avenue south of East Taylor Street
- East Taylor Street west of Locust Street
- East Taylor Street west of Kirman Avenue
- East Taylor Street east of Kirman Avenue
- East Taylor Street east of Wilkinson Avenue

- Belli Drive east of Kirman Avenue
- Belli Drive west of Wilkinson Avenue
- Burns Street west of Locust Street
- Burns Street west of Kirman Avenue

GHD used the Transportation Research Board Highway Capacity Manual procedures to evaluate the existing and future Level of Service (LOS) of intersections near the VASNHCS campus. LOS is a qualitative measure of traffic flow and is represented by letter designations ranging from "A" to "F" with an LOS of A representing the best conditions and an LOS of F representing the worst conditions. The City of Reno has established LOS D as the minimally acceptable LOS for its roads. GHD used volume/capacity ratios to evaluate roadway segments.

Existing Conditions

The GHD report indicated that the roadway segments near the VASNHCS campus are currently operating below capacity with the exception of Wells Avenue between East Taylor and Cheney Streets, and Wells Avenue between Moran and Roberts Streets. GHD stated that excessive travel delays may be experienced by drivers along these segments of Wells Avenue, particularly during peak traffic hours (7 to 9 am and 4 to 6 pm). GHD also stated that the Wells Avenue roadway segment between Crampton and Burns Street is operating near its capacity and excessive travel delays may be experienced by drivers along this segment, particularly during peak traffic hours.

The GHD report indicated that the evaluated intersections are currently operating at acceptable LOS (LOS D or better) with the exception of following intersections:

- Wells Avenue / East Taylor Street:
  - The eastbound approach during the pm peak hours (LOS E).

- Wells Avenue / Crampton Street:
  - The eastbound approach during the pm peak hours (LOS E).

- Kietzke Lane / East Taylor Street:
  - The eastbound left approach during the am and pm peak hours (LOS F).
  - The westbound left approach during the pm peak hours (LOS F).

GHD noted that with the exception of the intersection of Wells Avenue and Vassar Street, there are no signalized intersections within the area studied. GHD stated that the intersection of Kietzke Lane and East Taylor Street meets the criteria for the addition of a traffic signal, which would improve the LOS of the intersection.

2025 and 2035 Without Projects

GHD evaluated the same 23 intersections near the VASNHCS campus for the years 2025 and 2035 without the proposed projects using traffic growth projections obtained from the RTC Regional Travel Forecasting Model. The GHD report stated that the 2025 traffic conditions, without the Projects, are modelled to have the same unacceptable LOS intersections and movements as identified in the existing (2016) conditions.

The GHD report indicated that without the implementation of the Projects, the evaluated intersections would operate at acceptable LOS in 2035 with the exception of following intersections:

- Wells Avenue / Roberts Street:
  - The eastbound approach during the pm peak hours (LOS F).
  - The westbound approach during the pm peak hours (LOS F).

- Wells Avenue / East Taylor Street:
  - The eastbound approach during the am (LOS E) and pm (LOS F) peak hours.
  - The westbound approach during the am (LOS E) and pm (LOS F) peak hours.

- Wells Avenue / Crampton Street:
  - The eastbound approach during the pm peak hours (LOS F).
  - The westbound approach during the pm peak hours (LOS E).

- Wells Avenue / Burns Street:
  - The eastbound approach during the pm peak hours (LOS F).

- Kietzke Lane / East Taylor Street:
  - The eastbound approach during the am and pm peak hours (LOS F).
  - The westbound approach during the pm peak hours (LOS F).

Public transportation in the City of Reno is provided by the RTC. RTC Bus Route 13 runs north along Locust Street and south along Kirman Avenue between the eastern and western portion of the campus and includes stops at the VASNHCS campus.

The USEPA recommended that a plan be developed to address the potential impacts from the Proposed Action related to the routing of construction vehicles and increased traffic.

Parking

The VASNHCS campus currently includes approximately 578 VA-owned, on-campus parking spaces provided by the parking garage on the eastern portion of the campus and seven small surface parking lots. A parking demand analysis conducted by VA indicated that the facility is currently operating under an approximately 580 parking space deficit that is projected to increase for the foreseeable future. The VASNHCS currently relies on street parking in the residential neighborhoods surrounding the campus to overcome the on-campus parking deficiency. This has resulted in overutilization of the residential street parking, traffic congestion, and pedestrian hazards.

In a letter dated October 19, 2015, the City of Reno noted that the VASNHCS has reported issues with the pedestrian crossing at Kirman Avenue between the eastern and western portions of the campus and stated that any additions to the east side of the campus (the proposed parking structure) should address this issue.

3.14.1 Effects of the Proposed Action Alternative

The Proposed Action would have less-than-significant short-term and long-term direct and indirect adverse transportation impacts. During the implementation of the Proposed Action, construction traffic (trucks, workers' personal vehicles, and construction equipment) would increase traffic volumes in the local area, and could cause delays if this occurred during morning and evening peak periods. Less-than-significant short-term adverse impacts would be anticipated. These impacts would be reduced through the implementation of BMPs described in Section 3.14.4.

Following the completion of the Proposed Action projects, public roadways in the vicinity of the VASNHCS campus would experience minor additional traffic as a result of the Proposed Action. GHD estimated the Proposed Action would only result in approximately 160 daily vehicle trips per day (approximately 80 additional vehicles per day). These additional trips could occur throughout the day and night. However, the majority of the trips would occur during weekdays from approximately 6 am to 6 pm. As shown on Table 8, the traffic generated as a result of the Proposed Action (160 daily trips) generally would be an approximately ten percent increase or less over existing traffic volumes on roads adjacent to the VASNHCS campus and the increased volumes would be well within the capacities of these roads. In addition, none of the intersections that are currently operating at an unacceptable LOS are adjacent to the VASNHCS. The increased traffic from the Proposed Action would add traffic to more distant intersections that currently operate at an unacceptable LOS; however, the additional traffic added to these intersections would be minimal. In addition, increased traffic generated by the Proposed Action would not cause intersections that currently operate at acceptable levels to operate unacceptably. As such, the long-term traffic impacts associated with the Proposed Action would be less-than-significant.

The Proposed Action would have short-term less-than-significant adverse parking impacts and long-term significant beneficial parking impacts. During construction activities, the existing surface parking in the southeastern portion of the campus would be temporarily eliminated (approximately 35 spaces). In addition, new CLC Pod 2 would be constructed in the northwest corner of the campus and would permanently eliminate the surface parking lot that currently exists in this area (approximately 25 spaces). However, as part of the Proposed Action, VA would construct a new approximately 320-space parking garage in the southeastern portion, resulting in a net gain of approximately 260 parking spaces as a result of the Proposed Action. The additional on-campus parking provided by the Proposed Action would have a significant positive impact at the campus, which is currently operating a deficit of approximately 580 parking spaces. The additional on-campus parking provided by the Proposed Action would begin to eliminate the need for street parking in the residential neighborhoods surrounding the campus, which would reduce traffic congestion and pedestrian hazards in the area surrounding the VASNHCS campus.

The City of Reno reviewed the GHD report and stated that no additional actions to address traffic conditions associated with the Proposed Action would be required by VA at this time. Traffic conditions around the VASNHCS will continue to be monitored by the City of Reno and the City of Reno would implement roadway improvements, as necessary, to manage potential future traffic impacts, if any.

3.14.2 Cumulative Impacts

Transportation

Each of the proposed VASNHCS projects would affect traffic conditions in the area of the VASNHCS campus. The Proposed Action projects would have only very minor traffic impacts; however, other planned projects, in particular the Building 1 Seismic Upgrade and Clinical Expansion Project and the proposed Kirman Avenue modifications, would have greater impact on transportation in the area as a result of increased patient visits and shifted traffic patterns. The GHD report evaluated the cumulative impacts of all of the proposed VASNHCS campus projects. GHD estimated that these projects would collectively result in approximately 3,626 daily vehicle trips (approximately 1,813 additional vehicles per day), primarily (96%) associated with the Building 1 Seismic Upgrade and Clinical Expansion Project.

The GHD report concluded that VASNHCS projects would add more traffic to each of the intersections that already function at an unacceptable LOS or are projected to function at an unacceptable LOS in 2025 and 2035 without the proposed VASNHCS projects. The additional traffic from the VASNHCS projects would exacerbate the traffic conditions at these intersections. In addition, GHD indicated that the planned VASNHCS projects would cause the following intersections, that would otherwise operate acceptably, to operate unacceptably:

2025

- Wells Avenue / East Taylor Street:
  - The westbound approach during the pm peak hours (from LOS D to LOS F).

2035

- Wells Avenue / Roberts Street:
  - The eastbound approach during the am peak hours (from LOS D to LOS E).

GHD also noted that the intersection of Kietzke Lane and East Taylor Street currently meets the criteria for the addition of a traffic signal, which would improve the LOS of the intersection under each of the evaluated scenarios.

VA provided the GHD report to the City of Reno and met with City of Reno representatives to discuss the findings of the traffic impact analysis and potential mitigation measures. City of Reno representatives reviewed the potential cumulative traffic impacts of the planned VASNHCS projects and concluded that no roadway improvements or other traffic mitigation measures are required at this time. The City of Reno will continue to monitor traffic conditions in the VASNHCS campus area and will implement roadway improvements, as necessary. Through close coordination with the City of Reno, VA would implement improvements, as necessary, to address potential cumulative unacceptable traffic impacts.

Parking

As part of the Proposed Action, VA would construct a new approximately 320-space parking garage in the southeastern portion of the VASNHCS campus, resulting in a net gain of approximately 260 parking spaces for the Proposed Action. The Site Acquisition Project would create up to 200 additional VA-owned parking spaces on the acquired land adjacent to the

current campus boundaries. These projects would have a significant positive cumulative effect through the creation of up to 460 parking spaces, overcoming most of the current parking shortage (580 parking spaces). Together, these actions would nearly eliminate the VA's need for street parking in the residential neighborhoods surrounding the VASNHCS campus, which would reduce traffic congestion and pedestrian hazards.

3.14.3 Effects of the No Action Alternative

Under the No Action Alternative, no transportation or parking impacts associated with VA's Proposed Action would occur. The VASNHCS would continue to operate at an on-campus parking deficiency, resulting in the overutilization of street parking in the surrounding residential neighborhood.

The No Action Alternative would not enable VA to provide safely accessible, adequate parking for VASNHCS patients, staff and visitors and would result in a significant adverse, long-term direct impact to US Veterans.

3.14.4 Mitigation/Management Measures

No significant adverse transportation and parking impacts are anticipated and no project-specific mitigation measures are required for the Proposed Action.

Implementing BMPs would minimize the potential impacts on local roadways. As part of the Proposed Action, transportation impacts would be maintained at acceptable levels through implementation of the following BMPs:

- VA would work with the City of Reno, as applicable and necessary, to identify and implement roadway improvements, such as signalization and turn lanes, to maintain traffic within the region of influence of the Proposed Action at an acceptable level of service.
- Ensure debris and/or soil is not deposited on local roadways during the construction period.
- Ensure construction activities do not adversely affect traffic flow on local roadways; construction traffic would be timed to avoid peak travel hours.

3.15 Utilities

Basic utilities in the City of Reno (i.e., water, sewer, natural gas, and electric) are provided by the various utility providers. As part of the preparation of this EA, local utility providers were researched to determine the availability of required utilities in the vicinity of the VASNHCS campus. The following identifies the utility providers to the VASNHCS campus:

Truckee Meadows Water Authority (TMWA) supplies potable water to the vicinity of the VASNHCS campus. VA would be required to submit design plans to the TMWA for potable water service.

Reno Public Works Department (RPWD) is responsible for stormwater management at the VASNHCS campus through the NPDES permitting process. VA would be required to submit a SWMP to the RPWD, as detailed in Section 3.6.6.

RPWD supplies sanitary sewer service to the vicinity of the VASNHCS campus. VA would be required to submit design plans to the RPWD for sanitary sewer service.

NV Energy supplies electrical service to the vicinity of VASNHCS campus. VA would be required to submit design plans to NV Energy for electrical service.

NV Energy supplies the natural gas to the vicinity of the VASNHCS campus. VA would be required to submit design plans to NV Energy for natural gas service.

AT&T provides telecommunication services to the vicinity of the VASNHCS campus. VA would be required to submit design plans to AT&T for telecommunication services.

3.15.1 Effects of the Proposed Action Alternative

The Proposed Action would result in a minimal increase in the consumption of utilities, including electricity, natural gas, potable water, and sanitary sewer discharges. All major utility services are currently provided to to the VASNHCS campus. Proposed Action activities are not anticipated to require alteration of the existing utility mains or affect off-site utility consumers. No significant impacts to utilities are anticipated.

3.15.2 Cumulative Impacts

The other planned VASNHCS projects would also result in an increase in the consumption of utilities, including electricity, natural gas, potable water, and sanitary sewer discharges. However, the cumulative increase in the consumption of utilities associated with the Proposed Action and these other projects would be moderate and unlikely to exceed the capacity of the various utility providers. Cumulative utility impacts would be less-than-significant.

3.15.3 Effects of the No Action Alternative

Under the No Action Alternative, no demolition, construction, or renovation by VA would occur. Local utility use would remain unchanged.

3.15.4 Mitigation/Management Measures

No significant utilities impacts are anticipated and no project-specific mitigation measures are required.

Utility impacts would be maintained at acceptable levels through the implementation of the following BMPs. VA would:

- Obtain permits from the utility providers for capping/disconnecting the existing utility services prior to building demolition.
- Submit design plans to each utility provider to determine the specific connection requirements and would implement the necessary requirements.

- Comply with the NPDES requirements for stormwater management, as necessary.

3.16 Environmental Justice

In 1994, EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued to focus attention of Federal agencies on human health and environmental conditions in minority and low-income communities and to ensure that disproportionately high and adverse human health or environmental effects on these communities are identified and addressed. In order to provide a thorough environmental justice evaluation, this socioeconomics' presentation gives particular attention to the distribution of race and poverty status in areas potentially affected by implementation of the Proposed Action. For purposes of this analysis, minority and low-income populations are defined as:

- Minority Populations: Persons of Hispanic origin of any race, African Americans, American Indians, Eskimos, Aleuts, Asians, or Pacific Islanders.

- Low-Income Populations: Persons living below the poverty level, based on a total annual income of $24,250 for a family of four persons as reported in January 2015.

The VASNHCS campus is located in a residential area with a disproportionately large low-income population relative to the remainder of the City of Reno, Washoe County, and the State of Nevada. According to the USEPA-developed EJSCREEN (an environmental justice mapping and screening internet application), the area within a 0.25-mile radius of the campus includes a higher concentration of low-income populations (66 percent) than the State of Nevada (34 percent). The area within a 0.5-mile radius of the campus also includes a higher concentration of low-income populations (62 percent) than the State of Nevada. EJSCREEN did not identify a disproportionately large minority population in the area.

3.16.1 Effects of the Proposed Action

Although the VASNHCS campus is located in a residential area with a disproportionately high low-income population, the Proposed Action is anticipated to have less-than-significant environmental justice effects. During demolition and construction activities, effects on adjacent residential properties, such as through noise and dust, would be limited and controlled as discussed in Sections 3.3.6 and 3.8.4, thereby minimizing adverse effects to low-income populations in the ROI. In addition, the Proposed Action construction activities are anticipated to result in short-term direct, positive socioeconomic impacts to local employment and personal income in the ROI, as described in Section 3.11.6. Given the ROI is a low-income community, such positive effects would be anticipated to extend to low-income citizens, a positive environmental justice effect. The Proposed Action would also reduce street parking in the local residential neighborhoods by VASNHCS staff and patients, which would reduce pedestrian hazards for these low-income neighborhoods, a beneficial environmental justice effect.

No local groups are known to principally rely on fish or wildlife for subsistence in the vicinity of the VASNHCS campus. Consequently, none to negligible adverse impacts to such disadvantaged segments of the population are anticipated.

3.16.2 Cumulative Impacts

The Proposed Action and the other planned projects at the VASNHCS campus could have environmental justice effects on the neighboring residential properties through noise, dust, and vehicle emissions. However, each of these projects would implement control measures and general BMP to minimize adverse effects to low-income populations during demolition and construction, such as those outlined in Sections 3.3 and 3.8. The projects would contribute to cumulative positive socioeconomic and environmental justice effects to the ROI through increased short-term and long-term jobs and incidental spending.

As part of the Land Acquisition and Kirman Avenue Modification Project, VA would acquire up to 11 residential parcels surrounding the campus for the construction of surface-level parking lots for the campus. However, VA, as part of its "good neighbor" policy and being sensitive to environmental justice considerations, would only acquire these parcels from willing landowners through amicable negotiation and would provide relocation assistance for displaced residents and residential tenants. In addition, VA has had substantial and documented public engagement to ensure effective and meaningful community participation for each of the planned VASNHCS projects and the NEPA process. As such, the associated environmental justice impacts would be less-than-significant.

3.16.3 Effects of the No Action Alternative

Under the No Action Alternative, the proposed VA activities would not occur and there would be no environmental justice effects.

3.16.4 Mitigation/Management Measures

No project-specific mitigation or management measures are required.

3.17 Cumulative Impacts

As defined by CEQ Regulations in 40 CFR Part 1508.7, cumulative impacts are those which "result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, without regard to the agency (Federal or non-Federal) or individual who undertakes such other actions." Cumulative impact analysis captures the effects that result from the Proposed Action in combination with the effects of other actions taken during the duration of the Proposed Action in the same geographic area. Because of extensive influences of multiple forces, cumulative effects are the most difficult to analyze.

NEPA requires the analysis of cumulative environmental effects of a Proposed Action, or set of actions, on resources that may often be manifested only at the cumulative level, such as traffic congestion, air quality, noise, biological resources, cultural resources, socioeconomic conditions, utility system capacities, and others.

The ROI for the Proposed Action is a fully developed urban area. The area located around VASNHCS campus is currently occupied by residential neighborhoods with little space remaining for in-fill development. Starting in 2010, VA began a multi-year effort to reconfigure the VASNHCS campus to provide additional and more efficient medical care for Reno area Veterans.

In addition to the proposed VASNHCS campus renovation and modernization projects included within this Proposed Action, VA is planning other VASNHCS expansion, renovation and modernization projects. Other planned projects include:

- **Land Acquisition and Kirman Avenue Modification Project –** Acquisition of up to 11 residential properties adjoining to the north and east of the current VASNHCS campus, across East Taylor Street and Kirman Avenue, for surface level parking (up to 200 parking spaces).

  Reduction of Kirman Avenue to one lane between western and eastern portions of the VASNHCS campus to connect the two portions of the campus and provide safe patient and staff access from parking facilities east of Kirman Avenue with medical center buildings west of Kirman Avenue.

- **Building 1 Seismic Upgrade and Clinical Expansion Project –** Clinical Expansion Building and Upgrading and Renovation of Building 1

Based on proximity and general timing, the Proposed Action could have short-term, construction-related cumulative impacts in conjunction with these other planned VASNHCS reconfiguration construction projects, although it is anticipated that most of these projects would not be constructed at the same time. No non-VA projects are known to be planned for the VASNHCS campus area.

The Proposed Action would result in the impacts identified throughout Section 3. These include less-than-significant potential adverse impacts to aesthetics, air quality, cultural resources, soils and geology, hydrology and water quality, noise, land use, socioeconomics, solid and hazardous materials, transportation and parking, utilities, and environmental justice. All of these impacts are less-than-significant and would be further reduced through careful coordination and implementation of the general BMPs and management measures, and compliance with regulatory requirements as identified throughout Section 3. No adverse effects to wildlife and habitat; wetlands, floodplains, and coastal zones; or community services are anticipated as a result of the Proposed Action.

Cumulative effects of the Proposed Action in conjunction with the other planned VASNHCS campus projects were also assessed by resource area in Section 3. No cumulative adverse effects to natural resources, such as wetlands, biological resources, or protected species would occur. The ROI includes a fully developed urban area with limited natural resources.

While VASNHCS campus is located in a low-income area, no significant adverse cumulative effects to local socioeconomics or environmental justice would occur. Over the long-term, the Proposed Action would contribute to cumulative positive socioeconomic and environmental justice effects to the ROI through increased jobs and incidental spending.

The Proposed Action would not contribute to adverse cumulative aesthetics, air quality, noise, geology and soils, hydrology and water quality, land use, community services, or utilities effects within the ROI. Through implementation of the identified management and regulatory compliance measures, these contributory effects would be minimal and properly managed, working in close cooperation with pertinent regulatory agencies. Consequently, the Proposed Action would not contribute to a cumulative significant adverse effect.

The VASNHCS campus and surrounding area includes four NRHP-eligible historic districts that could be adversely affected by the Proposed Action and other planned projects at the VASNHCS campus. However, VA has determined and SHPO has concurred that the primary Proposed Action construction projects would have no adverse effect on historic properties and the remaining Proposed Action projects are not anticipated to have an adverse effect on historic properties. As such, the Proposed Action would not contribute to cumulative cultural resource impacts. VA has had on-going consultation with SHPO regarding the Proposed Action, the Land Acquisition and Kirman Avenue Modification Project, and the Building 1 Seismic Upgrade and Clinical Expansion Project, and other more distant potential future projects. Through this process, VA has addressed individual projects as well as the comprehensive planned transformation of the VASNHCS campus; thereby addressing potential cumulative impacts. The Land Acquisition and Kirman Avenue Modification Project and the Building 1 Seismic Upgrade and Clinical Expansion Project could have adverse effects on the NRHP-eligible historic districts in the campus area. In consultation with SHPO, VA had developed plans to mitigate these cultural resources effects through formal MOAs. Future projects at the VASNHCS campus will be addressed through a PA. Compliance with the PA would ensure that significant cultural resources impacts, if any, would be mitigated.

The Proposed Action would add only approximately 160 daily vehicle trips (80 vehicles per day) and would not result in significant traffic impacts. The other planned VASNHCS campus projects, in particular the Building 1 Seismic Upgrade and Clinical Expansion Project and the proposed Kirman Avenue modification, would have greater impact on traffic in the area as a result of increased patient visits and shifted traffic patterns. GHD conducted a traffic impact analysis to evaluate the cumulative effect of all of the planned VASNHCS projects. This analysis found that three intersections in the VASNHCS area currently operate at an unacceptable level of service (below LOS D) and that two additional intersections in the area will operate below LOS D by 2035, without the implementation of the planned VASNHCS projects. The additional traffic from the proposed project would exacerbate the traffic conditions at these intersections and would cause two additional intersections that would otherwise operate acceptably to operate unacceptably. VA met with City of Reno representatives to discuss the findings of the traffic impact analysis. The City of Reno representatives concluded that no roadway improvements or other traffic mitigation measures are required at this time. The City of Reno will continue to monitor the conditions in the VASNHCS campus area and will implement roadway improvements in the future, as necessary. Through close coordination with the City of Reno, VA would implement improvements, as necessary, to address potential cumulative unacceptable traffic impacts.

As part of the Proposed Action, VA would construct a parking structure on the southeastern portion of the VASNHCS campus would provide approximately 320 parking spaces, resulting in a net increase of approximately 260 parking space for the Proposed Action. The Site Acquisition Project would create up to 200 additional VA-owned parking spaces on the acquired land. These projects would have a significant positive cumulative effect through the creation of up to 460 parking spaces, overcoming most of the current parking shortage (580 parking spaces). Together, these actions would nearly eliminate the VASNHCS need for street parking in the residential neighborhoods surrounding the campus, which would reduce traffic congestion and pedestrian hazards.

Overall, no significant adverse cumulative impacts to the environment, induced by changes by the Proposed Action, are anticipated within the ROI. Close and ongoing coordination between VA and the City of Reno and SHPO, and other community agencies and representatives would

serve to manage and control cumulative effects within the ROI, including managing regional transportation increases with adequate infrastructure.

Implementation of local and State land use, resource management, and other plans, coupled with ongoing compliance with Federal, State, and local regulations and requirements, as applicable, would serve to control the extent of environmental impacts, and proper planning would ensure future socioeconomic conditions maintain, if not improve, the local standard of living. Implementation of these plans and regulations should minimize or eliminate any potential cumulative degradation of the natural, cultural, or human environment within the ROI.

3.18 Potential for Generating Substantial Public Controversy

As discussed in Section 4.0, VA has solicited input from various Federal, State, and local government agencies regarding the Proposed Action. Several of these agencies have provided input; none of the input has identified opposition or controversy related to the Proposed Action. VA will publish and distribute the Draft EA for a 30-day public comment period, as announced by a Notice of Availability (NOA) published in *The Reno Gazette-Journal*, a local newspaper of general circulation. Based on the significant positive effects of the Proposed Action and the findings of this Draft EA (no significant adverse environmental impact), it is not anticipated that there will be substantial public controversy regarding the Proposed Action.

SECTION 4: PUBLIC INVOLVEMENT

4.1 Public and Agency Involvement

VA invites public participation in decision-making on new proposals through the NEPA process. Public participation with respect to decision-making on the Proposed Action is guided by 38 CFR Part 26, VA's policy for implementing the NEPA. Additional guidance is provided in VA's NEPA Interim Guidance for Projects (VA 2010). Consideration of the views and information of all interested persons promotes open communication and enables better decision-making. Agencies, organizations, and members of the public with a potential interest in the Proposed Action, such as minority, low-income, and disadvantaged persons, are urged to participate. A record of agency coordination and public involvement associated with this EA is provided in Appendix A and Appendix D.

4.1.1 Public Review

VA, as the proponent of the Proposed Action, will publish and distribute the Draft EA for a 30-day public comment period, as announced by a NOA published in *The Reno Gazette-Journal*, a local newspaper of general circulation. Review copies will also be made available for public review at the VASNHCS and the Reno Public Library. Based on comments received from the public review of the Draft EA, VA will respond to provided comments within the Final EA and will issue a Finding of No Significant Impact (FONSI), presuming there are no substantive public comments that would warrant further analysis and no significant immitigable adverse effects are identified.

4.1.2 Agency Coordination

Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) is a Federally-mandated process for informing and coordinating with other governmental agencies regarding Federal Proposed Actions. CEQ Regulations require intergovernmental notifications prior to making any detailed statement of environmental impacts. Through the IICEP process, VA notifies relevant Federal, State, and local agencies and allows them sufficient time to make known their environmental concerns specific to a Proposed Action. Comments and concerns submitted by these agencies during the IICEP process are subsequently incorporated into the analysis of potential environmental impacts conducted as part of the EA. This coordination fulfills requirements under EO 12372 (superseded by EO 12416, and subsequently supplemented by EO 13132), which requires Federal agencies to cooperate with and consider State and local views in implementing a Federal proposal. It also constitutes the IICEP process for this EA.

Agencies consulted for this EA include: US Fish and Wildlife Service (USFWS); US Environmental Protection Agency (USEPA); US Army Corps of Engineers (USACE); Nevada Division of Environmental Protection (NDEP); Nevada Department of Conservation and Natural Resources (NCDNR); Nevada State Historic Preservation Office (SHPO); Nevada Department

of Transportation (NDOT), United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), Washoe County Air Quality Management Division (WCAQMD); Reno Economic Community Development Department (RECDD), Reno Economic Development and Redevelopment Department (REDRD), Reno Department of Public Works (RDPW), and Regional Transportation Commission of Washoe County (RTC).

Responses were received from the following agencies: USEPA, USFWS, NDEP, SHPO, RTC, and City of Reno. Input provided by these agencies is detailed and addressed in the appropriate resource sub-sections of Section 3. Written correspondence from the agencies is provided in Appendix A.

4.1.3 Native American Consultation

VA consulted with several Federally-recognized Native American tribes as part of this NEPA process, in accordance with 36 CFR 800.2 and EO13175, *Consultation and Coordination with Indian Tribal Governments*, 6 November 2000. These tribes, identified as having possible ancestral ties to the area as identified by the SHPO and/or the Native American Consultation Database (NACD), were invited by VA to participate in the EA process as Sovereign Nations per EO 13175. In addition, SHPO identified two Nevada organizations, Preserve Nevada and Nevada Architectural History Alliance, and requested that VA includes these organizations in their consultation. These tribes and organizations were sent coordination and consultation letters via certified mail. A list of the tribes that were consulted is provided in Section 10. As of the date of this EA, no responses have been received from the tribes (VA 2016).

SECTION 5: MANAGEMENT AND MITIGATION MEASURES

This section summarizes the management and mitigation measures, if any, identified in Section 3 that are proposed to minimize and maintain adverse effects at acceptable, less-than-significant levels.

Per established protocols, procedures, and requirements, the VA and its construction contractor would implement BMPs and would satisfy all applicable regulatory requirements in association with the design, construction, and operation of the Proposed Action projects. These "management measures" are described in this EA, and are included as components of the Proposed Action. "Management measures" are defined as routine BMPs and/or regulatory compliance measures that are regularly implemented as part of proposed activities, as appropriate, across the State of Nevada. In general, implementation of such management measures, as identified throughout Section 3, would maintain impacts at acceptable levels for all resource areas analyzed. These are different from "mitigation measures," which are defined as project-specific requirements, not routinely implemented as part of construction projects, necessary to reduce identified potentially significant adverse environmental impacts to less-than-significant levels.

5.1 Management Measures

With implementation of routine "management measures," the Proposed Action would not result in significant adverse impacts to, and would reduce any identified potential adverse effects to, the current environmental setting associated with the following technical resource areas:

Aesthetics. Comply with the RLDC, to the extent practicable, maintain landscaping along site boundaries, design the parking structure to maintain setbacks from the adjacent residential properties to the extent possible, design and implement projects to be visually consistent with the existing VASNHCS campus as detailed in Section 3.2.

Air Quality. Complete predemolition asbestos surveys for each building proposed for renovation/demolition, remove ACM prior to building renovation/demolition, use dust suppressants during demolition, develop and implement a CEMP to reduce impacts from fugitive dust and diesel particulate matter, control fugitive dust emissions during construction, obtain required air quality emissions construction and operation permits (if necessary) from Washoe County AQMD, and comply with the Washoe County AQMD regulations, as described in Section 3.3.

Cultural Resources. Finalize the PA and comply with the PA requirements, as described in Section 3.4.

Geology and Soils. Control soil erosion and sedimentation impacts during construction by complying with NPDES requirements. Refer to Section 3.5.

Hydrology and Water Quality. Implement BMPs to control construction and operational-related impacts of soil erosion and sedimentation. Include sufficient on-site stormwater management during project design. Refer to Section 3.6.

Wildlife and Habitat. Replant and landscape with native species, incorporate pollinator friendly practicing in landscaping, and comply with the City of Reno RLDC to the extent practicable, as described in Section 3.7.

Noise. Comply with the City of Reno Noise Ordinance. Minimize noise effects during construction activities, as described in Section 3.8.

Solid and Hazardous Materials. Complete predemolition asbestos surveys, remove ACM and damaged/peeling LBP prior to demolition, empty and remove the diesel UST associated with the north campus backup power generator and remediate any identified associated soil contamination. Refer to Section 3.13.

Transportation and Parking. Work with the City of Reno to identify and implement roadway improvements (as necessary), ensure debris/soil is not deposited on local roads during construction, time construction traffic to avoid peak travel hours. Refer to Section 3.14.

Utilities. Submit Proposed Action design plans to obtain necessary approvals from utility providers, as described in Section 3.15.

No management measures are identified by this EA's analysis for the Proposed Action Alternative for the following technical resource areas: ***Land use; Wetlands, Floodplains, and Coastal Zone Management; Socioeconomics; Community Services; and Environmental Justice***.

5.2 Mitigation Measures

No project-specific mitigation measures are proposed for the Proposed Action.

SECTION 6: CONCLUSIONS

This Draft EA evaluates the Proposed Action of VA to renovate and modernize the VASNHCS campus located at 975 Kirman Avenue in Reno, Washoe County, Nevada. The Proposed Action is needed because existing facilities are antiquated and inadequately sized to provide the modern delivery of healthcare services needed by Reno area Veterans. These deficiencies are projected to grow in the future as the patient workload for the VASNHCS increases. In addition, the VASNHCS campus does not meet all modern VA design standards and Federal setback and security requirements. This EA discusses two alternatives: (1) the Proposed Action Alternative – the implementation of various construction and renovation projects to renovate and modernize the existing VASNHCS campus facilities; and (2) the No Action Alternative. The EA evaluates possible effects to aesthetics; air quality; cultural resources; geology and soils; hydrology and water quality; wildlife and habitat, including threatened and endangered species; noise; land use; floodplains, wetlands, and coastal zone management; socioeconomics; community services; solid and hazardous materials; transportation and parking; utilities; and environmental justice. The Draft EA concludes there would be no significant adverse impact, either individually or cumulatively, to the local environment or quality of life associated with implementing the Proposed Action Alternative, provided general best management practices (BMPs) and management measures specified in this EA are implemented. Therefore, this Draft EA concludes that a FONSI is appropriate, and that an EIS is not required.

SECTION 7: LIST OF PREPARERS

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SECTION 8: REFERENCES CITED

A Historic Context for the Wells Neighborhood, Reno, Nevada, Summit Envirosoultions, Inc., July 2014.

CEQ Revised Draft Guidance for Federal Agencies' Consideration of Greenhouse Gas Emissions and Climate Change Impacts in NEPA, December 2014.

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Clean Air Act of 1970 (42 USC 7401 *et. seq.*; 40 CFR Parts 50-87) Section 176(c).

Clean Water Act (Federal Water Pollution Control Act) of 1948, as amended (1972, 1977) (33 USC 1251 *et seq*.); Sections 401 and 404

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Draft Environmental Assessment, VA Sierra Nevada Healthcare System, Reno Campus Clinical Expansion and Building 1 Seismic Upgrade, Klienfelder, Inc., June 2016.

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EO 13112, *Invasive Species* February 13, 1999.

EO 13175, *Consultation and Coordination with Indian Tribal Governments*, 6 November 2000.

EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management,* January 24, 2007.

EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance, October 2009.

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Farmland Protection Policy Act (FFPA) (7 USC 4201, *et seq.*).

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National Historic Preservation Act (NHPA) of 1966, as amended (36 CFR Part 800).

National Oceanic and Atmospheric Association, 2015.

Native American Graves Protection and Repatriation Act, as amended (NAGPRA) (25 USC 3001 et seq.).

Nevada Administrative Code, 2015 and 2016.

Nevada Department of Conservation and Natural Resources, Conservation Districts Program, 2015 and 2016.

Nevada Department of Conservation and Natural Resources, Division of Forestry, 2015 and 2016.

Nevada Department of Conservation and Natural Resources, Natural Heritage Program, 2015 and 2016.

Nevada Department of Conservation and Natural Resources, State Historic Preservation Office (SHPO), 2015 and 2016.

Nevada Department of Conservation and Natural Resources, Division of Water Resources, 2015 and 2016.

Nevada Division of Environmental Protection, Bureau of Air Pollution Control, 2015 and 2016.

Nevada Division of Environmental Protection, Bureau of Corrective Actions, 2015 and 2016.

Nevada Division of Environmental Protection, Bureau of Waste Management, 2015 and 2016.

Nevada Division of Environmental Protection, Bureau of Safe Drinking Water, 2015 and 2016.

Nevada Division of Environmental Protection, Bureau of Water Pollution Control, 2015 and 2016.

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VA Sierra Nevada Healthcare System Renovation and Modernization Traffic Study Report, GHD, Inc. June 2016.

Washoe County Air Quality Management Division Air Quality Regulations, 2015 and 2016.

Other internet searches and data (accessed February 2015 – July 2016):

FEMA Flood Hazard Insurance Map, website: http://msc.fema.gov/webapp/wcs/stores/servlet

Superfund Site Information Systems, US Environmental Protection Agency, website: http://cfpub.epa.gov/supercpad/cursities.htm

USEPA Environmental & Compliance History Online (ECHO) e-database: http://www.epa-echo.gov/echo/

US Bureau of Census (2010 US Census Data): http://www.census.gov/

USDA NRCS online web soil survey: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

Various internet mapping tools to locate properties, www.mapquest.com, www.maps.google.com, www.google.earth.com, etc.

SECTION 9: LIST OF ACRONYMS AND ABBREVIATIONS

ACA	Air Compliance Assurance
ACHP	Advisory Council on Historic Preservation
AIRFA	American Indian Religious Freedom Act
AIS	Archeological Investigation Survey
amsl	above mean sea level
ARPA	Archaeological Resources Protection Act
ATC	Authorize to Construct
AQMD	Washoe County Air Quality Management Division
BEA	Bureau of Economic Analysis
bgs	Below Ground Surface
BMP	Best Management Practice
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMP	Coastal Management Program
CO	Carbon Monoxide
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
EA	Environmental Assessment
EDR	Environmental Data Resources, Inc.
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
HAP	Hazardous Air Pollutant
HCl	Hydrochloric Acid
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NCDNR	Nevada Department of Conservation and Natural Resources
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NEPA	National Environmental Policy Act of 1969
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NO_X	Nitrogen Oxides
NPDES	National Pollution Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O_3	Ozone
OSHA	Occupational Safety and Health Administration
Pb	Lead
PM	Particulate matter
PM_{10}	Particulate matter less than or equal to 10 micrometers in aerodynamic size
$PM_{2.5}$	Particulate matter less than or equal to 2.5 micrometers in aerodynamic size
PTE	Potential to Emit
RCRA	Resource Conservation and Recovery Act
RDPW	Reno Department of Public Works
RECDD	Reno Economic Community Development Department
REDRD	Reno Economic Development and Redevelopment Department
ROI	Region of Influence
RRTC	Reno Regional Transportation Commission
SIP	State Implementation Plan
SHPO	NCDNR, State Historic Preservation Office (SHPO)
SO_2	Sulfur dioxide

SWCD	Soil and Water Conservation District
TPY	Tons per year
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VA	Department of Veterans Affairs

SECTION 10: AGENCIES AND INDIVIDUALS CONSULTED

Agencies Consulted

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Federally-Recognized Tribes Consulted

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Lovelock, Nevada 89419

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Winnemucca, Nevada 89446

Yomba Tribal Council
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Fort McDermitt Paiute and Shoshone Tribes of the Fort McDermitt Indian Reservation
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Fallon, Nevada 89406

Paiute-Shoshone Tribe of the Fallon Reservation and Colony, Nevada
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Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation
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Reno Sparks Indian Colony Tribal Historic Preservation Office Cultural Resources Program
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Schurz, Nevada 89427

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Yerington Paiute Tribe of the Yerington Colony and Campbell Ranch
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SECTION 11: LIST OF ENVIRONMENTAL PERMITS REQUIRED

11.1 Regulatory Framework

This EA has been prepared under the provisions of, and in accordance with the NEPA, the CEQ Regulations Implementing the Procedural Provisions of NEPA, and 38 CFR Part 26. In addition, the EA has been prepared as prescribed in VA's *NEPA Interim Guidance for Projects* (VA 2010). Federal, State, and local laws and regulations specifically applicable to this Proposed Action are specified, where appropriate, within this EA, and include:

- Migratory Bird Treaty Act (MBTA; 16 USC 703-712, 3 July 1918; as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986, and 1989).
- Endangered Species Act (ESA) of 1973, as amended (7 USC 136; 16 USC 1531 et seq.).
- Native American Graves Protection and Repatriation Act, as amended (NAGPRA) (25 USC 3001 et seq.).
- National Historic Preservation Act (NHPA) of 1966, as amended (36 CFR Part 800).
- Federal Clean Air Act (CAA) of 1990 (42 USC 7401 *et seq*., as amended).
- Federal Clean Water Act (Federal Water Pollution Control Act) of 1948, as amended (1972, 1977) (33 USC 1251 *et seq*.); Sections 401 and 404.
- Executive Order 11988, *Floodplain Management* (24 May 1977).
- Executive Order 11990, *Protection of Wetlands* (24 May 1977).
- Executive Order 12898, *Environmental Justice* (11 February 1994).
- Executive Order 13514/Energy Independence Security Act (EISA) Section 438.
- Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (24 January 2007).
- Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* (5 October 2009).
- Nevada Administrative Code (NAC).
- Reno Land Development Code.

- Truckee Meadows Stormwater Quality Management Program National Pollution Discharge Elimination System.

11.2 Environmental Permits Required

In addition to the regulatory framework of the NEPA, the CEQ Regulations Implementing the Procedural Provisions of NEPA, 38 CFR Part 26, and VA's *NEPA Interim Guidance for Projects,* the following Federal, State, and/or local environmental permits are required as part of this Proposed Action, and include:

- Truckee Meadows Stormwater Quality Management Program National Pollution Discharge Elimination System permit.
- Washoe County Air Quality Management Division permit.
- Construction Emissions Mitigation Plan.
- NESHAP and AQMD permits for the removal of ACMs.
- Permits from the utility providers for capping/disconnecting the existing utility services prior to building demolition.

SECTION 12: GLOSSARY

100-Year Flood – A flood event of such magnitude that it occurs, on average, every 100 years; this equates to a one percent chance of its occurring in a given year.

Aesthetics – Pertaining to the quality of human perception of natural beauty.

Ambient - The environment as it exists around people, plants, and structures.

Ambient Air Quality Standards - Those standards established according to the CAA to protect health and welfare (AR 200-1).

Aquifer - An underground geological formation containing usable amounts of groundwater which can supply wells and springs.

Asbestos - Incombustible, chemical-resistant, fibrous mineral forms of impure magnesium silicate used for fireproofing, electrical insulation, building materials, brake linings, and chemical filters. Asbestos is a carcinogenic substance.

Attainment Area - Region that meets the National Ambient Air Quality Standard (NAAQS) for a criteria pollutant under the CAA.

Bedrock - The solid rock that underlies all soil, sand, clay, gravel and loose material on the earth's surface.

Best Management Practices (BMPs) - Methods, measures, or practices to prevent or reduce the contributions of pollutants to U.S. waters. Best management practices may be imposed in addition to, or in the absence of, effluent limitations, standards, or prohibitions (AR 200-1).

Commercial land use – Land use that includes private and public businesses (retail, wholesale, etc.), institutions (schools, churches, etc.), health services (hospitals, clinics, etc.), and military buildings and installations.

Compaction - The packing of soil together into a firmer, denser mass, generally caused by the pressure of great weight.

Contaminants - Any physical, chemical, biological, or radiological substances that have an adverse effect on air, water, or soil.

Council on Environmental Quality (CEQ) - An Executive Office of the President composed of three members appointed by the President, subject to approval by the Senate. Each member shall be exceptionally qualified to analyze and interpret environmental trends, and to appraise programs and activities of the Federal Government. Members are to be conscious of and responsive to the scientific, economic, social, aesthetic, and cultural needs of the Nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment.

Criteria Pollutants - The CAA of 1970 required the USEPA to set air quality standards for common and widespread pollutants in order to protect human health and welfare. There are six "criteria pollutants": ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), lead (Pb), nitrogen dioxide (NO_2), and particulate matter.

Cultural Resources - The physical evidence of our Nation's heritage. Included are: archaeological sites; historic buildings, structures, and districts; and localities with social significance to the human community.

Cumulative Impact - The impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Decibel (dB) - A unit of measurement of sound pressure level.

Direct Impact - A direct impact is caused by a Proposed Action and occurs at the same time and place.

Emission - A release of a pollutant.

Endangered Species - Any species which is in danger of extinction throughout all or a significant portion of its range.

Environmental Assessment (EA) - An EA is a publication that provides sufficient evidence and analyses to show whether a proposed system will adversely affect the environment or be environmentally controversial.

Erosion - The wearing away of the land surface by detachment and movement of soil and rock fragments through the action of moving water and other geological agents.

Farmland - Cropland, pastures, meadows, and planted woodland.

Fauna - Animal life, especially the animal characteristics of a region, period, or special environment.

Flora - Vegetation; plant life characteristic of a region, period, or special environment.

Floodplain - The relatively flat area or lowlands adjoining a river, stream, ocean, lake, or other body of water that is susceptible to being inundated by floodwaters.

FONSI - Finding of No Significant Impact, a NEPA document.

Fugitive Dust - Particles light enough to be suspended in air, but not captured by a filtering system. For this document, this refers to particles put in the air by moving vehicles and air movement over disturbed soils at construction sites.

Geology - Science which deals with the physical history of the earth, the rocks of which it is composed, and physical changes in the earth.

Groundwater - Water found below the ground surface. Groundwater may be geologic in origin and as pristine as it was when it was entrapped by the surrounding rock or it may be subject to daily or seasonal effects depending on the local hydrologic cycle. Groundwater may be pumped from wells and used for drinking water, irrigation, and other purposes. It is recharged by precipitation or irrigation water soaking into the ground. Thus, any contaminant in precipitation or irrigation water may be carried into groundwater.

Hazardous Substance - Hazardous materials are defined within several laws and regulations to have certain meanings. For this document, a hazardous material is any one of the following:

Any substance designated pursuant to section 311 (b)(2)(A) of the Clean Water Act.

Any element, compound, mixture, solution, or substance designated pursuant to Section 102 of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Any hazardous substance as defined under the Resource Conservation and Recovery Act (RCRA).

Any toxic pollutant listed under TSCA.

Any hazardous air pollutant listed under Section 112 of CAA.

Any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action pursuant to Subsection 7 of TSCA.

The term does not include: 1) Petroleum, including crude oil or any thereof, which is not otherwise specifically listed or designated as a hazardous substance in a above. 2) Natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). A list of hazardous substances is found in 40 CFR 302.4.

Hazardous Waste - A solid waste which, when improperly treated, stored, transported, or disposed of, poses a substantial hazard to human health or the environment. Hazardous wastes are identified in 40 CFR 261.3 or applicable foreign law, rule, or regulation.

Hazardous Waste Storage - As defined in 40 CFR 260.10, ". . . the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere".

Hydric Soil - A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic (oxygen-lacking) conditions that favor the growth and regeneration of hydrophytic vegetation. A wetland indicator.

Indirect Impact - An indirect impact is caused by a Proposed Action that occurs later in time or farther removed in distance, but is still reasonably foreseeable. Indirect impacts may include induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and other natural and social systems. For example, referring to the possible direct impacts described above, the clearing of trees for new development may have an indirect impact on area wildlife by decreasing available habitat.

Industrial Land Use – Land uses of a relatively higher intensity that are generally not compatible with residential development. Examples include light and heavy manufacturing, mining, and chemical refining.

Isolated Wetland – Areas that meet the wetland hydrology, vegetation, and hydric soil characteristics, but do not have a direct connection to the Waters of the US.

Jurisdictional Wetland – Areas that meet the wetland hydrology, vegetation, and hydric soil characteristics, and have a direct connection to the Waters of the US. These wetlands are regulated by the USACE.

Listed Species - Any plant or animal designated as a State or Federal threatened, endangered, special concern, or candidate species.

Mitigation - Measures taken to reduce adverse impacts on the environment.

Mobile Sources - Vehicles, aircraft, watercraft, construction equipment, and other equipment that use internal combustion engines for energy sources.

Monitoring - A process of inspecting and recording the progress of mitigation measures implemented.

National Ambient Air Quality Standards (NAAQS) - Nationwide standards set up by the USEPA for widespread air pollutants, as required by Section 109 of the Clean Air Act (CAA). Currently, six pollutants are regulated by primary and secondary NAAQS: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter, and sulfur dioxide (SO_2).

National Environmental Policy Act (NEPA) - U.S. statute that requires all Federal agencies to consider the potential effects of Proposed Actions on the human and natural environment.

Non-attainment Area - An area that has been designated by the EPA or the appropriate State air quality agency as exceeding one or more National or State ambient air quality standards.

Parcel - A plot of land, usually a division of a larger area.

Particulates or Particulate Matter - Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog found in air.

Physiographic Region - A portion of the Earth's surface with a basically common topography and common morphology.

Pollutant - A substance introduced into the environment that adversely affects the usefulness of a resource.

Potable Water - Water which is suitable for drinking.

Prime Farmland - A special category of highly productive cropland that is recognized and described by the US Department of Agriculture's Soil Conservation Service and receives special protection under the Surface Mining Law.

Remediation - A long-term action that reduces or eliminates a threat to the environment.

Riparian Areas - Areas adjacent to rivers and streams that have a high density, diversity, and productivity of plant and animal species relative to nearby uplands.

River Basin - The land area drained by a river and its tributaries.

Sensitive Receptors - Include, but are not limited to, asthmatics, children, and the elderly, as well as specific facilities, such as long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, and childcare centers.

Significant Impact - According to 40 CFR 1508.27, "significance" as used in NEPA requires consideration of both context and intensity.

Context. The significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the Proposed Action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action.

Small quantity generator - A generator who generates greater than 220 pounds but less than 2,200 pounds of hazardous waste in a calendar month and who does not accumulate more than 13,200 pounds of hazardous waste at any one time (if either threshold is exceeded, the generator becomes a large quantity generator). A small quantity generator may accumulate hazardous waste up to 180 days from the accumulation start date.

Soil - The mixture of altered mineral and organic material at the earth's surface that supports plant life.

Solid Waste - Any discarded material that is not excluded by section 261.4(a) or that is not excluded by variance granted under sections 260.30 and 260.31.

Threatened species - Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Topography - The relief features or surface configuration of an area.

Toxic Substance - A harmful substance which includes elements, compounds, mixtures, and materials of complex composition.

Waters of the United States - Include the following: (1) All waters which are currently being used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide. (2) All interstate waters including interstate wetlands. (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation or destruction of which could affect interstate or foreign commerce.

Watershed - The region draining into a particular stream, river, or entire river system.

Wetlands - Areas that are regularly saturated by surface or groundwater and, thus, are characterized by a prevalence of vegetation that is adapted for life in saturated soil conditions. Examples include swamps, bogs, fens, marshes, and estuaries.

Wildlife Habitat – Set of living communities in which a wildlife population lives.

APPENDIX A

Agency Correspondence

Andrew K. Clinger
City Manager

October 19, 2015

Paul J. Jackson, Environmental Scientist
TTL Associates, Inc.
44265 Plymouth Oaks Boulevard
Plymouth, Michigan 48170

RE: NEPA Scoping Letter
Department of Veterans Affairs
Campus Renovation and Modernization
VA Sierra Nevada Healthcare System
975 Kirman Avenue
Reno, Nevada

Dear Mr. Jackson:

The City of Reno has reviewed the NEPA Scoping Letter dated September 24, 2015. Your letter indicates that the construction of a new parking structure east of the boiler plant is included in this NEPA effort but the potential reduction of travel lanes in Kirman Avenue and improvements to pedestrian safety is not. City of Reno staff concurs that the cumulative effects of all the planned campus projects must be assessed in this EA and will therefore comment on those aspects.

The City of Reno has the following comments:

1. The VA Sierra Nevada Healthcare facility is currently reporting that there are issues with the pedestrian crossing at Kirman Avenue between the west and east portions of the campus. Any additions to the east side of the campus should address the current situation.
2. The City requests that a pedestrian walkway over the street be considered as an alternative to at-grade pedestrian crossing at Kirman Avenue.
3. City staff is not opposed to the reduction of Kirman Avenue from two lanes to one lane, however, Reno City Council approval will be required.
4. Reno will review all plans for modifications to Kirman Avenue at the 30%, 60%, 90% and 100% design levels. Plans should include striping and signage, including modifications to surrounding street sections, civil plans for all improvements, bicycle and pedestrian plans, lighting, bus stops, existing and planned utilities.

5. Presentations to the Ward 3 Neighborhood Advisory Board (NAB) and Reno City Council will be required in the preliminary and final stages of plan development.
6. The VA must assume maintenance responsibility for any non-standard treatments, pavements, sidewalks, fencing, pedestrian signals, or other appurtenances required for this project that will be located in the City of Reno right-of-way. If necessary, an agreement would be brought for City Council approval at such time that the improvements are finalized and approved.

The City of Reno appreciates the opportunity to participate in this environmental assessment and will continue to work with the VA Sierra Nevada to develop the best solution for the veterans served by the facility and the adjacent neighborhood.

Sincerely,

Andrew Clinger
City Manager

Attachments: NEPA Scoping Letter dated September 24, 2015

cc. Bill Thomas, Assistant City Manager
John Flansberg, Director, Public Works
Charla Honey, Engineering Manager
Steve Bunnell, Traffic Engineer
Claudia Hanson, Planning Manager

associates inc
Environmental, Geotechnical Engineering & Testing

RECEIVED
SEP 28 2015
CITY OF RENO
Public Works Department

44265 Plymouth Oaks Blvd.
Plymouth, MI 48170
T 734-455-8600
F 734-455-8608
www.ttlassoc.com

September 24, 2015

Reno Department of Public Works
Ms. Charla Honey
1 East First Street
P.O. Box 1900
Reno, Nevada 89505

SUBJECT: Intergovernmental and Interagency Coordination of Environmental Planning (NEPA Scoping Letter) for the:
Department of Veterans Affairs
Campus Renovation and Modernization
VA Sierra Nevada Healthcare System
975 Kirman Avenue
Reno, Nevada

Dear Ms. Honey:

The US Department of Veterans Affairs (VA), in order to meet the current and growing needs of area Veterans, is preparing environmental documentation to assist in the Federal decision-making process concerning several renovation and modernization projects at the VA Sierra Nevada Healthcare System (VASNHCS) campus in Reno. Existing VASNHCS campus facilities, mostly constructed between the late 1930s and early 1980s, are antiquated and inadequately sized to provide the modern delivery of healthcare services needed by current Reno area Veterans. These deficiencies are projected to grow in the future as the patient workload for the VASNHCS continues to increase. In addition, the VASNHCS campus does not meet all modern Federal setback and security requirements; the proposed projects will renovate and modernize VASNHCS facilities to meet these requirements. The location of the VASNHCS campus in Reno is shown on **Attachments 1a – 1d.**

VASNHCS is conducting an Environmental Assessment (EA) to evaluate the environmental, cultural, and socioeconomic issues associated with the Proposed Action pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S. Code (USC) §4321 *et seq.*); the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508); and VA's Implementing Regulations (38 CFR Part 26 (*Environmental Analysis of VA Actions*). TTL Associates, Inc. is assisting VASNHCS in conducting this NEPA process.

VASNHCS is planning the following projects (Proposed Action) as part of the renovation and modernization of the VASNHCS campus in Reno:

Construction Projects:

- Provide 24 Single Patient Rooms for New Community Living Center (CLC) Pod 1
  - Construction of a new 2-story structure (approximately 20,000 SF) at the southeast corner of Locust Street and Taylor Street (24 private patient/resident rooms for long term care)
- Demolish Existing East Campus Buildings Minus Boiler Plant
  - Demolition of small underutilized support buildings east of Kirman Avenue (excludes the boiler plant)
  - Provides space for master planned expansions
- Relocate Modular Buildings 138 and F
  - Relocation of Buildings 138 (3,600 SF) and F (2,800 SF) for improved adjacencies

- Construct New Parking Structure
  - New 3-level parking garage located east of boiler plant
  - Needed to help address current and projected Reno VASNHCS parking deficiency (580 parking spaces)
  - Approximately 320 new parking spaces provided
- Provide Required Redundant Electrical Power, North Campus
  - Backup generator to support the CLC and Specialty Clinic
  - Located adjacent to Blockhouse 10

Renovation Projects:

- Renovate Building B3 space adjacent to new Intensive Care Unit (all interior)
- Renovate and Right-Size Operating Rooms
  - Renovate existing space to construct Operating Rooms that meet current VA criteria (all interior)
- Renovate and Expand Operating Rooms
  - Renovate existing space to construct Operating Room support spaces
  - Small building addition into courtyard area (north) of current Operating Rooms
- Expand/Renovate Magnetic Resonance Imaging (MRI)
  - Renovation of existing MRI Wing area
  - Small building addition for second MRI area
- Renovate Sterile Processing Service area (all interior)
- Renovate Current Primary Care Space

Information Request: *Information your agency can provide on any of the following environmental issue areas (at or in the vicinity of the project) would be appreciated.* Examples of such information include, but are not limited to:

- Potential environmental concerns or issues;
- Surface and groundwater resources, including streams, wetlands, floodplains, open water features, wells, and local aquifers;
- Federally or state listed threatened or endangered species, or any species proposed for such listing, or critical habitat for such species that may occur within a one-mile radius around the proposed Site;
- Parks, nature preserves, conservation areas, designated wild or scenic rivers, migratory bird habitats, or special wildlife issues;
- Natural resource issues;
- Soils and geologic data, including lists of hydric soils;
- Prime and unique farmland (*National Resources Conservation Services (NRCS) only*);
- Traffic, noise, or socioeconomic concerns;
- Air quality concerns; and
- Additional environmental, cultural, land use, or socioeconomic information or concerns your agency may have with regard to the referenced properties.

Data that you make available will be used to scope the NEPA analysis and will provide valuable and necessary input into the Environmental Assessment process. As part of the NEPA process, local citizens, groups, and agencies, among others, will have opportunity to review and comment on the information and alternatives addressed in the EA.

In addition to the proposed campus renovation and modernization projects identified above, VASNHCS is planning the partial demolition of Building 1 and the construction of an approximately 160,000 square foot, 5-story addition to the east of Building 1 to provide expanded outpatient services; the acquisition of up to 11 residential parcels adjacent to the north and east of the campus for surface parking; and the reduction of Kirman Avenue to one lane between the eastern and western portions of the campus to improve the safety of patients and staff crossing from parking facilities east of Kirman Avenue with medical center buildings west of Kirman Avenue. These additional VASNHCS projects are currently being assessed as separate proposed actions in separate EAs and are not directly included in this NEPA effort. However, the cumulative effects of these other planned campus projects will be assessed in this EA.

Other Agencies and Organizations: A listing of agencies and organizations to which this request was sent is provided in **Attachment 2**. *Should you know of any additional agencies or organizations that may have data or concerns relevant to this project, please forward them a copy of this letter, include their information in your response, or contact us directly with this information.*

We look forward to and welcome your participation in this process. **Please respond on or before October 23, 2015** to enable us to complete this scoping phase of the project within the scheduled timeframe.

Please send your written responses via regular or e-mail (preferred) to:

TTL Associates, Inc.
44265 Plymouth Oaks Boulevard
Plymouth, Michigan 48170
ATTN: Paul J. Jackson, Environmental Scientist
pjackson@ttlassoc.com

If you have any questions concerning this request, please direct them to Mr. Jackson at (734) 582-4960.

Sincerely,

Paul J. Jackson
Environmental Scientist
TTL Associates, Inc.

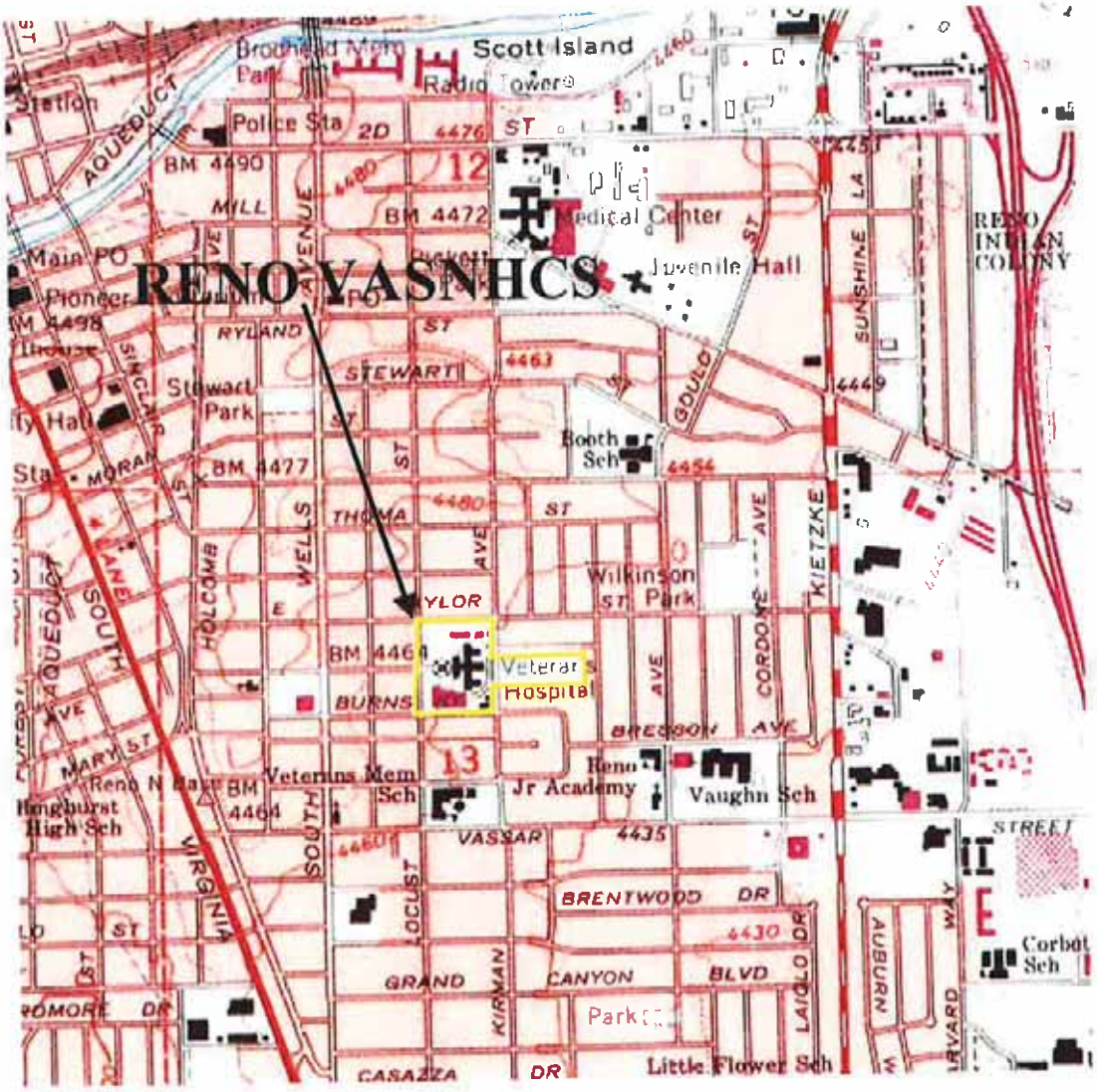
Attachment 1a: Property Locations Map (1967 Topographic Map)
Attachment 1b: Property Locations Map (Street Map)
Attachment 1c: Property Locations Map (2014 Aerial Map)
Attachment 1d: Reno VASNHCS Campus Map
Attachment 2: List of Agencies and Organizations Contacted

ATTACHMENTS 1A THROUGH 1D
RENO VASNHCS LOCATION MAPS

TTL associates inc

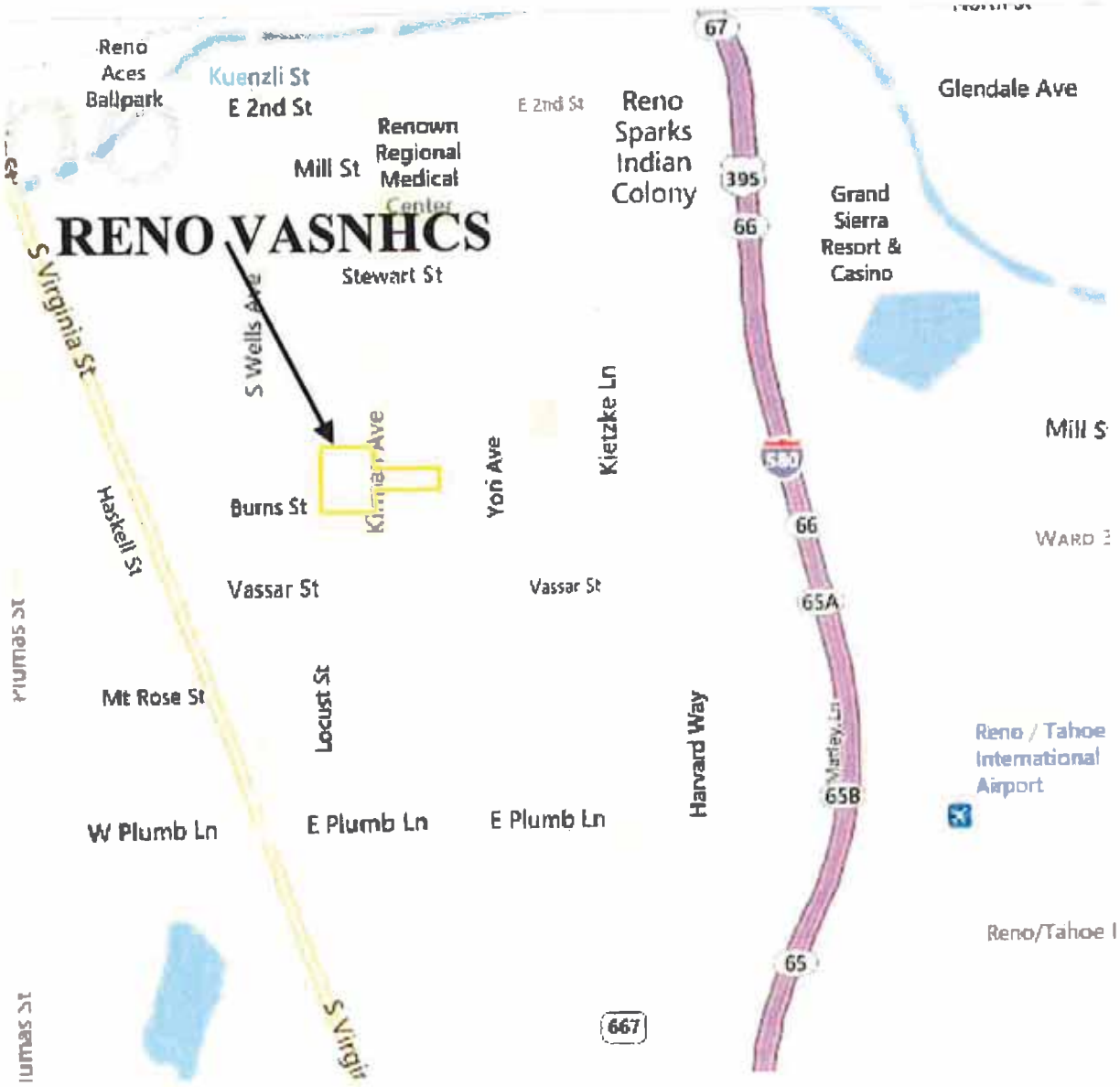
ATTACHMENT 1A

RENO VASNHCS LOCATION MAP (1967 TOPOGRAPHIC MAP)
975 Kirman Avenue, Reno, Nevada



ATTACHMENT 1B

RENO VASNHCS LOCATION MAP (STREET MAP)
975 Kirman Avenue, Reno, Nevada



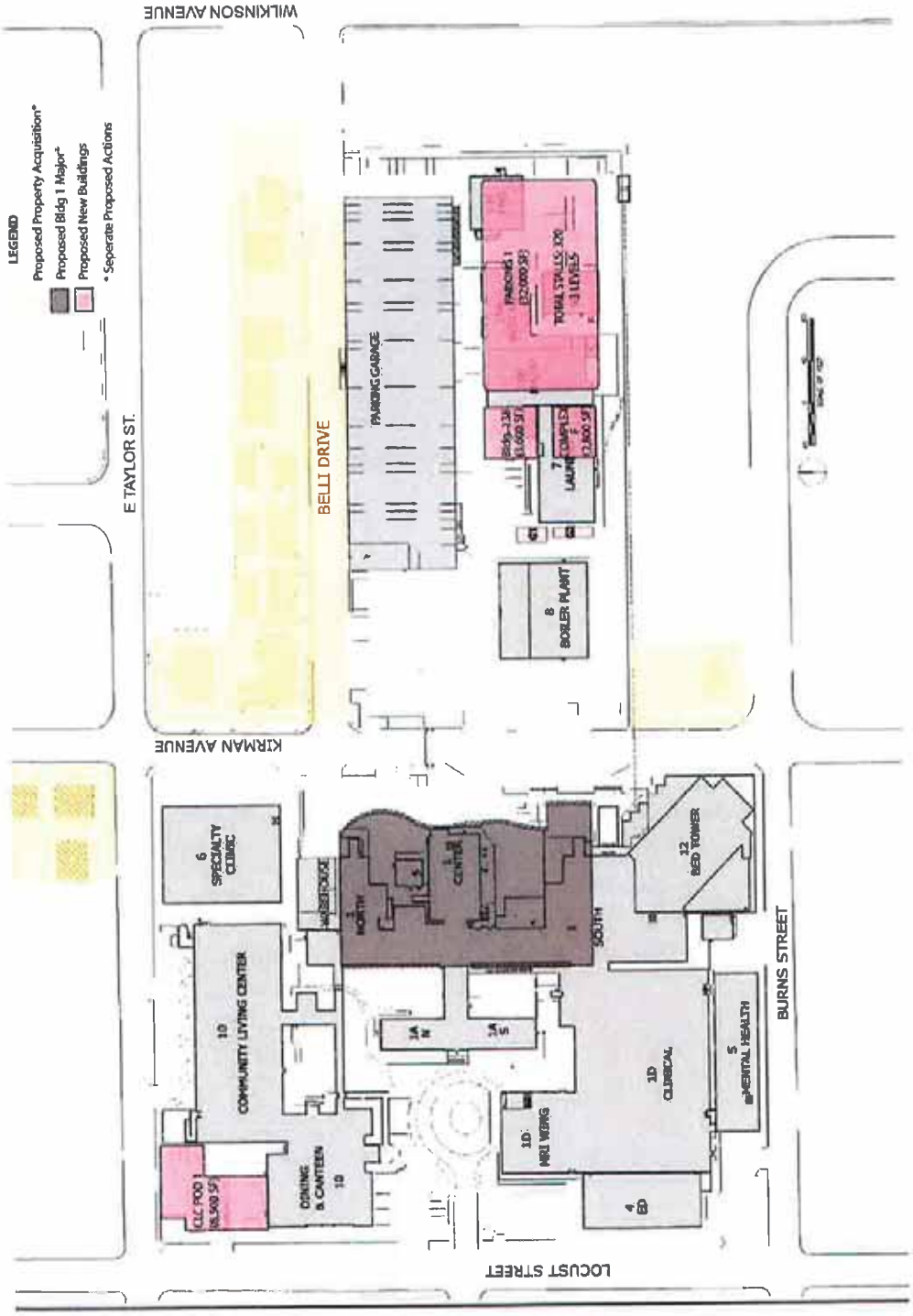
ATTACHMENT 1C

RENO VASNHCS LOCATION MAP (2014 AERIAL MAP)
975 Kirman Avenue, Reno, Nevada

TTL associates inc

ATTACHMENT 1D

RENO VASNHCS CAMPUS MAP
975 Kirman Avenue, Reno, Nevada



TTL associates inc

Attachment 2
List of Agencies and Organizations Contacted
Department of Veterans Affairs
NEPA Environmental Assessment
Campus Renovation and Modernization
VA Sierra Nevada Healthcare System
975 Kirman Avenue, Reno, Nevada

U.S. Fish and Wildlife Service
Nevada Fish and Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, Nevada 89502-7147
Phone: (775) 861-6300

US Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, California 94105
Phone: (415) 947-8702

US Army Corps of Engineers – Sacramento District
Public Affairs Office
1325 J Street - Room 1513
Sacramento, California 95814
Phone: (916) 557-5100

Nevada Division of Environmental Protection
Bureau of Corrective Actions
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701
Phone: (775) 687-9374

Nevada Division of Environmental Protection
Bureau of Waste Management
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701
Phone: (775) 687- 9461

Nevada Division of Environmental Protection
Bureau of Safe Drinking Water
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701
Phone: (775) 687-9518

Nevada Division of Environmental Protection
Bureau of Water Pollution Control
901 South Stewart Street, Suite 4001
Carson City Nevada 89701-5249
Phone: (775) 687-9418

Nevada Department of Conservation and Natural Resources
Conservation Districts Program
901 South Stewart Street, Suite. 1003
Carson City, Nevada 89701
Phone: (775) 684-2700

Nevada Department of Conservation and Natural Resources
Division of Forestry
2478 Fairview Drive
Carson City, Nevada 89701
Phone: (775) 684-2500

Nevada Department of Conservation and Natural Resources
Natural Heritage Program
901 South Stewart Street, Suite 5002
Carson City, Nevada 89701-5245
Phone: (775) 684-2900

Nevada Department of Conservation and Natural Resources
State Historic Preservation Office (SHPO)
901 South Stewart Street, Suite 5004
Carson City, Nevada 89701-4285
Phone: (775) 684-3448

Nevada Department of Conservation and Natural Resources
Division of Water Resources
901 South Stewart Street, Suite 2002
Carson City, Nevada 89701
Phone: (775) 684-2800

Nevada Department of Wildlife
1100 Valley Road
Reno, Nevada 89512
Phone: (775) 688-1500

Nevada Department of Transportation
1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7000

USDA Natural Resource Conservation Service
Nevada State Office
1365 Corporate Boulevard
Reno, Nevada 89502-7102
Phone: (203) 287-8038

Washoe County Air Quality Management Division
1001 E. 9th Street, Building B, Suite 171
Reno, Nevada 89512
Phone: (775) 784-7200

Reno Economic Community Development Department
Ms. Claudia C. Hanson, AICP
Planning & Engineering Manager
1 East First Street
Reno, Nevada 89501
Phone: (775) 334-2381

Reno Economic Development and Redevelopment Department
1 East First Street
Reno, Nevada 89501
Phone: (203) 937-3590

Reno Department of Public Works
Ms. Charla Honey
Public Works Engineering Manager
1 East First Street
P.O. Box 1900
Reno, Nevada 89505
Phone: (775) 334-2350

Reno Department of Public Works
Mr. Steve Bunnell
Public Works Traffic Engineer
1 East First Street
P.O. Box 1900
Reno, Nevada 89505
Phone: (775) 334-2350

Reno Regional Transportation Commission
Mr. David Jickling
Director of Public Transportation and Operations
P.O. Box 30002
Reno, Nevada 89520
Phone: (775) 348-0400

Paul Jackson

From: Mike Leigh <mleigh@ndep.nv.gov>
Sent: Wednesday, September 30, 2015 4:30 PM
To: Paul J. Jackson TTL Associates
Cc: Diane Benson
Subject: VA Campus Renovation
Attachments: TTL EnvAssess request for Env Info on VA Campus renovation Sept 2015.pdf

Mr. Jackson:

Thank you for your inquiry regarding the referenced property (*see attached*). Please be advised that there have been no changes in the status of hazardous waste permitted facilities in the area of interest since your April 2015 inquiry. There are no RCRA Hazardous Waste Management Permits issued to a facility located at the referenced area in Reno, Nevada. As such, there will not be any records available in the Bureau of Waste Management ***RCRA Facilities Branch***. However, additional information may be available from other programs and Bureaus at NDEP.
Thank You!

Mike Leigh, P.E.
Supervisor, Permitting Branch
Bureau of Waste Management
Nevada Division of Environmental Protection
901 South Stewart Street, Suite 4001
Carson City, NV 89701
p: 775.687.9465 **f: 775.687.5856**
e: ***mleigh@ndep.nv.gov***
www.ndep.nv.gov

NEVADA DIVISION OF
ENVIRONMENTAL PROTECTION

STATE OF NEVADA
Department of Conservation & Natural Resources
Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
David Emme, Administrator

September 30, 2015

Paul J. Jackson
Environmental Scientist
TTL Associates, Inc.
44265 Plymouth Oaks Boulevard
Plymouth, Michigan 48170

Dear Mr. Jackson:

In regards to your request for information letter of September 24, 2015, Bureau of Waste Management (BWM) staff reviewed our files for RCRA hazardous waste compliance and enforcement activities. Our search revealed records meeting your criteria for the following property:

- VA Sierra Nevada Health Care System (NV4360010322) at 1000 Locust St., Reno, NV

To make an appointment to view the facility file, or to arrange for copies to be made of the file, please contact Diane Benson (775) 687-9461 or dbenson@ndep.nv.gov.

Information regarding facility RCRA hazardous waste activities is available on the web at www.epa.gov/echo. This information is updated monthly.

Information regarding conducting a Phase I is available on the web at http://ndep.nv.gov/admin/env_info_request.htm.

Free and confidential pollution prevention assistance may be obtained from the Business Environmental Program, Small Business Development Center, University of Nevada, Reno at (800) 882-3233, or www.unr.bep.org.

Please direct any additional questions to me at (775) 687-9474 or skendrick@ndep.nv.gov.

Sincerely,

Sean Kendrick
Environmental Scientist
Compliance and Enforcement Branch
Bureau of Waste Management

SK:dm

ec: Evan Chambers, BWM
Diane Benson, BWM
pjackson@ttlassoc.com

Paul Jackson

From: Starostka, Andy <andy_starostka@fws.gov>
Sent: Monday, December 21, 2015 6:32 PM
To: Paul Jackson
Subject: NEPA scoping for Reno Nevada VA; FWS Species list

Re; Campus Renovation and Modernization, VA Sierra Nevada Health Care System

The Reno Fish and Wildlife Office (RFWO) provides project proponents with official species list requests electronically through the U.S. Fish and Wildlife Service's (Service) Information, Planning, and Conservation System (also known as IPaC). This National system is designed for public access to natural resource information for which the Service has trust or regulatory responsibility including threatened and endangered species information. This system is available for both private citizens and agency employees to assist in determining how their activities may impact sensitive natural resources. The information provided by IPaC is generated by the Service and can be obtained quickly electronically. Use of this system will improve project planning efficiency. For more information on IPAC and to obtain an official species list for a specific project area, please visit the IPaC website at: http://ecos.fws.gov/ipac. Start by entering the project location. You can define the project location by drawing a sketch, polygon or line, uploading a shapefile, or selecting a state or county. After you have entered the project location, click on "Request an Official Species List" under the Tasks heading in the overview page (please note that selecting "See Resource List" will not provide you with an official species list). When you have filled out the required contact and project information, be sure to scroll to the bottom of the page and click on "Submit Official Species List Request" to complete the request. You should receive an email within 24 hours that will direct you to the location where you can print out the official species list. If you need additional guidance contact Todd Gilmore at 775-861-6300 or todd_gilmore@fws.gov.

Thank you

Andy

--
Andy Starostka
Fish Biologist
Nevada Fish and Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, Nevada 89502-7147

Tel: (775) 861-6386
Fax: (775) 861-6301
andy_starostka@fws.gov

REGIONAL TRANSPORTATION COMMISSION
Metropolitan Planning • Public Transportation & Operations • Engineering & Construction
Metropolitan Planning Organization of Washoe County, Nevada

October 23, 2015

FR: Chrono

Mr. Paul J. Jackson, Environmental Scientist
TTL Associates
44265 Plymouth Oaks Boulevard
Plymouth, Michigan 48170

RE: Department of Veterans Affairs
Campus Renovation and Modernization
VA Sierra Nevada Healthcare System
975 Kirman Avenue
Reno, Nevada

Dear Mr. Jackson,

We appreciate the opportunity to provide comments on the NEPA process for the renovations of the VA Sierra Nevada Healthcare System (Reno VAHCS). We will reiterate our comments in a letter dated April 30, 2015 regarding the acquisition of land for parking for the Reno VAHCS. In that letter it was pointed out that the Regional Transportation Commission of Washoe County (RTC) would focus on the impacts of the abandonment of Kirman Avenue. We assume that the abandonment is still being considered. This street is the 2035 Regional Transportation Plan (RTP) as a regional road with a functional class designation of collector and an access management designation of Low Access Control. The roadway is also in the RTC's travel demand model. Should the roadway be abandoned as part of this renovation, the RTP and the travel demand model would need to be updated to reflect the change.

The RTC does have a transit line (Route 13) that serves this area and uses Kirman Avenue. Should the roadway be abandoned, the portion of Route 13 that serves the neighborhoods south of the Reno VAHCS would need to be picked up a new route or the courrent route would need to be altered. There are clear impacts to transit, but the RTC believes those impacts can be mitigated as long as the Reno VAHCS is required to maintain current transit access or create new and better access to the facility.

We would also like to point out some concern on the effect to the pedestrian flow along Kirman Avenue especially with access to the Veterans Elementary School in the area.

Thank you for the opportunity to comment on this project. If you have any questions, please feel free to contact me at 335-1918.

Sincerely,

Debra

Debra Goodwin
Planning Administrator

DG/jm

VA NEPA Letter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

October 19, 2015

Paul J. Jackson
TTL Associates, Inc.
44265 Plymouth Oaks Boulevard
Plymouth, Michigan 48170

Subject: EPA scoping comments on the Department of Veterans Affairs Sierra Nevada Healthcare System Campus Renovation and Modernization, Reno, Nevada

Dear Mr. Jackson:

The U.S. Environmental Protection Agency (EPA) has reviewed the scoping notice dated September 24, 2015 requesting input for the Environmental Assessment that the Department of Veterans Affairs (VA) is preparing for the subject project. The following comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The scoping notice indicates that part of the campus renovation will occur under separate Environmental Assessment(s) and includes the acquisition of up to 11 adjacent residential parcels. It is not clear why these projects are being evaluated separately when they are all part of the same campus renovation. We have concerns that this approach could represent improper NEPA segmentation and affect the ability of the VA to determine whether impacts could be significant. The Council on Environmental Quality's (CEQ) NEPA Regulations state that *"significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts*" (40 CFR 1505.27(b) 7).

We recommend that the VA evaluate the appropriateness of dividing the campus renovation project. According to CEQ, the EA should "provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact." (40 CFR 1508.9). In addition, it appears that the affected community includes a low-income population; therefore the NEPA document should include a full assessment of impacts to communities with environmental justice concerns and should include commitments to the level of mitigation necessary to reduce impacts below the level of significance for this population, should a Finding of No Significant Impact (FONSI) be pursued. These and other issues are discussed further in the attached detailed comments.

EPA appreciates the opportunity to review this scoping notice. When the NEPA document is released for public review, please send one copy to the address above (mail code: ENF-4-2). If you have any questions, please contact me at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,

Karen Vitulano
Environmental Review Section

cc: Thomas Moran, Department of Veterans Affairs

NEPA Segmentation

The scoping notice indicates that part of the campus renovation will occur under separate Environmental Assessment(s) – specifically the partial demolition of Building 1 and the construction of an approximately 160,000 square feet, 5-story addition, the acquisition of up to 11 adjacent residential parcels, and the reduction of Kirman Avenue to 1-lane through the campus. It is not clear why these projects are "currently being assessed as separate proposed actions in separate EA's and are not directly included in this NEPA effort" when they are all part of the same campus renovation. It is also not clear how the proposed residential acquisitions are more associated with the other campus renovation actions than they are with this action.

We have concerns that this approach could represent improper NEPA segmentation. The CEQ Regulations specify that the scope of an environmental impact statement should consider connected actions (interdependent parts of a larger action and depend on the larger action for their justification) and cumulative actions, which when viewed with other proposed actions have cumulative significant impacts and should therefore be discussed in the same impact statement (40 CFR 1508.25). Courts have ruled that these regulations apply to Environmental Assessments.

We are also concerned that separating the campus renovation actions into separate EA's would affect the ability of the VA to determine whether impacts could be significant. For example, to determine significance, the CEQ regulations require consideration of context and intensity (40 CFR 1505.27), and when evaluating intensity, agencies are to consider "*whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.*" (40 CFR 1505.27(b) 7).

We recommend that the VA evaluate the appropriateness of dividing the campus renovation project. The EA should "provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact." (40 CFR 1508.9).

Environmental Justice

Attachment 1D of the scoping notice, distributed by TTL Associates on behalf of the VA, shows the 11 proposed residential property acquisitions for the campus renovation, which the VA is pursuing as separate proposed actions in separate EAs. As indicated above, the VA must consider the cumulative effects of that action, which includes the property acquisitions, when determining the potential significance of the action being evaluated under this scoping notice. Part of the impact assessment should include determining whether the affected community has potential environmental justice (EJ) concerns. The residential area affected by the property acquisitions appears to be a low-income community, based on information obtained from the EPA-developed tool EJSCREEN. EJSCREEN[1] is an environmental justice mapping and screening tool providing a nationally consistent dataset and approach for combining environmental and demographic indicators. When applying a ¼ mile and ½ mile buffer around the project site, EJSCREEN indicates that the percent low-income population is 66% and 62% respectively. These data indicate a community with potential EJ concerns when comparing the percentile rankings for the indexes (EJ, environmental, and demographic) at a National and a State of Nevada scale.

[1] http://www2.epa.gov/ejscreen

The VA should refer to Executive Order 12898 on *Federal Actions to Address Environmental Justice in Minority and Low-income Populations* when preparing its impact assessment. In the Presidential Memorandum[1] to the Heads of All Departments and Agencies on this EO, as well as in CEQ's EJ Guidance, it indicates that mitigation measures identified as part of an EA or FONSI should address significant and adverse effects on low-income populations. In addition, when a community with EJ concerns is affected by a project, substantial and documented public engagement should occur to ensure effective and meaningful community participation in the NEPA process. Demographic information should be consulted when developing a public outreach strategy. Any mitigation packages to mitigate for the acquisition of residential properties and relocation of low-income residents should be prepared in consultation with the affected community. When developing mitigation, the VA should consider the additional burden that a low-income community could experience when determining whether impacts are mitigated to a less than significant level.

We also recommend a plan be developed to address the potential impacts from house demolition (including impacts from lead-based paint), project construction (noise, vehicle emissions, dust), routing of construction vehicles, and increased traffic.

Alternatives Analysis

The CEQ NEPA Regulations instruct agencies to present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision-maker and the public (40 CFR 1502.14). We recommend against characterizing the environmental effects of the alternatives to the Proposed Action as being "similar to the proposed action" without attempting to quantify the differences. Area of land disturbed, quantity of impervious surfaces, vegetation affected, etc. are quantifiable and should be presented in any comparison table of alternatives. We recommend the VA explore all reasonable alternatives, even if an EA is developed. Although courts have ruled that an agency's obligation to consider alternatives under an EA is a lesser one than under an EIS, they have affirmed that NEPA requires that alternatives be given full and meaningful consideration, whether the agency prepares an EA or an EIS. Since it appears that there may be potential environmental justice concerns, the VA should explore alternatives that would reduce these impacts.

Air Quality

The impact assessment should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS), criteria pollutant nonattainment areas, and potential air quality impacts of the project (including cumulative and indirect impacts) for each fully evaluated alternative. Construction related impacts should also be discussed.

General Conformity

The impact assessment should address the applicability of Clean Air Act (CAA) Section 176 and EPA's general conformity regulations at 40 CFR Parts 51 and 93. Federal agencies need to ensure that their actions, including construction emissions subject to state jurisdiction, conform to an approved implementation plan. Mitigation may be available to reduce the project's air emissions, including

[1] https://ceq.doe.gov/nepa/regs/eos/ii-5.pdf

particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$ respectively), diesel particulate matter (DPM), ozone precursors (oxides of nitrogen (NOx)) and volatile organic compounds.

The project site is located in an area designated as nonattainment (marginal) for the 1-hour Ozone NAAQS, and well as nonattainment (serious) for the PM_{10} NAAQS. In addition, the project site is located in a maintenance area for carbon monoxide; therefore, while this area is no longer in nonattainment for CO, general conformity still applies because of its maintenance designation. Because of the air basin's nonattainment status for several NAAQS, it is important to reduce emissions of ozone precursors and particulate matter from this project as much as possible. Emissions authorized by a CAA permit issued by the State or the local air pollution control district would not be assessed under general conformity but through the permitting process.

Construction Emissions Mitigation

The impact assessment should include a thorough analysis of impacts from the construction of the proposed project alternatives, and emission estimates of all criteria pollutants and diesel particulate matter (DPM). EPA also recommends that the impact assessment disclose the available information about the health risks associated with vehicle emissions and mobile source air toxics (see http://www.epa.gov/otaq/toxics.htm). EPA recommends including a Construction Emissions Mitigation Plan (CEMP) for fugitive dust and DPM in the impact assessment and adopting this plan in the NEPA decision document. The following mitigation measures should be included in the CEMP in order to reduce impacts associated with emissions of particulate matter and other toxics from construction-related activities:

- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. Control technologies such as particle traps and specialized catalytic converters can significantly reduce emissions.
- Ensure that diesel-powered construction equipment is properly tuned and maintained, and shut off when not in direct use.
- Prohibit engine tampering to increase horsepower, except when meeting manufacturer's recommendations.
- Locate diesel engines, motors, and equipment staging areas as far as possible from residential areas and sensitive receptors (schools, daycare centers, and hospitals).
- Reduce construction-related trips of workers and equipment, including trucks. Develop a construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.
- Lease or buy newer, cleaner equipment (1996 or newer model), using a minimum of 75 percent of the equipment's total horsepower.
- Use lower-emitting engines and fuels, including electric, liquified gas, hydrogen fuel cells, and/or alternative diesel formulations.
- Implement the following Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate, to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for surface stabilization under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

Climate Change

We believe the Council on Environmental Quality's December 2014 revised draft guidance for Federal agencies' consideration of GHG emissions and climate change impacts in NEPA outlines a reasonable approach, and we recommend that the VA use that draft guidance to help outline the framework for its analysis of these issues. Accordingly, we recommend the draft NEPA document include an estimate of the GHG emissions[1] associated with the project, qualitatively describe relevant climate change impacts, and analyze reasonable alternatives and/or practicable mitigation measures to reduce project-related GHG emissions. In addition, we recommend that the NEPA analysis address the appropriateness of considering changes to the design of the proposal to incorporate GHG reduction measures and resilience to foreseeable climate change effects.

Recognizing that climate impacts are not attributable to any single action, but are exacerbated by a series of smaller decisions, we do not recommend comparing GHG emissions from a proposed action to global or U.S. emissions. As noted by the CEQ revised draft guidance, "[t]his approach does not reveal anything beyond the nature of the climate change challenge itself: [t]he fact that diverse individual sources of emissions each make relatively small additions to global atmospheric GHG concentrations that collectively have huge impact." Instead, consider providing a frame of reference, such as an applicable Federal, state, or local goal for GHG emission reductions, and discuss whether the emissions levels are consistent with such goals.

Describe measures to reduce GHG emissions associated with the project, including reasonable alternatives or other practicable mitigation opportunities and disclose the estimated GHG reductions associated with such measures. For example, the project should include energy efficiency measures as best practices for reducing greenhouse gases and these measures should be built in to the project description. In addition, the project location is conducive to solar energy generation, such as rooftop photovoltaics (PV), and/or PV on carports over parking lots. Shading parking areas also reduces evaporative emissions of air pollutants from parked vehicles. Solar water heating should be discussed and evaluated. We recommend including renewable energy components into the project design. The VA may also want to consider the use of high-efficiency combined heat and power (CHP), also known as cogeneration, to meet project heating and energy loads. CHP facilities improve energy efficiency by up to 80% when compared to both heat and electricity generation. EPA further recommends that the NEPA decision document commit to implementation of reasonable mitigation measures that would reduce or eliminate project-related GHG emissions.

[1] . Example tools for estimating and quantifying GHG emissions can be found on CEQ's NEPA.gov website

Nonpoint Source Pollution and Low Impact Development
The project applicant should identify ways to minimize the project footprint and reduce impervious surfaces. Runoff from parking areas and roadways should be diverted into stormwater treatment structures such as bioretention areas, infiltration trenches or basins, or filter strips onsite. These and other low-impact development (LID) features should be included in the project design to ensure there is sufficient space allotted during the planning process. For more information see: http://water.epa.gov/polwaste/green/.

Invasive Species and Pollinator-friendly Landscaping
Executive Order 13112 on Invasive Species calls for the restoration of native plant and tree species. If the proposed project will entail new landscaping, the NEPA document should describe how the project will meet the requirements of Executive Order 13112.

Landscaping plans for the project site should consider President Obama's federal memorandum issued in June 2014 entitled *Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators* which directs Federal agencies to take steps to protect and restore domestic populations of pollinators. To help achieve this goal, CEQ issued an addendum to its sustainable landscape guidance on October 22, 2014 entitled *Supporting the Health of Honey Bees and other Pollinators* which provides guidance to help Federal agencies incorporate pollinator friendly practices in new construction and landscaping improvements. See: See http://www.whitehouse.gov/the-press-office/2014/06/20/presidential-memorandum-creating-federal-strategy-promote-health-honey-b and http://www.whitehouse.gov/sites/default/files/docs/supporting_the_health_of_honey_bees_and_other_pollinators.pdf.

EJSCREEN Report

for 0.25 mile Ring Centered at 39.516322,-119.798496, NEVADA, EPA Region 9

Approximate Population: 1285

Selected Variables	Raw Data	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m^3)	7.39	7.92	27	9.95	9	9.78	9
Ozone (ppb)	51.1	55.5	15	49.7	53	46.1	78
NATA Diesel PM (µg/m^3)*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Cancer Risk (lifetime risk per million)*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Respiratory Hazard Index*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Neurological Hazard Index*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Traffic Proximity and Volume (daily traffic count/distance to road)	50	89	65	190	38	110	58
Lead Paint Indicator (% Pre-1960 Housing)	0.64	0.056	98	0.25	86	0.3	83
NPL Proximity (site count/km distance)	0.021	0.0093	90	0.11	19	0.096	25
RMP Proximity (facility count/km distance)	0.09	0.19	38	0.41	19	0.31	31
TSDF Proximity (facility count/km distance)	0.015	0.069	18	0.12	11	0.054	38
Water Discharger Proximity (facility count/km distance)	0.16	0.18	64	0.19	63	0.25	58
Demographic Indicators							
Demographic Index	43%	40%	61	46%	48	35%	68
Minority Population	20%	46%	16	57%	11	36%	42
Low Income Population	66%	34%	90	35%	88	34%	91
Linguistically Isolated Population	2%	7%	41	9%	29	5%	57
Population With Less Than High School Education	10%	16%	41	18%	39	14%	44
Population Under 5 years of age	7%	7%	52	7%	52	7%	57
Population over 64 years of age	20%	12%	85	12%	87	13%	84

* The National-scale Air Toxics Assessment (NATA) environmental indicators and EJ indexes, which include cancer risk, respiratory hazard, neurodevelopment hazard, and diesel particulate matter will be added into EJSCREEN during the first full public update after the soon-to-be-released 2011 dataset is made available. The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: http://www.epa.gov/ttn/atw/natamain/index.html.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

EJSCREEN Report

for 0.5 mile Ring Centered at 39.516322,-119.798496, NEVADA, EPA Region 9

Approximate Population: 6270

Selected Variables	Raw Data	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m^3)	7.38	7.92	26	9.95	9	9.78	9
Ozone (ppb)	51.1	55.5	15	49.7	53	46.1	78
NATA Diesel PM (µg/m^3)*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Cancer Risk (lifetime risk per million)*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Respiratory Hazard Index*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Neurological Hazard Index*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Traffic Proximity and Volume (daily traffic count/distance to road)	89	89	77	190	52	110	71
Lead Paint Indicator (% Pre-1960 Housing)	0.59	0.056	98	0.25	83	0.3	80
NPL Proximity (site count/km distance)	0.021	0.0093	90	0.11	19	0.096	25
RMP Proximity (facility count/km distance)	0.09	0.19	37	0.41	19	0.31	31
TSDF Proximity (facility count/km distance)	0.015	0.069	18	0.12	11	0.054	38
Water Discharger Proximity (facility count/km distance)	0.15	0.18	64	0.19	62	0.25	57
Demographic Indicators							
Demographic Index	55%	40%	77	46%	64	35%	78
Minority Population	47%	46%	53	57%	40	36%	67
Low Income Population	62%	34%	88	35%	85	34%	88
Linguistically Isolated Population	10%	7%	75	9%	63	5%	83
Population With Less Than High School Education	27%	16%	79	18%	72	14%	83
Population Under 5 years of age	10%	7%	76	7%	77	7%	80
Population over 64 years of age	11%	12%	57	12%	56	13%	45

* The National-scale Air Toxics Assessment (NATA) environmental indicators and EJ indexes, which include cancer risk, respiratory hazard, neurodevelopment hazard, and diesel particulate matter will be added into EJSCREEN during the first full public update after the soon-to-be-released 2011 dataset is made available. The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: http://www.epa.gov/ttn/atw/natamain/index.html.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

U.S. EPA FACT SHEET

The EPA Redesignates Truckee Meadows to Attainment for the Coarse Particulate Matter National Ambient Air Quality Standard

November 16, 2015

Summary

- The EPA is approving Nevada's plan for the Truckee Meadows area, also referred to as the Reno planning area, to maintain the inhalable coarse particulate matter 24-hour National Ambient Air Quality Standard (PM_{10} NAAQS). These particles are commonly referred to as PM_{10} because they have a diameter of ten micrometers or less.
- The EPA is also approving Nevada's request to redesignate Truckee Meadows to attainment for the PM_{10} NAAQS.

Background

- Today's actions represent a significant accomplishment accomplished primarily through the actions of the Washoe County District Board of Health, whose regulations and programs have greatly reduced PM_{10}.
- With this action, Nevada is currently meeting all the federal health protective standards for clean air. This is a tremendous milestone and reflects cooperation among the public, businesses, local, state and federal agencies throughout the State.
- In 2011 The EPA previously determined that Truckee Meadows had attained the PM_{10} NAAQS. Complete, quality-assured, and certified ambient air quality monitoring data for the area shows it has continued to attain the PM_{10} NAAQS since that time.
- The EPA is concerned about PM_{10} because these particles pass through the throat and nose and enter the lungs. Reducing PM_{10} levels is essential because, once inhaled, these particles can affect the heart and lungs and cause serious health effects.
- PM_{10} is a complex mixture of extremely small particles and liquid droplets. In the Truckee Meadows area it is predominately comprised of "primary particulates," such as particles from soil or dust, residential wood burning, and diesel.

Next Steps

- Today's actions will be published in the Federal Register in approximately two weeks and be effective 30 days after publication.

For More Information:

http://www3.epa.gov/region9/air/actions/nv.html#washoe

APPENDIX B

Photograph Logs

PHOTOGRAPHS

Photo #1:	Looking southwest at the western portion of the VASNHCS campus

Photo #2:	Looking northwest at the western portion of the VASNHCS campus

Photo #3:	Looking west at the western portion of the VASNHCS campus from Belli Drive

Photo #4:	Looking southwest at the western portion of the VASNHCS campus from Belli Drive

Photo #5:	Looking west across the eastern portion of the VASNHCS campus at the western portion

Photo #6:	Looking southeast at the western portion of the VASNHCS campus

PHOTOGRAPHS

Photo #7:	Looking east at the western portion of the VASNHCS campus

Photo #8:	Looking east at the southwestern corner of the western portion of the VASNHCS campus

Photo #9:	Looking northeast at the southwestern corner of the western portion of the VASNHCS campus

Photo #10:	Looking east across the interior of the western portion of the VASNHCS campus

Photo #11:	Looking southwest at the existing parking garage on the eastern portion of the VASNHCS campus

Photo #12:	Looking west at the existing parking garage on the eastern portion of the VASNHCS campus

PHOTOGRAPHS

Photo #13:	Looking northeast at the boiler plant on the eastern portion of the VASNHCS campus

Photo #14:	Looking southeast at the west end of the eastern portion of the VASNHCS campus

Photo #15:	Looking southwest at the boiler plant on the eastern portion of the VASNHCS campus

Photo #16:	Looking northwest at the west end of the eastern portion of the VASNHCS campus

Photo #17:	Buildings in the southeastern corner of the eastern portion of the VASNHCS campus

Photo #18:	Buildings in the southeastern corner of the eastern portion of the VASNHCS campus

APPENDIX C

Other Relevant Environmental Data

NEVADA
STATE HISTORIC PRESERVATION OFFICE

Department of Conservation and Natural Resources

Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Rebecca L. Palmer, SHPO

March 22, 2016

Ms. Lisa Howard, Director
Department of Veterans Affairs
VA Sierra Nevada Health Care System
Ioannis A. Lougaris VA Medical Center
975 Kirman Avenue
Reno, Nevada 89502-2597

RE: **Corrected March 18, 2016 SHPO Letter:**
Section 106 Consultation for the Relocate Intensive Care Unit Project, Bed Tower/Building 12, Sierra Nevada Health Care System (VASNHCS), Reno, Washoe County, Nevada (UT 2016-4247)

Dear Ms. Howard:

The Nevada State Historic Preservation Office (SHPO) has reviewed the submitted documents in compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended.

This undertaking is the relocation of the VA Intensive Care Unit (ICU) from Building 1D to Bed Tower/ Building 12 at the southeast side of the VASNHCS campus along Kirman Avenue. Building 12 was completed in 1999. This new ICU will be located on the third floor of Building 12 and will provide single patient rooms with exterior windows.

This expansion and relocation will include modifications to the southern and eastern façades of Building 12. On both the second and third floors, the exterior walls will be extended as pictured on Figure 8 of the submission, Addendum 1, March 16, 2016. This infill will not exceed the footprint of the first floor and will provide needed additional interior space within the unit.

Per the VASNHCS submission, Addendum 2, March 18, 2016, the massing and fenestration of the building will change slightly. Although the building will become larger the new fenestration and the patterns of this fenestration balance the additional mass. Instead of solid concrete/stucco walls with small windows, the new addition will be punctuated with larger, varied and lighter looking windows. On the eastern façade of the main building there will also be a two storey addition. The second floor portion of this addition will extend to the east a short distance and will act as a solid base to the third floor addition's sidewalls which are completely glass, capped by a concrete/stucco roof. The colors, finishes and glass tint will be consistent with the existing products of the current building.

No ground disturbing activity is anticipated for this undertaking.

The SHPO finds the APE as described on page eight of Addendum 1 (March 16, 2016) adequate for this undertaking.

This APE includes the non-historic Bed Tower/Building 12 (1999) and the Mental Health Clinic (2012).

The following historic-aged properties are found within the APE. Any of the historic-aged properties not previously evaluated for listing in the National Register of Historic Places will be left unevaluated and treated as eligible for this undertaking.

Property Address	Date of Construction	Eligibility
735 Belli Drive	c. 1952	eligible (contributing Criterion C)
765 Belli Drive	c. 1952	eligible (contributing Criterion C)
703 Balzar Circle	c. 1952	Not -eligible
Buildings 15, F, K, 138, Parking Garage	past 20-35 years (noted by the VA as possibly historic)	Unevaluated and treated as eligible for this undertaking
610 Burns Street	1940	Unevaluated and treated as eligible for this undertaking
612 Burns Street	1952	Unevaluated and treated as eligible for this undertaking
622 Burns Street	1939	Unevaluated and treated as eligible for this undertaking
626 Burns Street	1943	Unevaluated and treated as eligible for this undertaking
630 Burns Street	1940	Unevaluated and treated as eligible for this undertaking
634 Burns Street	1941	Unevaluated and treated as eligible for this undertaking
640 Burns Street	1940	Unevaluated and treated as eligible for this undertaking
650 Burns Street	1940	Unevaluated and treated as eligible for this undertaking
660 Burns Street	1945	Unevaluated and treated as eligible for this undertaking
1060 Kirman Avenue	1954	Unevaluated and treated as eligible for this undertaking
704 Balzar Circle	1942	Unevaluated and treated as eligible for this undertaking
710 Balzar Circle	1942	Unevaluated and treated as eligible for this undertaking
712 Balzar Circle	1942	Unevaluated and treated as eligible for this undertaking
714 Balzar Circle	1952	Unevaluated and treated as eligible for this undertaking
716 Balzar Circle	1942	Unevaluated and treated as eligible for this undertaking
718 Balzar Circle	1942	Unevaluated and treated as eligible for this undertaking

The SHPO concurs with the Department of Veterans Affairs finding of No Adverse Effect for the Relocate Intensive Care Unit project.

Should you have any questions regarding this correspondence please contact staff architectural historian Mara Thiessen Jones at 775-684-3439 or mara.jones@shpo.nv.gov .

Sincerely,

Rebecca L. Palmer
State Historic Preservation Officer

21359

Cc. Arlee Fisher, Facility Planner VASNHCS

NEVADA
STATE HISTORIC PRESERVATION OFFICE

Department of Conservation and Natural Resources

Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Rebecca L. Palmer, SHPO

April 15, 2016

Ms. Arlee Fisher
Facility Planner, VA Sierra Nevada Health Care System
Department of Veterans Affairs
Ioannis A. Lougaris VA Medical Center
975 Kirman Avenue
Reno, NV 89502-2597

Re: Revised Submission for Construction of Community Living Center at the VASNHCS Facility, Reno, Washoe County, Nevada (UT 2016-4248)

Dear Ms. Fisher:

The State Historic Preservation Office (SHPO) has reviewed the subject documents in accordance with Section 106 of the National Historic Preservation Act (NHPA), as amended. Thank you for submitting a revised report, which includes additional information requested in our letter dated March 18, 2016.

Project Description
The proposed undertaking includes partial demolition of the existing Community Living Center (CLC) in Building 10 (constructed in 1983) and construction of a new CLC building at the Reno VA Medical Center (Reno VAMC). The new two-story building will consist of 13,900 square feet and will be sited on the corner of Locust and E. Taylor streets, which is currently used as a paved, surface-level parking lot. The exterior of Building 10 will not be demolished; however, the west elevation double-doors will connect to the new CLC building, and the two buildings will remain separate entities. Staging areas may include a parking lane on E. Taylor Street, to the north, and/or Locust Street, to the west. These areas would be used for staging temporarily during the construction project. Excavation and trenching will extend to a depth of approximately three feet. If any aspects of the project change, VASNCHS will notify the SHPO for additional review.

Area of Potential Effect (APE)
The VA has defined the Area of Potential Effect (APE) as the immediate construction area and temporary staging areas. The APE has been buffered to account for potential visual effects to nearby historic properties, extending north to Cheney Street, west to Wilson Avenue, south to Burns Street, and east to Kirman Avenue. Due to dense landscaping and a mature treescape, the VA has determined that the proposed CLC building will not be visible from the historic structures located within the proposed VASNHCS historic district. The APE additionally considers audible and atmospheric effects, both temporary and residual. The SHPO concurs that the APE, as defined by the VA, is adequate for the proposed undertaking.

Identification Effort for Historic Properties
The VA identified the VASNHCS proposed historic district, the Burke's Addition proposed historic district, and the Wells Avenue Neighborhood Conservation District as historic properties located within the APE. The SHPO would concur with the identification effort, assuming that all properties located within these districts are treated as eligible for inclusion in the National Register of Historic Places (NRHP).

Determination of Effect
The SHPO concurs with the VA's determination that the proposed undertaking will pose no adverse effect to historic properties within the project area.

Native American Consultation
The SHPO notes that consultation with the affected Native American tribes has been initiated. If this consultation results in the identification of properties of religious or cultural significance that could be affected by the undertaking, the VA must consult with this office concerning the National Register eligibility and possible effects of the undertaking.

Consultation with Interested Parties
The SHPO notes that the VA has consulted with representatives of the City of Reno, City of Sparks, Washoe County, Historic Reno Preservation Society, Nevada Architectural History Alliance, Preserve Nevada, and the Nevada Historical Society. Additionally, the VA placed a public notice regarding the proposed project in the *Reno Gazette-Journal.*

Should you have any questions concerning this correspondence, please contact SHPO staff architectural historian ZoAnn Campana at (775) 684-3439 or by e-mail at zcampana@shpo.nv.gov.

Sincerely,

Rebecca Palmer
State Historic Preservation Officer

21535

NEVADA
STATE HISTORIC PRESERVATION OFFICE

Department of Conservation and Natural Resources

Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Rebecca L. Palmer, SHPO

April 19, 2016

Ms. Arlee Fisher
Facility Planner, VA Sierra Nevada Health Care System
Department of Veterans Affairs
Ioannis A. Lougaris VA Medical Center
975 Kirman Avenue
Reno, NV 89502-2597

Re: Revised Submission for Construction of a New Parking Structure at the VASNHCS Facility, Reno, Washoe County, Nevada (UT 2016-4249)

Dear Ms. Howard:

The State Historic Preservation Office (SHPO) has reviewed the subject documents in accordance with Section 106 of the National Historic Preservation Act (NHPA), as amended. Thank you for submitting a revised Section 106 report, which includes additional information requested in our letter dated January 21, 2015.

Project Description
The proposed undertaking includes the construction of a three-story concrete parking structure with a 140-foot × 260-foot footprint and a maximum height of 42 feet. The parking garage will be sited on the southeastern corner of the VASNHCS campus and accessed via Belli Drive. Staging areas will include the area adjacent to the proposed structure, as well as the south parking lane on Belli Drive. These areas would be used for staging temporarily during the construction project. Excavation and trenching will extend to a depth of approximately three feet. If any aspects of the project change, VASNCHS will notify the SHPO.

Area of Potential Effect (APE)
The VA has defined the Area of Potential Effect (APE) as the immediate construction area and temporary staging areas. The APE has been buffered to account for potential visual effects to nearby historic properties, extending north to E. Taylor Street, west to Kirman Avenue, south to Burns Street, and east to Wilkinson Avenue. Due to power lines and a mature treescape, the VA has determined that the proposed parking garage will not be visible from the historic structures located within the proposed VASNHCS historic district. The APE additionally considers audible and atmospheric effects, both temporary and residual. The SHPO concurs that the APE, as defined by the VA, is adequate for the proposed undertaking.

Identification Effort for Historic Properties
The VA identified the following resources over 50 years of age and located within the APE:

SHPO Resource Number	Street Address	Date Built	NRHP Eligibility	NRHP Criteria
	Belli Addition Historic District	1940-1965	Eligible	C

SHPO Resource Number	Street Address	Date Built	NRHP Eligibility	NRHP Criteria
B13803	700-710 E. Taylor Street	c.1953	Eligible	C
B13806	735 Belli Drive	c.1952	Eligible	C
B13807	765 Belli Drive	c.1952	Eligible	C
B13805	829 Belli Drive	c.1940	Not Eligible	n/a
B13812	845 Belli Drive	c.1958	Not Eligible	n/a
B13813	865 Belli Drive	c.1958	Not Eligible	n/a
B13814	885 Belli Drive	c.1946	Not Eligible	n/a

The following properties more than 50 years of age were additionally identified by the VA, and because they have not been evaluated, the VA has chosen to treat them as eligible under all four of the Secretary's Criteria:

SHPO Resource Number	Street Address	Date Built	NRHP Eligibility	NRHP Criteria
--	920 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	926 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	932 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	940 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	946 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	952 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	960 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	966 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	890 Belli Drive	1964	Treat as Eligible	A, B, C, D
--	929 Wilkinson Avenue	1964	Treat as Eligible	A, B, C, D
--	935 Wilkinson Avenue	1963	Treat as Eligible	A, B, C, D
--	941 Wilkinson Avenue	1964	Treat as Eligible	A, B, C, D
--	951 Wilkinson Avenue	1963	Treat as Eligible	A, B, C, D
--	961 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	965 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D

The SHPO would concur with the adequacy of the identification effort, as outlined above, as well as with the corresponding eligibility determinations.

Determination of Effect

The SHPO concurs with the VA's determination that the proposed undertaking will pose no adverse effect to historic properties within the project area.

Native American Consultation

The SHPO notes that consultation with the affected Native American tribes has been initiated. If this consultation results in the identification of properties of religious or cultural significance that could be affected by the undertaking, the VA must consult with this office concerning the National Register eligibility and possible effects of the undertaking.

Consultation with Interested Parties
The SHPO notes that the VA has consulted with representatives of the City of Reno, City of Sparks, Washoe County, Historic Reno Preservation Society, Nevada Architectural History Alliance, Preserve Nevada, and the Nevada Historical Society. Additionally, the VA placed a public notice regarding the proposed project in the *Reno Gazette-Journal*.

Should you have any questions concerning this correspondence, please contact SHPO staff architectural historian ZoAnn Campana at (775) 684-3439 or by e-mail at zcampana@shpo.nv.gov.

Sincerely,

Rebecca Palmer
State Historic Preservation Officer

NEVADA
STATE HISTORIC PRESERVATION OFFICE

Department of Conservation and Natural Resources

Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Rebecca L. Palmer, SHPO

April 15, 2016

Ms. Arlee Fisher
Facility Planner, VA Sierra Nevada Health Care System
Department of Veterans Affairs
Ioannis A. Lougaris VA Medical Center
975 Kirman Avenue
Reno, NV 89502-2597

Re: Revised Submission to Demolish Existing East Campus Buildings at the VASNHCS Facility, Reno, Washoe County, Nevada (UT 2016-4250)

Dear Ms. Fisher:

The State Historic Preservation Office (SHPO) has reviewed the subject documents in accordance with Section 106 of the National Historic Preservation Act (NHPA), as amended. Thank you for submitting a revised report, which includes additional information requested in our letter dated March 18, 2016.

Project Description
The proposed undertaking includes the demolition of a collection of buildings located on the east side of the VASNHCS campus in Reno. These buildings have exceeded their life expectancy, are not compliant with current VA space allocations, and contain numerous utility deficiencies. Buildings slated for demolition include 15A (constructed in 1997), 15B (1997), F (1989), K (1995), and 138 (2008). The proposed project will demolish and remove everything extant in the building locations, including above-surface structures and equipment, subsurface pipes, and electrical equipment. When demolition concludes, the area will be filled with soil and covered with gravel. At this time, there are no proposed plans for construction to replace the demolished buildings. Existing VA parking lots located east of Kirman Avenue and the parking lanes along Belli Drive will be used for construction staging. If any aspects of the project change, VASNCHS will notify the SHPO for additional review.

Area of Potential Effect (APE)
The VA has defined the Area of Potential Effect (APE) as the immediate construction area and temporary staging areas. The APE has been buffered to account for potential visual effects to nearby historic properties, extending north to E. Taylor Street, west to Kirman Avenue, south to Burns Street, and east to Wilkinson Avenue. The SHPO concurs that the APE, as defined by the VA, is adequate for the proposed undertaking.

Identification Effort for Historic Properties
The VA identified the following resources over 50 years of age and located within the APE:

SHPO Resource Number	Street Address	Date Built	NRHP Eligibility	NRHP Criteria
	Belli Addition Historic District	1940-1965	Eligible	C
B13803	700-710 E. Taylor Street	c.1953	Eligible	C

SHPO Resource Number	Street Address	Date Built	NRHP Eligibility	NRHP Criteria
B13806	735 Belli Drive	c.1952	Eligible	C
B13807	765 Belli Drive	c.1952	Eligible	C
B13805	829 Belli Drive	c.1940	Not Eligible	n/a
B13812	845 Belli Drive	c.1958	Not Eligible	n/a
B13813	865 Belli Drive	c.1958	Not Eligible	n/a
B13814	885 Belli Drive	c.1946	Not Eligible	n/a

The following properties more than 50 years of age were additionally identified by the VA, and because they have not been evaluated, the VA has chosen to treat them as eligible under all four of the Secretary's Criteria:

SHPO Resource Number	Street Address	Date Built	NRHP Eligibility	NRHP Criteria
--	920 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	926 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	932 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	940 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	946 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	952 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	960 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	966 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D

The following properties, all more than 50 years of age, were identified by the VA in the submission as "to be demolished." The SHPO assumes that the demolition is not related to the subject undertaking since it is not mentioned in the project description. If this is not correct, please notify the SHPO at your earliest convenience. Because these resources have not been evaluated, the VA has chosen to treat them as eligible under all four of the Secretary's Criteria:

SHPO Resource Number	Street Address	Date Built	NRHP Eligibility	NRHP Criteria
--	890 Belli Drive	1964		
--	929 Wilkinson Avenue	1964	Treat as Eligible	A, B, C, D
--	935 Wilkinson Avenue	1963	Treat as Eligible	A, B, C, D
--	941 Wilkinson Avenue	1964	Treat as Eligible	A, B, C, D
--	951 Wilkinson Avenue	1963	Treat as Eligible	A, B, C, D
--	961 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D
--	965 Wilkinson Avenue	1950	Treat as Eligible	A, B, C, D

The SHPO would concur with the identification effort, as outlined above, as well as with the corresponding eligibility determinations.

Determination of Effect
The SHPO concurs with the VA's determination that the proposed undertaking will pose no adverse effect to historic properties within the project area.

Native American Consultation
The SHPO notes that consultation with the affected Native American tribes has been initiated. If this consultation results in the identification of properties of religious or cultural significance that could be affected by the undertaking, the VA must consult with this office concerning the National Register eligibility and possible effects of the undertaking.

Consultation with Interested Parties
The SHPO notes that the VA has consulted with representatives of the City of Reno, City of Sparks, Washoe County, Historic Reno Preservation Society, Nevada Architectural History Alliance, Preserve Nevada, and the Nevada Historical Society. Additionally, the VA placed a public notice regarding the proposed project in the *Reno Gazette-Journal.*

Should you have any questions concerning this correspondence, please contact SHPO staff architectural historian ZoAnn Campana at (775) 684-3439 or by e-mail at zcampana@shpo.nv.gov.

Sincerely,

Rebecca Palmer
State Historic Preservation Officer

Department of Veterans Affairs Sierra Nevada Health Care System

Renovation and Modernization

Traffic Study Report

June 2016

DRAFT
KIRMAN AVENUE LANE REDUCTION
TRAFFIC STUDY REPORT
FOR DEPARTMENT OF VETERANS AFFAIRS
SIERRA NEVADA HEALTH CARE SYSTEM
RENO, NEVADA

GHD Project No. 11110661

Prepared for: Jensen + Partners
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Prepared by:

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Traffic Engineer

June 30, 2016
Date

Matt Wargula, PE
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June 30, 2016
Date

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June 30, 2016

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1. Executive Summary

1.1 Study Introduction and Purpose

The Department of Veterans Affairs Sierra Nevada Health Care System (VASNHCS) is located at 975 Kirman Ave, Reno, Nevada. The medical campus provides inpatient and outpatient health care to veteran patients in northern Nevada and northeastern California. In anticipation of growth in the demand for veteran care and mental health services, the VASNHCS has begun the planning and implementation of service expansion and infrastructure improvements to meet the projected demands, while minimizing impacts to daily operations. A number of renovation and modernization projects and one Major project are planned for completion and operation with recommendations included in the VA Reno 5-Year Master Plan (VASNHCS, 2015). The Master Plan aims to create a physical framework for future development and project phasing to assure a high quality campus environment. The Master Plan includes recommendations and considerations for the implementation and scheduling of these projects.

This traffic impact study evaluates the potential traffic impacts associated with the VASNHCS near-term renovation and modernization projects and the Major clinical expansion project. The study also evaluates the traffic conditions and potential changes to traffic circulation associated with the reduction of Kirman Avenue from two southbound travel lanes to one lane between East Taylor Street and Burns Street / Balzar Circle.

1.2 Project Summary

The proposed Major project consists of seismic retrofits and renovation to Building 1 for administrative space, a clinical expansion for patient care, and associated improvements that will increase the building area on the existing site by 97,000 square feet. Construction of the Major project is anticipated to begin in 2017 adjacent to Kirman Avenue.

The proposed renovation and modernization and Major projects are summarized in Table 11 and Table 12 (Section 4), and are expected to be implemented within the next five years. The Major and renovation and modernization projects are collectively referred to as the “Project” throughout this report.

A reduction in the width of Kirman Avenue is proposed, narrowing the roadway from two southbound lanes to one southbound lane and a dedicated bicycle lane. As a part of this study, several concepts were developed to evaluate options for the lane reduction. These concepts considered the following key issues:

- Geometric alternatives
- Pedestrian access and safety
- Traffic calming
- Integration with other planned improvements
- Access to existing driveways
- Emergency vehicle access

The selected Kirman Avenue lane reduction concept was developed in close coordination with the City of Reno Community Development Department, Department of Public Works, Traffic Engineering and Fire Department to assure that the proposed concept met City requirements with

regard to planning and neighborhood context, traffic operations, improvement standards and emergency response requirements. A detailed discussion of the Kirman Avenue lane reduction is provided in Section 10.

1.3 Analysis Summary

The study analyzed 23 intersections and reviewed 19 roadway segments for potential traffic impacts resulting from the Project. Five scenarios were evaluated in this study, which are 1) Existing Conditions, 2) 2025 Conditions, 3) 2025 + Project Conditions, 4) 2035 Conditions and 5) 2035 + Project Conditions. Traffic volumes associated with future conditions were estimated by applying established growth factors from the current version of the Washoe County Regional Transportation Commission *Regional Travel Demand Forecasting Model* to existing traffic turning movement counts from 2016. Scenarios 2 – 5 were also evaluated for potential traffic impacts associated with the proposed Kirman Avenue lane reduction. Level of Service thresholds of significance adopted by the City of Reno, City of Sparks and the Washoe County RTC are used to determine traffic impacts.

The peak hour Signal Warrant 3 is met at study Intersection No. 23 (Kietzke Lane / East Taylor Street) in the Existing Conditions. Signalization is recommended to improve the operation of this intersection.

1.3.1 Existing Conditions

The analysis of existing conditions found that, in general, the p.m. peak hour represents worst-case peak hour traffic conditions during a typical weekday. Based on the adopted LOS thresholds of significance all study intersections are operating acceptably with the exception of Intersection No. 2 (Wells Avenue / East Taylor Street), 3 (Wells Avenue / Crampton Street) and 23 (Kietzke Lane / East Taylor Street). Intersection 23 meets Part A of the MUTCD Signal Warrant 3. Signalization of this intersection will improve the Level of Service to LOS A (5.2 second delay) in the a.m. peak hour and LOS A (6.2 second delay) in the p.m. peak hour. Peak hour 95th percentile queue lengths exceed existing storage lane capacity at the northbound thru/right and westbound thru/left movements at Intersection No. 5 (Wells Avenue / Vassar Street).

1.3.2 2025 + Project Conditions

The analysis found that the Project contributes traffic to approaches at Intersection No. 2, 3 and 23 that operate unacceptably without the Project, which is an **impact**.

The Project contributes traffic to the westbound approach to Intersection No. 2 (Wells Avenue / Burns Street), which operated acceptably without Project trips. The addition of Project trips reduced the intersection LOS from acceptable to unacceptable during the p.m. peak hour. Because the Project contributes traffic to this intersection causing it to operate unacceptably, this is an **impact**. The peak hour warrant is not met at this intersection.

The peak hour 95th percentile queue lengths at Intersection No. 5 (Wells Avenue / Vassar Street) exceed existing lane storage capacity for the northbound thru/right and southbound thru/right movements:. These movements should be monitored to assess whether queues block driveways and intersections or contribute to traffic congestion. Additional storage capacity may be needed.

1.3.3 2035 + Project Conditions

The analysis found that the Project contributes traffic to approaches at Intersections No. 2, 3, 4 and 23 that operate unacceptably without the Project, which is an **impact**.

The Project contributes traffic to Intersection No. 1 (Wells Avenue / Roberts Street) which operated acceptably without Project trips. The addition of Project trips reduced the intersection LOS from acceptable to unacceptable during the a.m. peak hour. Because the Project contributes traffic to this intersection causing it to operate unacceptably, this is an **impact**. The peak hour warrant is not met at this intersection.

The peak hour 95th percentile queue lengths at Intersection No. 5 (Wells Avenue / Vassar Street) exceed existing lane storage capacity for the northbound thru/right, southbound thru/right and westbound thru/left movements. These movements should be monitored to assess whether queues block driveways and intersections or contribute to traffic congestion. Additional storage capacity may be needed.

1.4 City of Reno Review

Following completion of the draft study, it was provided to the City of Reno for review. A meeting was held on June 29, 2016 with the City of Reno Public Works Department and Community Development Departments to discuss the findings of the study, impacts identified and any required mitigations or improvements. During the meeting the City confirmed that they have reviewed the potential traffic impacts of the project and concluded that no roadway improvements or traffic mitigation measures are required at this time; however, the City will continue to monitor the traffic conditions and will implement roadway improvements in the future, as necessary.

1.5 Scope Limitations

This report: has been prepared by GHD for Department of Veterans Affairs Sierra Nevada Health Care System and may only be used and relied on by Department of Veterans Affairs Sierra Nevada Health Care System for the purpose agreed between GHD and the Department of Veterans Affairs Sierra Nevada Health Care System as described in Section 1 of this report.

GHD otherwise disclaims responsibility to any person other than Department of Veterans Affairs Sierra Nevada Health Care System arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on the data collected and assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Department of Veterans Affairs Sierra Nevada Health Care System and others who provided information to GHD, which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Study Parameters

2.1 Introduction

This traffic impact study evaluates the potential traffic impacts associated with the VA Sierra Nevada Health Care System (VASNHCS) near-term renovation and modernization projects and the Major seismic upgrade and clinical expansion project, collectively referred to as the "Project". The study also evaluates the traffic conditions and potential changes to traffic circulation associated with the reduction of Kirman Avenue from two southbound travel lanes to one lane between East Taylor Street and Burns Street / Balzar Circle. Improvements are recommended to mitigate intersection and roadway impacts to an acceptable level of operation as described in Exhibit F of the *Regional Road Impact Fee (RRIF) Traffic Report Guidelines* (RTC, 2016) adopted by the City of Reno, City of Sparks and the Washoe County Regional Transportation Commission (RTC). Traffic impacts are typically evaluated by determining the number of trips the "Project" would be expected to generate, distributing the new trips to the surrounding street system based on existing travel patterns or anticipated travel patterns specific to the Project, then analyzing the impact the new traffic would be expected to have on study intersections and roadways.

2.2 Study Intersections and Roadways

The study area is residential, and the terrain is generally level. The intersections analyzed in this study are listed below in Table 1. Intersections have been numbered for reference in the remainder of this report.

Table 1 Study Intersections

No.	Intersection (Control)	Jurisdiction
1	Wells Avenue / Roberts Street (TWSC)	City of Reno
2	Wells Avenue / East Taylor Street (TWSC)	City of Reno
3	Wells Avenue / Crampton Street (TWSC)	City of Reno
4	Wells Avenue / Burns Street (TWSC)	City of Reno
5	Wells Avenue / Vassar Street (Signal)	City of Reno
6	East Taylor Street / Locust Street (AWSC)	City of Reno
7	Locust Street / Crampton Street (TWSC)	City of Reno
8	Locust Street / Burns Street (TWSC)	City of Reno
9	East Taylor Street / Kirman Avenue (AWSC)	City of Reno
10	Kirman Avenue / Belli Drive (TWSC)	City of Reno
11	Kirman Avenue / SNHCS North Driveway (TWSC)	City of Reno
12	Kirman Avenue / SNHCS Mid Driveway (inbound only)	City of Reno
13	Kirman Avenue / SNHCS South Driveway (TWSC)	City of Reno
14	Kirman Avenue / Burns Street – Balzar Circle (TWSC)	City of Reno
15	Kirman Avenue / Balzar Circle-Wonder Street (TWSC)	City of Reno
16	Belli Drive / West Parking Structure Driveway (TWSC)	City of Reno
17	Belli Drive / East Parking Structure Driveway (TWSC)	City of Reno
18	Kirman Avenue / Vassar Street (AWSC)	City of Reno
19	East Taylor Street / Wilkinson Avenue (TWSC)	City of Reno
20	Belli Drive / Wilkinson Avenue (TWSC)	City of Reno
21	Vassar Street / Wilkinson Avenue (TWSC)	City of Reno
22	Kietzke Lane / Roberts Street (TWSC)	NDOT
23	Kietzke Lane / East Taylor Street (TWSC)	NDOT

TWSC = Two-Way Stop-Control AWSC = All-Way Stop-Control NDOT = Nevada Department of Transportation

Traffic conditions at the study intersections were analyzed for the weekday a.m. and p.m. peak hours of traffic. The a.m. peak hour of traffic is generally between 7:00 and 9:00 a.m. and the p.m. peak hour is generally between 4:00 and 6:00 p.m. It is during the peak hour of traffic that the most congested traffic conditions generally occur on an average day.

The roadway segments analyzed in this study are listed below in Table 2. All are within the jurisdiction of the City of Reno. Reported capacities correspond with a Level of Service "E" for each 2-lane roadway type as reported in Transportation Research Board Special Report 209: Highway Capacity Manual (TRB, 1985). Roadway segments have been numbered for reference in the remainder of this report.

Table 2 Study Roadway Segments

No.	Roadway Segments	Functional Classification	Capacity (vpd)[1]
1	Locust Street: Taylor Street to Cheney Street	Arterial*	12,000
2	Locust Street: Wonder Street - Claremont Street	Arterial*	12,000
3	Taylor Street: Wilkinson Avenue - Bates Avenue	Collector	12,000
4	Burns Street: Wilson Avenue - Locust Street	Local	2,000
5	Taylor Street: Wilson Avenue - Locust Street	Collector	12,000
6	Wells Avenue: Crampton Street - Burns Street	Arterial	18,000
7	Wells Avenue: Cheney Street - Taylor Street	Arterial	18,000
8	Wells Avenue: Moran Street - Roberts Street	Arterial	18,000
9	Kirman Avenue: Wonder Street - Vassar Street	Collector	12,000
10	Kirman Avenue: Cheney Street - Taylor Street	Collector	12,000
11	Burns Street: Locust Street - Kirman Avenue	Local	2,000
12	Wilkinson Avenue: Taylor Street - Belli Drive	Local	2,000
13	Belli Drive: East Driveway - Wlikinson Avenue	Local	2,000
14	Belli Drive: West Driveway - Kirman Avenue	Local	2,000
15	Kirman Avenue: Belli Drive - Burns Street	Collector	12,000
16	Kirman Avenue: Taylor Street - Belli Drive	Collector	12,000
17	Taylor Street: Kirman Avenue - Edelweiss Street	Collector	12,000
18	Taylor Street: Locust Street - Kirman Avenue	Collector	12,000
19	Locust Street: Burns Street - Crampton Street	Arterial*	12,000

[1]Source: TRB (1985).

*Collector capacity used for this roadway due to narrow roadway width.

vpd = vehicles per day

For the interrupted flow facilities in this study, traffic conditions are anticipated to be controlled primarily by the intersections, therefore the study roadway segments were not analyzed for the weekday a.m. and p.m. peak hours of traffic. Rather, they were used to confirm and adjust traffic progression between the study intersections. A volume/capacity (V/C) ratio is reported for each segment for the Existing Condition based on anticipated roadway capacity and 24-hour volume.

2.3 Study Scenarios and Periods

Five scenarios were evaluated in this study, which are Existing Conditions, 2025 Conditions, 2025 + Project Conditions, 2035 Conditions, and 2035 + Project Conditions. Each of these scenarios are described in detail below.

Scenario 1: Existing Conditions. This scenario represents current traffic operations based on data collected in the field in February 2016.

Scenario 2: 2025 Conditions. This scenario represents traffic conditions based on existing traffic volumes adjusted to the year 2025 utilizing traffic growth projections obtained from the Washoe County Regional Transportation Commission (RTC) Regional Travel Forecasting Model.

Scenario 3: 2025 + Project Conditions: This scenario presents an evaluation of the potential impacts that would be expected to occur with the addition of Project-generated traffic to Scenario 2 – 2025 Conditions.

Scenario 4: 2035 Conditions. This scenario represents traffic conditions based on existing traffic volumes adjusted to the year 2035 utilizing traffic growth projections obtained from the Washoe County RTC Regional Travel Forecasting Model.

Scenario 5: 2035 + Project Conditions: This scenario presents an evaluation of the potential impacts that would be expected to occur with the addition of Project-generated traffic to Scenario 4 – 2035 Conditions.

Scenarios 2 – 5 were also evaluated for potential traffic impacts associated with the proposed Kirman Avenue lane reduction.

2.4 Data Requirements

The data requirements for the traffic impact analysis include:

- Existing intersection turning movement traffic volume counts.
- 24-hour roadway traffic volume classification counts.
- Intersection geometry and configuration.
- Roadway widths.
- Vehicle accident data.
- VA Project program.

GHD's traffic data collection subconsultant, Counts Unlimited, Inc., collected existing traffic volumes at all study locations Tuesday, February 23, 2016 through Thursday, February 25, 2016. These counts consisted of intersection turning movement counts and roadway classification counts taken while school was in session at all study intersections, inclusive of bicycles and pedestrians. Vehicle classifications are in accordance with the Federal Highway Administration (FHWA) Vehicle Classification 13-Category Scheme, inclusive of bicycles. Site visits were also made to confirm intersection geometry and roadway widths at all intersection approaches.

All intersection vehicle turning movement volume counts are included in Appendix B.

For the purpose of this study, Average Daily Traffic (ADT) is reported as the total traffic volume during the 24-hour count period, excluding bicycles. Volumes for trucks and buses are converted to Passenger Car Equivalents (PCEs) using the HCM2010 method and a PCE factor of 1.5. All 24-hour roadway segment vehicle classification volume counts are included in Appendix C.

Vehicle accident data reports for the study roadways and intersection were obtained from the Nevada Department of Transportation (NDOT).

2.5 Measures of Effectiveness

The City of Reno maintains jurisdiction over the operation of roadways and intersections in the study area. The City uses measures of effectiveness (MOEs) established and adopted by the City of Reno, City of Sparks and the Washoe County RTC (RTC, 2016) to describe the measures best suited for analyzing City transportation facilities. MOEs are calculated performance measures that reflect the operating conditions of a facility, given a set of roadway, traffic, and control conditions. Table 3 summarizes the MOEs by facility type recommended by the City, and the MOEs used in this study.

Table 3 Measures of Effectiveness (MOE) by Facility Type

Type of Facility	Study MOE
Signalized Intersections	Control Delay per Vehicle (sec/veh)
Un-signalized Intersections	Control Delay per Vehicle (sec/veh)
Roadway Segment	Volume / Capacity Ratio (V/C)

2.6 Thresholds of Significance

Thresholds of significance in traffic analyses are principally used to determine whether a project may have an impact on study intersections and roadways. A threshold of significance is a quantitative or qualitative standard, or set of criteria from which the significance of a given impact may be determined. In the context of traffic, levels of service based standards are typically used to establish thresholds of significance and qualify potential impacts.

2.6.1 City of Reno

The City of Reno, City of Sparks and the Washoe County RTC have adopted the Level of Service thresholds of significance summarized in Table 4 for assessing the need for street and highway improvements at a planning level.

Table 4 Level of Service Thresholds of Significance

Level of Service	Transportation Facility
LOS D	• All regional roadway facilities projected to carry less than 27,000 ADT at the latest Regional Transportation Plan (RTP) horizon
LOS E	• All regional roadway facilities projected to carry 27,000 or more ADT at the latest RTP horizon
LOS F	• Plumas Street –Plumb Lane to California Avenue • Rock Boulevard – Glendale Avenue to Victorian Avenue • South Virginia Street – Kietzke Lane to South McCarran Boulevard • Sun Valley Boulevard – 2nd Avenue to 5th Avenue • Intersection of North Virginia Street and Interstate 80 ramps

A traffic **impact** is noted if the Project traffic results in a degradation of an acceptable Level of Service (LOS) to an unacceptable LOS, or if the Project contributes traffic to an intersection movement or approach that operates unacceptably without the Project. When impacts occur, mitigation measures may be recommended to improve the operation of the transportation facility to an acceptable condition. This study does not assess the significance of the identified impacts.

All of the study roadways are projected to carry less than 27,000 ADT at the latest RTP horizon, therefore LOS D is the minimum acceptable LOS for this study.

2.7 Level of Service Methodology

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, LOS A represents free flow conditions and LOS F represents forced flow or breakdown conditions. The LOS designation for intersections is generally accompanied by a unit of measure that indicates a level of delay and/or volume to capacity ratios.

2.8 Level of Service

The study intersections were analyzed using methodologies from the *HCM2010 Highway Capacity Manual – Volume 3 Interrupted Flow* (HCM2010) (TRB, 2010). This source contains methodologies for various types of intersection control, including signalized intersections, TWSC intersections and roundabouts.

The analysis level in this study is recognized as planning and preliminary engineering. The "analysis level" describes the level of detail used when the methodology is applied. The "planning and preliminary engineering level" of analysis requires only the most fundamental types of information. Default values are then used as substitutes for other input data.

The methodologies utilized in this study are for the automobile mode, although other modes are discussed.

Synchro 8 (Synchro) with SimTraffic software was used for the traffic analysis in this study.

2.8.1 Signalized Intersections

The signalized methodology for the automobile mode is based on input data requirements for traffic characteristics, geometric design, signal control and other factors including analysis period duration and approach speed limit.

Traffic characteristic inputs include (among others) demand flow rate, percent heavy vehicles, peak hour factors and base saturation flow rate.

Geometric design inputs include the number of lanes, average lane width, number of receiving lanes, turn bay (or pocket) lengths, presence of on-street parking and approach grade.

Signal control inputs include the type of signal control, phase sequence, protected for permissive left-turn operations, maximum green time, minimum green time, yellow change interval, red clearance, walk time, pedestrian clear time and phase recall. Intersection No. 5 (Wells Avenue / Vassar Street) is the only signalized intersection in the study area. The signal operates with a shared through-left movement in the westbound direction. The *HCM2010* methodology does not provide a means of computing the delay with this type of lane geometry, and is a non-standard NEMA phasing. Therefore, the *HCM2000* methodology, which can be used to determine delay with this type of geometry, was used at this intersection.

Computed control delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology to describe the signalized intersection operation as a whole. The ranges of delay associated with the various signalized levels of service are summarized in Table 5.

Table 5 Signalized Intersection Level of Service

Level of Service	Description	Control Delay (Seconds Per Vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	< 10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	>10 to 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	>20 to 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	>35 to 55
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	>55 to 80
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	> 80
Source: 2010 Highway Capacity Manual (TRB, 2010).		

2.8.2 Unsignalized Intersections

The AWSC or TWSC (unsignalized) intersection methodology for motor vehicles is determined by the computed or measured control delay and the volume-to-capacity ratio. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns using the criteria shown in Table 4. LOS for TWSC intersections is not defined for the intersection as a whole or for major-street approaches.

The input data required for the evaluation of TWSC intersections includes the number and configuration of lanes on each approach; percent heavy vehicles for each movement; demand flow rate for each entering vehicular movement and each pedestrian crossing movement during the peak hour; peak hour factor; existence of a two-way left-turn lane (TWLTL) or raised or striped median storage (or both); approach grades; existence of flared approaches on the minor street; and existence of upstream traffic signals. Several TWSC intersections include one-way roadways (Locust Street and Kirman Avenue). The *HCM2010* methodology does not compute control delay for these intersections. Therefore, the *HCM2000* methodology, which can be used to determine delay with this type of geometry, was used at these intersections.

Computed control delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology to describe each minor-street movement and major-street left-turn movement. The ranges of delay associated with the TWSC levels of service are indicated in Table 6.

Table 6 Unsignalized Intersection Level of Service

Level of Service	Description	Control Delay (Seconds Per Vehicle)	LOS
A	Little or no delay	< 10	A
B	Short traffic delays	>10 to 15	B
C	Average traffic delays	>15 to 25	C
D	Long traffic delays	>25 to 35	D
E	Very long traffic delays	>35 to 50	E
F	Extreme traffic delays with intersection capacity exceeded (for an all-way stop), or with approach/turn movement capacity exceeded (for a side street stop controlled intersection)	> 50.0	F
Source: 2010 Highway Capacity Manual (TRB, 2010).			

2.8.3 Roadway Segments

The roadway segment analysis methodology for motor vehicles uses the Volume / Capacity (V/C) ratio. The V/C ratio is determined by dividing the 24-hour Average Daily Traffic (ADT) volume by the roadway capacity. For the purpose of this study, ADT is reported as the total Passenger Car Equivalent (PCE) traffic volume during the 24-hour count period, excluding bicycles. Volumes for trucks and buses were converted to PCEs using the HCM2010 method and a PCE factor of 1.5. Capacity is defined as the maximum rate at which vehicles can pass through the measurement point in an hour under prevailing conditions; it is often estimated based on assumed values for saturation flow. For the purpose of this study, only the V/C ratio is reported for roadway segments and no roadway segment LOS is reported. The V/C ratio thresholds and corresponding descriptions for roadways are show in Table 7, and are similar to those described for intersections in the Federal Highway Administration publication *Signalized Intersections: An Informational Guide* (FHWA, 2013).

Table 7 Roadway V/C Ratio Threshold Descriptions

Critical Volume-to-Capacity Ratio	Assessment
< 0.85	Roadway is operating under capacity. Excessive delays are not experienced.
0.85 – 0.95	Roadway is operating near its capacity. Higher delays may be expected.
0.95 – 1.00	Unstable flow results in a wide range of delay. Improvements will be required soon to avoid excessive delays
> 1.00	The demand exceeds the available capacity of the roadway. Excessive delays are anticipated.
Source: Signalized Intersections: An Informational Guide (FHWA, 2013).	

Due to the relatively close spacing of the study intersections, it is expected that the intersections are the traffic facilities that control the capacity of the roadway network. Therefore, the V/C ratios are reported only for the Existing Conditions (Section 3).

2.9 Vehicle Queuing

Vehicle queuing analysis was completed for all signalized intersections to assess the capacity of intersections to accommodate the number of vehicles expected to wait at the intersections before being able to pass through or turn. This analysis is important because if there is not enough queuing space between intersections, in left-turn or right-turn pockets, the overflow of vehicles can obstruct the operations of the roadway.

The Synchro software program was used to determine the 95th percentile queue, which is the maximum back of queue with 95th percentile traffic volumes. The queue analysis will determine the 95th percentile movement queue lengths based on HCM2010 methodology.

3. Existing Conditions

This section describes the existing conditions at the study intersections and roadways during the weekday a.m. and p.m. peak hours based on peak hour traffic conditions. Also included is a discussion of transportation facilities in the Project area, including the roadway network, transit services, and bicycle and pedestrian facilities.

3.1 Study Area

The VASNHCS campus is located within the planning area of the *Wells Avenue Neighborhood Plan*, included in Part 3 of *The Great City Plan, The City of Reno Master Plan* (City of Reno, 2008). Within the planning area, the VASNHCS campus is designated a Public Facility (PF), and is generally surrounded to the North, South and West by Multifamily Residential (MF-14) neighborhoods, and to the east by Single Family Residential (SF) neighborhoods. The study area and intersection locations are shown in Figure 1. Figure 2 shows the existing VASNHCS campus, surrounding streets and general vehicular and pedestrian circulation routes.

3.1.1 Streets

The VASNHCS campus is generally bounded by the following four streets:

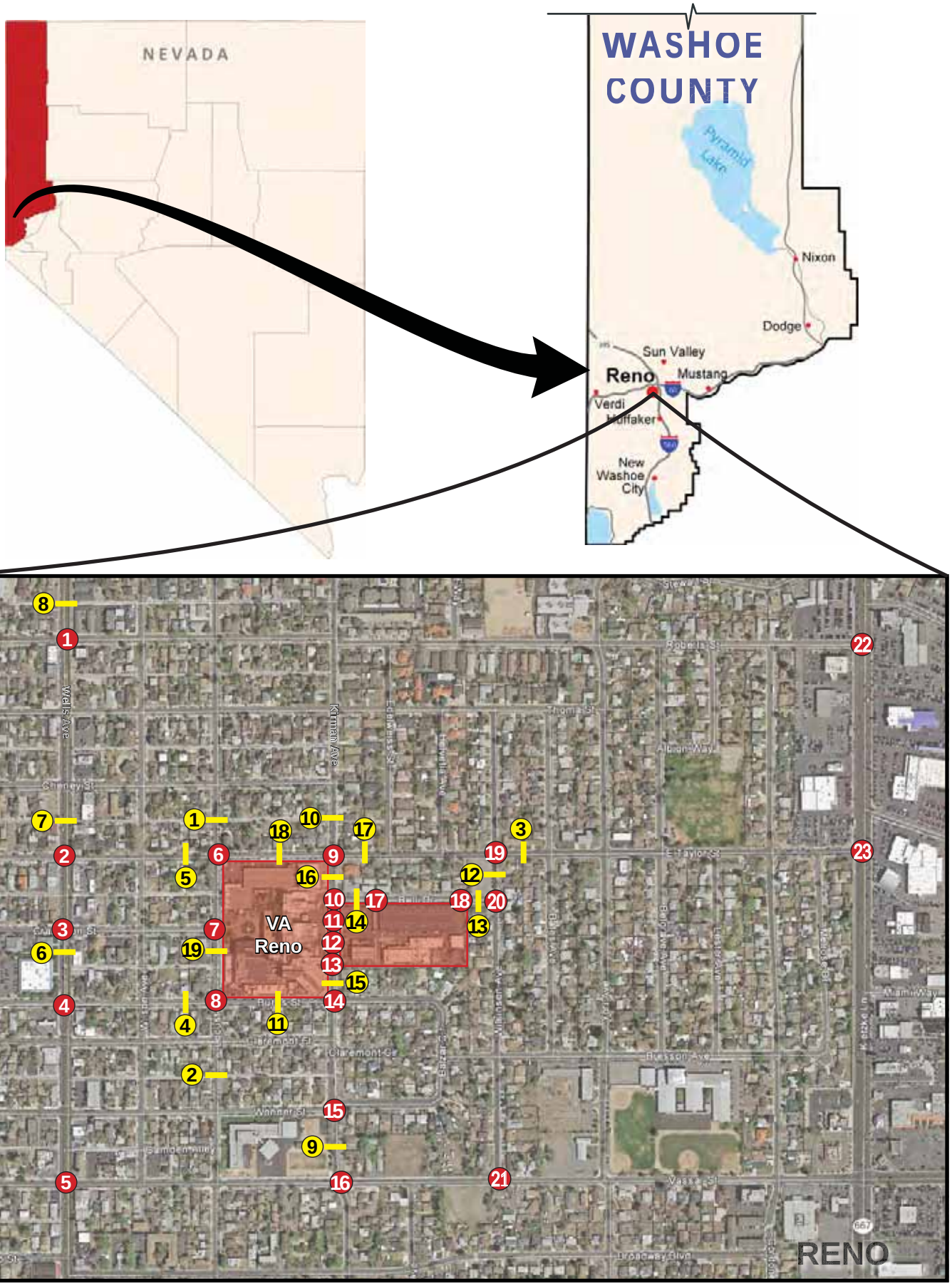
- East Taylor Street
- Locust Street
- Kirman Avenue
- Burns Street

Facility parking and plant operations are located adjacent to and east of Kirman Avenue, and also accessed from Belli Drive. *The Public Services, Facilities, and Infrastructure Plan*, included in Part 1 of *The Great City Plan, The City of Reno Master Plan* (City of Reno, 2008) defines the street classifications in the study area. These street classifications are generally based on the parameters defined in the City of Reno Public Works Design Manual and are not limited to the major street system designations listed within the City of Reno Master Plan.

A **major arterial** accommodates large volumes of through traffic between city districts. Direct access is strongly discouraged to individual properties, although limited access to major projects (i.e., business park, shopping mall, etc.) is allowable, provided such access does not compromise the roadway's ability to handle large volumes of through traffic. Access, parking and loading may be restricted to improve capacity. New major arterials should be intersected by other major arterials, minor arterials, and collectors only. Signalization occurs at intersections with major and minor arterials and some collector streets.

A **minor arterial** provides access between neighborhoods and city centers. It is subject to limiting access control, channelized intersections, and parking restrictions. Direct access to residential areas should be precluded whenever an alternate access is available. It is signalized at intersections with major and other arterials, and some collectors.

A **collector** functions as a connection between local streets in neighborhood areas and arterial streets. When average daily traffic for a commercial collector exceeds 4,000 trips, direct access to new residential properties is prohibited. Stop signs are often found at the intersections with local streets and intersections with arterial streets may have traffic signals. For those collectors with less than 4,000 projected trips, no truck traffic, and no frontage provided to adjacent lots, the constructed width of the collector may be reduced.



Legend:

- Project Area
- Study Intersection
- Roadway Segments

N.T.S.

VA Sierra Nevada Health Care System
Project 654-16-619 Renovation and Modernization Traffic Study

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Project Vicinity and Location Map

Figure 1

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Source: Jensen + Partners

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Existing VASNHCS Campus Map and Site Circulation

Figure 2

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A **local street** provides direct access to abutting properties. Local streets are designed for the lowest traffic volumes of any street. Narrower widths are encouraged to reduce travel speed in residential areas for maximum safety.

The study area roadways are described below in alphabetical order. The categorizations are designated in the Regional TPC functional classifications

Belli Drive &	Belli Drive is an east-west *local street* extending from Kirman Avenue east to Wilkinson Avenue. The roadway has a single lane in each direction with parallel parking allowed on both sides of the street. Belli Drive provides the main access for the existing SNHCS parking structure. The roadway is approximately 40 feet wide from curb to curb.
Burns Street / Balzar Circle	Burns Street is an east-west *local street* extending from Wheeler Avenue west of Wells Avenue to Kirman Avenue. East of Kirman Avenue the roadway changes name to Balzar Circle. Balzar Circle is a semi-circular roadway that returns to intersect Kirman Avenue about 500' to the south. The roadway consists of a single lane in each direction and parallel parking is allowed along both sides of the street. Burns Street is approximately 36 feet wide from curb to curb. Balzar Circle is approximately 43 – 44 feet wide from curb to curb.
Claremont Street &	Claremont Street is an east-west *local street* extending from Wheeler Avenue west of Wells Avenue to Kirman Avenue. The roadway consists of single lanes in each direction and parallel parking is allowed along both sides of the street.
Crampton Street &	Crampton Street is an east-west *local street* connecting Wells Avenue to Locust Street. The street's east terminus occurs at the VASNHCS site. The roadway consists of single lanes in each direction and parallel parking is provided along both sides of the street. The roadway is approximately 36 feet wide from curb to curb.
Kietzke Lane &	Kietzke Lane is a north-south *major arterial* street east of the VASNHCS. The roadway extends from Neil Road in the south to Victorian Avenue in Sparks in the north. In the Project vicinity Kietzke Lane consists of 2 through lanes and a center TWTL. The roadway is approximately 66 feet wide from curb to curb.
Kirman Avenue &	Kirman Avenue is a southbound two-lane one-way *collector* street that extends from the Kuenzli Street / Sutro Street intersection past the VASNHCS to Plumb Lane. Kirman Avenue fronts the east side of the VASNHCS. Parallel parking is allowed on both sides of the street in most locations. The primary VASNHCS patient drop-off area is on Kirman Avenue just south of Belli Drive. The roadway is approximately 36 feet wide from curb to curb.
Locust Street &	Locust Street is a northbound two-lane one-way *collector* street that extends from an intersection with Casazza Drive, past the VASNHCS to Willow Street. Locust Street fronts the west side of the VASNHCS. Parallel parking is allowed on both sides of Locust Street. The roadway is approximately 36 feet wide from curb to curb.

Roberts Street	Roberts Street is an east-west *local street* that is parallel to and north of Taylor Street. Roberts Street extends from Wells Avenue to Kietzke Lane, and features a single travel lane in each direction with parallel parking allowed on both sides of the street. The roadway is approximately 36 feet wide from curb to curb.
East Taylor Street	East Taylor Street is an east-west *collector* street connecting Wells Avenue to Kietzke Lane. East Taylor Street fronts the north side of the VASNHCS. The roadway consists of a single lane in each direction, and parallel parking is allowed along both sides of the street. The roadway is approximately 36 feet wide from curb to curb.
Vassar Street	Vassar Street is an east-west *minor arterial* street extending from South Virginia Street east across Kietzke Lane to the north end of the Reno-Stead Airport. In the VASNHCS vicinity the roadway has single lanes in each direction with parallel parking allowed on both sides of the street. The roadway is approximately 36 – 40 feet wide from curb to curb.
Wells Avenue	Wells Avenue is a north-south *minor arterial* street west of the VASNHCS. The roadway extends from South Virginia Street in the south to north of Interstate 80 in the north. In the Project vicinity the roadway consists of a single through lane in each direction with raised medians, left turn lanes or center TWTL. The roadway is approximately 66 feet wide from curb to curb.
Wilkinson Avenue	Wilkinson Avenue is a north-south *local street* extending from Thoma Street on across Taylor Street to Vassar Street. Wilkinson Avenue provides access to the VASNHCS parking structure via Belli Drive. In the VASNHCS vicinity the roadway has a single lane in each direction with parallel parking allowed on both sides of the street. The roadway is approximately 31 feet wide from curb to curb.
Wilson Avenue	Wilson Avenue is a north-south *local street* that lies between Wells Avenue and Kirman Avenue. Wilson Avenue has a single travel lane in each direction and parallel on-street parking is allowed.
Wonder Street	Wonder Street is an east-west *local street* that runs from Wells Avenue to Kirman Avenue. Veterans Memorial Elementary School is located on the south side of Wonder Street west of Kirman Avenue. This street has a single travel lane in each direction, and parallel on-street parking is allowed.

It is noted that many of the local study streets are quite narrow in the vicinity of the VASNHCS campus, with parallel on-street parking travel lanes often less than 10 feet wide.

3.1.2 Transit Service

Public transit service in the area of the hospital is provided by the RTC RIDE, a service of the Washoe County RTC. The RTC RIDE operates a variety of fixed routes throughout the City of Reno.

Route #13 currently provides direct access to the VASNHCS campus with a southbound stop on Kirman Avenue and a northbound stop on Locust Street. Both stops are in front of the VASNHCS

campus. The route operates seven days a week including holidays with hourly service beginning at 6:15 a.m. Monday through Saturday, running until 12:30 a.m. On Sundays and holidays a reduced schedule provides service between 6:15 a.m. and 10:00 a.m. and between 2:15 p.m. to 7:00 p.m.

Route #19, operates along Wells Avenue between downtown Reno and the Reno / Tahoe International Airport. Bus stops are available along Wells Avenue, two blocks west of the VASNHCS campus. The bus operates Monday through Friday between 6:15 a.m. and 6:30 p.m.

3.1.3 Bicycle and Pedestrian Facilities

The VASNHCS campus is located in the Wells Avenue residential neighborhood of Reno along a one-way street couplet, Locust Street and Kirman Avenue on either side of the hospital. Bicycle facilities are classified into three categories:

- & Class I (Multi-Use Trails) – A Class I facility is a multi-use trail for the exclusive use of bicycles and pedestrians, separate from the auto traveled way.
- & Class II (Bike Lanes) – A Class II facility is an on-street bicycle lane, with painted markings and signs designating the lane's bicycle-only use. The bicycle lane is separated from vehicle and pedestrian traffic, but the route may be interrupted by vehicle turning movements at intersections.
- & Class III (Bike Routes) – A Class III bicycle facility is a route for bicyclists in which the available traveled way is shared with vehicles. The facility is designated by signs or other markings and is usually provided when a Class I or Class II facility cannot be provided.

Class III bike routes are present in all study roadways, with the exception of Wells Avenue and Kietzke Lane, which have Class II bike lanes.

Pedestrian facilities in the study area consist primarily of sidewalks, which are part of each of the corridors within the study area. Crosswalks are generally present at each of the study area intersections. Curb ramps are present surrounding the VASNHCS campus, and also generally present at all of these intersections. Drop off areas are located at various locations around the VASNHCS campus, including the historic main entrance on Locust Street and the existing primary curb-side drop off area on Kirman Avenue just south of Belli Drive. There is also an enhanced pedestrian mid-block marked crossing between the VASNHCS and the patient parking on the east side of Kirman Avenue. This mid-block crossing consists of an overhead flashing beacon with yield markings. Compliance with Americans with Disabilities Act (ADA) requirements was not confirmed as a part of this study.

The level of pedestrian activity occurring at the study intersections was measured during peak traffic hours with vehicular traffic volume counts. Figure 5 shows the number of pedestrians and bicyclists observed crossing at each study intersection during the highest volume hours in the morning (i.e., 7:00 to 9:00 a.m.) and evening (i.e., 4:00 to 6:00 p.m.). The highest concentration of pedestrian activity was observed along the Locust Street and Kirman Avenue one-way roadway couplet surrounding the VASNHCS campus (Intersection Nos. 6 – 17). Intersection Nos. 10, 11 and 12 had the highest measured pedestrian volumes, which are attributed to VA staff, patients and visitors crossing Kirman Avenue between the parking facilities to the east and the medical facilities to the west. While not quantified over the course of a typical weekday, pedestrian activity in the area of Kirman Avenue occurs throughout the day, with most of the pedestrian traffic being patients who generally walk more slowly.

3.2 Study Intersections

The intersections (including traffic control type) identified for analysis as the locations most likely to experience impacts due to the Project-generated traffic are summarized in Table 1. These are the same intersections investigated in previous traffic studies. Figure 1 shows the study area context map, including study roadways and intersections. Table 2 summarizes the study roadway segments, which are also the same as those investigated in previous traffic studies.

Figure 3 shows the existing intersections and lane configurations.

3.3 Traffic Volumes

Peak weekday a.m. and p.m. traffic counts were collected as part of this study on Tuesday February 23, 2016 through Thursday, February 25, 2016. Intersection traffic data is included in Appendix B, and roadway traffic volume data is included in Appendix C. The weekday a.m. and p.m. peak hour intersection turning movement volumes are shown on Figure 4. Roadway average daily traffic (ADT) volumes are summarized in Table 10.

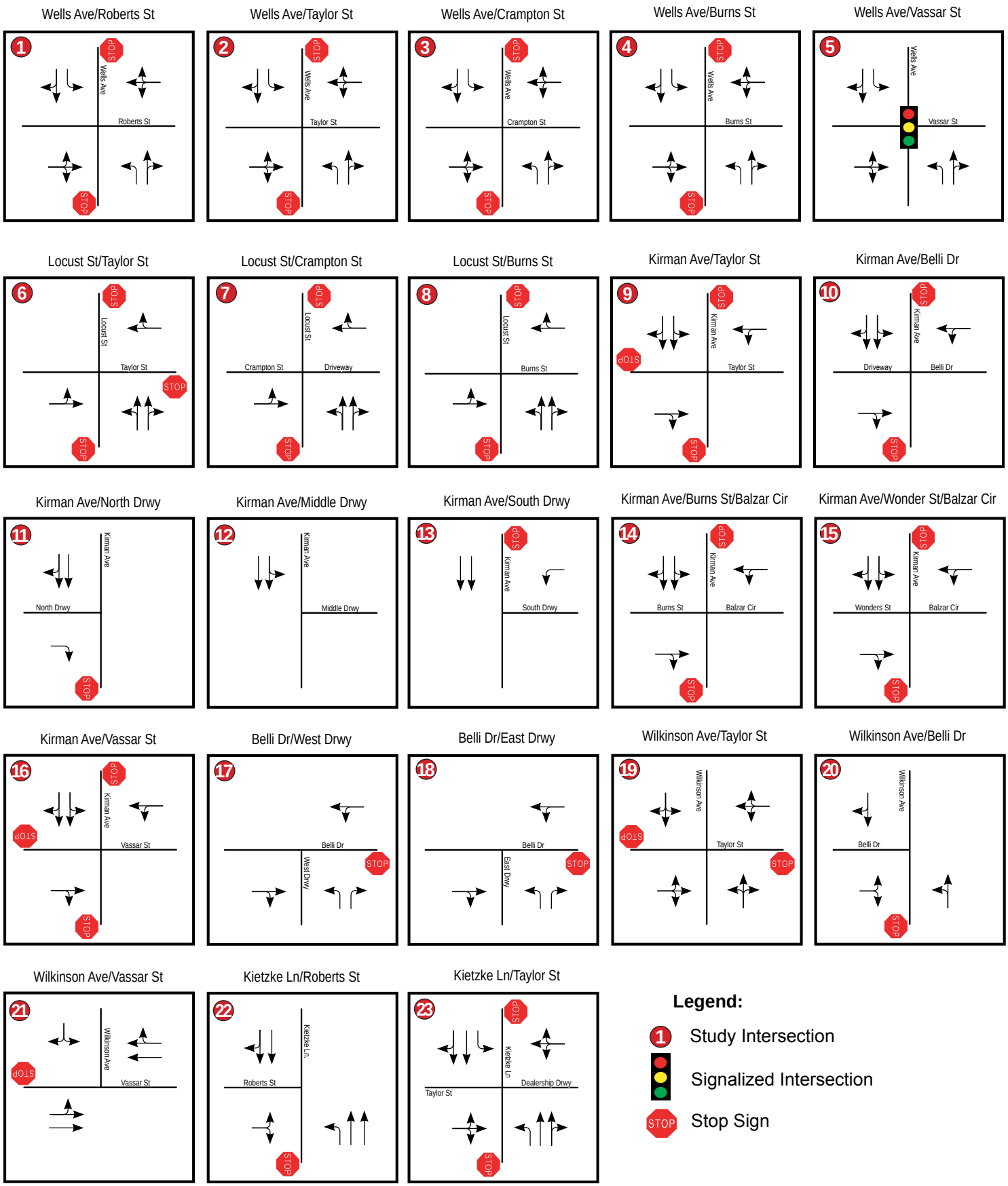
3.4 Existing Conditions Intersection Level of Service Analysis

The results of the intersection level of service analysis based on existing turning movement traffic volumes are summarized in Table 8. In general, the p.m. peak hour represents worst-case peak hour traffic conditions during a typical weekday. This finding is consistent with previous traffic studies. There are no results reported for Intersection No. 12 because of the absence of traffic controls (i.e., stop signs or traffic signals). The analysis finds that, based on the adopted the LOS thresholds of significance all study intersections are operating acceptably with the exception of the following:

2. Wells Avenue / East Taylor Street:
    - The eastbound approach during the p.m. peak hour.
3. Wells Avenue / Crampton Street:
    - The eastbound approach during the p.m. peak hour.
23. Kietzke Lane / East Taylor Street:
    - The eastbound approach during the a.m. and p.m. peak hours.
    - The westbound approach during the p.m. peak hour.

These results are generally consistent with the analysis results of previous traffic impact studies, although variations in existing traffic volumes used in the analysis resulted in some differences in reported delay and LOS. Note that the westbound approach at Intersection No. 23 is a private driveway for an auto dealership with very little traffic. The delay at this approach is very sensitive to the westbound approach volumes, which can experience a high delay due to the significant northbound and southbound volumes on Kietzke Lane.

The signalized intersection within the study area was evaluated assuming optimized signal cycle lengths, as well as appropriate pedestrian crossing time considerations. The Existing Conditions Scenario Level of Service calculations are provided in Appendix D.



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Existing Intersection Lane Geometry and Traffic Control

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Figure 3

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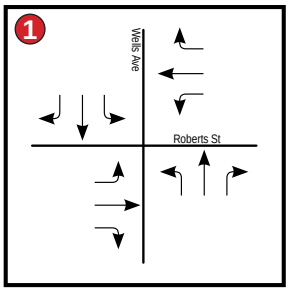
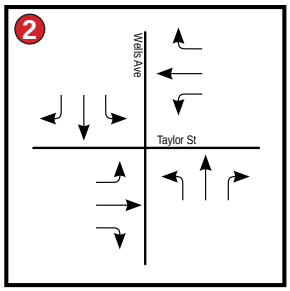
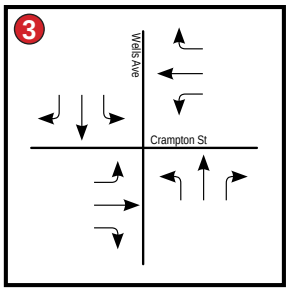
Wells Ave/Roberts St



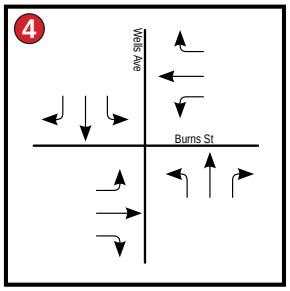
Wells Ave/Taylor St



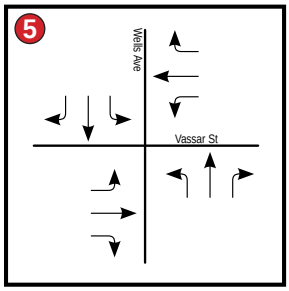
Wells Ave/Crampton St



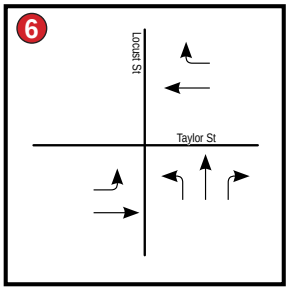
Wells Ave/Burns St



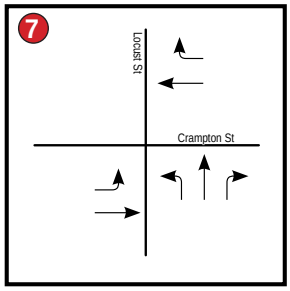
Wells Ave/Vassar St



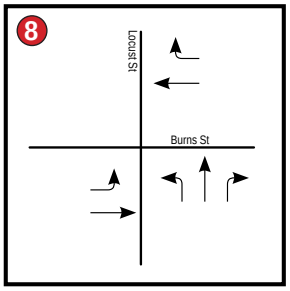
Locust St/Taylor St



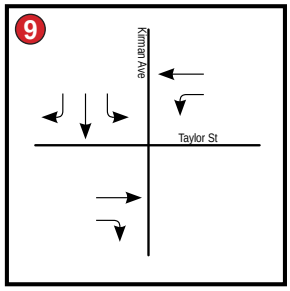
Locust St/Crampton St



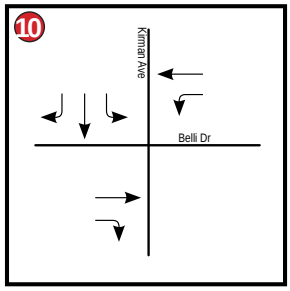
Locust St/Burns St



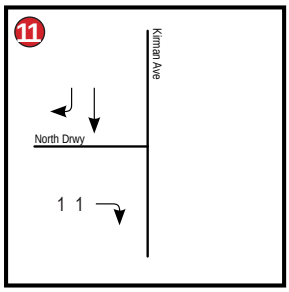
Kirman Ave/Taylor St



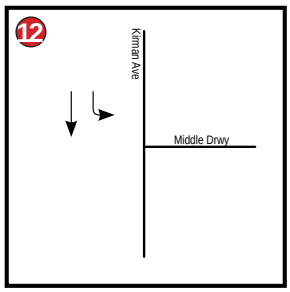
Kirman Ave/Belli Dr



Kirman Ave/North Drwy



Kirman Ave/Middle Drwy



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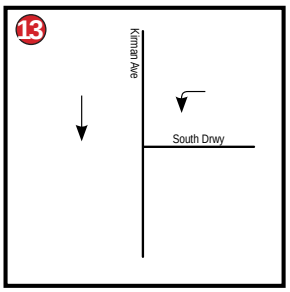
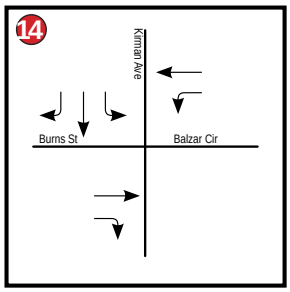


Kirman Ave/Burns St/Balzar Cir



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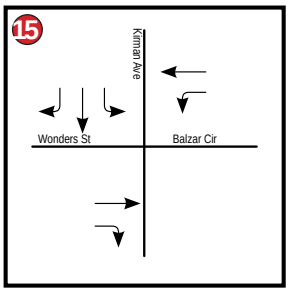

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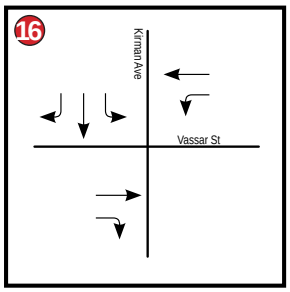

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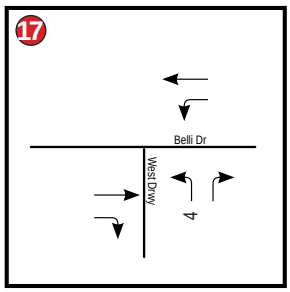

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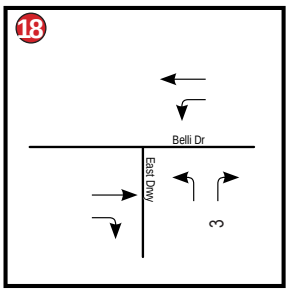

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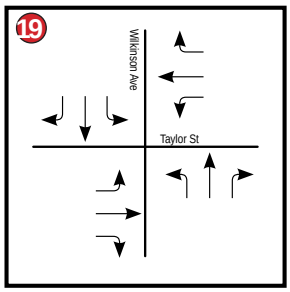

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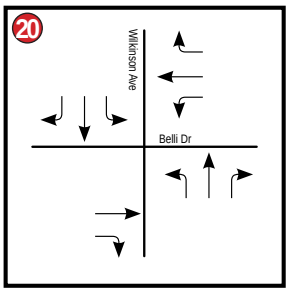
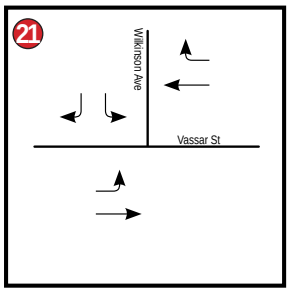
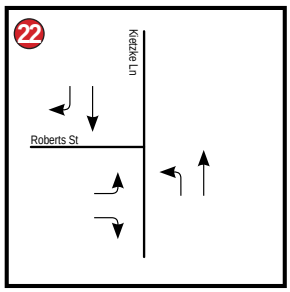


Wilkinson Ave/Vassar St



Kietzke Ln/Roberts St



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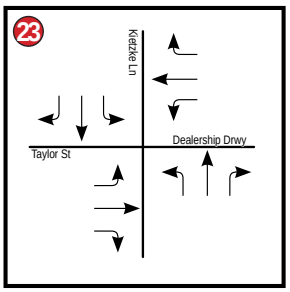

Legend:

1 Study Intersection

xxx AM Peak Hour Volume

(xxx) PM Peak Hour Volume

VA Sierra Nevada Health Care System
Project 654-16-619 Renovation and
Modernization Traffic Study

Existing Conditions Intersection
Turning Movement Traffic olumes

Job Number	11110661
Revision	
Date	Jun 2016

Figure 4

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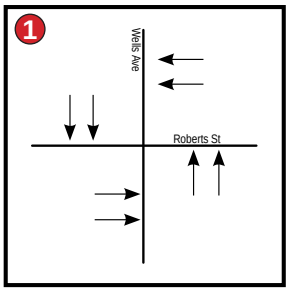
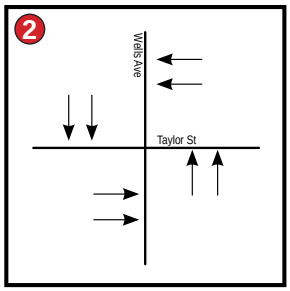
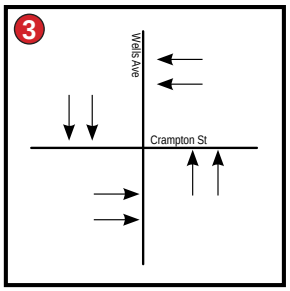
Wells Ave/Roberts St



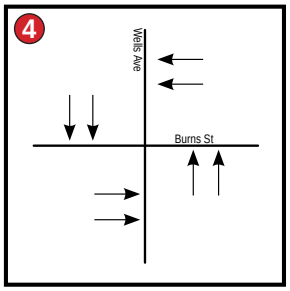
Wells Ave/Taylor St



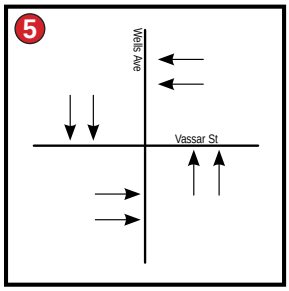
Wells Ave/Crampton St



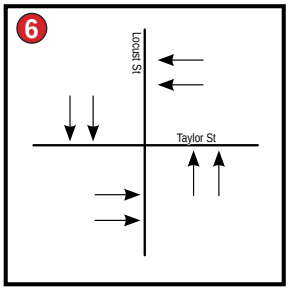
Wells Ave/Burns St



Wells Ave/Vassar St



Locust St/Taylor St



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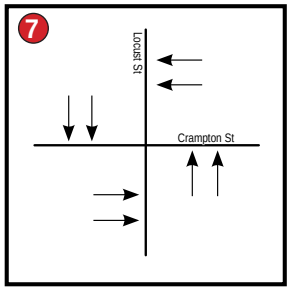

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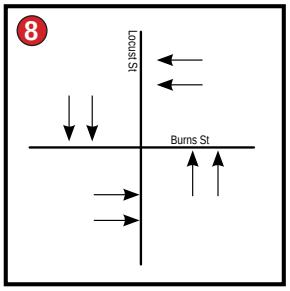

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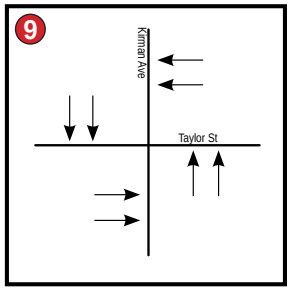

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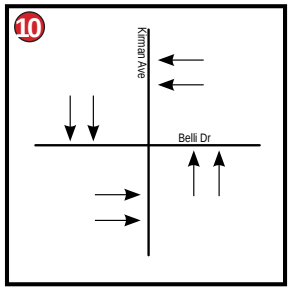

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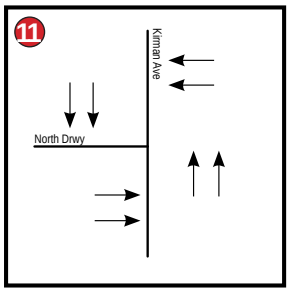
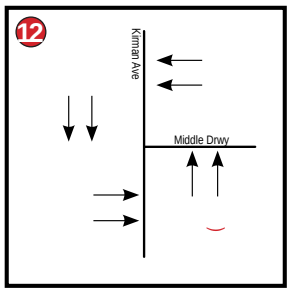


Kirman Ave/Middle Drwy



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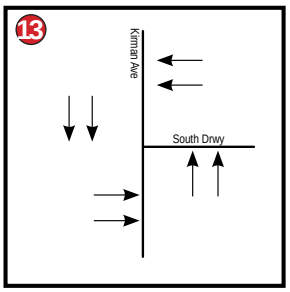
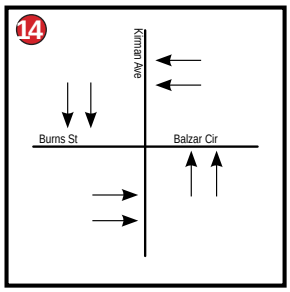
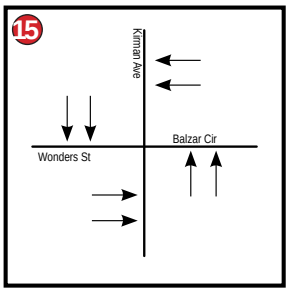


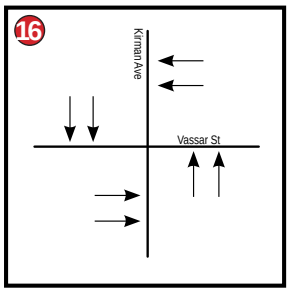
Kirman Ave/Burns St/Balzar Cir



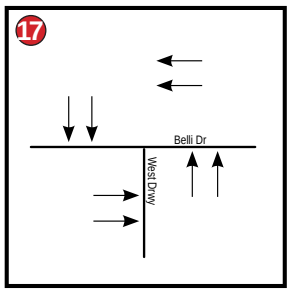
Kirman Ave/Wonder St/Balzar Cir



Kirman Ave/Vassar St



Belli Dr/West Drwy



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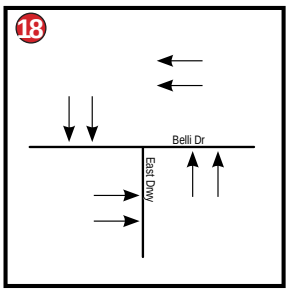

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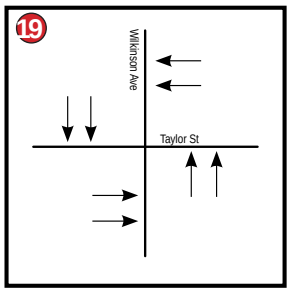
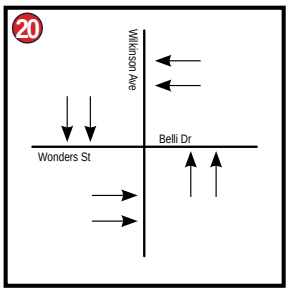
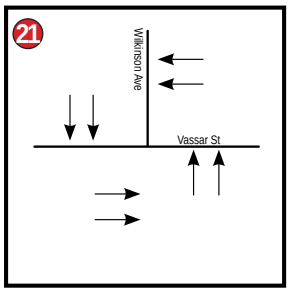


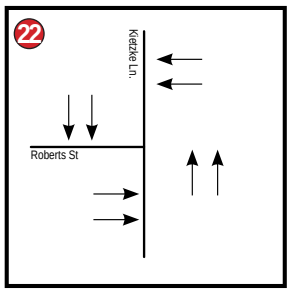
Wilkinson Ave/Belli Dr



Wilkinson Ave/Vassar St



Kietzke Ln/Roberts St



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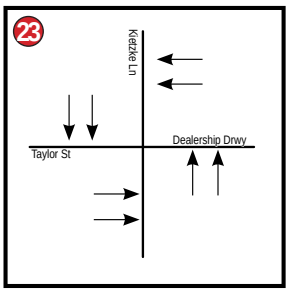

Legend:

1 Study Intersection

xxx AM Peak Period Volume

(xxx) PM Peak Period Volume

Bicycles

Pedestrians

VA Sierra Nevada Health Care System
Project 654-16-619 Renovation and
Modernization Traffic Study

Existing Conditions Intersection
(Bicycle/Pedestrian)

Job Number 11110661
Revision
Date Jun 2016

Figure 5

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Table 8 Existing Conditions Intersection Level of Service

		Weekday Peak Hour			
		a.m.		p.m.	
		Delay (sec)	LOS	Delay (sec)	LOS
1	Wells Avenue / Roberts Street[3]				
	Northbound Left	*8.7*	*A*	*9.2*	*A*
	Eastbound Approach	*20.6*	*C*	*32.6*	*D*
	Westbound Approach	*15.3*	*C*	*31.9*	*D*
	Southbound Left	*8.2*	*A*	*10.1*	*B*
2	Wells Avenue / East Taylor Street[3]				
	Northbound Left	*8.6*	*A*	*8.8*	*A*
	Eastbound Approach	*20.0*	*C*	***46.0***	***E***
	Westbound Approach	*17.3*	*C*	*32.2*	*D*
	Southbound Left	*8.3*	*A*	*9.5*	*A*
3	Wells Avenue / Crampton Street[3]				
	Northbound Left	*8.6*	*A*	*8.8*	*A*
	Eastbound Approach	*20.3*	*C*	***42.4***	***E***
	Westbound Approach	*14.0*	*B*	*22.2*	*C*
	Southbound Left	*8.2*	*A*	*9.4*	*A*
4	Wells Avenue / Burns Street[3]				
	Northbound Left	*8.3*	*A*	*8.8*	*A*
	Eastbound Approach	*16.9*	*C*	*31.8*	*D*
	Westbound Approach	*11.4*	*B*	*17.3*	*C*
	Southbound Left	*8.0*	*A*	*9.2*	*A*
5	Wells Avenue / Vassar Street[2]	8.3	A	14.8	B
6	East Taylor Street / Locust Street[1]	8.1	A	8.5	A
7	Locust Street / Crampton Street[3]				
	Eastbound Approach	*9.4*	*A*	*9.4*	*A*
8	Locust Street / Burns Street[3]				
	Eastbound Approach	*10.0*	*B*	*10.3*	*B*
	Westbound Approach	*9.5*	*A*	*10.4*	*B*
9	East Taylor Street / Kirman Avenue[1]	8.9	A	9.1	A
10	Kirman Avenue / Belli Drive[3]				
	Westbound Approach	*11.0*	*B*	*9.8*	*A*
11	Kirman Avenue / SNHCS North Driveway[3]				
	Eastbound Right	9.3	A	9.2	A
13	Kirman Avenue / SNHCS South Driveway[3]				
	Westbound Approach	*9.1*	*A*	*9.5*	*A*
14	Kirman Avenue / Burns Street – Balzar Circle[3]				
	Eastbound Approach	*9.5*	*A*	*9.9*	*A*
	Westbound Approach	10.4	B	10.6	B

No.	Intersection	Weekday Peak Hour			
		a.m.		p.m.	
		Delay (sec)	LOS	Delay (sec)	LOS
15	Kirman Avenue / Balzar Circle-Wonder Street[3]				
	Eastbound Approach	*9.4*	*A*	*10.3*	*B*
	Westbound Approach	*10.4*	*B*	*11.1*	*B*
16	Kirman Avenue / Vassar Street[1]	9.1	A	12.0	B
17	Belli Drive / West Parking Structure Driveway[1]				
	Northbound Approach	*8.9*	*A*	*8.7*	*A*
	Westbound Left	*7.4*	*A*	*0.0*	*A*
18	Belli Drive / East Parking Structure Driveway[3]				
	Northbound Approach	*9.7*	*A*	*8.9*	*A*
	Westbound Left	*7.5*	*A*	*0.0*	*A*
19	East Taylor Street / Wilkinson Avenue[3]				
	Northbound Approach	*10.5*	*B*	*10.8*	*B*
	Eastbound Left	*0.0*	*A*	*7.5*	*A*
	Westbound Left	*7.6*	*A*	*7.6*	*A*
	Southbound Approach	*13.7*	*B*	*0.0*	*A*
20	Belli Drive / Wilkinson Avenue[3]				
	Northbound Left	*7.5*	*A*	*7.3*	*A*
	Eastbound Approach	*9.2*	*A*	*9.4*	*A*
21	Vassar Street / Wilkinson Avenue[3]				
	Eastbound Left	*7.6*	*A*	*8.1*	*A*
	Southbound Approach	*10.7*	*B*	*13.0*	*B*
22	Kietzke Lane / Roberts Street[3]				
	Northbound Left	*11.2*	*B*	*11.1*	*B*
	Eastbound Approach	*18.1*	*C*	*20.1*	*C*
23	Kietzke Lane / East Taylor Street[3]				
	Northbound Left	*11.2*	*B*	*11.7*	*B*
	Eastbound Approach	***65.9***	***F***	***OVERFLOW***	***F***
	Westbound Approach	*15.9*	*C*	***77.4***	***F***
	Southbound Left	*9.0*	*A*	*11.4*	*B*

Notes: Delay is calculated in average seconds per vehicle in queue
LOS = Level of Service
Bold = results exceed acceptable LOS.
[1]LOS based on HCM2010 method of analysis for AWSC intersections.
[2]LOS based on HCM2000 method of analysis for Signalized intersections.
[3]LOS based on HCM2010 method of analysis for TWSC intersections.

The unsignalized intersections were evaluated using the urban Signal Warrant 3, per the MUTCD thresholds of significance, which is discussed in Section 9 of this report. The peak hour warrant is not met at any of the study intersections in the Existing Conditions with the exception of Intersection 23 (Kietzke Lane / East Taylor Street) which meets Part A of the warrant. Signalization of this intersection would improve the Level of Service to LOS A (5.2 second delay) in the a.m. peak hour

and LOS A (6.2 second delay) in the p.m. peak hour. No other intersection or roadway improvements are recommended.

The peak hour warrant is not met at any of the study intersections for Existing Conditions. Signal Warrant 3 analysis results are included in Appendix J.

3.5 & Existing Conditions Signalized Intersection Queue Analysis

Existing traffic volumes were applied to the signalized study intersection and the peak hour demand 95th percentile queue lengths were reviewed against the existing lane storage capacity at the intersection. Intersection No. 5 Wells Avenue / Vassar Street is the only existing signalized intersection in the study area.

The Existing Conditions peak hour intersection queue analysis is summarized in Table 9. Detailed results are included in Appendix D.

Table 9 Existing Conditions Peak Hour Intersection Queue Analysis

Movement	Lanes / Avail. Storage	Queue Length - 95th Percentile (feet)	
		a.m.	p.m.
Intersection No. 5 – Wells Avenue / Vassar Street			
NBT/R	1 / 300 ft	109	**348**
NBL	1 / 135 ft	25	25
SBT/R	1 / 300 ft	123	266
SBL	1 / 135 ft	25	25
EBT/L/R	1 / 170 ft	54	138
WBT/L	1 / 150 ft	58	**182**
WBR	1 / 85 ft	25	27

Notes: & Queue shown is maximum after two cycles
Bold = results where available storage is exceeded by more than one standard vehicle, 25 ft.

Peak hour 95th percentile queue lengths exceed existing storage lane capacity at two movements at Intersection No. 5. These movements should be monitored to assess whether queues block driveways and intersections or contribute to traffic congestion. Additional storage capacity may be needed.

3.6 & Existing Roadway Segments

The existing 24-hour ADT bi-directional volumes for the study roadway segments and the corresponding V/C ratios are summarized in Table 10. Volumes for trucks and buses were converted to PCEs in accordance with the HCM2010 methodology. These volumes are generally higher than those measured in previous traffic studies with and without the PCE adjustment. The V/C ratios are determined from the estimated capacities summarized in Table 2 (Section 2). In general, all study roadway segments appear to operate under the capacity, with the exception of the following segments that exceed a V/C ratio of 1.00:

7. Wells Avenue: Cheney Street - Taylor Street
8. Wells Avenue: Moran Street - Roberts Street

The V/C ratios for these two roadway segments indicate that the demand exceeds the available capacity and that excessive travel delays may be experienced by drivers, particularly during peak periods of traffic.

The V/C ratio for Segment No. 6 (Wells Avenue: Crampton Street - Burns Street) indicates that the roadway is operating near its capacity, and that some high delays may be experienced by drivers, particularly during peak periods of traffic.

Table 10 Existing Conditions Roadway Segment V/C Ratio

No.	Roadway Segments	24-hour ADT Volume	V/C Ratio
1	Locust Street: Taylor Street to Cheney Street	2209	0.18
2	Locust Street: Wonder Street - Claremont Street	1809	0.15
3	Taylor Street: Wilkinson Avenue - Bates Avenue	4016	0.33
4	Burns Street: Wilson Avenue - Locust Street	885	0.44
5	Taylor Street: Wilson Avenue - Locust Street	2280	0.19
6	**Wells Avenue: Crampton Street - Burns Street**	**16,637**	**0.92**
7	**Wells Avenue: Cheney Street - Taylor Street**	**18,162**	**1.01**
8	**Wells Avenue: Moran Street - Roberts Street**	**19,467**	**1.08**
9	Kirman Avenue: Wonder Street - Vassar Street	3080	0.26
10	Kirman Avenue: Cheney Street - Taylor Street	3305	0.28
11	Burns Street: Locust Street - Kirman Avenue	1433	0.72
12	Wilkinson Avenue: Taylor Street - Belli Drive	1475	0.74
13	Belli Drive: East Driveway - Wlikinson Avenue	1471	0.74
14	Belli Drive: West Driveway - Kirman Avenue	782	0.39
15	Kirman Avenue: Belli Drive - Burns Street	3994	0.33
16	Kirman Avenue: Taylor Street - Belli Drive	4334	0.36
17	Taylor Street: Kirman Avenue - Edelweiss Street	3122	0.26
18	Taylor Street: Locust Street - Kirman Avenue	2773	0.23
19	Locust Street: Burns Street - Crampton Street	2533	0.21

Notes: **Bold =** results indicate roadway operates near or above capacity. Excessive delays are anticipated.

As noted earlier in this report, due to the relatively close spacing of the study intersections, it is expected that the intersections are the traffic facilities that control the capacity of the roadway network.

3.7 Traffic Crash Data

Traffic crash data was obtained from the Nevada Department of Transportation Records System. Crash history data for the study intersections was reviewed for the 5 year period from October 1, 2010 through October 1, 2015. Crash information for the following roadway segments and intersections was obtained:

- Burns Street – Wells Avenue to Balzar Court
- Intersection No. 22: Kietzke Lane / Roberts Street
- Wells Avenue – Moran Street to Broadway Boulevard
- East Taylor Street – Wells Avenue to Kietzke Lane
- Kirman Avenue – Cheney Street to Wonder Street

- Wilkinson Avenue – Thoma Street to Vassar Street
- Belli Drive from Kirman Avenue to Wilkinson Avenue

There were a total of 205 crashes reported. The following summary statistics present the total crashes within the Project area by crash severity and type:

- The crash severity for those reported within the Project area:
    1. Property Damage Only 106 (51.7%)
    2. Injury 99 (48.3%)
    3. Fatalities 0 (0.0%)
- The primary crash types for those reported within the Project area:
    1. Rear End 104 (50.7%)
    2. Angle 42 (20.5%)
    3. Non-Collision 22 (10.7%)
    4. Sideswipe (overtaking) 18 (8.8%)
    5. Sideswipe (meeting) 11 (5.4%)

The crash types are defined as follows:

Rear-end: a traffic accident wherein a vehicle crashes into the vehicle in front of it.

Angle: a traffic accident wherein a vehicle crashes into the side of another vehicle, typically at a right angle. Also referred to as a T-bone crash.

Non-collision: a traffic accident that does not involve two vehicles, and includes pedestrian accidents.

Sideswipe: a traffic accident that occurs when two vehicles are driving next to one another in the same direction and the sides of the two vehicles contact one another when meeting or when one vehicle is overtaking another.

The crashes were further examined and compared against State averages for roadway segments and intersections. Traffic crash data are included in Appendix A.

3.7.1 Roadway Segments

The *Nevada Traffic Crashes 2010* (NDOT, 2010) provides a means of calculating the statewide average crash rate (total collisions divided by vehicle miles traveled) for roadway segments. Crash rates for roadway segments are expressed as the rate per 100 million vehicle miles traveled (VMT). A statewide average crash rate was calculated to be 233.21 crashes per 100 million VMT.

The 24-hour bi-directional volumes collected for this study were used to approximate VMT along with estimated block lengths.

Compared with this statewide average, the following roadway segments consistently reported a higher crash rate than the statewide average (statewide average exceeded 3 or more years):

- Wells Avenue between Crampton Street and Burns Street
- Wells Avenue between Cheney Street and East Taylor Street
- Wells Avenue between Moran Street and Roberts Street

- Kirman Drive between Belli Drive and Burns Street
- East Taylor Street between Locust Street and Kirman Avenue

In 2003 the City implemented a “road diet” improvement project on Wells Avenue. A road diet typically consists of the conversion of a street or roadway from two travel lanes in each direction to one lane in each direction with a raised or two-way left-turn lane median, bike lanes, pedestrian enhancements (bulb outs, etc.) and provisions for on-street parking. The National Cooperative Highway Research Program (NCHRP) has estimated that road diets can have a 19% reduction in crashes. A case study conducted by the RTC two years after completion of the road diet reported a 30% decrease in crashes a result of the project. The road diet is also credited with reducing the number of pedestrian crashes by 54% (RTC, 2008).

Because both Kirman Avenue and East Taylor Street experience relatively low traffic volumes, it takes only one crash per year for these roadways to exceed the calculated statewide average.

3.7.2 Intersections

Crash rates are typically considered better indicators of accident risk than crash frequencies alone because they account for differences in traffic volumes, which is exposure. Crash rates for intersections are normally expressed in crashes per 1 million entering vehicles (MEV). To estimate the number of entering vehicles over a 24-hour period, it was assumed that the peak hour accounts for 10% of the daily entering traffic volume.

A statewide average for intersections in Nevada was not readily available, thus a comparison is made against the California statewide averages of 0.43 per MEV for an urban intersection with signal controls and 0.15 for urban intersections with stop and yield control. Statewide crash rates can be found in the *2010 Collision Data on California State Highways* (Caltrans, 2012).

Compared with these statewide averages, the following intersections consistently reported a higher crash rate than the statewide average (statewide average exceeded 3 or more years of the 5 years of crash data reviewed):

- Wells Avenue / East Taylor Street
- Kirman Avenue / East Taylor Street
- Wilkinson Avenue / East Taylor Street
- Kietzke Lane / Roberts Road

As discussed above, Wells Avenue has undergone a road diet, which was documented in the *Wells Avenue Traffic Study* (RTC, 2008) improve traffic safety.

Kirman Avenue and Wilkinson Avenue both experience lower volumes and lower number of crashes, but there are consistently one to two crashes per year.

Kietzke Lane at Roberts Road is trending positively over the last five years, from 5 crashes in 2011 to 1 crash in 2015.

4. & Project Trip Generation, Distribution and Assignment

This section discusses the methods and analysis conducted in selecting trip generation rates and assigning Project trips to the existing roadway network. The magnitude of traffic produced by the proposed Project and the locations where that traffic would appear was estimated using the three-step process of trip generation, trip distribution and trip assignment. The number of Project trips generated during the weekday a.m. and p.m. peak hour were estimated using standard Institute of Transportation Engineers (ITE) *Trip Generation Manual 9th Edition* (ITE, 2012) rates for the Project land use type. This standard reference is used by jurisdictions throughout the country, and is based on actual trip generation studies performed at numerous locations in areas of various populations.

4.1 Project Description

The VASNHCS, located in Reno, Nevada, provides inpatient and outpatient health care to a large geographical area that includes 21 counties in northern Nevada and northeastern California. The demand for Veteran healthcare in this portion of the VA Sierra Pacific VISN 21 is projected to grow due to new residents, the aging population of Veterans and increased demand for mental health services. To meet this anticipated demand, the VASNHCS is undertaking a number of projects to expand services and address needed infrastructure improvements. These projects include a series of renovation and modernization projects and one Major project, and are shown conceptually on Figure 6.

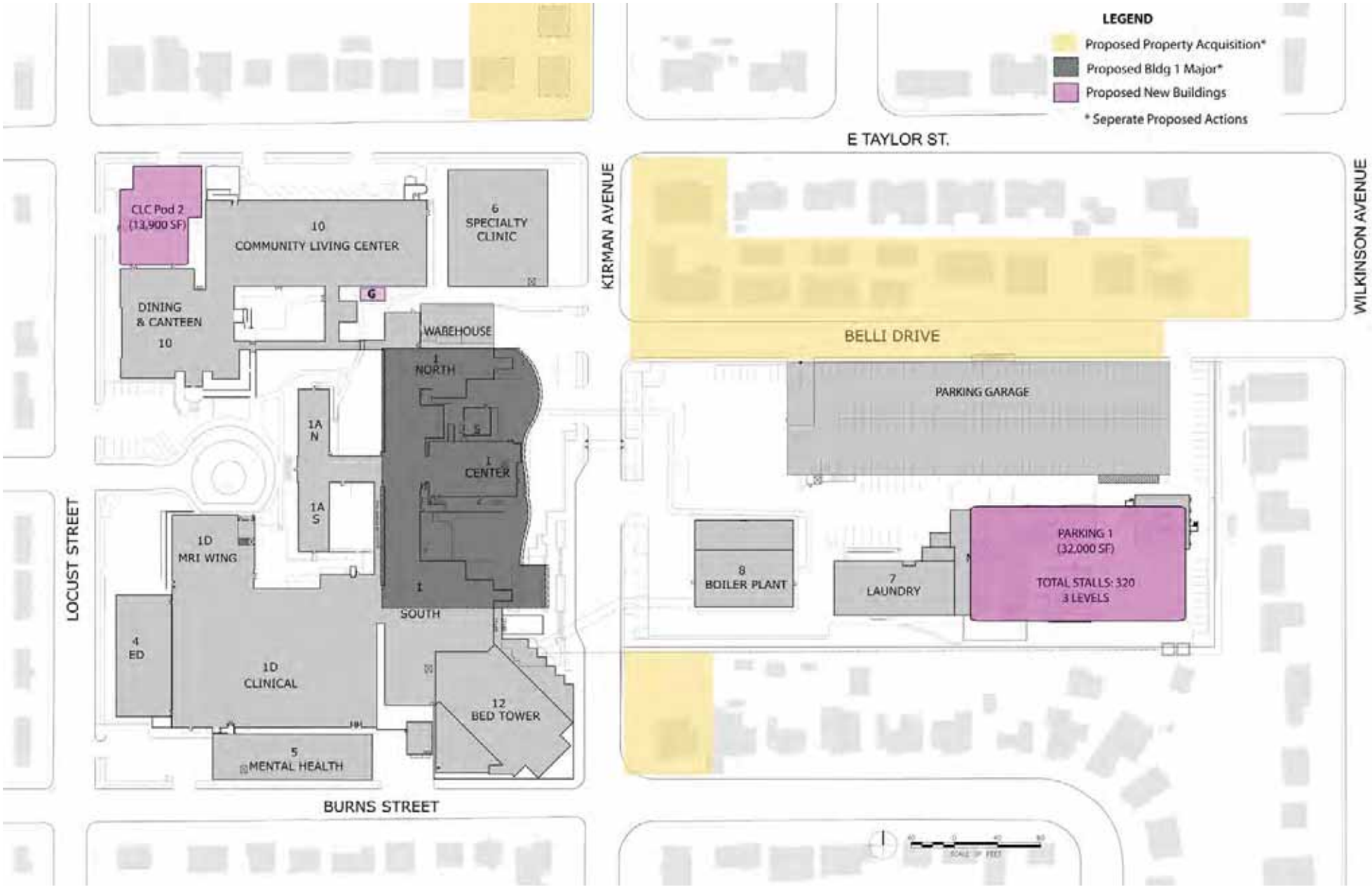
4.1.1 Master Plan Projects

The recently completed VA Reno 5-Year Master Plan prepared by Jensen + Partners in September 2015 defines the physical and programmatic direction of the campus over the next 5 years (VASNHCS, 2015). The Master Plan aims to create a physical framework for future development and project phasing to assure a high quality campus environment. The Master Plan includes recommendations and considerations for the implementation and scheduling of these projects as well as programmatic information used to develop trip generation rates for the collective projects. A traffic impact analysis was prepared by KDAnderson & Associates, Inc. in April 2014 for the Major project, and was used as a reference in this study.

The proposed Major project consists of seismic retrofits and renovation to Building 1 for administrative space, a clinical expansion for patient care, and associated improvements that will increase the building area on the existing site by 97,000 gross square feet (gsf). Construction of the Major project is anticipated to begin in 2017 adjacent to Kirman Avenue.

The proposed renovation and modernization projects and sizes that are expected to be implemented within the next five years (Renovation and Modernization) are summarized in Table 11. Additional projects and sizes, including the Major project, are summarized in Table 12. Negative sizes indicate existing floor space that is being demolished or renovated. Project No. 2 constructs a new parking garage, which is not considered a project trip generator. The table reflects a 1,000 square foot storage area proposed within the parking garage, which is also not considered a project trip generator.

&



Source: Jensen + Partners

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VASNHCS 5-Year Campus
Master Plan Projects

Figure 6

Table 11 Summary of Renovation and Modernization EA Projects

No.	Description	Size (gsf)
1	Demolish East Campus Buildings (15A, 15B, F, K & 138) • 15A Maintenance Relocation to Building 7 • 15B Research Relocation to Building 7 • F Safety Department Relocation to Building 7 • K Relocation to Building 7 • 138 Engineering Admin Offices Relocation to Building 7	 0 0 0 0 0
2	Parking Structure 1	36,000
3	New Community Living Center (Pod 2) • CLC/Hospice • Common/Vacant	 12,900 1,000
4	Expand/Renovate Magnetic Resonance Imaging Space • Ancillary/Diagnostic • Common/Vacant	 3,400 600
5	Renovate and Rightsize Operating Rooms • Renovated and Expanded Specialty Care • Existing Speciality Care	 14,300 -13,000
6	Renovate Space Adjacent to ICU Wing B3 of Bldg 12 • Renovated Specialty Care • Existing Specialty Care	 5,000 -5,000
7	Renovate Sterile Processing Service Area • Renovated Support • Existing Support	 3,000 -3,000
8	Renovate Vacated Primary Care for Pharmacy • Renovated Ancillary/Diagnostic • Existing Mental Health • Existing Primary Care • Existing Specialty Care	 19,776 -3,000 -13,148 -3,628
9	Provide Redundant Electrical Power, North Campus	0

Notes: gsf = gross square feet

Table 12 Summary of Cumulative Projects

No.	Description	Size (as indicated)
10	Building 1 Seismic Upgrade & Clinical Expansion (Major)[1]	97,000 gsf
11	Acquisition of 11 Properties • 691/693 East Taylor Street – Duplex • 697/699 East Taylor Street – Duplex • 700/710 East Taylor Street – Duplex • 825/835 Kirman Avenue – Duplex • 701/707/715 Belli Drive – Triplex • 735 Belli Drive – 4 unit Apt Building • 765 Belli Drive – 4 unit Apt Building • 801 Belli Drive – Triplex • 805/807 Belli Drive – Duplex • 825/827/829/831 Belli Drive – Fourplex • 845 Belli Drive – 6 unit Apt Building • 865 Belli Drive – 6 unit Apt Building • 885 Belli Drive – Single Family Residence • 703 Balzar Circle – Single Family Residence	 2 du 2 du 2 du 2 du 3 du 4 du 4 du 3 du 2 du 4 du 6 du 6 du 1 du 1 du
12	Kirman Avenue Lane Reduction	0

Notes: & gsf = gross square feet
du = dwelling unit
[1]Source: (VASNHCS, 2014a)

4.2 & Trip Generation

For the analysis of potential Project-related traffic impacts, trip generation rates were selected for the Project based on ITE trip generation rates and previous traffic studies. Several potential trip generation rates were reviewed for the proposed Project, which includes the demolition / renovation of some existing land uses and construction of new medical land uses. The *Guidelines for Estimating Trip Generation* from ITE *Trip Generation Manual 9th Edition* (ITE, 2012) were utilized in selecting the appropriate trip generation rates along with rates used in the *Traffic Impact Analysis for Building 1 Seismic Upgrade & Clinical Expansion, Reno, NV* (VASNHCS, 2014a). *Trip Generation Manual* land use classifications are based on specific sites and data collected over years of study for the purpose of estimating trip generation for specific land uses. To calculate the total number of additional trips that Project could create, the total trips removed from circulation due to the demolition / renovation and repurposing of existing land uses and facilities were deducted from the total number of trips generated by the proposed Project land uses.

The ITE trip generation rates (and ITE land use code) selected for evaluation, including the split between entering/exiting trips are:

- & Hospital (610) – "A hospital is any institution where medical or surgical care and overnight accommodations are provided to non-ambulatory and ambulatory patients."
    - a.m. Entering: 63%
    - a.m. Exiting: 37%
    - p.m. Entering: 38%
    - p.m. Exiting: 62%
- & Nursing Home (620) - "A nursing home is any facility whose primary function is to provide care for persons who are unable to care for themselves. Examples of such facilities include rest homes and chronic care and convalescent homes. Skilled nurses and nursing aides are present 24 hours a day at these sites. Nursing homes are occupied by residents who do little or no driving; traffic is primarily generated by employees, visitors, and deliveries."

- o a.m. Entering: 71%
- o a.m. Exiting: 29%
- o p.m. Entering: 52%
- o p.m. Exiting: 48%

- & Medical-Dental Office Building (720) - "A medical-dental office building is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility."

  - o a.m. Entering: 79%
  - o a.m. Exiting: 21%
  - o p.m. Entering: 28%
  - o p.m. Exiting: 72%

Land uses classified under the 'Medical" category that are included in the proposed Project were analyzed in terms of the number of gross square footage of the proposed facility. The range of rates suggested by the *Trip Generation Manual* were compared to actual turning movement traffic volume counts taken at the existing medical center entrances/exits, and trip generation rates were chosen appropriately.

Table 13 shows the trip generation rates and corresponding trips generated by the land uses that are proposed to be removed under the Project for the weekday a.m. and p.m. peak hours. Table 14 shows the trip generation rates and corresponding trips generated by the land uses that are proposed for construction under the proposed Project for the weekday a.m. and p.m. peak hours. The total number of additional trips to the Project site involves deducting the total removed Project trips, listed in Table 13, from the total new Project trips, listed in Table 14. The total number of additional trips in the a.m. peak hour would be 289 - 81 = 208, while the total number of additional trips in the p.m. peak hour would be 340 - 83 = 257. Appendix E includes the full trip generation calculation.

4.3 Discussion of Pass-By Trips

It is acknowledged that the estimated number of Project-generated trips may be different from the amount of new traffic added to the street system; however, pass-by and diverted linked trips were not evaluated for the Project trip generation as they are not expected to significantly change results of the study.

It is generally accepted that healthcare-related developments such as hospitals do not typically attract a portion of their trips from traffic passing the site on the way from an origin to an ultimate destination. Such trips are called "pass-by," and can be one component of the trip generation for a site. Trip generation, if applicable, can be broken down into pass-by trips and non-pass-by trips.

While there may be a small percentage of pass-by trips already on the roadway network, the component of the trips is not expected to significantly change the study results; therefore, the study provides a conservative confidence level of the potential impacts from the Project, if any.

4.4 Trip Distribution and Assignment

Trip distribution was based on the trip distribution patterns used in the *Traffic Impact Analysis for Building 1 Seismic Upgrade & Clinical Expansion, Reno, NV* (VASNHCS, 2014a) and the existing traffic circulation established from the intersection turning movement counts. Trip distribution percentages are shown on Figure 7 and Project trips assigned to each intersection are shown graphically on Figure 8. The values shown on Figure 7 represent percentages applicable to entering or exiting peak hour Project trips presented in Table 13 and Table 14.

Table 13 Project Trip Generation – Removed Trips

Project	ITE Land Use (#)	Units	a.m. Peak Hour		p.m. Peak Hour	
			Rate	Trips	Rate	Trips
Renovation and Modernization EA Projects						
No. 1: Demolish East Campus Buildings (15A, 15B, F, K & 138)	None	0.00 kgsf	0.00	0	0.00	0
No. 5: Renovate and Rightsize Operating Rooms • Specialty Care	Hospital (610)	-13.000 kgsf	0.95	-13	0.93	-13
No. 6: Renovate Apace Adjacent to ICU Wing B3 of Bldg 12 • Specialty Care	Hospital (610)	-5.000 kgsf	0.95	-5	0.93	-5
No. 7: Renovate Sterile Processing Service Area • Support	Hospital (610)	-3.000 kgsf	0.95	-4	0.93	-4
No. 8: Renovate Vacated Primary Care for Pharmacy • Mental Health • Primary Care • Specialty Care	 Hospital (610) Hospital (610) Hospital (610)	 -3.000 kgsf -13.148 kgsf -3.628 kgsf	 0.95 0.95 0.95	 -4 -13 -5	 0.93 0.93 0.93	 -4 -13 -5
Subtotal Removed Renovation and Modernization EA Projects				*-44*		*-44*
Cumulative Projects						
No. 11: Acquisition of 11 Properties • Demolish Duplex, Triplex, Fourplex and Apt Buildings • Demolish Single Family Residence	 Apartment (220) Single-Family Detached Housing (210)	 -40 du -2 du	 0.51 0.75	 -33 -4	 0.62 1.00	 -35 -4
Subtotal Removed Cumulative Projects				*-37*		*-39*
Total Removed Project Trips				**-81**		**-83**

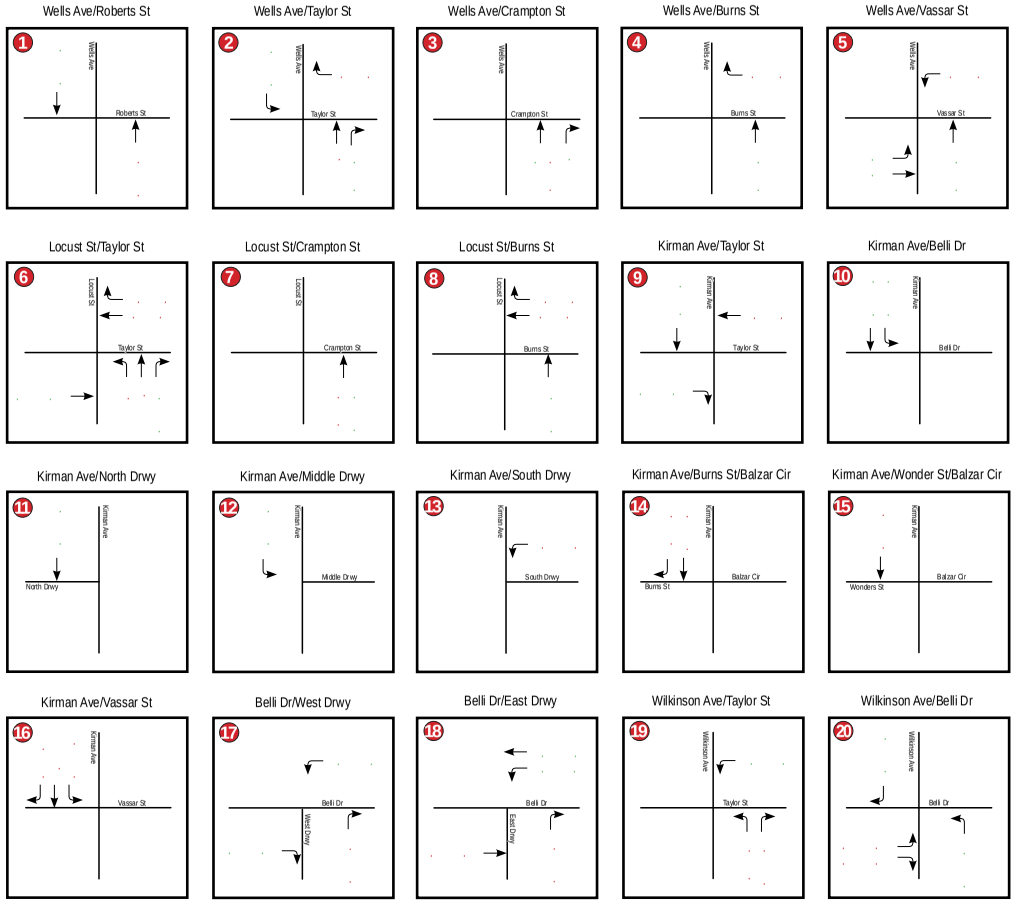
Notes: kgsf = 1,000 gross square feet
du = dewelling unit (per each)
MDOB = Medical-Dental Office Building

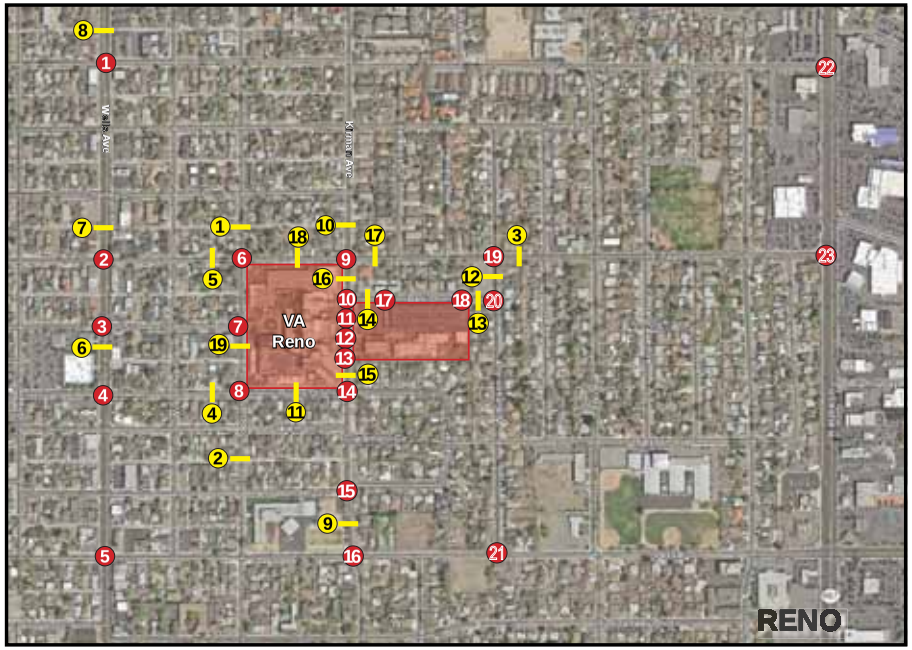
Table 14 Project Trip Generation – New Trips

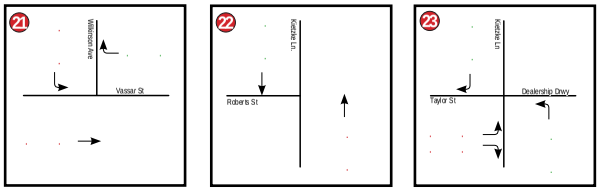
Project	ITE Land Use (#)	Units (kgsf)	a.m. Peak Hour		p.m. Peak Hour	
			Rate	Trips	Rate	Trips
Renovation and Modernization EA Projects						
No. 2: Parking Structure 1	None	36.000	0.00	0	0.00	0
No. 3: New Community Living Center Building (Pod 2)						
• CLC/Hospice	Nursing Home (620)	12.900	0.55	9	0.74	10
• Common/Vacant	None	1.000	0.00	0	0.93	0
No. 4: Expand/Renovate Magnetic Resonance Imaging Space						
• Ancillary/Diagnostic	Hospital (610)	3.400	0.95	5	0.93	4
• Common Vacant	None	0.600	0.00	0	0.00	0
No. 5: Renovate and Rightsize Operating Rooms						
• Specialty Care	Hospital (610)	14.300	0.95	15	0.93	15
No. 6: Renovate Space Adjacent to ICU Wing B3 of Bldg 12						
• Specialty Care	Hospital (610)	5.000	0.95	5	0.93	5
No. 7: Renovate Sterile Processing Service Area						
• Support	Hospital (610)	3.000	0.95	4	0.93	4
No. 8: Renovate Vacated Primary Care for Pharmacy						
• Ancillary/Diagnostic	Hospital (610)	19.776	0.95	19	0.93	19
No. 9: Provide Redundant Electrical Power, North Campus	None	0.000	0.00	0	0.00	0
Subtotal Removed Renovation and Modernization EA Projects				*57*		*57*
Cumulative Projects						
No. 10: Building 1 Seismic Upgrade & Clinical Expansion (Major)[1]				232		283
No. 12: Kirman Avenue Lane Reduction	None.	0.000	0.00	0	0.00	0
Subtotal Removed Cumulative Projects				*232*		*283*
Total New Project Trips				**289**		**340**

Notes: kgsf = 1,000 gross square feet

[1]Source: *NV* (VASNHCS, 2014a)







Legend:

- Study Intersection
- Road Segments
- AM Peak Hour Volume
- PM Peak Hour Volume
- Entering Traffi
- Exiting Traffi

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Project Trip Distribution

Figure 7

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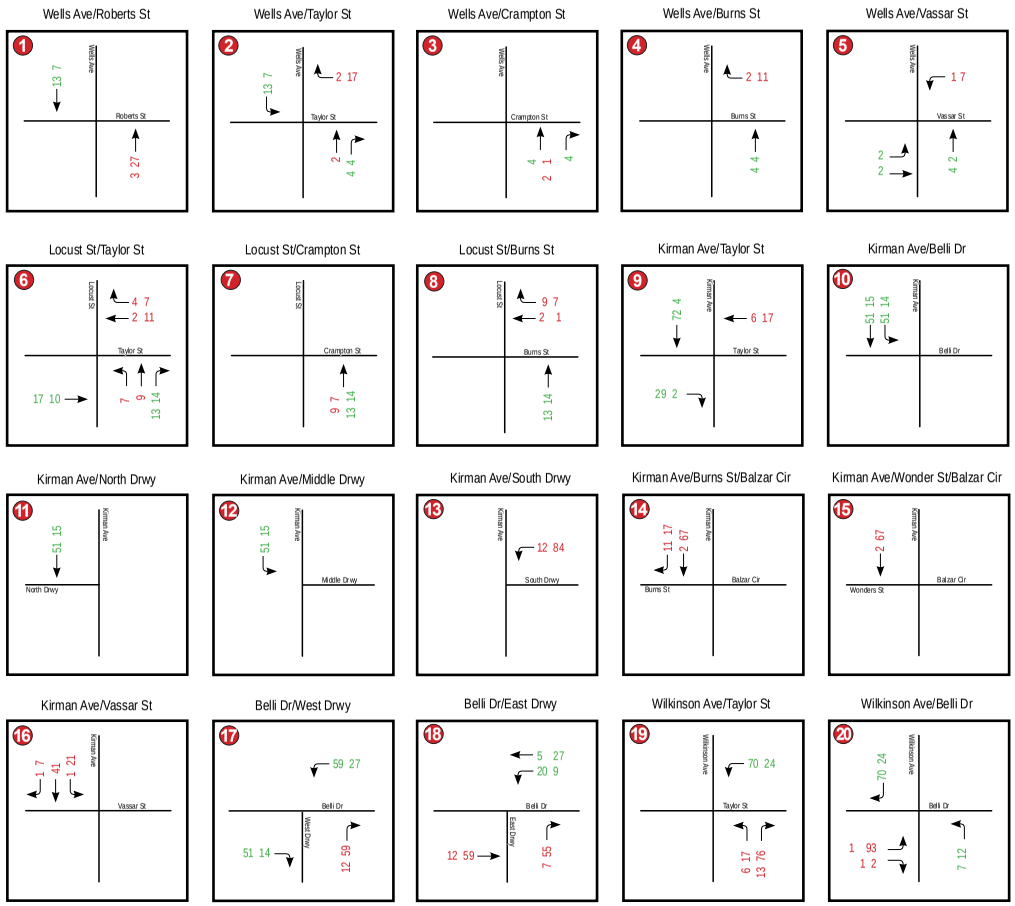

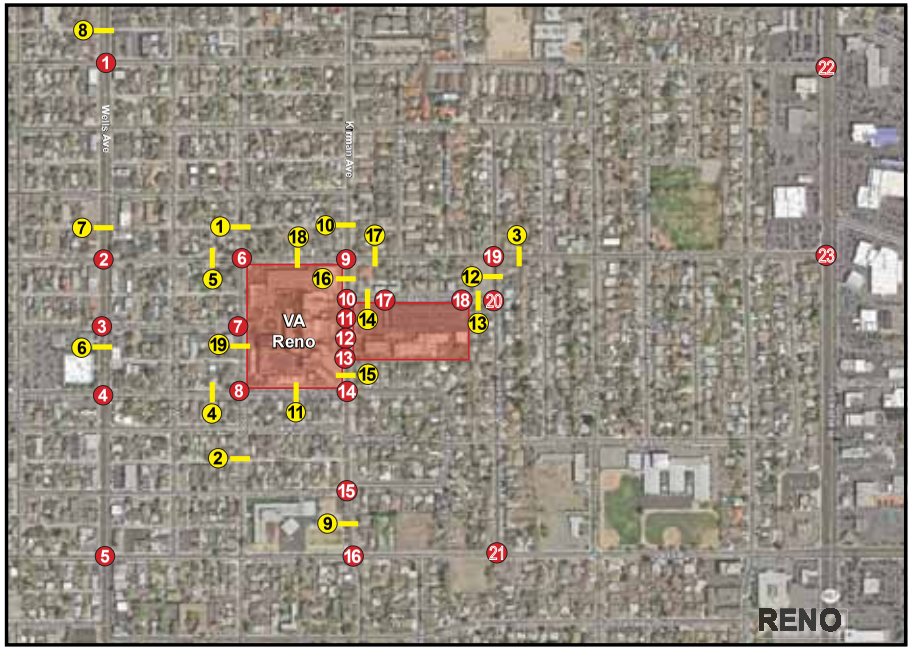

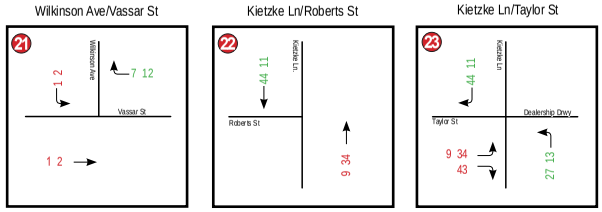

Legend:

- Study Intersection
- Road Segments
- AM Peak Hour Volume
- PM Peak Hour Volume
- Entering Traffi
- Exiting Traffi

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Project Trip Assignment

Figure 8

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5. 2025 Conditions

This section describes the 2025 Conditions, potential impacts and recommended improvements, if any, at the study intersections during the weekday a.m. and p.m. peak hours. The forecasted traffic volumes at each of the study intersections for year 2025 were estimated by applying established growth factors to existing traffic turning movement counts from 2016. Yearly growth rates were estimated by utilizing traffic growth data obtained from the current version of the RTC Regional Travel Demand Forecasting Model, and these rates were used with the existing traffic count data to forecast the year 2025 traffic volumes. Based on this model, each intersection approach features slight variances in annual growth rates. When calculated, these rates are low and represent a range between -1.18% and +1.16% annual growth. In forecasting 2025 regional growth to the turning movement counts performed with this study, the approach-specific annual growth rates were applied to the respective movements of the study area intersections. The growth factors used in the analysis are included in Appendix E.

5.1 2025 Conditions Traffic Volumes

The 2025 traffic volumes are shown on Figure 9. These traffic volumes are represented by the projected future traffic volumes in the year 2025 applied to the existing roadway network and geometry.

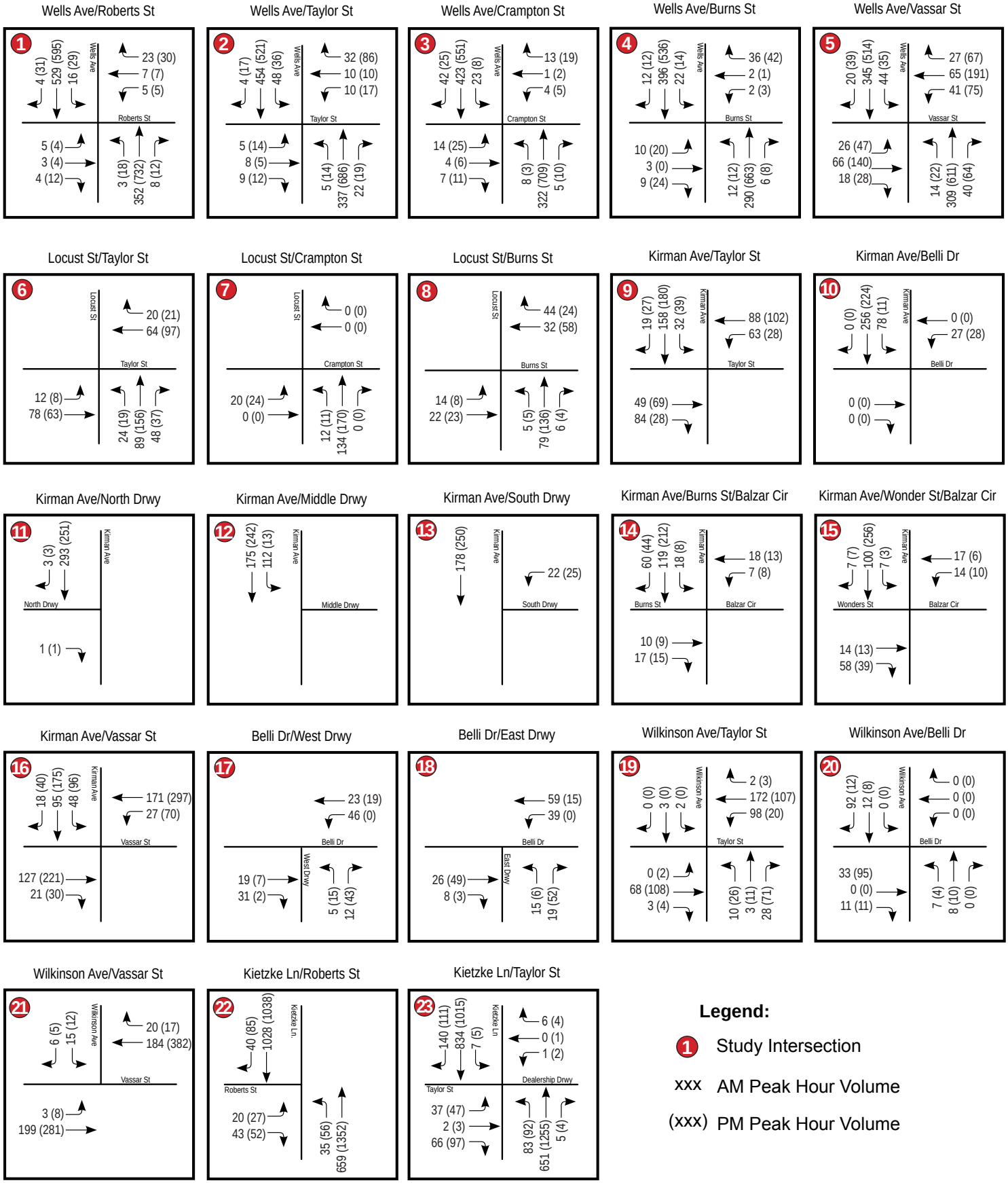
5.2 2025 Conditions Intersection Level of Service Analysis

The results of the intersection level of service analysis based on 2025 Conditions turning movement traffic volumes are summarized in Table 15. In general, the p.m. peak hour represents worst-case peak hour traffic conditions during a typical weekday. This finding is consistent with previous traffic studies. The analysis finds that, based on the adopted the LOS thresholds of significance all study intersections operate acceptably with the exception of the following:

2. Wells Avenue / East Taylor Street:
   - The eastbound approach during the p.m. peak hour.
3. Wells Avenue / Crampton Street:
   - The eastbound approach during the p.m. peak hour.
23. Kietzke Lane / East Taylor Street:
   - The eastbound approach during the a.m. and p.m. peak hours.
   - The westbound approach during the a.m. and p.m. peak hours.

These are the same intersections that were not operating acceptably in the Existing Conditions analysis, and are generally consistent with the analysis results of previous traffic impact studies, although variations in existing traffic volumes and future volume growth rates used in the analysis resulted in some differences in reported delay and LOS. As previously noted in Section 3.4, the westbound approach at Intersection No. 23 is a private driveway for an auto dealership with very little traffic.

The signalized intersection within the study area was evaluated assuming optimized signal cycle lengths, as well as appropriate pedestrian crossing time considerations. The 2025 Conditions Level of Service calculations are provided in Appendix F.



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2025 Conditions Intersection Turning Movement Traffic olumes

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Figure 9

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Table 15 2025 Conditions Intersection Level of Service

No.	Intersection	Weekday Peak Hour			
		a.m.		p.m.	
		Delay (sec)	LOS	Delay (sec)	LOS
1	Wells Avenue / Roberts Street[3]				
	Northbound Left	*8.6*	*A*	*9.0*	*A*
	Eastbound Approach	*19.5*	*C*	*29.9*	*D*
	Westbound Approach	*15.0*	*C*	*28.2*	*D*
	Southbound Left	*8.1*	*A*	*9.6*	*A*
2	Wells Avenue / East Taylor Street[3]				
	Northbound Left	*8.4*	*A*	*8.7*	*A*
	Eastbound Approach	*18.7*	*C*	***47.8***	***E***
	Westbound Approach	*16.4*	*C*	*34.0*	*D*
	Southbound Left	*8.2*	*A*	*9.5*	*A*
3	Wells Avenue / Crampton Street[3]				
	Northbound Left	*8.4*	*A*	*8.8*	*A*
	Eastbound Approach	*18.4*	*C*	***43.5***	***E***
	Westbound Approach	*13.2*	*B*	*22.3*	*C*
	Southbound Left	*8.1*	*A*	*9.4*	*A*
4	Wells Avenue / Burns Street[3]				
	Northbound Left	*8.3*	*A*	*8.7*	*A*
	Eastbound Approach	*16.2*	*C*	*31.7*	*D*
	Westbound Approach	*11.2*	*B*	*17.1*	*C*
	Southbound Left	*8.0*	*A*	*9.2*	*A*
5	Wells Avenue / Vassar Street[2]	8.4	A	17.7	B
6	East Taylor Street / Locust Street[1]	8.1	A	8.4	A
7	Locust Street / Crampton Street[3]				
	Eastbound Approach	*9.2*	*A*	*9.3*	*A*
8	Locust Street / Burns Street[3]				
	Eastbound Approach	*9.9*	*A*	*10.2*	*B*
	Westbound Approach	*9.4*	*A*	*10.2*	*B*
9	East Taylor Street / Kirman Avenue[1]	8.9	A	8.9	A
10	Kirman Avenue / Belli Drive[3]				
	Westbound Approach	*11.1*	*B*	*9.5*	*A*
11	Kirman Avenue / SNHCS North Driveway[3]				
	Eastbound Approach	*9.2*	*A*	*9.1*	*A*
12	Kirman Avenue / SNHCS Mid Driveway (inbound only)	-	-	-	-
13	Kirman Avenue / SNHCS South Driveway[3]				
	Westbound Approach	*9.2*	*A*	*9.4*	*A*

No.	Intersection	Weekday Peak Hour			
		a.m.		p.m.	
		Delay (sec)	LOS	Delay (sec)	LOS
14	Kirman Avenue / Burns Street – Balzar Circle[3]				
	Eastbound Approach	*9.5*	*A*	*9.9*	*A*
	Westbound Approach	10.5	B	10.6	B
15	Kirman Avenue / Balzar Circle-Wonder Street[3]				
	Eastbound Approach	*9.2*	*A*	*9.9*	*A*
	Westbound Approach	*10.0*	*B*	*10.6*	*B*
16	Kirman Avenue / Vassar Street[1]	9.1	A	13.7	B
17	Belli Drive / West Parking Structure Driveway[3]				
	Northbound Approach	*8.9*	*A*	*8.7*	*A*
	Westbound Left	*7.4*	*A*	*0.0*	*A*
18	Belli Drive / East Parking Structure Driveway[3]				
	Northbound Approach	*9.1*	*A*	*8.8*	*A*
	Westbound Left	*7.4*	*A*	*0.0*	*A*
19	East Taylor Street / Wilkinson Avenue[3]				
	Northbound Approach	*10.3*	*B*	*10.2*	*B*
	Eastbound Left	*0.0*	*A*	*7.5*	*A*
	Westbound Left	*7.5*	*A*	*7.5*	*A*
	Southbound Approach	*13.2*	*B*	*0.0*	*A*
20	Belli Drive / Wilkinson Avenue[3]				
	Northbound Left	*7.5*	*A*	*7.3*	*A*
	Eastbound Approach	*9.1*	*A*	*9.1*	*A*
21	Vassar Street / Wilkinson Avenue[3]				
	Eastbound Left	*7.7*	*A*	*8.2*	*A*
	Southbound Approach	*10.9*	*B*	*13.8*	*B*
22	Kietzke Lane / Roberts Street[3]				
	Northbound Left	*11.5*	*B*	*12.1*	*B*
	Eastbound Approach	*19.0*	*C*	*24.7*	*C*
23	Kietzke Lane / East Taylor Street[3]				
	Northbound Left	*11.4*	*B*	*12.7*	*B*
	Eastbound Approach	***79.4***	***F***	***OVERFLOW***	***F***
	Westbound Approach	*16.6*	*C*	***144.2***	***F***
	Southbound Left	*9.1*	*A*	*12.3*	*B*

Notes: Delay is calculated in average seconds per vehicle in queue
LOS = Level of Service
Bold = results exceed acceptable LOS
OVERFLOW = unstable results due to excessive delay
[1]LOS based on HCM2010 method of analysis for AWSC intersections.
[2]LOS based on HCM2000 method of analysis for Signalized intersections.
[3]LOS based on HCM2010 method of analysis for TWSC intersections.

The unsignalized intersections were evaluated using the urban Signal Warrant 3, per the MUTCD thresholds of significance, which is discussed in Section 9 of this report. The peak hour warrant is not met at any of the study intersections in the 2025 Conditions with the exception of Intersection 23 (Kietzke Lane / East Taylor Street) which meets Part A and Part B of the warrant. Signalization of this intersection was recommended in Section 3, and will improve the Level of Service to LOS A (5.1 second delay) in the a.m. peak hour and LOS A (6.9 second delay) in the p.m. peak hour. No other intersection or roadway improvements are recommended.

Signal Warrant 3 analysis results are included in Appendix J.

5.3 & 2025 Conditions Signalized Intersection Queue Analysis

The 2025 Condition traffic volumes were applied to the signalized study intersection and the peak hour demand 95th percentile queue lengths were reviewed against the existing lane storage capacity at the intersection. Intersection No. 5 Wells Avenue / Vassar Street is the only existing signalized intersection in the study area.

The 2025 Condition Peak Hour Intersection Queue Analysis is summarized in Table 17, and copies are provided in Appendix F.

Table 16 2025 Condition Peak Hour Intersection Queue Analysis

Movement	Lanes / Avail. Storage	Queue Length - 95th Percentile (feet)	
		a.m.	p.m.
Intersection No. 5 – Wells Avenue / Vassar Street			
NBT/R	1 / 300 ft	117	**423**
NBL	1 / 135 ft	25	25
SBT/R	1 / 300 ft	125	297
SBL	1 / 135 ft	25	25
EBT/L/R	1 / 170 ft	57	166
WBT/L	1 / 150 ft	61	**213**
WBR	1 / 85 ft	25	32

Notes: & Queue shown is maximum after two cycles
Bold = results where available storage is exceeded by more than one standard vehicle, 25 ft.

Peak hour 95th percentile queue lengths exceed existing storage lane capacity at two movements at Intersection No. 5. These movements should be monitored to assess whether queues block driveways and intersections or contribute to traffic congestion. Additional storage capacity may be needed.

6. 2025 + Project Conditions

This section describes the 2025 plus Project Conditions, potential impacts and recommended improvements, if any, at the study intersections during the weekday a.m. and p.m. peak hours.

6.1 & 2025 + Project Conditions Traffic Volumes

The 2025 + Project Conditions traffic volumes are shown in Figure 10. The 2025 + Project traffic volumes are represented by the 2025 traffic volumes, with annual growth rate factors discussed in Section 5, with the addition of Project related trips assigned to the roadway network, as discussed in Section 4.

6.2 & 2025 + Project Conditions Intersection Level of Service Analysis

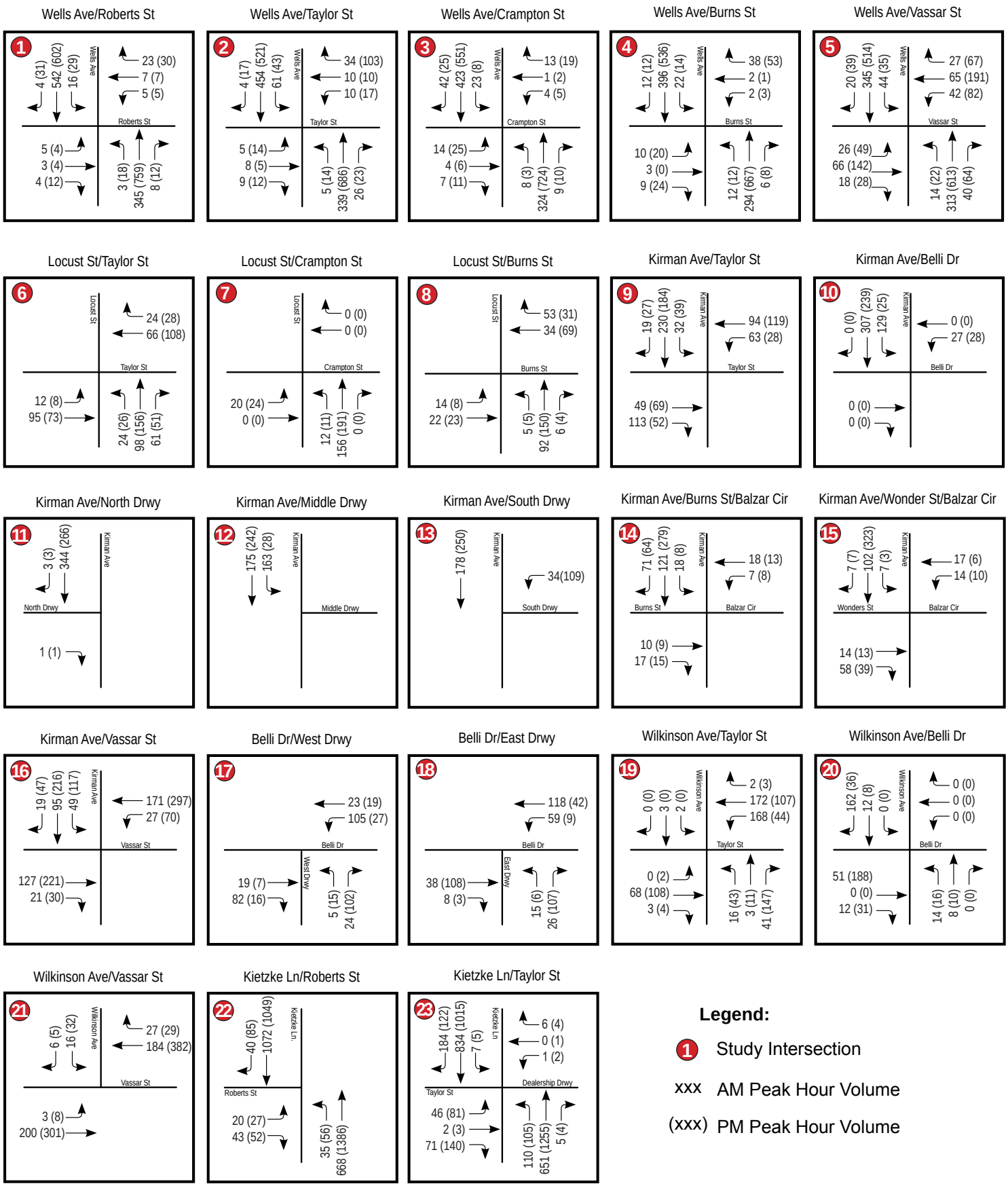
The results of the intersection level of service analysis for the 2025 + Project turning movement traffic volumes are summarized in Table 17. In general, the p.m. peak hour represents worst-case peak hour traffic conditions during a typical weekday. This finding is consistent with previous traffic studies. The analysis finds that, based on the adopted the LOS thresholds of significance all study intersections operate acceptably with the exception of the following:

2. &Wells Avenue / East Taylor Street:
    - The eastbound approach during the p.m. peak hour.
    - The westbound approach during the p.m. peak hour.
3. &Wells Avenue / Crampton Street:
    - The eastbound approach during the p.m. peak hour.
23. Kietzke Lane / East Taylor Street:
    - The eastbound approach during the a.m. and p.m. peak hours.
    - The westbound approach during the p.m. peak hour.

These are the same intersections that were not operating acceptably in the 2025 Conditions analysis, and are generally consistent with the analysis results of previous traffic impact studies, although variations in existing traffic volumes and future volume growth rates used in the analysis resulted in some differences in reported delay and LOS. As previously noted in Section 3.4, the westbound approach at Intersection No. 23 is a private driveway for an auto dealership with very little traffic. The delay at this approach is very sensitive to the westbound approach volumes, which can experience a high delay due to the significant northbound and southbound volumes on Kietzke Lane.

The signalized intersection within the study area was evaluated assuming optimized signal cycle lengths, as well as appropriate pedestrian crossing time considerations. The 2025 + Project Conditions Level of Service calculations are provided in Appendix G.

&



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2025 Plus Project Conditions Intersection
Turning Movement Traffic olumes

Figure 10

Table 17 2025 + Project Conditions Intersection Level of Service

No.	Intersection	Weekday Peak Hour			
		a.m.		p.m.	
		Delay (sec)	LOS	Delay (sec)	LOS
1	Wells Avenue / Roberts Street[3]				
	Northbound Left	*8.7*	*A*	*9.1*	*A*
	Eastbound Approach	*19.7*	*C*	*31.4*	*D*
	Westbound Approach	*15.1*	*C*	*29.7*	*D*
	Southbound Left	*8.1*	*A*	*9.7*	*A*
2	Wells Avenue / East Taylor Street[3]				
	Northbound Left	*8.4*	*A*	*8.7*	*A*
	Eastbound Approach	*19.4*	*C*	***54.0***	***F***
	Westbound Approach	*16.8*	*C*	***36.3***	***E***
	Southbound Left	*8.3*	*A*	*9.5*	*A*
3	Wells Avenue / Crampton Street[3]				
	Northbound Left	8.4	A	8.8	A
	Eastbound Approach	18.5	C	**44.7**	**E**
	Westbound Approach	13.2	B	22.7	C
	Southbound Left	8.1	A	9.4	A
4	Wells Avenue / Burns Street[3]				
	Northbound Left	*8.3*	*A*	*8.7*	*A*
	Eastbound Approach	*16.3*	*C*	*33.1*	*D*
	Westbound Approach	*11.2*	*B*	*17.2*	*C*
	Southbound Left	*8.0*	*A*	*9.2*	*A*
5	Wells Avenue / Vassar Street[2]	8.5	A	18.7	B
6	East Taylor Street / Locust Street[1]	8.3	A	8.7	A
7	Locust Street / Crampton Street[3]				
	Eastbound Approach	*9.3*	*A*	*9.4*	*A*
8	Locust Street / Burns Street[3]				
	Eastbound Approach	*10.0*	*B*	*10.3*	*B*
	Westbound Approach	*9.5*	*A*	*10.4*	*B*
9	East Taylor Street / Kirman Avenue[1]	9.4	A	9.1	A
10	Kirman Avenue / Belli Drive[3]				
	Westbound Approach	*12.8*	*B*	*9.8*	*A*
11	Kirman Avenue / SNHCS North Driveway[3]				
	Eastbound Approach	*9.2*	*A*	*9.1*	*A*
12	Kirman Avenue / SNHCS Mid Driveway (inbound only)	-	-	-	-
13	Kirman Avenue / SNHCS South Driveway[3]				
	Westbound Approach	*9.2*	*A*	*10.0*	*A*

No.	Intersection	Weekday Peak Hour			
		a.m.		p.m.	
		Delay (sec)	LOS	Delay (sec)	LOS
14	Kirman Avenue / Burns Street – Balzar Circle[3]				
	Eastbound Approach	*9.6*	*A*	*10.3*	*B*
	Westbound Approach	10.5	B	11.3	B
15	Kirman Avenue / Balzar Circle-Wonder Street[3]				
	Eastbound Approach	*9.2*	*A*	*10.2*	*B*
	Westbound Approach	*10.0*	*B*	*11.0*	*B*
16	Kirman Avenue / Vassar Street[1]	9.1	A	14.8	B
17	Belli Drive / West Parking Structure Driveway[3]				
	Northbound Approach	*9.1*	*A*	*9.0*	*A*
	Westbound Left	*7.6*	*A*	*7.3*	*A*
18	Belli Drive / East Parking Structure Driveway[3]				
	Northbound Approach	*9.5*	*A*	*9.5*	*A*
	Westbound Left	*7.4*	*A*	*7.5*	*A*
19	East Taylor Street / Wilkinson Avenue[3]				
	Northbound Approach	*11.4*	*B*	*11.1*	*B*
	Eastbound Left	*0.0*	*A*	*7.5*	*A*
	Westbound Left	*7.7*	*A*	*7.5*	*A*
	Southbound Approach	*15.9*	*C*	*0.0*	*A*
20	Belli Drive / Wilkinson Avenue[3]				
	Northbound Left	*7.6*	*A*	*7.3*	*A*
	Eastbound Approach	*9.5*	*A*	*10.2*	*B*
21	Vassar Street / Wilkinson Avenue[3]				
	Eastbound Left	*7.7*	*A*	*8.3*	*A*
	Southbound Approach	*11.0*	*B*	*15.5*	*C*
22	Kietzke Lane / Roberts Street[3]				
	Northbound Left	11.8	B	12.2	B
	Eastbound Approach	19.9	C	25.3	D
23	Kietzke Lane / East Taylor Street[3]				
	Northbound Left	*12.1*	*B*	*13.1*	*B*
	Eastbound Approach	***170.9***	***F***	***OVERFLOW***	***F***
	Westbound Approach	*17.8*	*C*	***176.0***	***F***
	Southbound Left	*9.1*	*A*	*12.3*	*B*

Notes: & Delay is calculated in average seconds per vehicle in queue
LOS = Level of Service
Bold = results exceed acceptable LOS
OVERFLOW = unstable results due to excessive delay
[1]LOS based on HCM2010 method of analysis for AWSC intersections.
[2]LOS based on HCM2000 method of analysis for Signalized intersections.
[3]LOS based on HCM2010 method of analysis for TWSC intersections.

The unsignalized intersections were evaluated using the urban Signal Warrant 3, per the MUTCD thresholds of significance, which is discussed in Section 9 of this report. The peak hour warrant is not met at any of the study intersections in the 2025 + Project Conditions with the exception of Intersection 23 (Kietzke Lane / East Taylor Street) which meets Part A and Part B of the warrant. Signalization of this intersection was recommended in Section 3, and will improve the Level of Service to LOS A (5.5 second delay) in the a.m. peak hour and LOS A (9.4 seconds) in the p.m. peak hour. No other intersection or roadway improvements are recommended.

Signal Warrant 3 analysis results are included in Appendix J.

6.3 & 2025 + Project Conditions Signalized Intersection Queue Analysis

The 2025 + Project Conditions traffic volumes were applied to the signalized study intersection and the peak hour demand 95th percentile queue lengths were reviewed against the existing lane storage capacity at the intersection. Intersection No. 5 Wells Avenue / Vassar Street is the only existing signalized intersection in the study area.

The 2025 + Project Condition Peak Hour Intersection Queue Analysis is summarized in Table 18, and copies are provided in Appendix G.

Table 18 2025 + Project Condition Peak Hour Intersection Queue Analysis

Movement	Lanes / Avail. Storage	Queue Length - 95th Percentile (feet)	
		a.m.	p.m.
Intersection No. 5 – Wells Avenue / Vassar Street			
NBT/R	1 / 300 ft	118	**492**
NBL	1 / 135 ft	25	25
SBT/R	1 / 300 ft	126	**360**
SBL	1 / 135 ft	25	28
EBT/L/R	1 / 170 ft	57	124
WBT/L	1 / 150 ft	62	163
WBR	1 / 85 ft	25	25

Notes: & Queue shown is maximum after two cycles
Bold = results where available storage is exceeded by more than one standard vehicle, 25 ft.

Peak hour 95th percentile queue lengths exceed existing lane storage capacity at two movements at Intersection No. 5. These movements should be monitored to assess whether queues block driveways and intersections or contribute to traffic congestion. Additional storage capacity may be needed.

6.4 & 2025 + Project Impacts and Mitigation Measures

The following intersection approaches were determined to operate unacceptably with and without Project traffic:

2. &Wells Avenue / East Taylor Street:
   - The eastbound approach during the p.m. peak hour.
3. &Wells Avenue / Crampton Street:
   - The eastbound approach during the p.m. peak hour.

23. Kietzke Lane / East Taylor Street:
    - The eastbound approach during the a.m. and p.m. peak hours.
    - & The westbound approach during the p.m. peak hour.

Because the Project contributes traffic to these intersections that operate unacceptably without the Project, this is an **impact**. Signalization of Intersection 23 (Kietzke Lane / East Taylor Street) was recommended in Section 3 to improve the operation of this intersection.

The following intersection approach operates acceptably without the Project, but operates unacceptably with the addition of Project generated trips:

2. &Wells Avenue / East Taylor Street:
    - The westbound approach during the p.m. peak hour.

The addition of Project trips to this intersection reduces the LOS from an acceptable D to an unacceptable E. Because the Project generated traffic causes this intersection approach to operate unacceptably, this is an **impact**.

7. 2035 Conditions

This section describes the 2035 Conditions, potential impacts and recommended improvements, if any, at the study intersections during the weekday a.m. and p.m. peak hours. The forecasted traffic volumes at each of the study intersections for year 2035 were estimated by applying established growth factors to existing traffic turning movement counts from 2016. Yearly growth rates were estimated by utilizing traffic growth data obtained from the current version of the RTC Regional Travel Demand Forecasting Model, and these rates were used with the existing traffic count data to forecast the year 2035 traffic volumes. Based on this model, each approach of each intersection features slight variances in yearly growth rates. When calculated, these rates are low and represent a range between -0.36% and +4.94% annual growth. In forecasting 2035 regional growth to the turning movement counts performed with this study, the approach-specific annual growth rates were applied to the respective movements of the study area intersections. The growth factors used in the analysis are included in Appendix E.

7.1 2035 Conditions Traffic Volumes

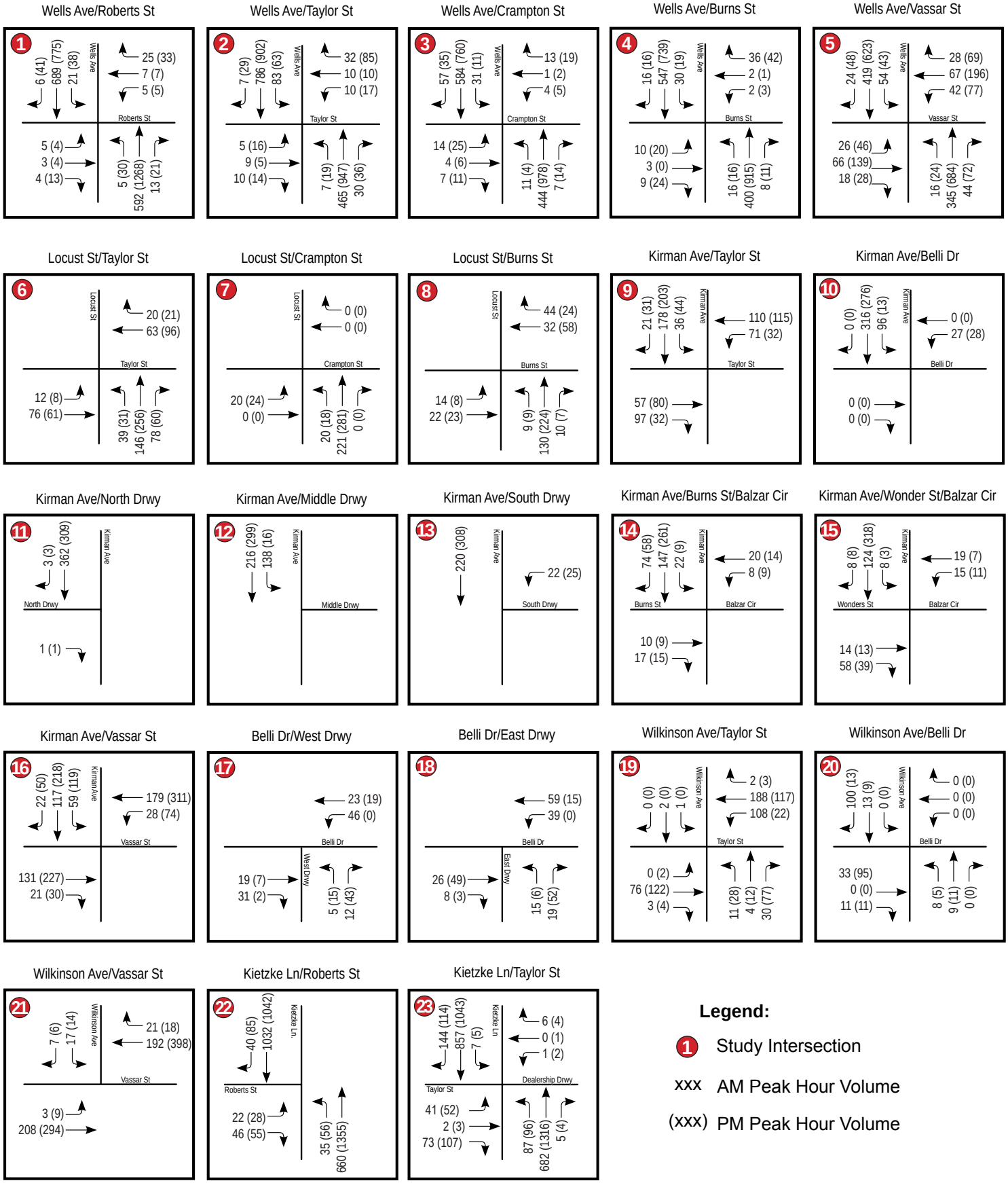
The 2035 traffic volumes are shown on Figure 11. These traffic volumes are represented by the projected future traffic volumes in the year 2035 applied to the existing roadway network and geometry.

7.2 2035 Conditions Intersection Level of Service Analysis

The results of the intersection level of service analysis based on 2035 turning movement traffic volumes are summarized in Table 19. In general, the p.m. peak hour represents worst-case peak hour traffic conditions during a typical weekday. This finding is consistent with previous traffic studies. The analysis finds that, based on the adopted the LOS thresholds of significance all study intersections operate acceptably with the exception of the following:

1. &Wells Avenue / Roberts Street:
    - The eastbound approach during the p.m. peak hour.
    - The westbound approach during the p.m. peak hour.
2. &Wells Avenue / East Taylor Street:
    - The eastbound approach during the a.m. and p.m. peak hours.
    - The westbound approach during the a.m. and p.m. peak hours.
3. &Wells Avenue / Crampton Street:
    - The eastbound approach during the p.m. peak hour.
    - The westbound approach during the p.m. peak hour.
4. &Wells Avenue / Burns Street:
    - The eastbound approach during the p.m. peak hour.

23. Kietzke Lane / East Taylor Street:
    - The eastbound approach during the a.m. and p.m. peak hours.
    - The westbound approach during the p.m. peak hour.



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2035 Conditions Intersection Turning Movement Traffic olumes

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Figure 11

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Table 19 2035 Conditions Intersection Level of Service

No.	Intersection	Weekday Peak Hour			
		a.m.		p.m.	
		Delay (sec)	LOS	Delay (sec)	LOS
1	Wells Avenue / Roberts Street[3]				
	Northbound Left	*9.3*	*A*	*9.9*	*A*
	Eastbound Approach	*34.5*	*D*	***154.1***	***F***
	Westbound Approach	*23.8*	*C*	***161.8***	***F***
	Southbound Left	*9.0*	*A*	*13.1*	*B*
2	Wells Avenue / East Taylor Street[3]				
	Northbound Left	*9.7*	*A*	*10.4*	*B*
	Eastbound Approach	***42.0***	***E***	***OVERFLOW***	***F***
	Westbound Approach	***35.3***	***E***	***OVERFLOW***	***F***
	Southbound Left	*8.9*	*A*	*11.1*	*B*
3	Wells Avenue / Crampton Street[3]				
	Northbound Left	*9.1*	*A*	*9.6*	*A*
	Eastbound Approach	*28.7*	*D*	***175.0***	***F***
	Westbound Approach	*17.3*	*C*	***45.3***	***E***
	Southbound Left	*8.5*	*A*	*10.7*	*B*
4	Wells Avenue / Burns Street[3]				
	Northbound Left	*8.8*	*A*	*9.6*	*A*
	Eastbound Approach	*23.3*	*C*	***97.7***	***F***
	Westbound Approach	*13.0*	*B*	*27.7*	*D*
	Southbound Left	*8.3*	*A*	*10.4*	*B*
5	Wells Avenue / Vassar Street[2]	8.6	A	21.3	C
6	East Taylor Street / Locust Street[1]	8.6	A	9.2	A
7	Locust Street / Crampton Street[3]				
	Eastbound Approach	*9.7*	*A*	*9.8*	*A*
8	Locust Street / Burns Street[3]				
	Eastbound Approach	*10.3*	*B*	*11.0*	*B*
	Westbound Approach	*9.7*	*A*	*10.9*	*B*
9	East Taylor Street / Kirman Avenue[1]	9.3	A	9.2	A
10	Kirman Avenue / Belli Drive[3]				
	Westbound Approach	*11.9*	*B*	*9.8*	*A*
11	Kirman Avenue / SNHCS North Driveway[3]				
	Eastbound Approach	*9.5*	*A*	*9.3*	*A*
12	Kirman Avenue / SNHCS Mid Driveway (inbound only)	-	-	-	-
13	Kirman Avenue / SNHCS South Driveway[3]				
	Westbound Approach	*9.3*	*A*	*9.6*	*A*
14	Kirman Avenue / Burns Street – Balzar Circle[3]				
	Eastbound Approach	*9.8*	*A*	*10.2*	*B*
	Westbound Approach	10.9	B	11.1	B

No.	Intersection	Weekday Peak Hour			
		a.m.		p.m.	
		Delay (sec)	LOS	Delay (sec)	LOS
15	Kirman Avenue / Balzar Circle-Wonder Street[3]				
	Eastbound Approach	*9.3*	*A*	*10.2*	*B*
	Westbound Approach	*10.2*	*B*	*11.0*	*B*
16	Kirman Avenue / Vassar Street[1]	9.4	A	15.5	C
17	Belli Drive / West Parking Structure Driveway[1]				
	Northbound Approach	*8.9*	*A*	*8.7*	*A*
	Westbound Approach	*7.4*	*A*	*0.0*	*A*
18	Belli Drive / East Parking Structure Driveway[3]				
	Northbound Approach	*9.1*	*A*	*8.8*	*A*
	Westbound Left	*7.4*	*A*	*0.0*	*A*
19	East Taylor Street / Wilkinson Avenue[3]				
	Northbound Approach	*10.7*	*B*	*10.5*	*B*
	Eastbound Left	*0.0*	*A*	*7.5*	*A*
	Westbound Left	*7.6*	*A*	*7.5*	*A*
	Southbound Approach	*13.8*	*B*	*0*	*A*
20	Belli Drive / Wilkinson Avenue[3]				
	Northbound Left	*7.5*	*A*	*7.3*	*A*
	Eastbound Approach	*9.1*	*B*	*9.2*	*A*
21	Vassar Street / Wilkinson Avenue[3]				
	Eastbound Left	*7.7*	*A*	*8.3*	*A*
	Southbound Approach	*11.1*	*B*	*14.3*	*B*
22	Kietzke Lane / Roberts Street[3]				
	Northbound Left	*11.5*	*B*	*12.1*	*B*
	Eastbound Approach	*19.5*	*C*	*25.2*	*D*
23	Kietzke Lane / East Taylor Street[3]				
	Northbound Left	*11.6*	*B*	*13.1*	*B*
	Eastbound Approach	***112.9***	***F***	***OVERFLOW***	***F***
	Westbound Approach	*17.7*	*C*	***184.2***	***F***
	Southbound Left	*9.2*	*A*	*12.8*	*B*

Notes: Delay is calculated in average seconds per vehicle in queue
LOS = Level of Service
Bold = results exceed acceptable LOS
OVERFLOW = unstable results due to excessive delay
[1]LOS based on HCM2010 method of analysis for AWSC intersections.
[2]LOS based on HCM2000 method of analysis for Signalized intersections.
[3]LOS based on HCM2010 method of analysis for TWSC intersections.

These results are generally consistent with the analysis results of previous traffic impact studies, although variations in existing traffic volumes and future volume growth rates used in the analysis resulted in some differences in reported delay and LOS. As previously noted in Section 3.4, the westbound approach at Intersection No. 23 is a private driveway for an auto dealership with very little traffic. The delay at this approach is very sensitive to the westbound approach volumes, which

can experience a high delay due to the significant northbound and southbound volumes on Kietzke Lane. The 2035 Conditions Level of Service calculations are provided in Appendix H.

The unsignalized intersections were evaluated using the urban Signal Warrant 3, per the MUTCD thresholds of significance, which is discussed in Section 9 of this report. The peak hour warrant is not met at any of the study intersections in the 2035 Conditions with the exception of Intersection 23 (Kietzke Lane / East Taylor Street) which meets Part A and Part B of the warrant. Signalization of this intersection was recommended in Section 3 and will improve the Level of Service to LOS A (5.4 second delay) in the a.m. peak hour and LOS A (7.7 second delay) in the p.m. peak hour. No other intersection or roadway improvements are recommended.

Signal Warrant 3 analysis results are included in Appendix J.

7.3 2035 Conditions Signalized Intersection Queue Analysis

The 2035 Conditions traffic volumes were applied to the signalized study intersection and the peak hour demand 95th percentile queue lengths were reviewed against the existing lane storage capacity at the intersection. Intersection No. 5 Wells Avenue / Vassar Street is the only existing signalized intersection in the study area.

The 2035 Condition peak hour intersection queue analysis is summarized in Table 20, and copies are provided in Appendix H.

Table 20 2035 Condition Peak Hour Intersection Queue Analysis

Movement	Lanes / Avail. Storage	Queue Length - 95th Percentile (feet)	
		a.m.	p.m.
Intersection No. 5 – Wells Avenue / Vassar Street			
NBT/R	1 / 300 ft	135	**#549**
NBL	1 / 135 ft	25	25
SBT/R	1 / 300 ft	162	**416**
SBL	1 / 135 ft	25	31
EBT/L/R	1 / 170 ft	57	**194**
WBT/L	1 / 150 ft	63	**#278**
WBR	1 / 85 ft	25	42

Notes: Queue shown is maximum after two cycles
- 95th percentile volume exceeds capacity, queue may be longer
Bold = results where available storage is exceeded by more than one standard vehicle, 25 ft.

Peak hour 95th percentile queue lengths exceed existing storage lane capacity at four movements at Intersection No. 5. These movements should be monitored to assess whether queues block driveways and intersections or contribute to traffic congestion. Additional storage capacity may be needed.

8. 2035 + Project Conditions

This section describes the 2035 plus Project Conditions, potential impacts and recommended improvements, if any, at the study intersections during the weekday a.m. and p.m. peak hours.

8.1 & 2035 + Project Conditions Traffic Volumes

The 2035 + Project Conditions traffic volumes are shown in Figure 12. The 2035 + Project traffic volumes are represented by the 2035 traffic volumes, with annual growth rate factors discussed in Section 7, with the addition of Project related trips assigned to the roadway network, as discussed in Section 4.

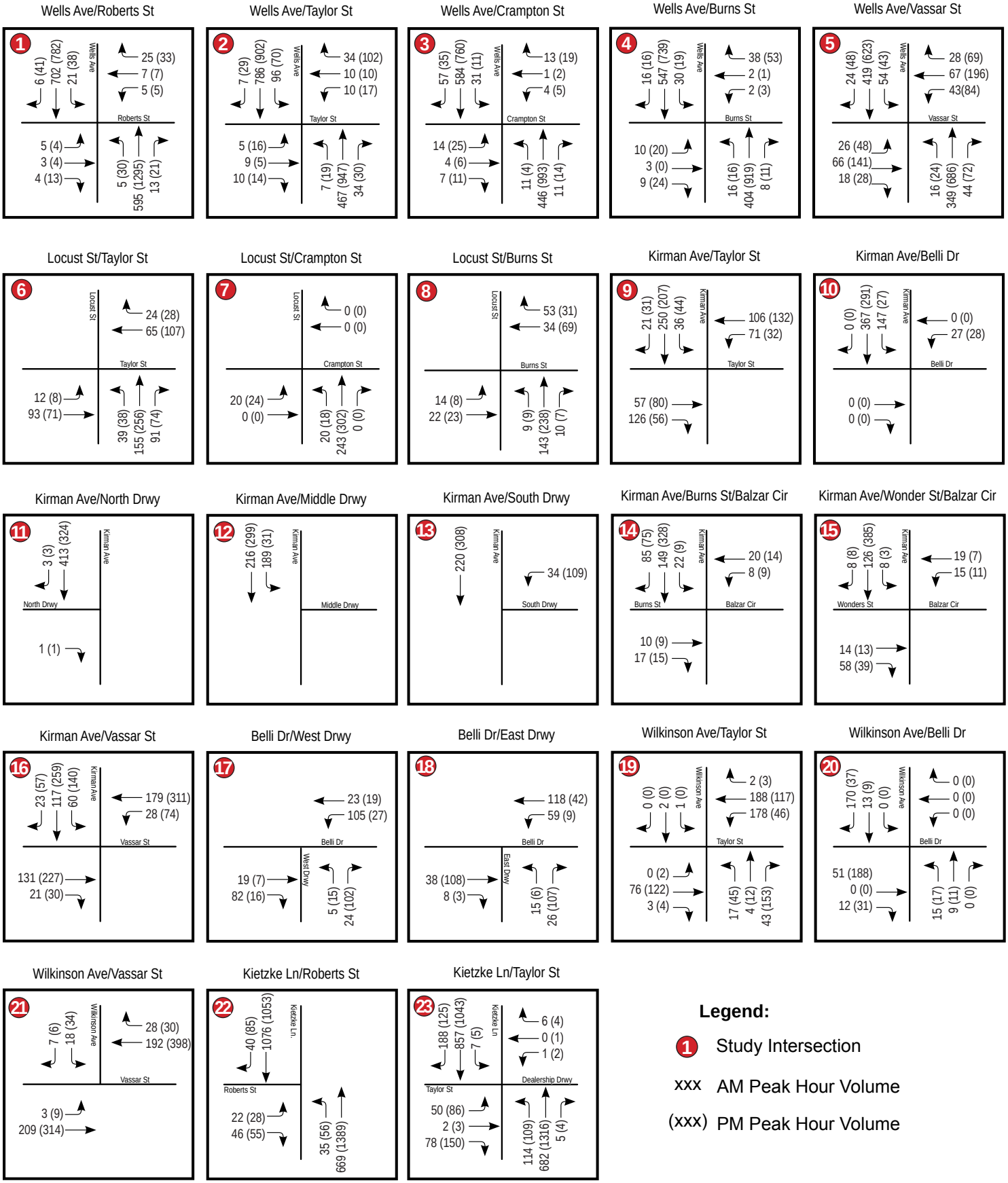
8.2 & 2035 + Project Conditions Intersection Level of Service Analysis

The results of the intersection level of service analysis for the 2035 + Project turning movement traffic volumes are summarized in Table 21. In general, the p.m. peak hour represents worst-case peak hour traffic conditions during a typical weekday. This finding is consistent with previous traffic studies. The analysis finds that, based on the adopted the LOS thresholds of significance all study intersections operate acceptably with the exception of the following:

1. &Wells Avenue / Roberts Street:
    - The eastbound approach during the a.m. and p.m. peak hours.
    - The westbound approach during the p.m. peak hour.
2. &Wells Avenue / East Taylor Street:
    - The eastbound approach during the a.m. and p.m. peak hours.
    - The westbound approach during the a.m. and p.m. peak hours.
3. &Wells Avenue / Crampton Street:
    - The eastbound approach during the p.m. peak hour.
    - The westbound approach during the p.m. peak hour.
4. &Wells Avenue / Burns Street:
    - The eastbound approach during the p.m. peak hour.
23. Kietzke Lane / East Taylor Street:
    - The eastbound approach during the a.m. and p.m. peak hours.
    - The westbound approach during the a.m. and p.m. peak hours.

These results are generally consistent with the analysis results of previous traffic impact studies, although variations in existing traffic volumes and future volume growth rates used in the analysis resulted in some differences in reported delay and LOS. As previously noted in Section 3.4, the westbound approach at Intersection No. 23 is a private driveway for an auto dealership with very little traffic. The delay at this approach is very sensitive to the westbound approach volumes, which can experience a high delay due to the significant northbound and southbound volumes on Kietzke Lane.

The 2035 + Project Conditions Level of Service calculations are provided in Appendix I.



VA Sierra Nevada Health Care System
Project 654-16-619 Renovation and Modernization Traffic Study

Job Number 11110661
Revision
Date Jun 2016

2035 Plus Project Conditions Intersection Turning Movement Traffic olumes

Figure 12

Table 21 2035 + Project Conditions Intersection Level of Service

No.	Intersection	Weekday Peak Hour			
		a.m.		p.m.	
		Delay (sec)	LOS	Delay (sec)	LOS
1	Wells Avenue / Roberts Street[3]				
	Northbound Left	*9.3*	*A*	*10.0*	*A*
	Eastbound Approach	***35.3***	***E***	***178.5***	***F***
	Westbound Approach	*24.2*	*C*	***189.3***	***F***
	Southbound Left	*9.0*	*A*	*13.3*	*B*
2	Wells Avenue / East Taylor Street[3]				
	Northbound Left	*9.7*	*A*	*10.4*	*B*
	Eastbound Approach	***44.8***	***E***	***OVERFLOW***	***F***
	Westbound Approach	***37.0***	***E***	***OVERFLOW***	***F***
	Southbound Left	*8.9*	*A*	*11.2*	*B*
3	Wells Avenue / Crampton Street[3]				
	Northbound Left	9.1	A	9.6	A
	Eastbound Approach	28.8	D	**186.8**	**F**
	Westbound Approach	17.4	C	**46.7**	**E**
	Southbound Left	8.5	A	10.8	B
4	Wells Avenue / Burns Street[3]				
	Northbound Left	*8.8*	*A*	*9.6*	*A*
	Eastbound Approach	*23.3*	*C*	***111.7***	***F***
	Westbound Approach	*13.0*	*B*	*27.8*	*D*
	Southbound Left	*8.4*	*A*	*10.4*	*B*
5	Wells Avenue / Vassar Street[2]	8.7	A	22.0	C
6	East Taylor Street / Locust Street[1]	8.7	A	9.4	A
7	Locust Street / Crampton Street[3]				
	Eastbound Approach	*9.8*	*A*	*9.9*	*A*
8	Locust Street / Burns Street[3]				
	Eastbound Approach	*10.5*	*B*	*11.1*	*B*
	Westbound Approach	*9.8*	*A*	*11.2*	*B*
9	East Taylor Street / Kirman Avenue[1]	9.9	A	9.4	A
10	Kirman Avenue / Belli Drive[3]				
	Westbound Approach	*13.9*	*B*	*10.1*	*B*
11	Kirman Avenue / SNHCS North Driveway[3]				
	Eastbound Approach	*9.7*	*A*	*9.3*	*A*
12	Kirman Avenue / SNHCS Mid Driveway (inbound only)	-	-	-	-
13	Kirman Avenue / SNHCS South Driveway[3]				
	Westbound Approach	*9.4*	*A*	*10.2*	*B*

No.	Intersection	Weekday Peak Hour			
		a.m.		p.m.	
		Delay (sec)	LOS	Delay (sec)	LOS
14	Kirman Avenue / Burns Street – Balzar Circle[3]				
	Eastbound Approach	*9.8*	*A*	*10.7*	*B*
	Westbound Approach	11.0	B	11.8	B
15	Kirman Avenue / Balzar Circle-Wonder Street[3]				
	Eastbound Approach	*9.3*	*A*	*10.6*	*B*
	Westbound Approach	*10.2*	*B*	*11.5*	*B*
16	Kirman Avenue / Vassar Street[1]	9.5	A	16.9	C
17	Belli Drive / West Parking Structure Driveway[1]				
	Northbound Approach	*9.1*	*A*	*9.0*	*A*
	Westbound Left	*7.6*	*A*	*7.3*	*A*
18	Belli Drive / East Parking Structure Driveway[3]				
	Northbound Approach	*9.5*	*A*	*9.5*	*A*
	Westbound Left	*7.4*	*A*	*7.5*	*A*
19	East Taylor Street / Wilkinson Avenue[3]				
	Northbound Approach	*11.9*	*B*	*11.5*	*B*
	Eastbound Left	*0.0*	*A*	*7.5*	*A*
	Westbound Left	*7.7*	*A*	*7.6*	*A*
	Southbound Approach	*16.7*	*C*	*0.0*	*A*
20	Belli Drive / Wilkinson Avenue[3]				
	Northbound Left	*7.7*	*A*	*7.3*	*A*
	Eastbound Approach	*9.6*	*A*	*10.2*	*B*
21	Vassar Street / Wilkinson Avenue[3]				
	Eastbound Left	*7.7*	*A*	*8.3*	*A*
	Southbound Approach	*11.1*	*B*	*16.1*	*C*
22	Kietzke Lane / Roberts Street[3]				
	Northbound Left	11.8	B	12.2	B
	Eastbound Approach	20.3	C	25.8	D
23	Kietzke Lane / East Taylor Street[3]				
	Northbound Left	*12.4*	*B*	*13.5*	*B*
	Eastbound Approach	***248.4***	***F***	***OVERFLOW***	***F***
	Westbound Approach	*19.2*	*C*	***238.5***	***F***
	Southbound Left	*9.2*	*A*	*12.8*	*B*

Notes: & Delay is calculated in average seconds per vehicle in queue
LOS = Level of Service
Bold = results exceed acceptable LOS
OVERFLOW = unstable results due to excessive delay
[1]LOS based on HCM2010 method of analysis for AWSC intersections.
[2]LOS based on HCM2000 method of analysis for Signalized intersections.
[3]LOS based on HCM2010 method of analysis for TWSC intersections.

The unsignalized intersections were evaluated using the urban Signal Warrant 3, per the MUTCD thresholds of significance, which is discussed in Section 9 of this report. The peak hour warrant is not met at any of the study intersections in the 2035 + Project Conditions with the exception of Intersection 23 (Kietzke Lane / East Taylor Street) which meets Part A and Part B of the warrant. Signalization of this intersection was recommended in Section 3, and will improve the Level of Service to LOS A (5.9 second delay) in the a.m. peak hour and LOS B (10.3 second delay) in the p.m. peak hour. No other intersection or roadway improvements are recommended.

Signal Warrant 3 analysis results are included in Appendix J.

8.3 & 2035 + Project Conditions Signalized Intersection Queue Analysis

The 2035 + Project Conditions traffic volumes were applied to the signalized study intersection and the peak hour demand 95th percentile queue lengths were reviewed against the existing lane storage capacity at the intersection. Intersection No. 5 Wells Avenue / Vassar Street is the only existing signalized intersection in the study area.

The 2035 + Project Condition Peak Hour Intersection Queue Analysis is summarized in Table 21, and copies are provided in Appendix I.

Table 22 2035 + Project Condition Peak Hour Intersection Queue Analysis

Movement	Lanes / Avail. Storage	Queue Length - 95th Percentile (feet)	
		a.m.	p.m.
Intersection No. 5 – Wells Avenue / Vassar Street			
NBT/R	1 / 300 ft	138	**#586**
NBL	1 / 135 ft	25	25
SBT/R	1 / 300 ft	163	**#482**
SBL	1 / 135 ft	25	35
EBT/L/R	1 / 170 ft	57	157
WBT/L	1 / 150 ft	63	**208**
WBR	1 / 85 ft	25	30

Notes: & Queue shown is maximum after two cycles
- 95th percentile volume exceeds capacity, queue may be longer
Bold = results where available storage is exceeded by more than one standard vehicle, 25 ft.

Peak hour 95th percentile queue lengths exceed existing storage lane capacity at three movements at Intersection No. 5. These movements should be monitored to assess whether queues block driveways and intersections or contribute to traffic congestion. Additional storage capacity may be needed.

8.4 & 2035 + Project Impacts and Mitigation Measures

The following intersection approaches were determined to operate unacceptably with and without Project traffic:

1. Wells Avenue / Roberts Street:
   - The eastbound approach during the p.m. peak hour.

- The westbound approach during the p.m. peak hour.

2. Wells Avenue / East Taylor Street:
   - The eastbound approach during the a.m. and p.m. peak hours.
   - The westbound approach during the a.m. and p.m. peak hours.
3. Wells Avenue / Crampton Street:
   - The eastbound approach during the p.m. peak hour.
   - The westbound approach during the p.m. peak hour.
4. Wells Avenue / Burns Street:
   - The eastbound approach during the p.m. peak hour.

23. Kietzke Lane / East Taylor Street:
   - The eastbound approach during the a.m. and p.m. peak hours.
   - The westbound approach during the a.m. and p.m. peak hours.

Because the Project contributes traffic to these intersection approaches that operate unacceptably without the Project, this is an **impact**. Signalization of Intersection 23 (Kietzke Lane / East Taylor Street) was recommended in Section 3 to improve the operation of this intersection.

The Project contributes traffic to the following intersection which operated acceptably without Project trips. The addition of Project trips reduced the intersection LOS from an acceptable LOS D to an unacceptable LOS E during the a.m. peak hour:

1. Wells Avenue / Roberts Street:
   - The eastbound approach during the a.m. peak hour.

Because the Project contributes traffic to this intersection approach causing it to operate unacceptably, this is an **impact**. The peak hour warrant is not met at this intersection.

9. Peak Hour Signal Warrant 3

The section presents an evaluation of “urban” Signal Warrant 3 for the peak hour for unsignalized intersections in all study scenarios to determine if the warrant is met.

9.1 Peak Hour Signal Warrant 3 Methodology

Traffic Signal Warrant 3 is based on the 2009 edition of the *Manual on Uniform Traffic Control Devices* (MUTCD) with 2012 Revisions (FHWA, 2012). The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street (FHWA, 2012). It is noted that Warrant 3 should only be applied in unusual cases, such as at facilities that attract or discharge large amounts of vehicles over short periods of time.

Warrant 3 has two Parts, A and B, either of which must be met to consider the potential need for a signal based on the peak hour condition. Part A contains three conditions, which are:

1. &The total delay experience by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds 4 vehicle-hours for one-lane approach, or 5 vehicle-hours for a two-lane approach; AND
2. &The volume on the same minor street approach (one direction only) equals or exceeds 100 vehicles per hour (vph) for one moving lane of traffic or 150 vph for two moving lanes; AND
3. &The total entering volume serviced during the hour equals or exceeds 800 vph for the intersection with 4 or more approaches or 650 vph for intersections with 3 approaches.

Part B of the Traffic Signal Warrant 3 contains figures that plot minor street versus major street approaches for urban and rural areas. The entire Signal Warrant 3 is included in Appendix J.

The satisfaction of a traffic signal warrant or warrants is not considered an impact based on City of Reno significance criteria, and does not in itself require the installation of a traffic signal. Applicable to this study, it has been determined through engineering judgment that, in order for the installation of a traffic signal to be considered, the scenario must have an intersection LOS which is not acceptable with respect to the applicable significance thresholds <u>and</u> meet the requirements of either part of Traffic Signal Warrant 3.

9.2 Peak Hour Signal Warrant 3 Analysis

Table 23 summarizes the results of the Warrant 3 analysis. Part B was evaluated under “urban” conditions.

Table 23 Summary of Traffic Signal Warrant 3 for Study Conditions

Intersection	Part A				Part B
	1	2	3		
	Total Delay (veh-hrs)	Highest Minor Appr. Volume (veh)	Total Entering Volume (veh)	Met (Y/N)	Met (Y/N)
Existing Conditions					
No. 1 – Wells Avenue / Roberts Road	*Intersection Operates Acceptably*				
No. 2 – Wells Avenue / East Taylor Street	< 4	107	1520	N	N
No. 3 - Wells Avenue / Crampton Street	< 4	42	1428	N	N
No. 4 – Wells Avenue / Burns Street	*Intersection Operates Acceptably*				
No. 6 – Locust Street / East Taylor Street	*Intersection Operates Acceptably*				
No. 7 – Locust Street / Crampton Street	*Intersection Operates Acceptably*				
No. 8 – Locust Street / Burns Street	*Intersection Operates Acceptably*				
No. 9 – Kirman Avenue / East Taylor Street	*Intersection Operates Acceptably*				
No. 10 – Kirman Avenue / Belli Drive	*Intersection Operates Acceptably*				
No. 11 – Kirman Avenue / SNHCS North Driveway	*Intersection Operates Acceptably*				
No. 12 – Kirman Avenue / SNHCS Mid Driveway (Inbound Only)	*Intersection Operates Acceptably*				
No. 13 – Kirman Avenue / SNHCS South Driveway	*Intersection Operates Acceptably*				
No. 14 – Kirman Avenue / Burns Street – Balzar Circle	*Intersection Operates Acceptably*				
No. 15 – Kirman Avenue / Balzar Circle – Wonder Street	*Intersection Operates Acceptably*				
No. 16 – Kirman Avenue / Vassar Street	*Intersection Operates Acceptably*				
No. 17 – Belli Drive / West Parking Structure Driveway	*Intersection Operates Acceptably*				
No. 18 – Belli Drive / East Parking Structure Driveway	*Intersection Operates Acceptably*				
No. 19 – Wilkinson Avenue / East	*Intersection Operates Acceptably*				

Intersection	Part A				Part B
	1	2	3		
	Total Delay (veh-hrs)	Highest Minor Appr. Volume (veh)	Total Entering Volume (veh)	Met (Y/N)	Met (Y/N)
Taylor Street					
No. 20 – Wilkinson Avenue / Belli Drive	*Intersection Operates Acceptably*				
No. 21 – Wilkinson Avenue / Vassar Street	*Intersection Operates Acceptably*				
No. 22 – Kietzke Lane / Roberts Road	*Intersection Operates Acceptably*				
No. 23 – Kietzke Lane / East Taylor Street	**> 4**	**140**	**2401**	**Y**	N
2025 Conditions					
No. 1 – Wells Avenue / Roberts Road	*Intersection Operates Acceptably*				
No. 2 – Wells Avenue / East Taylor Street	< 4	113	1437	N	N
No. 3 - Wells Avenue / Crampton Street	< 4	42	1374	N	N
No. 4 – Wells Avenue / Burns Street	*Intersection Operates Acceptably*				
No. 6 – Locust Street / East Taylor Street	*Intersection Operates Acceptably*				
No. 7 – Locust Street / Crampton Street	*Intersection Operates Acceptably*				
No. 8 – Locust Street / Burns Street	*Intersection Operates Acceptably*				
No. 9 – Kirman Avenue / East Taylor Street	*Intersection Operates Acceptably*				
No. 10 – Kirman Avenue / Belli Drive	*Intersection Operates Acceptably*				
No. 11 – Kirman Avenue / SNHCS North Driveway	*Intersection Operates Acceptably*				
No. 12 – Kirman Avenue / SNHCS Mid Driveway (Inbound Only)	*Intersection Operates Acceptably*				
No. 13 – Kirman Avenue / SNHCS South Driveway	*Intersection Operates Acceptably*				
No. 14 – Kirman Avenue / Burns Street – Balzar Circle	*Intersection Operates Acceptably*				
No. 15 – Kirman Avenue / Balzar Circle – Wonder Street	*Intersection Operates Acceptably*				

Intersection	Part A				Part B
	1	2	3		
	Total Delay (veh-hrs)	Highest Minor Appr. Volume (veh)	Total Entering Volume (veh)	Met (Y/N)	Met (Y/N)
No. 16 – Kirman Avenue / Vassar Street	*Intersection Operates Acceptably*				
No. 17 – Belli Drive / West Parking Structure Driveway	*Intersection Operates Acceptably*				
No. 18 – Belli Drive / East Parking Structure Driveway	*Intersection Operates Acceptably*				
No. 19 – Wilkinson Avenue / East Taylor Street	*Intersection Operates Acceptably*				
No. 20 – Wilkinson Avenue / Belli Drive	*Intersection Operates Acceptably*				
No. 21 – Wilkinson Avenue / Vassar Street	*Intersection Operates Acceptably*				
No. 22 – Kietzke Lane / Roberts Road	*Intersection Operates Acceptably*				
No. 23 – Kietzke Lane / East Taylor Street	**> 4**	**147**	**2636**	**Y**	**Y**
2025 + Project Conditions					
No. 1 – Wells Avenue / Roberts Road	*Intersection Operates Acceptably*				
No. 2 – Wells Avenue / East Taylor Street	< 4	130	1465	N	N
No. 3 - Wells Avenue / Crampton Street	< 4	42	1389	N	N
No. 4 – Wells Avenue / Burns Street	*Intersection Operates Acceptably*				
No. 6 – Locust Street / East Taylor Street	*Intersection Operates Acceptably*				
No. 7 – Locust Street / Crampton Street	*Intersection Operates Acceptably*				
No. 8 – Locust Street / Burns Street	*Intersection Operates Acceptably*				
No. 9 – Kirman Avenue / East Taylor Street	*Intersection Operates Acceptably*				
No. 10 – Kirman Avenue / Belli Drive	*Intersection Operates Acceptably*				
No. 11 – Kirman Avenue / SNHCS North Driveway	*Intersection Operates Acceptably*				
No. 12 – Kirman Avenue / SNHCS Mid Driveway (Inbound Only)	*Intersection Operates Acceptably*				

Intersection	Part A				Part B
	1	2	3		
	Total Delay (veh-hrs)	Highest Minor Appr. Volume (veh)	Total Entering Volume (veh)	Met (Y/N)	Met (Y/N)
No. 13 – Kirman Avenue / SNHCS South Driveway	*Intersection Operates Acceptably*				
No. 14 – Kirman Avenue / Burns Street – Balzar Circle	*Intersection Operates Acceptably*				
No. 15 – Kirman Avenue / Balzar Circle – Wonder Street	*Intersection Operates Acceptably*				
No. 16 – Kirman Avenue / Vassar Street	*Intersection Operates Acceptably*				
No. 17 – Belli Drive / West Parking Structure Driveway	*Intersection Operates Acceptably*				
No. 18 – Belli Drive / East Parking Structure Driveway	*Intersection Operates Acceptably*				
No. 19 – Wilkinson Avenue / East Taylor Street	*Intersection Operates Acceptably*				
No. 20 – Wilkinson Avenue / Belli Drive	*Intersection Operates Acceptably*				
No. 21 – Wilkinson Avenue / Vassar Street	*Intersection Operates Acceptably*				
No. 22 – Kietzke Lane / Roberts Road	*Intersection Operates Acceptably*				
No. 23 – Kietzke Lane / East Taylor Street	**> 4**	**264**	**2799**	**Y**	**Y**
2035 Conditions					
No. 1 – Wells Avenue / Roberts Road	< 4	45	2239	N	N
No. 2 – Wells Avenue / East Taylor Street	< 4	112	2133	N	N
No. 3 - Wells Avenue / Crampton Street	< 4	42	1870	N	N
No. 4 – Wells Avenue / Burns Street	< 4	46	1806	N	N
No. 6 – Locust Street / East Taylor Street	*Intersection Operates Acceptably*				
No. 7 – Locust Street / Crampton Street	*Intersection Operates Acceptably*				
No. 8 – Locust Street / Burns Street	*Intersection Operates Acceptably*				
No. 9 – Kirman Avenue / East Taylor	*Intersection Operates Acceptably*				

Intersection	Part A				Part B
	1	2	3		
	Total Delay (veh-hrs)	Highest Minor Appr. Volume (veh)	Total Entering Volume (veh)	Met (Y/N)	Met (Y/N)
Street					
No. 10 – Kirman Avenue / Belli Drive	*Intersection Operates Acceptably*				
No. 11 – Kirman Avenue / SNHCS North Driveway	*Intersection Operates Acceptably*				
No. 12 – Kirman Avenue / SNHCS Mid Driveway (Inbound Only)	*Intersection Operates Acceptably*				
No. 13 – Kirman Avenue / SNHCS South Driveway	*Intersection Operates Acceptably*				
No. 14 – Kirman Avenue / Burns Street – Balzar Circle	*Intersection Operates Acceptably*				
No. 15 – Kirman Avenue / Balzar Circle – Wonder Street	*Intersection Operates Acceptably*				
No. 16 – Kirman Avenue / Vassar Street	*Intersection Operates Acceptably*				
No. 17 – Belli Drive / West Parking Structure Driveway	*Intersection Operates Acceptably*				
No. 18 – Belli Drive / East Parking Structure Driveway	*Intersection Operates Acceptably*				
No. 19 – Wilkinson Avenue / East Taylor Street	*Intersection Operates Acceptably*				
No. 20 – Wilkinson Avenue / Belli Drive	*Intersection Operates Acceptably*				
No. 21 – Wilkinson Avenue / Vassar Street	*Intersection Operates Acceptably*				
No. 22 – Kietzke Lane / Roberts Road	*Intersection Operates Acceptably*				
No. 23 – Kietzke Lane / East Taylor Street	**> 4**	**162**	**2770**	**Y**	**Y**
2035 + Project Conditions					
No. 1 – Wells Avenue / Roberts Road	< 4	45	2273	N	N
No. 2 – Wells Avenue / East Taylor Street	> 4	129	2161	Y	N
No. 3 - Wells Avenue / Crampton Street	< 4	42	1885	N	N
No. 4 – Wells Avenue / Burns Street	< 4	57	1821	N	N

Intersection	Part A				Part B
	1	2	3		
	Total Delay (veh-hrs)	Highest Minor Appr. Volume (veh)	Total Entering Volume (veh)	Met (Y/N)	Met (Y/N)
No. 6 – Locust Street / East Taylor Street	*Intersection Operates Acceptably*				
No. 7 – Locust Street / Crampton Street	*Intersection Operates Acceptably*				
No. 8 – Locust Street / Burns Street	*Intersection Operates Acceptably*				
No. 9 – Kirman Avenue / East Taylor Street	*Intersection Operates Acceptably*				
No. 10 – Kirman Avenue / Belli Drive	*Intersection Operates Acceptably*				
No. 11 – Kirman Avenue / SNHCS North Driveway	*Intersection Operates Acceptably*				
No. 12 – Kirman Avenue / SNHCS Mid Driveway (Inbound Only)	*Intersection Operates Acceptably*				
No. 13 – Kirman Avenue / SNHCS South Driveway	*Intersection Operates Acceptably*				
No. 14 – Kirman Avenue / Burns Street – Balzar Circle	*Intersection Operates Acceptably*				
No. 15 – Kirman Avenue / Balzar Circle – Wonder Street	*Intersection Operates Acceptably*				
No. 16 – Kirman Avenue / Vassar Street	*Intersection Operates Acceptably*				
No. 17 – Belli Drive / West Parking Structure Driveway	*Intersection Operates Acceptably*				
No. 18 – Belli Drive / East Parking Structure Driveway	*Intersection Operates Acceptably*				
No. 19 – Wilkinson Avenue / East Taylor Street	*Intersection Operates Acceptably*				
No. 20 – Wilkinson Avenue / Belli Drive	*Intersection Operates Acceptably*				
No. 21 – Wilkinson Avenue / Vassar Street	*Intersection Operates Acceptably*				
No. 22 – Kietzke Lane / Roberts Road	*Intersection Operates Acceptably*				
No. 23 – Kietzke Lane / East Taylor Street	**> 4**	**239**	**2841**	**Y**	**Y**

10. Kirman Avenue Lane Reduction

10.1 Proposed Kirman Avenue Lane Reduction Concept

A key element of this study is the proposed reduction in the width of Kirman Avenue adjacent to the VASNHCS campus, narrowing it between East Taylor Street in the north and Burns Street / Balzar Circle in the south. The complete closure of Kirman Avenue from Belli Street to Burns Street / Balzar Circle was previously studied by the VA in the *VA Hospital Kirman Avenue Abandonment Traffic Analysis* (VASNHCS, 2014b). The narrowing would reduce the roadway from two southbound lanes to one southbound lane and a dedicated Class II bicycle lane. This segment of Kirman Avenue is approximately 700 feet long and southbound only. It forms a one-way *collector* couplet with Locust Street, which provides northbound traffic circulation on the west side of the campus. Kirman Avenue is the primary vehicular ingress / egress for the VASNHCS campus, and is the main access to Belli Drive and the existing 2-level parking garage, as well as a small surface parking lot to the east. It also provides direct access to the primary patient / visitor loading area just south of Belli Drive immediately adjacent to the main hospital and for deliveries. Figure 13 shows an existing plan of Kirman Avenue in this study area.

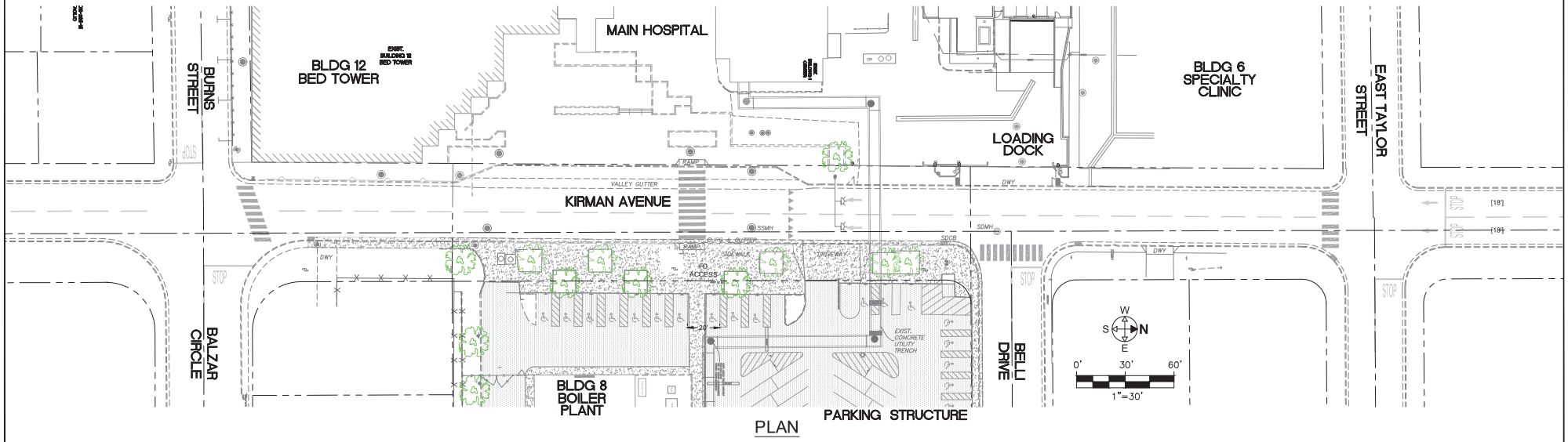
10.1.1 Concept Development

As a part of this study, several concepts were developed to evaluate options for the Kirman Avenue lane reduction. These concepts considered the following key issues:

- Geometric alternatives
- Integration with other planned VA improvements
- Integration with other planned City of Reno improvements
- Pedestrian access and safety
- Traffic calming
- Maintain access to existing driveways and delivery / loading areas
- Emergency vehicle access requirements

As previously discussed in the study introduction (Section 1) and in Section 4, the VASNHCS is undertaking a number of projects to expand services and address needed infrastructure improvements. These projects include a series of renovation and modernization projects and one Major project, which is the construction of seismic retrofits to Building 1, including hospital frontage improvements on the west side of Kirman Avenue. The implementation of these projects is discussed in the VA Reno 5-Year Master Plan (VASNHCS, 2015). The VA Reno 5-Year Master Plan also describes the creation an open space on the east side of Kirman Avenue to help unify the campus with a new arrival plaza, to provide a safe and pleasant pedestrian corridor connecting the core campus with parking areas, and to create a “heart” for campus events and wellness activities (VASNHCS, 2015).

The selected Kirman Avenue lane reduction concept was developed in close coordination with the City of Reno Community Development Department, Department of Public Works, Traffic Engineering and Fire Department to assure that the proposed concept met City requirements with regard to planning and neighborhood context, traffic operations, improvement standards and emergency response requirements. The plan was also developed to be consistent with the City of Reno Complete Streets program, which is currently under development. Figure 14 shows the proposed Kirman Avenue lane reduction concept plan. Several typical roadway cross sections are also included on the plan.



PLAN

No	Revision	Note:* indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date

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Client

Project KIRMAN AVENUE LANE REDUCTION

Title EXISTING KIRMAN AVENUE PLAN

Contract No. 11110661

Original Size Ansi D Drawing No: FIGURE 13

Sht 1 of 1

Rev:

Plot Date: 7 April 2016 - 1:44 PM Plotted by: Chris Bach Cad File No: G:\111\11110661 Kirman Lane Reduction Traffic Study \06-CAD\Sheets\Kirman Avenue Existing.dwg

10.1.2 Lane Reduction Features

The key features of the Kirman Avenue lane reduction concept plan include:

- & Trap lane / required right turn on the Kirman Avenue SB approach to East Taylor Street.
- & Sidewalk bulb-out at NW corner of East Taylor Street / Kirman Avenue, which facilitates the trap lane and required right turn.
- & Parallel parking adjacent to Building 6 (Specialty Clinic) on the west side of Kirman Avenue.
- & Widened sidewalk on the west side of Kirman Avenue between East Taylor Street and Belli Drive.
- & New pedestrian crosswalk north of Belli Drive adjacent to Building 6 (Specialty Clinic).
- & Gentle meander in Kirman Avenue south of Belli Drive (traffic calming measure).
- & New 15-foot wide raised primary pedestrian crossing adjacent to Building 1 (the Main Hospital). This is crossing serves to both calm traffic and facilitate pedestrian crossing.
- & New enhanced pedestrian flashing beacon at the raised primary pedestrian crossing (pedestrian safety).
- & Landscape planters with low plantings and railings to channel pedestrians to the primary crossing location.
- & Widened sidewalk and proposed open space / plaza area on the east side of Kirman Avenue between Belli Drive and Burns Street / Balzar Circle.

The narrowing of Kirman Avenue is intended to calm traffic using a variety of design features. The *Traffic Engineering Handbook* (ITE, 2009) states that by slowing traffic, eliminating conflicting movements and/or sharpening drivers' attention, traffic calming may result in fewer collisions. Due to lower speeds, collisions may be less serious when they do occur (ITE, 2009). Studies have shown that narrowing a roadway reduces traffic volumes by an average of 10% because they reroute non-local traffic (ITE, 2009).

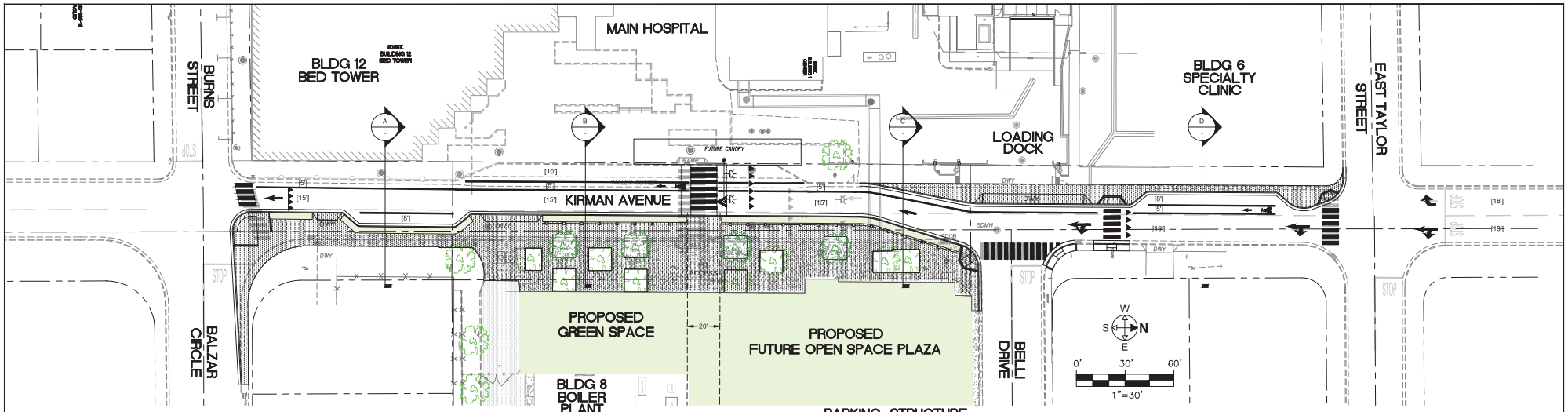
The use of bulbouts shortens the pedestrian crossing distance, reducing the crossing time and improving pedestrian safety.

The single wide lane maintains the flow of traffic and accommodates delivery vehicles, buses and large emergency vehicles.

The raised crossing is similar to a City of Reno Speed Bump (Standard Drawing No. R-403A, R-403B and R-403C), but wider to serve as both a traffic calming measure and raised pedestrian crossing. Studies have shown that speed tables or humps reduce vehicle speeds by an average of about 20% (ITE, 2009), The gentle meander in the roadway also requires drivers to perform a maneuver, and helps to contain or reduce travel speeds.

The design of the raised pedestrian crossing shall be consistent with City of Reno Speed Bump standards to facilitate emergency vehicle access to the VA facilities and buildings on the east side of Kirman Avenue.

&



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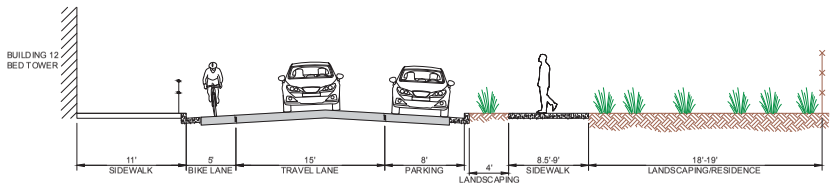

SECTION A

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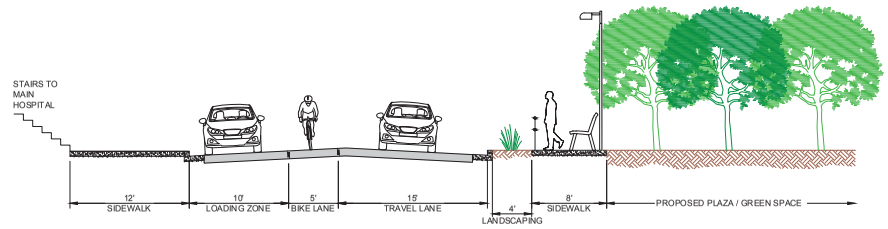

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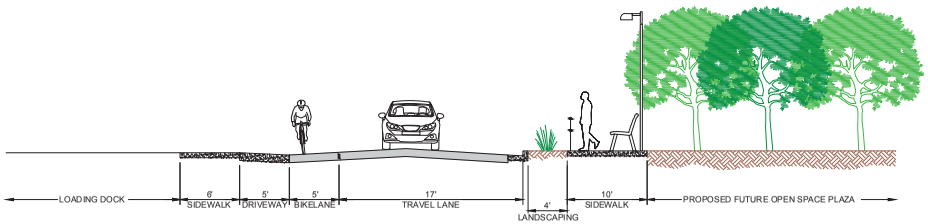

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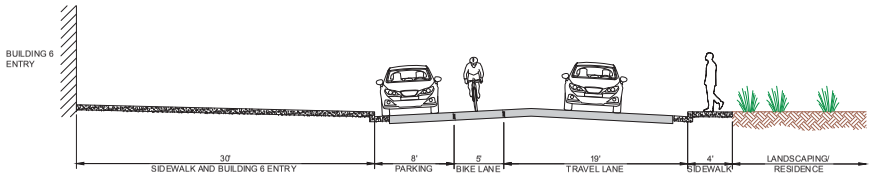

SECTION D

NTS

No	Revision	Drawn	Job Manager	Project Director	Date
	Note: * indicates signatures on original issue of drawing or last revision of drawing				

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Date			
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Client

Project KIRMAN AVENUE LANE REDUCTION

Title **PROPOSED KIRMAN AVENUE LANE REDUCTION CONCEPT PLAN AND SECTIONS**

Contract No. 11110661

Original Size Ansi D Drawing No: **FIGURE 14**

Sht 1 of 1

Rev:

Plot Date: 7 April 2016 - 1:22 PM Plotted by: Chris Bach Cad File No: G:\111\11110661 Kirman Lane Reduction Traffic Study \06-CAD\Sheets\Kirman Avenue Option-1 - Copy.dwg

10.2 Kirman Avenue Lane Reduction Traffic Analysis

This section describes the traffic impact analysis of the Kirman Avenue lane reduction, potential impacts and recommended improvements or modifications, if any, during the weekday a.m. and p.m. peak hours.

10.2.1 Study Scenarios and Traffic Volumes

The Kirman Avenue lane reduction traffic analysis considers the following study scenarios:

- 2025 Conditions
- 2025 + Project Conditions
- 2035 Conditions
- 2035 + Project Conditions

The traffic volumes used in each scenario analysis are the same as those used in the previous analysis except that a total of 20% of the future 2025 and 2035 projected traffic volumes on the Kirman Avenue southbound through approach at East Taylor Street (Intersection No. 9) are diverted from Kirman Avenue to the east and west on East Taylor Street. The analysis assumes that 60% of the diverted traffic travels east on East Taylor Street, and 40% of the diverted traffic travels west on East Taylor Street. This distribution is based on existing traffic patterns at this intersection, and is generally consistent with the methodology used in the *VA Hospital Kirman Avenue Abandonment Traffic Analysis* (VASNHCS, 2014b). The diverted traffic was then routed through to the other study intersections based on existing traffic circulation patterns. The analysis assumes that Project generated trips are not diverted or otherwise effected by the Kirman Avenue lane reduction because the destination of those trips is the VASNHCS campus. The Project trips are added to the revised traffic volumes. Results are reported only for those study intersections that received more than two additional diverted vehicle trips. Also, results are reported only during the p.m. peak hour, which was previously identified as the worst-case peak hour traffic conditions during a typical weekday.

The Kirman Avenue lane reduction Level of Service calculations are provided in Appendix K.

10.2.2 2025 Conditions and 2025 + Project Conditions Intersection Level of Service Analysis

The results of the intersection level of service analysis for the Kirman Avenue lane reduction based on 2025 and 2025 + Project turning movement traffic volumes are summarized in Table 24. The analysis finds that, based on the adopted the LOS thresholds of significance all study intersections operate acceptably with the exception of the following:

2. &Wells Avenue / East Taylor Street (2025 and 2025 + Project):
   - The eastbound approach.
   - The westbound approach.
3. &Wells Avenue / Crampton Street (2025 and 2025 + Project):
   - The eastbound approach.
23. Kietzke Lane / East Taylor Street (2025 and 2025 + Project):
   - The eastbound approach.
   - The westbound approach.

Table 24 2025 & 2025 + Project Conditions With Lane Reduction Intersection Level of Service

No.	Intersection	Weekday p.m. Peak Hour			
		2025 With Lane Reduction		2025 + Project With Lane Reduction	
		Delay (sec)	LOS	Delay (sec)	LOS
2	Wells Avenue / East Taylor Street[3]				
	Northbound Left	*8.7*	*A*	*8.7*	*A*
	Eastbound Approach	***47.8***	***E***	***54.0***	***F***
	Westbound Approach	***50.5***	***F***	***56.0***	***F***
	Southbound Left	*9.5*	*A*	*9.5*	*A*
3	Wells Avenue / Crampton Street[3]				
	Northbound Left	*8.8*	*A*	*8.8*	*A*
	Eastbound Approach	***44.7***	***E***	***46.0***	***E***
	Westbound Approach	*22.6*	*C*	*23.1*	*C*
	Southbound Left	*9.4*	*A*	*9.4*	*A*
4	Wells Avenue / Burns Street[3]				
	Northbound Left	8.8	A	8.8	A
	Eastbound Approach	32.3	D	33.8	D
	Westbound Approach	17.2	C	17.3	C
	Southbound Left	9.2	A	9.2	A
5	Wells Avenue / Vassar Street[2]	17.8	B	18.3	B
6	East Taylor Street / Locust Street[1]	8.5	A	8.7	A
9	East Taylor Street / Kirman Avenue[1]	9.4	A	9.6	A
10	Kirman Avenue / Belli Drive[3]	10.0	B	10.4	B
14	Kirman Avenue / Burns Street – Balzar Circle[3]				
	Eastbound Approach	*9.9*	*A*	*10.5*	*B*
	Westbound Approach	10.7	B	11.5	B

No.	Intersection	Weekday p.m. Peak Hour			
		2025 With Lane Reduction		2025 + Project With Lane Reduction	
		Delay (sec)	LOS	Delay (sec)	LOS
15	Kirman Avenue / Balzar Circle-Wonder Street[3]				
	Eastbound Approach	*9.7*	*A*	*10.0*	*B*
	Westbound Approach	10.3	B	10.8	B
19	East Taylor Street / Wilkinson Avenue[3]				
	Northbound Approach	*10.4*	*B*	*11.4*	*B*
	Eastbound Left	*7.5*	*A*	*7.5*	*A*
	Westbound Left	*7.5*	*A*	*7.6*	*A*
	Southbound Left	0.0	A	0.0	A
23	Kietzke Lane / East Taylor Street[3]				
	Northbound Left	*12.7*	*B*	*13.1*	*B*
	Eastbound Left	***OVERFLOW***	***F***	***OVERFLOW***	***F***
	Westbound Left	***54.0***	***F***	***66.5***	***F***
	Southbound Left	*12.3*	*B*	*12.3*	*B*

Notes: & Delay is calculated in average seconds per vehicle in queue
LOS = Level of Service
Bold = results exceed acceptable LOS
OVERFLOW = unstable results due to excessive delay
[1]LOS based on HCM2010 method of analysis for AWSC intersections.
[2]LOS based on HCM2000 method of analysis for Signalized intersections.
[3]LOS based on HCM2010 method of analysis for TWSC intersections.

10.2.3 2025 + Project Impacts and Mitigation Measures

The following intersection approaches were determined to operate unacceptably with and without Project traffic with the Kirman Avenue lane reduction:

2. Wells Avenue / East Taylor Street:
   - The eastbound approach.
   - The westbound approach.
3. Wells Avenue / Crampton Street:
   - The eastbound approach.
23. Kietzke Lane / East Taylor Street:
   - The eastbound approach.
   - The westbound approach.

These are the same impacted intersections identified in the 2025 + Project Conditions. Because the Project contributes traffic to these intersection approaches that operate unacceptably without the Project, this is an **impact**. Signalization of Intersection 23 (Kietzke Lane / East Taylor Street) was recommended in Section 3 to improve the operation of this intersection.

10.2.4 2035 Conditions and 2035 + Project Conditions Intersection Level of Service Analysis

The results of the intersection level of service analysis for the Kirman Avenue lane reduction based on 2035 and 2035 + Project turning movement traffic volumes are summarized in Table 25. The analysis finds that, based on the adopted LOS thresholds of significance all study intersections operate acceptably with the exception of the following:

2. &Wells Avenue / East Taylor Street (2035 and 2035 + Project):
    - The eastbound approach.
    - The westbound approach.
3. &Wells Avenue / Crampton Street (2035 and 2035 + Project):
    - The eastbound approach.
    - The westbound approach.
4. &Wells Avenue / Burns Street (2035 and 2035 + Project):
    - The eastbound approach.
23. Kietzke Lane / East Taylor Street (2035 and 2035 + Project):
    - The eastbound approach.
    - The westbound approach.

Table 25 2035 & 2035 + Project Conditions With Lane Reduction Intersection Level of Service

No.	Intersection	Weekday Peak Hour			
		2035 With Lane Reduction		2035 + Project With Lane Reduction	
		Delay (sec)	LOS	Delay (sec)	LOS
2	Wells Avenue / East Taylor Street[3]				
	Northbound Left	*10.4*	*B*	*10.4*	*B*
	Eastbound Approach	***OVERFLOW***	***F***	***OVERFLOW***	***F***
	Westbound Approach	***OVERFLOW***	***F***	***OVERFLOW***	***F***
	Southbound Left	*11.1*	*B*	*11.2*	*B*
3	Wells Avenue / Crampton Street[3]				
	Northbound Left	*9.7*	*A*	*9.7*	*A*
	Eastbound Approach	***180.7***	***F***	***186.8***	***F***
	Westbound Approach	***47.2***	***E***	***48.2***	***E***
	Southbound Left	10.7	B	10.8	B
4	Wells Avenue / Burns Street[3]				
	Northbound Left	*9.6*	*A*	*9.6*	*A*
	Eastbound Approach	***106.6***	***F***	***120.1***	***F***
	Westbound Approach	*28.0*	*D*	*27.9*	*D*
	Southbound Left	*10.4*	*B*	*10.4*	*B*
5	Wells Avenue / Vassar Street[2]	21.3	C	22.3	C
6	East Taylor Street / Locust Street[1]	9.3	A	9.5	A
9	East Taylor Street / Kirman Avenue[1]	9.9	A	10.1	B
10	Kirman Avenue / Belli Drive[3]	10.4	B	10.8	B
14	Kirman Avenue / Burns Street – Balzar Circle[3]				
	Eastbound Approach	*10.3*	*B*	*10.9*	*B*
	Westbound Approach	11.2	B	*12.1*	*B*
15	Kirman Avenue / Balzar Circle-Wonder Street[3]				

No.	Intersection	Weekday Peak Hour			
		2035 With Lane Reduction		2035 + Project With Lane Reduction	
		Delay (sec)	LOS	Delay (sec)	LOS
	Eastbound Approach	*10.0*	*B*	*10.4*	*B*
	Westbound Left	10.7	B	11.2	B
19	East Taylor Street / Wilkinson Avenue[3]				
	Northbound Approach	*10.7*	*B*	*11.8*	*B*
	Eastbound Left	*7.5*	*A*	*7.5*	*A*
	Westbound Left	*7.6*	*A*	*7.6*	*A*
	Southbound Approach	0.0	A	0.0	A
23	Kietzke Lane / East Taylor Street[3]				
	Northbound Left	*13.1*	*B*	*13.5*	*B*
	Eastbound Left	***OVERFLOW***	***F***	***OVERFLOW***	***F***
	Westbound Left	***67.6***	***F***	***89.5***	***F***
	Southbound Left	*12.8*	*B*	*12.8*	*B*

Notes: & Delay is calculated in average seconds per vehicle in queue
LOS = Level of Service
Bold = results exceed acceptable LOS
OVERFLOW = unstable results due to excessive delay
[1]LOS based on HCM2010 method of analysis for AWSC intersections.
[2]LOS based on HCM2000 method of analysis for Signalized intersections.
[3]LOS based on HCM2010 method of analysis for TWSC intersections.

10.2.5 2035 + Project Impacts and Mitigation Measures

The following intersection approaches were determined to operate unacceptably with and without Project traffic with the Kirman Avenue lane reduction and diverted traffic:

2. &Wells Avenue / East Taylor Street:
   - The eastbound approach.
   - The westbound approach.
3. Wells Avenue / Crampton Street:
   - The eastbound approach.
4. Wells Avenue / Burns Street:
   - The eastbound approach.
23. Kietzke Lane / East Taylor Street:
   - The eastbound approach.
   - The westbound approach.

Because the Project contributes traffic to these intersection approaches that operate unacceptably without the Project, this is an **impact**. Signalization of Intersection 23 (Kietzke Lane / East Taylor Street) was recommended in Section 3 to improve the operation of this intersection.

11. Conclusions

This section summarizes the conclusions regarding the proposed Project and any potential traffic impacts and recommended mitigation measures. In general, the p.m. peak hour represents worst-case peak hour traffic conditions during a typical weekday. In addition to existing conditions, the study analyzed Project conditions in the years 2025 and 2035. The study also analyzed traffic conditions associated with the narrowing of Kirman Avenue from two southbound lanes to one.

Project trips were estimated for proposed renovation and modernization and Major projects to be implemented within the next five years using ITE trip generation rates and trip generation from a previous traffic study. Trip distribution was based on the trip distribution patterns used in a previous traffic study and the existing traffic circulation established from the intersection turning movement counts.

As a part of this study, several concepts were developed to evaluate options for the Kirman Avenue lane reduction. A preferred concept was selected in close coordination between the VASNHCS the City of Reno Community Development Department, Department of Public Works, Traffic Engineering and Fire Department. The narrowing of Kirman Avenue to a single lane is intended to calm traffic using a variety of design features discussed in Section 10. The traffic volumes used in the analysis were adjusted to divert 20% of the future 2025 and 2035 projected traffic volumes on the Kirman Avenue southbound through approach at East Taylor Street (Intersection No. 9). Results are reported for the p.m. peak hour and only for those study intersections that received more than two additional diverted vehicle trips.

11.1 Existing Conditions

Existing traffic volumes were collected and analyzed at the 23 study intersections and 19 roadway segments for potential traffic impacts resulting from the Project. The analysis of existing conditions determined that, in general, the p.m. peak hour represents worst-case peak hour traffic conditions during a typical weekday. Based on the adopted the LOS thresholds of significance all study intersections are operating acceptably with the exception of the following intersections:

2. &Wells Avenue / East Taylor Street:
   - The eastbound approach during the p.m. peak hour.
3. &Wells Avenue / Crampton Street:
   - The eastbound approach during the p.m. peak hour.
23. Kietzke Lane / East Taylor Street:
   - The eastbound approach during the a.m. and p.m. peak hours.
   - & The westbound approach during the p.m. peak hour.

Intersection 23 also meets Part A of the MUTCD Signal Warrant 3. Signalization of this intersection would improve the Level of Service to LOS A (5.2 second delay) in the a.m. peak hour and LOS A (6.2 second delay) in the p.m. peak hour.

Peak hour 95th percentile queue lengths exceed existing storage lane capacity at the northbound thru/right and westbound thru/left movements at Intersection No. 5 (Wells Avenue / Vassar Street). These movements should be monitored to assess whether queues block driveways and intersections or contribute to traffic congestion. Additional storage capacity may be needed.

11.2 2025 + Project Conditions

The forecasted traffic volumes at each of the study intersections for year 2025 were estimated by applying established growth factors to existing traffic turning movement counts from 2016. Growth factors were obtained from the current version of the RTC Regional Travel Demand Forecasting Model, which was discussed in Section 5.

The 2025 + Project traffic volumes are represented by the 2025 traffic volumes and the addition of Project generated trips assigned to the roadway network. Project trip generation, trip distribution and trip assignment was discussed in Section 4.

11.2.1 Intersection Operations and Queuing

The results of the intersection level of service analysis for the 2025 + Project Conditions are summarized in Table 26. The analysis finds that, based on the LOS thresholds of significance, the following study intersections operate unacceptably:

2. &Wells Avenue / East Taylor Street:
   - The eastbound approach during the p.m. peak hour.
   - & The westbound approach during the p.m. peak hour.
3. &Wells Avenue / Crampton Street:
   - The eastbound approach during the p.m. peak hour.
23. Kietzke Lane / East Taylor Street:
   - The eastbound approach during the a.m. and p.m. peak hours.
   - & The westbound approach during the p.m. peak hour.

The peak hour Signal Warrant 3 is met at study Intersection No. 23 in the Existing Conditions. Signalization of this intersection was recommended in Section 3.

The 95th percentile queue lengths were reviewed against the existing lane storage capacity at Intersection No. 5 (Wells Avenue / Vassar Street). The peak hour 95th percentile queue lengths exceed existing lane storage capacity at the following two intersection movements: northbound thru/right and southbound thru/right.

11.2.2 Proposed Kirman Avenue Lane Reduction

The following intersection approaches were determined to operate unacceptably with and without Project traffic with the Kirman Avenue lane reduction and diverted traffic:

2. &Wells Avenue / East Taylor Street:
   - & The eastbound approach.
   - & The westbound approach.
3. &Wells Avenue / Crampton Street:
   - & The eastbound left approach.
23. Kietzke Lane / East Taylor Street:
   - & The eastbound approach.
   - & The westbound approach.

These are the same intersections that operate unacceptably in the 2025 + Project Conditions analysis without the Kirman Avenue lane reduction.

11.2.3 2025 + Project Impacts and Proposed Mitigation Measures

The Project contributes traffic to these intersections, which operate unacceptably with and without the Project:

2. &Wells Avenue / East Taylor Street:
   - The eastbound approach during the p.m. peak hour.
3. &Wells Avenue / Crampton Street:
   - The eastbound approach during the p.m. peak hour.
23. Kietzke Lane / East Taylor Street:
   - The eastbound approach during the a.m. and p.m. peak hours.
   - & The westbound approach during the a.m. and p.m. peak hour.

This is an **impact**. The peak hour Signal Warrant 3 is met at study Intersection No. 23 in the Existing Conditions. Signalization of this intersection was recommended in Section 3 to improve the operation of this intersection.

The addition of Project trips to the following intersection reduced the intersection LOS from an acceptable LOS D to an unacceptable LOS E:

2. &Wells Avenue / East Taylor Street:
   - The westbound approach during the p.m. peak hour.

This is an **impact**. The peak hour Signal Warrant 3 is not met at this intersection, and no improvements are recommended.

The peak hour 95th percentile queue lengths at Intersection No. 5 (Wells Avenue / Vassar Street) exceed existing lane storage capacity for the northbound thru/right and southbound thru/right movements:. These movements should be monitored to assess whether queues block driveways and intersections or contribute to traffic congestion. Additional storage capacity may be needed.

11.3 2035 + Project Conditions

The forecasted traffic volumes at each of the study intersections for year 2035 were estimated by applying established growth factors to existing traffic turning movement counts from 2016. Growth factors were obtained from the current version of the RTC Regional Travel Demand Forecasting Model, which was discussed in Section 7.

The 2035 + Project traffic volumes are represented by the 2035 traffic volumes and the addition of Project generated trips assigned to the roadway network. Project trip generation and trip assignment was discussed in Section 4.

11.3.1 Intersection Operations and Queuing

The results of the intersection level of service analysis for the 2035 + Project Conditions are summarized in Table 27. The analysis finds that, based on the LOS thresholds of significance, the following study intersections operate unacceptably:

1. &Wells Avenue / Roberts Street:
   - & The eastbound approach during the p.m. peak hour.
   - & The westbound approach during the p.m. peak hour.
2. &Wells Avenue / East Taylor Street:

- The eastbound approach during the a.m. and p.m. peak hours.
- The westbound approach during the a.m. and p.m. peak hours.

3. &Wells Avenue / Crampton Street:
    - The eastbound approach during the p.m. peak hour.
    - The westbound approach during the p.m. peak hour.
4. &Wells Avenue / Burns Street:
    - The eastbound approach during the p.m. peak hour.

23. Kietzke Lane / East Taylor Street:
    - The eastbound approach during the a.m. and p.m. peak hours.
    - The westbound approach during the a.m. and p.m. peak hours.

The peak hour Signal Warrant 3 is met at study Intersection No. 23 in the Existing Conditions. Signalization of this intersection was recommended in Section 3.

The 95th percentile queue lengths were reviewed against the existing lane storage capacity at Intersection No. 5 (Wells Avenue / Vassar Street). The peak hour 95th percentile queue lengths exceed existing lane storage capacity at the following three intersection movements: northbound thru/right, southbound thru/right and westbound thru/left.

11.3.2 Proposed Kirman Avenue Lane Reduction

The following intersection approaches were determined to operate unacceptably with and without Project traffic with the Kirman Avenue lane reduction and diverted traffic:

2. Wells Avenue / East Taylor Street:
    - The eastbound approach.
    - The westbound approach.
3. Wells Avenue / Crampton Street:
    - The eastbound approach.
    - The westbound approach
4. &Wells Avenue / Burns Street:
    - The eastbound approach.

23. Kietzke Lane / East Taylor Street:
    - The eastbound approach.
    - The westbound approach.

These are the same intersections that operate unacceptably in the 2035 + Project Conditions analysis without the Kirman Avenue lane reduction.

11.3.3 2035 + Project Impacts and Proposed Mitigation Measures

The Project contributes traffic to these intersections, which operate unacceptably with and without the Project:

1. &Wells Avenue / Roberts Street:
    - The eastbound approach during the p.m. peak hour.
    - The westbound approach during the p.m. peak hour.

2. &Wells Avenue / East Taylor Street:
    - & The eastbound approach during the a.m. and p.m. peak hours.
    - & The westbound approach during the a.m. and p.m. peak hours.
3. &Wells Avenue / Crampton Street:
    - & The eastbound approach during the p.m. peak hour.
    - & The westbound approach during the p.m. peak hour.
4. &Wells Avenue / Burns Street:
    - & The eastbound approach during the p.m. peak hour.
23. Kietzke Lane / East Taylor Street:
    - & The eastbound approach during the a.m. and p.m. peak hours.
    - & The westbound approach during the a.m. and p.m. peak hours.

This is an **impact**. The peak hour Signal Warrant 3 is met at study Intersection No. 23 in the Existing Conditions. Signalization of this intersection was recommended in Section 3 to improve the operation of this intersection.

The addition of Project trips to the following intersection reduced the intersection LOS from an acceptable LOS D to an unacceptable LOS E during the a.m. peak hour:

1. &Wells Avenue / Roberts Street:
    - The eastbound approach during the a.m. peak hour.

This is an **impact**. The peak hour warrant is not met at this intersection, and no improvements are recommended.

The peak hour 95th percentile queue lengths at Intersection No. 5 (Wells Avenue / Vassar Street) exceed existing lane storage capacity for the northbound thru/right, southbound thru/right and westbound thru/left movements:. These movements should be monitored to assess whether queues block driveways and intersections or contribute to traffic congestion. Additional storage capacity may be needed.

Table 26 Summary of Existing and 2025 Conditions Peak Hour Intersection Level of Service Calculations

No.	Intersection	Existing Conditions Weekday Peak Hour				2025 Conditions Weekday Peak Hour				2025 + Project Conditions Weekday Peak Hour				Weekday p.m. Peak Hour w/Lane Reduction			
		a.m.		p.m.		a.m.		p.m.		a.m.		p.m.		2025		2025 + Project	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Wells Avenue / Roberts Street[3]																
	Northbound Left	*8.7*	*A*	*9.2*	*A*	*8.6*	*A*	*9.0*	*A*	*8.7*	*A*	*9.1*	*A*				
	Eastbound Approach	*20.6*	*C*	*32.6*	*D*	*19.5*	*C*	*29.9*	*D*	*19.7*	*C*	*31.4*	*D*				
	Westbound Approach	*15.3*	*C*	*31.9*	*D*	*15.0*	*C*	*28.2*	*D*	*15.1*	*C*	*29.7*	*D*				
	Southbound Left	*8.2*	*A*	*10.1*	*B*	*8.1*	*A*	*9.6*	*A*	*8.1*	*A*	*9.7*	*A*				
2	Wells Avenue / East Taylor Street[3]																
	Northbound Left	*8.6*	*A*	*8.8*	*A*	*8.4*	*A*	*8.7*	*A*	*8.4*	*A*	*8.7*	*A*	*8.7*	*A*	*8.7*	*A*
	Eastbound Approach	*20.0*	*C*	***46.0***	***E***	*18.7*	*C*	***47.8***	***E***	*19.4*	*C*	***54.0***	***F***	***47.8***	***E***	***54.0***	***F***
	Westbound Approach	*17.3*	*C*	*32.2*	*D*	*16.4*	*C*	*34.0*	*D*	*16.8*	*C*	***36.3***	***E***	***50.5***	***F***	***56.0***	***F***
	Southbound Left	*8.3*	*A*	*9.5*	*A*	*8.2*	*A*	*9.5*	*A*	*8.3*	*A*	*9.5*	*A*	*9.5*	*A*	*9.5*	*A*
3	Wells Avenue / Crampton Street[3]																
	Northbound Left	*8.6*	*A*	*8.8*	*A*	*8.4*	*A*	*8.8*	*A*	8.4	A	8.8	A	*8.8*	*A*	*8.8*	*A*
	Eastbound Approach	*20.3*	*C*	***42.4***	***E***	*18.4*	*C*	***43.5***	***E***	18.5	C	**44.7**	**E**	***44.7***	***E***	***46.0***	***E***
	Westbound Approach	*14.0*	*B*	*22.2*	*C*	*13.2*	*B*	*22.3*	*C*	13.2	B	22.7	C	*22.6*	*C*	*23.1*	*C*
	Southbound Left	*8.2*	*A*	*9.4*	*A*	*8.1*	*A*	*9.4*	*A*	8.1	A	9.4	A	*9.4*	*A*	*9.4*	*A*
4	Wells Avenue / Burns Street[3]																
	Northbound Left	*8.3*	*A*	*8.8*	*A*	*8.3*	*A*	*8.7*	*A*	*8.3*	*A*	*8.7*	*A*	8.8	A	8.8	A
	Eastbound Approach	*16.9*	*C*	*31.8*	*D*	*16.2*	*C*	*31.7*	*D*	*16.3*	*C*	*33.1*	*D*	32.3	D	33.8	D
	Westbound Approach	*11.4*	*B*	*17.3*	*C*	*11.2*	*B*	*17.1*	*C*	*11.2*	*B*	*17.2*	*C*	17.2	C	17.3	C
	Southbound Left	*8.0*	*A*	*9.2*	*A*	*8.0*	*A*	*9.2*	*A*	*8.0*	*A*	*9.2*	*A*	9.2	A	9.2	A
5	Wells Avenue / Vassar Street[2]	8.3	A	14.8	B	8.4	A	17.7	B	8.5	A	18.7	B	17.8	B	18.3	B
6	East Taylor Street / Locust Street[1]	8.1	A	8.5	A	8.1	A	8.4	A	8.3	A	8.7	A	8.5	A	8.7	A
7	Locust Street / Crampton Street																
	Eastbound Approach	*9.4*	*A*	*9.4*	*A*	*9.2*	*A*	*9.3*	*A*	*9.3*	*A*	*9.4*	*A*				
8	Locust Street / Burns Street[3]																
	Eastbound Approach	*10.0*	*B*	*10.3*	*B*	*9.9*	*A*	*10.2*	*B*	*10.0*	*B*	*10.3*	*B*				
	Westbound Approach	*9.5*	*A*	*10.4*	*B*	*9.4*	*A*	*10.2*	*B*	*9.5*	*A*	*10.4*	*B*				
9	East Taylor Street / Kirman Avenue[1]	8.9	A	9.1	A	8.9	A	8.9	A	9.4	A	9.1	A	9.4	A	9.6	A
10	Kirman Avenue / Belli Drive[3]																
	Westbound Approach	*11.0*	*B*	*9.8*	*A*	*11.1*	*B*	*9.5*	*A*	*12.8*	*B*	*9.8*	*A*	10.0	B	10.4	B
11	Kirman Avenue / SNHCS North Driveway[3]																
	Eastbound Approach	9.3	A	9.2	A	*9.2*	*A*	*9.1*	*A*	*9.2*	*A*	*9.1*	*A*				
12	Kirman Avenue / SNHCS Mid Driveway (inbound only)	-	-	-	-	-	-	-	-	-	-	-	-				
13	Kirman Avenue / SNHCS South Driveway[3]																
	Westbound Approach	*9.1*	*A*	*9.5*	*A*	*9.2*	*A*	*9.4*	*A*	*9.2*	*A*	*10.0*	*A*				
14	Kirman Avenue / Burns Street – Balzar Circle[3]																
	Eastbound Approach	*9.5*	*A*	*9.9*	*A*	*9.5*	*A*	*9.9*	*A*	*9.6*	*A*	*10.3*	*B*	*9.9*	*A*	*10.5*	*B*
	Westbound Approach	10.4	B	10.6	B	10.5	B	10.6	B	10.5	B	11.3	B	10.7	B	11.5	B

No.	Intersection	Existing Conditions Weekday Peak Hour				2025 Conditions Weekday Peak Hour				2025 + Project Conditions Weekday Peak Hour				Weekday p.m. Peak Hour w/Lane Reduction			
		a.m.		p.m.		a.m.		p.m.		a.m.		p.m.		2025		2025 + Project	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
15	Kirman Avenue / Balzar Circle-Wonder Street[3]																
	Eastbound Approach	*9.4*	*A*	*10.3*	*B*	*9.2*	*A*	*9.9*	*A*	*9.2*	*A*	*10.2*	*B*	*9.7*	*A*	*10.0*	*A*
	Westbound Approach	*10.4*	*B*	*11.1*	*B*	*10.0*	*B*	*10.6*	*B*	*10.0*	*B*	*11.0*	*B*	10.3	B	10.8	A
16	Kirman Avenue / Vassar Street[3]	9.1	A	12.0	B	9.1	A	13.7	B	9.1	A	14.8	B				
17	Belli Drive / West Parking Structure Driveway[1]																
	Northbound Approach	*8.9*	*A*	*8.7*	*A*	*8.9*	*A*	*8.7*	*A*	*9.1*	*A*	*9.0*	*A*				
	Westbound Left	*7.4*	*A*	*0.0*	*A*	*7.4*	*A*	*0.0*	*A*	*7.6*	*A*	*7.3*	*A*				
18	Belli Drive / East Parking Structure Driveway[3]																
	Northbound Approach	*9.7*	*A*	*8.9*	*A*	*9.1*	*A*	*8.8*	*A*	*9.5*	*A*	*9.5*	*A*				
	Westbound Left	*7.5*	*A*	*0.0*	*A*	*7.4*	*A*	*0.0*	*A*	*7.4*	*A*	*7.5*	*A*				
19	East Taylor Street / Wilkinson Avenue[3]																
	Northbound Approach	*10.5*	*B*	*10.8*	*B*	*10.3*	*B*	*10.2*	*B*	*11.4*	*B*	*11.1*	*B*	*10.4*	*B*	*11.4*	*B*
	Eastbound Left	*0.0*	*A*	*7.5*	*A*	*0.0*	*A*	*7.5*	*A*	*0.0*	*A*	*7.5*	*A*	*7.5*	*A*	*7.5*	*A*
	Westbound Left	*7.6*	*A*	*7.6*	*A*	*7.5*	*A*	*7.5*	*A*	*7.7*	*A*	*7.5*	*A*	*7.5*	*A*	*7.6*	*A*
	Southbound Approach	*13.7*	*B*	*0.0*	*A*	*13.2*	*B*	*0.0*	*A*	*15.9*	*C*	*0.0*	*A*	0.0	A	0.0	A
20	Belli Drive / Wilkinson Avenue[3]																
	Northbound Left	*7.5*	*A*	*7.3*	*A*	*7.5*	*A*	*7.3*	*A*	*7.6*	*A*	*7.3*	*A*				
	Eastbound Approach	*9.2*	*A*	*9.4*	*A*	*9.1*	*A*	*9.1*	*A*	*9.5*	*A*	*10.2*	*B*				
21	Vassar Street / Wilkinson Avenue[3]																
	Eastbound Left	*7.6*	*A*	*8.1*	*A*	*7.7*	*A*	*8.2*	*A*	*7.7*	*A*	*8.3*	*A*				
	Southbound Approach	*10.7*	*B*	*13.0*	*B*	*10.9*	*B*	*13.8*	*B*	*11.0*	*B*	*15.5*	*C*				
22	Kietzke Lane / Roberts Street[3]																
	Northbound Left	*11.2*	*B*	*11.1*	*B*	*11.5*	*B*	*12.1*	*B*	11.8	B	12.2	B				
	Eastbound Approach	*18.1*	*C*	*20.1*	*C*	*19.0*	*C*	*24.7*	*C*	19.9	C	25.3	D				
23	Kietzke Lane / East Taylor Street[3]																
	Northbound Left	*11.2*	*B*	*11.7*	*B*	*11.4*	*B*	*12.7*	*B*	*12.1*	*B*	*13.1*	*B*	*12.7*	*B*	*13.1*	*B*
	Eastbound Approach	***65.9***	***F***	***OVERFLOW***	***F***	***79.4***	***F***	***OVERFLOW***	***F***	***170.9***	***F***	***OVERFLOW***	***F***	***OVERFLOW***	***F***	***OVERFLOW***	***F***
	Westbound Approach	*15.9*	*C*	***77.4***	***F***	*16.6*	*C*	***144.2***	***F***	*17.8*	*C*	***176.0***	***F***	***54.0***	***F***	***66.5***	***F***
	Southbound Left	*9.0*	*A*	*11.4*	*B*	*9.1*	*A*	*12.3*	*B*	*9.1*	*A*	*12.3*	*B*	*12.3*	*B*	*12.3*	*B*

Notes: Delay is calculated in average seconds per vehicle in queue
LOS = Level of Service
Bold = results exceed acceptable LOS
OVERFLOW = unstable results due to excessive delay
[1]LOS based on HCM2010 method of analysis for AWSC intersections.
[2]LOS based on HCM2000 method of analysis for Signalized intersections.
[3]LOS based on HCM2010 method of analysis for TWSC intersections.

Table 27 Summary of Existing and 2035 Conditions Peak Hour Intersection Level of Service Calculations

No.	Intersection	Existing Conditions Weekday Peak Hour				2035 Conditions Weekday Peak Hour				2035 + Project Conditions Weekday Peak Hour				Weekday p.m. Peak Hour w/Lane Reduction			
		a.m.		p.m.		a.m.		p.m.		a.m.		p.m.		2035		2035 + Project	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Wells Avenue / Roberts Street[3]																
	Northbound Left	8.7	A	9.2	A	9.3	A	9.9	A	9.3	A	10.0	A	-	-	-	-
	Eastbound Approach	20.6	C	32.6	D	34.5	D	**154.1**	**F**	**35.3**	**E**	**178.5**	**F**	-	-	-	-
	Westbound Approach	15.3	C	31.9	D	23.8	C	**161.8**	**F**	24.2	C	**189.3**	**F**	-	-	-	-
	Southbound Left	8.2	A	10.1	B	9.0	A	13.1	B	9.0	A	13.3	B	-	-	-	-
2	Wells Avenue / East Taylor Street[3]																
	Northbound Left	8.6	A	8.8	A	9.7	A	10.4	B	9.7	A	10.4	B	10.4	B	10.4	B
	Eastbound Approach	20.0	C	**46.0**	**E**	**42.0**	**E**	**OVERFLOW**	**F**	**44.8**	**E**	**OVERFLOW**	**F**	**OVERFLOW**	**F**	**OVERFLOW**	**F**
	Westbound Approach	17.3	C	32.2	D	**35.3**	**E**	**OVERFLOW**	**F**	**37.0**	**E**	**OVERFLOW**	**F**	**OVERFLOW**	**F**	**OVERFLOW**	**F**
	Southbound Left	8.3	A	9.5	A	8.9	A	11.1	B	8.9	A	11.2	B	11.1	B	11.2	B
3	Wells Avenue / Crampton Street[3]																
	Northbound Left	8.6	A	8.8	A	9.1	A	9.6	A	9.1	A	9.6	A	9.7	A	9.7	A
	Eastbound Approach	20.3	C	**42.4**	**E**	28.7	D	**175.0**	**F**	28.8	D	**186.8**	**F**	**180.7**	**F**	**186.8**	**F**
	Westbound Approach	14.0	B	22.2	C	17.3	C	**45.3**	**E**	17.4	C	**46.7**	**E**	**47.2**	**E**	**48.2**	**E**
	Southbound Left	8.2	A	9.4	A	8.5	A	10.7	B	8.5	A	10.8	B	10.7	B	10.8	B
4	Wells Avenue / Burns Street[3]																
	Northbound Left	8.3	A	8.8	A	8.8	A	9.6	A	8.8	A	9.6	A	9.6	A	9.6	A
	Eastbound Approach	16.9	C	31.8	D	23.3	C	**97.7**	**F**	23.3	C	**111.7**	**F**	**106.6**	**F**	**120.1**	**F**
	Westbound Approach	11.4	B	17.3	C	13.0	B	27.7	D	13.0	B	27.8	D	28.0	D	27.9	D
	Southbound Left	8.0	A	9.2	A	8.3	A	10.4	B	8.4	A	10.4	B	10.4	B	10.4	B
5	Wells Avenue / Vassar Street[2]	8.3	A	14.8	B	8.6	A	21.3	C	8.7	A	22.0	C	21.3	C	22.3	C
6	East Taylor Street / Locust Street[1]	8.1	A	8.5	A	8.6	A	9.2	A	8.7	A	9.4	A	9.3	A	9.5	A
7	Locust Street / Crampton Street																
	Eastbound Approach	9.4	A	9.4	A	9.7	A	9.8	A	9.8	A	9.9	A	-	-	-	-
8	Locust Street / Burns Street[3]																
	Eastbound Approach	10.0	B	10.3	B	10.3	B	11.0	B	10.5	B	11.1	B	-	-	-	-
	Westbound Approach	9.5	A	10.4	B	9.7	A	10.9	B	9.8	A	11.2	B	-	-	-	-
9	East Taylor Street / Kirman Avenue[1]	8.9	A	9.1	A	9.3	A	9.2	A	9.9	A	9.4	A	9.9	A	10.1	B
10	Kirman Avenue / Belli Drive[3]																
	Westbound Approach	11.0	B	9.8	A	11.9	B	9.8	A	13.9	B	10.1	B	10.4	B	10.8	B
11	Kirman Avenue / SNHCS North Driveway[3]																
	Eastbound Approach	9.3	A	9.2	A	9.5	A	9.3	A	9.7	A	9.3	A	-	-	-	-
12	Kirman Avenue / SNHCS Mid Driveway (inbound only)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Kirman Avenue / SNHCS South Driveway[3]																
	Westbound Approach	9.1	A	9.5	A	9.3	A	9.6	A	9.4	A	10.2	B	-	-	-	-
14	Kirman Avenue / Burns Street – Balzar Circle[3]																
	Eastbound Approach	9.5	A	9.9	A	9.8	A	10.2	B	9.8	A	10.7	B	10.3	B	10.9	B
	Westbound Approach	10.4	B	10.6	B	10.9	B	11.1	B	11.0	B	11.8	B	11.2	B	12.1	B

No.	Intersection	Existing Conditions Weekday Peak Hour				2035 Conditions Weekday Peak Hour				2035 + Project Conditions Weekday Peak Hour				Weekday p.m. Peak Hour w/Lane Reduction			
		a.m.		p.m.		a.m.		p.m.		a.m.		p.m.		2035		2035 + Project	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
15	Kirman Avenue / Balzar Circle-Wonder Street[3]																
	Eastbound Approach	*9.4*	*A*	*10.3*	*B*	*9.3*	*A*	*10.2*	*B*	*9.3*	*A*	*10.6*	*B*	*10.0*	*B*	*10.4*	*B*
	Westbound Approach	*10.4*	*B*	*11.1*	*B*	*10.2*	*B*	*11.0*	*B*	*10.2*	*B*	*11.5*	*B*	10.7	B	11.2	B
16	Kirman Avenue / Vassar Street[3]	9.1	A	12.0	B	9.4	A	15.5	C	9.5	A	16.9	C	-	-	-	-
17	Belli Drive / West Parking Structure Driveway[1]																
	Northbound Approach	*8.9*	*A*	*8.7*	*A*	*8.9*	*A*	*8.7*	*A*	*9.1*	*A*	*9.0*	*A*	-	-	-	-
	Westbound Left	*7.4*	*A*	*0.0*	*A*	*7.4*	*A*	*0.0*	*A*	*7.6*	*A*	*7.3*	*A*	-	-	-	-
18	Belli Drive / East Parking Structure Driveway[3]																
	Northbound Approach	*9.7*	*A*	*8.9*	*A*	*9.1*	*A*	*8.8*	*A*	*9.5*	*A*	*9.5*	*A*	-	-	-	-
	Westbound Left	*7.5*	*A*	*0.0*	*A*	*7.4*	*A*	*0.0*	*A*	*7.4*	*A*	*7.5*	*A*	-	-	-	-
19	East Taylor Street / Wilkinson Avenue[3]																
	Northbound Approach	*10.5*	*B*	*10.8*	*B*	*10.7*	*B*	*10.5*	*B*	*11.9*	*B*	*11.5*	*B*	*10.7*	*B*	*11.8*	*B*
	Eastbound Left	*0.0*	*A*	*7.5*	*A*	*0.0*	*A*	*7.5*	*A*	*0.0*	*A*	*7.5*	*A*	*7.5*	*A*	*7.5*	*A*
	Westbound Left	*7.6*	*A*	*7.6*	*A*	*7.6*	*A*	*7.5*	*A*	*7.7*	*A*	*7.6*	*A*	*7.6*	*A*	*7.6*	*A*
	Southbound Approach	*13.7*	*B*	*0.0*	*A*	*13.8*	*B*	*0*	*A*	*16.7*	*C*	*0.0*	*A*	0.0	A	0.0	A
20	Belli Drive / Wilkinson Avenue[3]																
	Northbound Left	*7.5*	*A*	*7.3*	*A*	*7.5*	*A*	*7.3*	*A*	*7.7*	*A*	*7.3*	*A*	-	-	-	-
	Eastbound Approach	*9.2*	*A*	*9.4*	*A*	*9.1*	*B*	*9.2*	*A*	*9.6*	*A*	*10.2*	*B*	-	-	-	-
21	Vassar Street / Wilkinson Avenue[3]																
	Eastbound Left	*7.6*	*A*	*8.1*	*A*	*7.7*	*A*	*8.3*	*A*	*7.7*	*A*	*8.3*	*A*	-	-	-	-
	Southbound Approach	*10.7*	*B*	*13.0*	*B*	*11.1*	*B*	*14.3*	*B*	*11.1*	*B*	*16.1*	*C*	-	-	-	-
22	Kietzke Lane / Roberts Street[3]																
	Northbound Left	*11.2*	*B*	*11.1*	*B*	*11.5*	*B*	*12.1*	*B*	11.8	B	12.2	B	-	-	-	-
	Eastbound Approach	*18.1*	*C*	*20.1*	*C*	*19.5*	*C*	*25.2*	*D*	20.3	C	25.8	D	-	-	-	-
23	Kietzke Lane / East Taylor Street[3]																
	Northbound Left	*11.2*	*B*	*11.7*	*B*	*11.6*	*B*	*13.1*	*B*	*12.4*	*B*	*13.5*	*B*	*13.1*	*B*	*13.5*	*B*
	Eastbound Approach	***65.9***	***F***	***OVERFLOW***	***F***	***112.9***	***F***	***OVERFLOW***	***F***	***248.4***	***F***	***OVERFLOW***	***F***	***OVERFLOW***	***F***	***OVERFLOW***	***F***
	Westbound Approach	*15.9*	*C*	***77.4***	***F***	*17.7*	*C*	***184.2***	***F***	*19.2*	*C*	***238.5***	***F***	***67.6***	***F***	***89.5***	***F***
	Southbound Left	*9.0*	*A*	*11.4*	*B*	*9.2*	*A*	*12.8*	*B*	*9.2*	*A*	*12.8*	*B*	*12.8*	*B*	*12.8*	*B*

Notes: Delay is calculated in average seconds per vehicle in queue
LOS = Level of Service
Bold = results exceed acceptable LOS
OVERFLOW = unstable results due to excessive delay
[1]LOS based on HCM2010 method of analysis for AWSC intersections.
[2]LOS based on HCM2000 method of analysis for Signalized intersections.
[3]LOS based on HCM2010 method of analysis for TWSC intersections.

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Document Status

Draft	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	Matt Wargula Matt Kennedy	Matt Kennedy		Matt Kennedy		6/30/2016

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
1340 FINANCIAL BOULEVARD, SUITE 234
RENO, NV 89502
PHONE: (775)861-6300 FAX: (775)861-6301
URL: www.fws.gov/nevada/

Consultation Code: 08ENVD00-2016-SLI-0161 December 22, 2015
Event Code: 08ENVD00-2016-E-00132
Project Name: VASNHCS

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list indicates threatened, endangered, proposed, and candidate species and designated or proposed critical habitat that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act of 1973, as amended (ESA, 16 U.S.C. 1531 *et seq*.), for projects that are authorized, funded, or carried out by a Federal agency. Candidate species have no protection under the ESA but are included for consideration because they could be listed prior to the completion of your project. Consideration of these species during project planning may assist species conservation efforts and may prevent the need for future listing actions. For additional information regarding species that may be found in the proposed project area, visit http://www.fws.gov/nevada/es/ipac.html.

The purpose of the ESA is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 *et seq*.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment

be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Guidelines for preparing a Biological Assessment can be found at: http://www.fws.gov/midwest/endangered/section7/ba_guide.html.

If a Federal action agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:
http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this species list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally listed, proposed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally, as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation, for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the attached list.

The Nevada Fish and Wildlife Office (NFWO) no longer provides species of concern lists. Most of these species for which we have concern are also on the Animal and Plant At-Risk Tracking List for Nevada (At-Risk list) maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's At-Risk list and are partnering with them to provide distribution data and information on the conservation needs for at-risk species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. In addition, in order to avoid future conflicts, we ask that you consider these at-risk species early in your project planning and explore management alternatives that provide for their long-term conservation.

For a list of at-risk species by county, visit Heritage's website (http://heritage.nv.gov). For a specific list of at-risk species that may occur in the project area, you can obtain a data request form from the website (http://heritage.nv.gov/get_data) or by contacting the Administrator of Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the ESA. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (http://www.leg.state.nv.us/NAC/NAC-503.html). You must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (NDOW) to

take, or possess any parts of protected fish and wildlife species. Please visit http://www.ndow.org or contact NDOW in northern Nevada (775) 688-1500, in southern Nevada (702) 486-5127, or in eastern Nevada (775) 777-2300.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq*.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Service's wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

The Service's Pacific Southwest Region developed the *Interim Guidelines for the Development of a Project Specific Avian and Bat Protection Plan for Wind Energy Facilities* (Interim Guidelines). This document provides energy facility developers with a tool for assessing the risk of potential impacts to wildlife resources and delineates how best to design and operate a bird- and bat-friendly wind facility. These Interim Guidelines are available upon request from the NFWO. The intent of a Bird and Bat Conservation Strategy is to conserve wildlife resources while supporting project developers through: (1) establishing project development in an adaptive management framework; (2) identifying proper siting and project design strategies; (3) designing and implementing pre-construction surveys; (4) implementing appropriate conservation measures for each development phase; (5) designing and implementing appropriate post-construction monitoring strategies; (6) using post-construction studies to better understand the dynamics of mortality reduction (*e.g.*, changes in blade cut-in speed, assessments of blade “feathering” success, and studies on the effects of visual and acoustic deterrents) including efforts tied into Before-After/Control-Impact analysis; and (7) conducting a thorough risk assessment and validation leading to adjustments in management and mitigation actions.

The template and recommendations set forth in the Interim Guidelines were based upon the Avian Powerline Interaction Committee's Avian Protection Plan template (http://www.aplic.org/) developed for electric utilities and modified accordingly to address the unique concerns of wind energy facilities. These recommendations are also consistent with the Service's wind energy guidelines. We recommend contacting us as early as possible in the planning process to discuss the need and process for developing a site-specific Bird and Bat Conservation Strategy.

The Service has also developed guidance regarding wind power development in relation to prairie grouse leks (sage-grouse are included in this). This document can be found at: http://www.fws.gov/southwest/es/Oklahoma/documents/te_species/wind%20power/prairie%20gr
.

Migratory Birds are a Service Trust Resource. Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918, as amended (MBTA; 16 U.S.C. 703 *et seq*.), we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible,

we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Guidance for minimizing impacts to migratory birds for projects involving communications towers (*e.g.*, cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

If wetlands, springs, or streams are are known to occur in the project area or are present in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (ACOE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the ACOE's Regulatory Section regarding the possible need for a permit. For projects located in northern Nevada (Carson City, Churchill, Douglas, Elko, Esmeralda, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, and Washoe Counties) contact the Reno Regulatory Office at 300 Booth Street, Room 3060, Reno, Nevada 89509, (775) 784-5304; in southern Nevada (Clark, Lincoln, Nye, and White Pine Counties) contact the St. George Regulatory Office at 321 North Mall Drive, Suite L-101, St. George, Utah 84790-7314, (435) 986-3979; or in California along the eastern Sierra contact the Sacramento Regulatory Office at 650 Capitol Mall, Suite 5-200, Sacramento, California 95814, (916) 557-5250.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

The table below outlines lead FWS field offices by county and land ownership/project type. Please refer to this table when you are ready to coordinate (including requests for section 7 consultation) with the field office corresponding to your project, and send any documentation regarding your project to that corresponding office. Therefore, the lead FWS field office may not be the office listed above in the letterhead.

Lead FWS offices by County and Ownership/Program

County	Ownership/Program	Species	Office Lead*
Alameda	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Alameda	All ownerships but tidal/estuarine	All	SFWO

Alpine	Humboldt Toiyabe National Forest	All	RFWO
Alpine	Lake Tahoe Basin Management Unit	All	RFWO
Alpine	Stanislaus National Forest	All	SFWO
Alpine	El Dorado National Forest	All	SFWO
Colusa	Mendocino National Forest	All	AFWO
Colusa	Other	All	By jurisdiction (see map)
Contra Costa	Legal Delta (Excluding ECCHCP)	All	BDFWO
Contra Costa	Antioch Dunes NWR	All	BDFWO
Contra Costa	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Contra Costa	All ownerships but tidal/estuarine	All	SFWO
Del Norte	All	All	AFWO
El Dorado	El Dorado National Forest	All	SFWO
El Dorado	LakeTahoe Basin Management Unit		RFWO
Glenn	Mendocino National Forest	All	AFWO

Glenn	Other	All	By jurisdiction (see map)
Humboldt	All except Shasta Trinity National Forest	All	AFWO
Humboldt	Shasta Trinity National Forest	All	YFWO
Lake	Mendocino National Forest	All	AFWO
Lake	Other	All	By jurisdiction (see map)
Lassen	Modoc National Forest	All	KFWO
Lassen	Lassen National Forest	All	SFWO
Lassen	Toiyabe National Forest	All	RFWO
Lassen	BLM Surprise and Eagle Lake Resource Areas	All	RFWO
Lassen	BLM Alturas Resource Area	All	KFWO
Lassen	Lassen Volcanic National Park	All (includes Eagle Lake trout on all ownerships)	SFWO
Lassen	All other ownerships	All	By jurisdiction (see map)
Marin	Tidal wetlands/marsh adjacent to	Salt marsh species, delta	BDFWO

	Bays	smelt	
Marin	All ownerships but tidal/estuarine	All	SFWO
Mendocino	Russian River watershed	All	SFWO
Mendocino	All except Russian River watershed	All	AFWO
Modoc	Modoc National Forest	All	KFWO
Modoc	BLM Alturas Resource Area	All	KFWO
Modoc	Klamath Basin National Wildlife Refuge Complex	All	KFWO
Modoc	BLM Surprise and Eagle Lake Resource Areas	All	RFWO
Modoc	All other ownerships	All	By jurisdiction (See map)
Mono	Inyo National Forest	All	RFWO
Mono	Humboldt Toiyabe National Forest	All	RFWO
Napa	All ownerships but tidal/estuarine	All	SFWO
Napa	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Nevada	Humboldt Toiyabe National Forest	All	RFWO

Nevada	All other ownerships	All	By jurisdiction (See map)
Placer	Lake Tahoe Basin Management Unit	All	RFWO
Placer	All other ownerships	All	SFWO
Sacramento	Legal Delta	Delta Smelt	BDFWO
Sacramento	Other	All	By jurisdiction (see map)
San Francisco	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Francisco	All ownerships but tidal/estuarine	All	SFWO
San Mateo	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Mateo	All ownerships but tidal/estuarine	All	SFWO
San Joaquin	Legal Delta excluding San Joaquin HCP	All	BDFWO
San Joaquin	Other	All	SFWO
Santa Clara	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
Santa Clara	All ownerships but tidal/estuarine	All	SFWO

Shasta	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Shasta	Hat Creek Ranger District	All	SFWO
Shasta	Bureau of Reclamation (Central Valley Project)	All	BDFWO
Shasta	Whiskeytown National Recreation Area	All	YFWO
Shasta	BLM Alturas Resource Area	All	KFWO
Shasta	Caltrans	By jurisdiction	SFWO/AFWO
Shasta	Ahjumawi Lava Springs State Park	Shasta crayfish	SFWO
Shasta	All other ownerships	All	By jurisdiction (see map)
Shasta	Natural Resource Damage Assessment, all lands	All	SFWO/BDFWO
Sierra	Humboldt Toiyabe National Forest	All	RFWO
Sierra	All other ownerships	All	SFWO
Siskiyou	Klamath National Forest (except Ukonom District)	All	YFWO
	Six Rivers National Forest and		

Siskiyou	Ukonom District	All	AFWO
Siskiyou	Shasta Trinity National Forest	All	YFWO
Siskiyou	Lassen National Forest	All	SFWO
Siskiyou	Modoc National Forest	All	KFWO
Siskiyou	Lava Beds National Volcanic Monument	All	KFWO
Siskiyou	BLM Alturas Resource Area	All	KFWO
Siskiyou	Klamath Basin National Wildlife Refuge Complex	All	KFWO
Siskiyou	All other ownerships	All	By jurisdiction (see map)
Solano	Suisun Marsh	All	BDFWO
Solano	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Solano	All ownerships but tidal/estuarine	All	SFWO
Solano	Other	All	By jurisdiction (see map)
Sonoma	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO

Sonoma	All ownerships but tidal/estuarine	All	SFWO
Tehama	Mendocino National Forest	All	AFWO
Tehama	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Tehama	All other ownerships	All	By jurisdiction (see map)
Trinity	BLM	All	AFWO
Trinity	Six Rivers National Forest	All	AFWO
Trinity	Shasta Trinity National Forest	All	YFWO
Trinity	Mendocino National Forest	All	AFWO
Trinity	BIA (Tribal Trust Lands)	All	AFWO
Trinity	County Government	All	AFWO
Trinity	All other ownerships	All	By jurisdiction (See map)
Yolo	Yolo Bypass	All	BDFWO
Yolo	Other	All	By jurisdiction (see map)
All	FERC-ESA	All	By jurisdiction (see map)

All	FERC-ESA	Shasta crayfish	SFWO
All	FERC-Relicensing (non-ESA)	All	BDFWO
***Office Leads:**			
AFWO=Arcata Fish and Wildlife Office			
BDFWO=Bay Delta Fish and Wildlife Office			
KFWO=Klamath Falls Fish and Wildlife Office			
RFWO=Reno Fish and Wildlife Office			
YFWO=Yreka Fish and Wildlife Office			

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: VASNHCS

Official Species List

Provided by:

Nevada Fish and Wildlife Office
1340 FINANCIAL BOULEVARD, SUITE 234
RENO, NV 89502
(775) 861-6300
http://www.fws.gov/nevada/

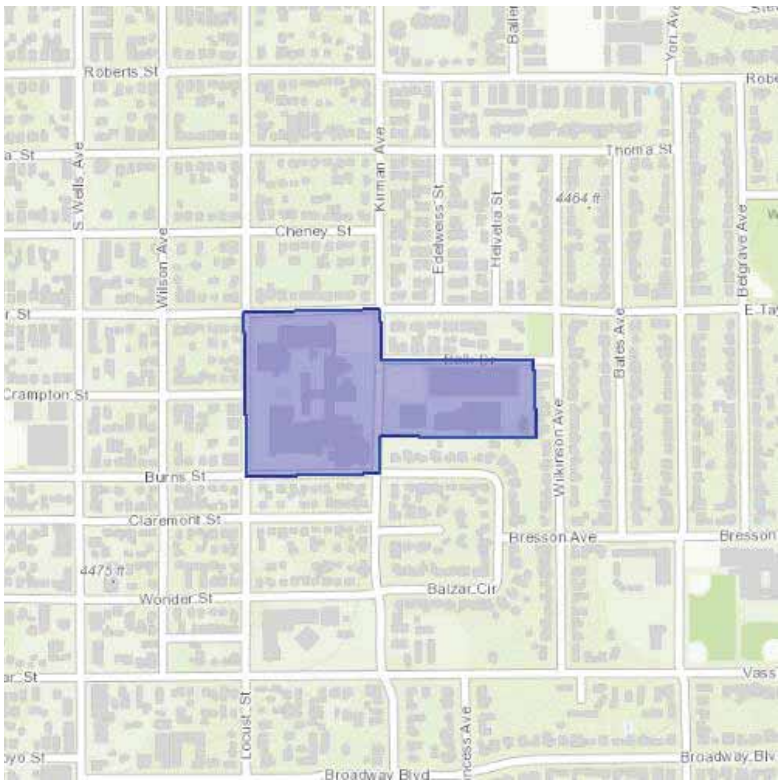
Consultation Code: 08ENVD00-2016-SLI-0161
Event Code: 08ENVD00-2016-E-00132

Project Type: DEVELOPMENT

Project Name: VASNHCS
Project Description: VASNHCS

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-119.80058670043944 39.51733414656353, -119.79844093322754 39.517383805957614, -119.79841947555543 39.51675478434244, -119.79601621627808 39.51675478434244, -119.79597330093384 39.51581124123956, -119.79844093322754 39.51582779473777, -119.79844093322754 39.51538084890128, -119.8005437850952 39.51534774168788, -119.80058670043944 39.51733414656353)))

Project Counties: Washoe, NV

United States Department of Interior
Fish and Wildlife Service

Project name: VASNHCS

Endangered Species Act Species List

There are a total of 3 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Fishes	**Status**	**Has Critical Habitat**	**Condition(s)**
cui-ui *(Chasmistes cujus)* Population: Entire	Endangered		
Lahontan cutthroat trout *(Oncorhynchus clarkii henshawi)* Population: Entire	Threatened		
Flowering Plants			
Webber Ivesia *(Ivesia webberi)*	Threatened	Proposed	

Critical habitats that lie within your project area

There are no critical habitats within your project area.

United States Department of Interior
Fish and Wildlife Service

Project name: VASNHCS

Appendix A: FWS National Wildlife Refuges

There are no refuges within your project area.

United States Department of Interior
Fish and Wildlife Service

Project name: VASNHCS

Appendix B: FWS Migratory Birds

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no otherwise lawful activities. For more information regarding these Acts see:
http://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php
http://www.fws.gov/birds/policies-and-regulations/laws-legislations/bald-and-golden-eagle-protection-act.php

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:
http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php

For information about conservation measures that help avoid or minimize impacts to birds, please visit:
http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tools at:
http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php

Migratory birds of concern that may be affected by your project:
There are 23 birds on your Migratory birds of concern list.

Species Name	Bird of Conservation Concern (BCC)	Seasonal Occurrence in Project Area
Bald eagle *(Haliaeetus leucocephalus)*	Yes	Year-round

Black Rosy-Finch *(Leucosticte atrata)*	Yes	Year-round
Brewer's Sparrow *(Spizella breweri)*	Yes	Breeding
Burrowing Owl *(Athene cunicularia)*	Yes	Breeding
Calliope Hummingbird *(Stellula calliope)*	Yes	Breeding
Eared Grebe *(Podiceps nigricollis)*	Yes	Breeding
Flammulated owl *(Otus flammeolus)*	Yes	Breeding
Fox Sparrow *(Passerella liaca)*	Yes	Year-round
Greater sage-grouse *(Centrocercus urophasianus)*	Yes	Year-round
Green-tailed Towhee *(Pipilo chlorurus)*	Yes	Breeding
Loggerhead Shrike *(Lanius ludovicianus)*	Yes	Year-round
Long-Billed curlew *(Numenius americanus)*	Yes	Breeding
Olive-Sided flycatcher *(Contopus cooperi)*	Yes	Breeding
Peregrine Falcon *(Falco peregrinus)*	Yes	Year-round
Pinyon Jay *(Gymnorhinus*	Yes	Year-round

cyanocephalus)		
Sage Thrasher *(Oreoscoptes montanus)*	Yes	Breeding
Short-eared Owl *(Asio flammeus)*	Yes	Year-round
Snowy Plover *(Charadrius alexandrinus)*	Yes	Breeding
Swainson's hawk *(Buteo swainsoni)*	Yes	Breeding
tricolored blackbird *(Agelaius tricolor)*	Yes	Breeding
Western grebe *(aechmophorus occidentalis)*	Yes	Breeding
White-headed Woodpecker *(Picoides albolarvatus)*	Yes	Year-round
Williamson's Sapsucker *(Sphyrapicus thyroideus)*	Yes	Year-round

United States Department of Interior
Fish and Wildlife Service

Project name: VASNHCS

Appendix C: NWI Wetlands

There are no wetlands within your project area.

U.S. Fish & Wildlife Service

SNVASNHCS

IPaC Trust Resource Report

Generated December 22, 2015 07:21 AM MST, IPaC v2.3.2

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.

IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

US Fish & Wildlife Service

IPaC Trust Resource Report

NAME

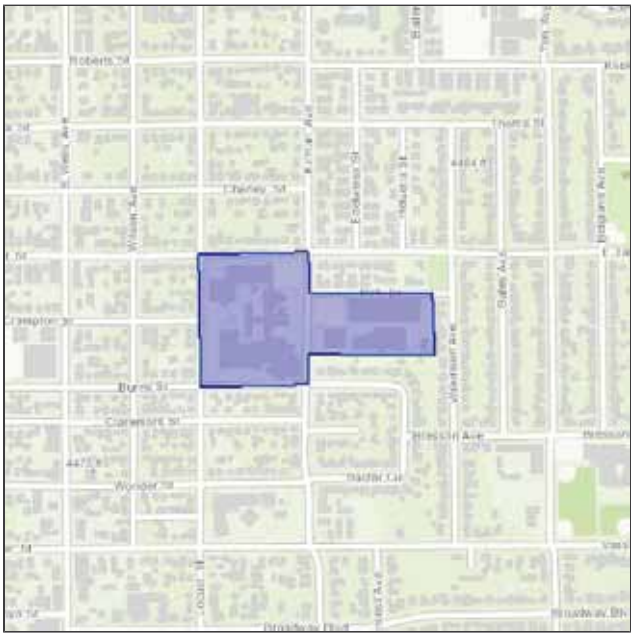
SNVASNHCS

LOCATION

Washoe County, Nevada

IPAC LINK

https://ecos.fws.gov/ipac/project/RSG2D-EK63V-G5LMW-PNTAI-GOUQRY



U.S. Fish & Wildlife Contact Information

Trust resources in this location are managed by:

Nevada Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
(775) 861-6300

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require FWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from the Regulatory Documents section in IPaC.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Fishes

Cui-ui Chasmistes cujus — Endangered

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=E001

Lahontan Cutthroat Trout Oncorhynchus clarkii henshawi — Threatened

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=E00Y

Flowering Plants

Webber Ivesia Ivesia webberi — Threatened

CRITICAL HABITAT
There is **proposed** critical habitat designated for this species.

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q34J

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php

The following species of migratory birds could potentially be affected by activities in this location:

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black Rosy-finch Leucosticte atrata — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0J4

Brewer's Sparrow Spizella breweri — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HA

Burrowing Owl Athene cunicularia — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0NC

Calliope Hummingbird Stellula calliope — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0K3

Eared Grebe Podiceps nigricollis — Bird of conservation concern
Season: Breeding

Flammulated Owl Otus flammeolus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DK

Fox Sparrow Passerella iliaca — Bird of conservation concern
Year-round

Greater Sage-grouse Centrocercus urophasianus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06W

Green-tailed Towhee Pipilo chlorurus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0IO

Loggerhead Shrike Lanius ludovicianus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY

Long-billed Curlew Numenius americanus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06S

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pinyon Jay Gymnorhinus cyanocephalus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0I0

Sage Thrasher Oreoscoptes montanus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0ID

Short-eared Owl Asio flammeus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Snowy Plover Charadrius alexandrinus — Bird of conservation concern
Season: Breeding

Swainson's Hawk Buteo swainsoni — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B070

Tricolored Blackbird Agelaius tricolor — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06P

Western Grebe aechmophorus occidentalis — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EA

White Headed Woodpecker Picoides albolarvatus — Bird of conservation concern

Year-round

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HU

Williamson's Sapsucker Sphyrapicus thyroideus — Bird of conservation concern

Year-round

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FX

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuges in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands in this location

APPENDIX D

Public Notices and Comments

NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL ASSESSMENT

U.S. DEPARTMENT OF VETERANS AFFAIRS

Proposed Renovation and Modernization of the
VA Sierra Nevada Healthcare System Campus
975 Kirman Avenue
Reno, Washoe County, Nevada

The Department of Veterans Affairs (VA) announces the preparation and availability of a Draft Environmental Assessment (Draft EA) for the renovation and modernization of the VA Sierra Nevada Healthcare System (VASNHCS) campus in Reno, Nevada. The Draft EA has been prepared in accordance with the regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA), (Public Law 91-190, 42 USC 4321-4347 January 1, 1970), amendments, and the VA's Implementing Regulations (38 CFR Part 26). VA intends to issue a "Finding of No Significant Impact" (FONSI) following a 30-day comment period in accordance with the Council on Environmental Quality Regulations for Implementing NEPA, Section 1508.13 provided there are no substantive comments which warrant further evaluation. The public comment period will end on September 6, 2016.

A copy of the Draft EA will be available at the VASNHCS (Public Education Resource Center (PERC) on the first floor in Room G1620 located at 975 Kirman Avenue in Reno, Nevada, and at the Washoe County Library – Downtown Reno Library, located at 301 South Center Street in Reno, Nevada. Please submit comments to the following:

Ms. Arlee Fisher
VA Sierra Nevada Healthcare System
975 Kirman Avenue (001)
Reno, NV 89502-2597
Email: renova@va.gov (please put "Renovation and Modernization EA" in subject line)