

NEGATIVE DECLARATION

Project Title/File Number: NWRSP PCL 46 – Sikh Temple Design Review Permit – File #PL15-0338

Project Location: 1090 Main Street (APNs: 017-162-026-000 & 017-162-025-000); Roseville; Placer County

Project Applicant: Jaspal Singh Sidhu, ACE DESIGN, LLC, 6283 Dean Martin Drive, Suite B, Las Vegas NV 89118; (702) 429-7355

Property Owner: Balraj S. Randhawa, American Sikh Foundation of Northern California; 1090 Main Street; Roseville CA 95678; (916)343-7657

Lead Agency Contact Person: Ron Miller, Associate Planner; (916) 774-5276

Date: April 27, 2017

Project Description: The American Sikh Foundation of Northern California proposes to construct a ±43,434 square foot temple at 1090 Main Street, Roseville, CA 95678.

The project entitlements requested include a Design Review Permit (DRP), Voluntary Merger (VM), Variance and Tree Permit (TP) for construction of the temple and associated site improvements, including parking, landscaping, and lighting. The temple building square footage includes two porticos (±2,394 sq. ft. each) for visitor drop-off and a patio area of ±7,754 square foot patio area.

DECLARATION

The Planning Manager has determined that the above project will not have significant effects on the environment and therefore does not require preparation of an Environmental Impact Report. The determination is based on the attached initial study and the following findings:

- A. *The project will not have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened species, reduce the number or restrict the range of rare or endangered plants or animals or eliminate important examples of the major periods of California history or prehistory.*
- B. *The project will not have the potential to achieve short-term, to the disadvantage of long-term, environmental goals.*
- C. *The project will not have impacts, which are individually limited, but cumulatively considerable.*
- D. *The project will not have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly.*
- E. *No substantial evidence exists that the project may have a significant effect on the environment.*
- F. *This Negative Declaration reflects the independent judgment of the lead agency.*

INITIAL STUDY & ENVIRONMENTAL CHECKLIST

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Project Location:	1090 Main Street (APNs: 017-162-026-000 & 017-162-025-000); Roseville; Placer County
Project Description:	The American Sikh Foundation of Northern California proposes to construct a ±43,434 square foot temple at 1090 Main Street, Roseville, CA 95678. The project entitlements requested include a Design Review Permit (DRP), Voluntary Merger (VM), Variance and Tree Permit (TP) for construction of the temple and associated site improvements, including parking, landscaping, and lighting. The temple building square footage includes two porticos (±2,394 sq. ft. each) for visitor drop-off and a patio area of ±7,754 square foot patio area. The site is currently developed with three buildings (totaling 19,925 sq. ft.) and associated parking, landscaping and lighting. The largest building on the site (10,574 sq. ft.) will remain, while the other two buildings will be removed. The project site includes two parcels that will be merged as part of the project. Following the merger, the project site will be 5.81 acres in size. Upon completion of the project, the site will be accessed off two driveways along Main Street.
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This initial study has been prepared to identify and assess the anticipated environmental impacts of the above described project application. The document relies on the Northwest Roseville Specific Plan (NWRSP) EIR (SCH #88051623), the Amoruso Ranch Specific Plan Final Environmental Impact Report (SCH # 20131020570) and site-specific studies prepared to address in detail the effects or impacts associated with the project. Where documents were submitted by consultants working for the applicant, City staff reviewed such documents in order to determine whether, based on their own professional judgment and expertise, staff found such documents to be credible and persuasive. Staff has only relied on documents that reflect their independent judgment, and has not accepted at face value representations made by consultants for the applicant.

This document has been prepared to satisfy the California Environmental Quality Act (CEQA), (Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (14 CCR 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects.

The initial study is a public document used by the decision-making lead agency to determine whether a project may have a significant effect on the environment. If the lead agency finds substantial evidence that any aspect of the project, either individually or cumulatively, may have a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial, the lead agency is required to prepare an EIR. If the agency finds no substantial evidence that the project or any of its aspects may cause a significant effect on the environment, a negative declaration shall be prepared. If in the course of analysis, the agency recognizes that the project may have a significant impact on the environment, but that by incorporating specific mitigation measures to which the applicant agrees, the impact will be reduced to a less than significant effect, a mitigated negative declaration shall be prepared.

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PROJECT DESCRIPTION

Project Location

The Sikh Temple site is located at 1090 Main Street, within the City's NWRSP area. Specifically, the project site is located on the north side of Main Street, approximately 230 feet east of Foothills Boulevard (see Figure 1). The subject property has a General Plan land use designation of Public/Quasi-Public (P/QP) and a zoning designation of Single-Family Residential (R1).

Figure 1: Surrounding Uses & Zoning



Background

Location	Zoning	General Plan Land Use	Actual Use of Property
Project Site	Single-Family Residential (R1)	Public/Quasi-Public (P/QP)	Sikh Temple
North	R1	Low Density Residential (LDR-4)	Single-Family Residences
South	Main Street & Community Commercial/Development Standards (CC/DS) beyond	CC	
East	P/QP	P/QP	School District Offices
West	Single-Family Residential/Development Standards (RS/DS)	Medium Density Residential (MDR-9.7)	Single-Family Residences (under construction)

Environmental Setting

The site is currently developed with three buildings (totaling 19,925 sq. ft.) and associated parking (totaling ±54,00- sq. ft.), landscaping and lighting. The largest building on the site (10,574 sq. ft.) will remain, while the other two buildings will be removed. The project site includes two parcels that will be merged as part of the project. Following the merger, the project site will be 5.81 acres in size.

The project site is bordered by residential communities to the west and north, a school district office and city park to the east, and Main Street (with commercial development beyond) to the south. Upon completion of the project, the site will be accessed off two driveways along Main Street.

Proposed Project

The requested project entitlements include a Design Review Permit (DRP), Voluntary Merger (VM), and Variance for construction of the temple and associated site improvements, including parking, landscaping, and lighting.

The applicant proposes to construct a two-story ±43,434 square foot temple (house of worship) at the site. The temple building square footage includes two porticos (±2,394 sq. ft. each) for visitor drop-off and a patio area of ±7,754 square feet. The building's height will be approximately 34 feet to the top of the parapet. The building will feature traditional Sikh architecture, including multiple domes that are topped with ornate finials. The tallest dome element on the building is ±56 feet to the top of the dome. The ornate finial atop the dome is an additional nine feet (9'±) in height.

The building's setbacks will be approximately 263 feet from the north property line (residences), 70' from the east (school district office & park) and west (residences under construction) property lines, and 250 feet from the street (Main Street). The project will include 20-foot wide landscape planters along the north and west property lines.

CITY OF ROSEVILLE MITIGATION ORDINANCES, GUIDELINES, AND STANDARDS

For projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, CEQA Guidelines section 15183(f) allows a lead agency to rely on previously adopted development policies or standards as mitigation for the environmental effects, when the standards have been adopted by the City, with findings based on substantial evidence, that the policies or standards will substantially mitigate environmental effects, unless substantial new information shows otherwise (CEQA Guidelines §15183(f)). The City of Roseville adopted CEQA Implementing Procedures (Implementing Procedures) which are consistent with this CEQA Guidelines section. The current version of the Implementing Procedures were adopted in April 2008, along with Findings of Fact, as Resolution 08-172. The below regulations and ordinances were found to provide uniform mitigating policies and standards, and are applicable to development projects. The City's Mitigating Policies and Standards are referenced, where applicable, in the Initial Study Checklist.:

- City of Roseville 2035 General Plan
- City of Roseville Zoning Ordinance (RMC Title 19)
- City of Roseville Improvement Standards (Resolution 02-37)
- City of Roseville Construction Standards (Resolution 01-208)
- Subdivision Ordinance (RMC Title 18)
- Noise Regulation (RMC Ch.9.24)

- Flood Damage Prevention Ordinance (RMC Ch.9.80)
- Drainage Fees (Dry Creek [RMC Ch.4.49] and Pleasant Grove Creek [RMC Ch.4.48])
- West Placer Stormwater Quality Design Manual (Resolution 16-152)
- Urban Stormwater Quality Management and Discharge Control Ordinance (RMC Ch. 14.20)
- Traffic Mitigation Fee (RMC Ch.4.44)
- Highway 65 Joint Powers Authority Improvement Fee (Resolution 2008-02)
- South Placer Regional Transportation Authority Transportation and Air Quality Mitigation Fee (Resolution 09-05)
- Tree Preservation Ordinance (RMC Ch.19.66)
- Community Design Guidelines (Resolution 95-347)
- Specific Plan Design Guidelines:
 - Development Guidelines Del Webb Specific Plan (Resolution 96-330)
 - Landscape Design Guidelines for North Central Roseville Specific Plan (Resolution 90-170)
 - North Roseville Specific Plan and Design Guidelines (Resolution 00-432)
 - Northeast Roseville Specific Plan (Olympus Pointe) Signage Guidelines (Resolution 89-42)
 - North Roseville Area Design Guidelines (Resolution 92-226)
 - Northeast Roseville Specific Plan Landscape Design Guidelines (Resolution 87-31)
 - Southeast Roseville Specific Plan Landscape Design Guidelines (Resolution 88-51)
 - Stoneridge Specific Plan and Design Guidelines (Resolution 98-53)
 - Highland Reserve North Specific Plan and Design Guidelines (Resolution 97-128)
 - West Roseville Specific Plan and Design Guidelines (Resolution 04-40)
 - Sierra Vista Specific Plan and Design Guidelines (Resolution 12-217)
 - Creekview Specific Plan and Design Guidelines (Resolution 12-320)
 - Amoruso Ranch Specific Plan and Design Guidelines (Resolution 16-273)

OTHER ENVIRONMENTAL DOCUMENTS RELIED UPON

- Amoruso Ranch Specific Plan Final Environmental Impact Report (SCH#2013102057)
- Northwest Roseville Specific Plan EIR (SCH#88051623)

Pursuant to CEQA Guidelines Section 15183, any project that is consistent with the development densities established by zoning, a Community Plan, or a General Plan for which an EIR was certified shall not require additional environmental review, except as may be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. The Amoruso Ranch Specific Plan EIR updated the City's General Plan to 2035, and updated Citywide analyses of traffic, water supply, water treatment, wastewater treatment, and waste disposal. The proposed project is consistent with the adopted land use designations examined within the environmental documents listed above, and thus this Initial Study focuses on effects particular to the specific project site, impacts which were not analyzed within the EIR, and impacts which may require revisiting due to substantial new information. When applicable, the topical sections within the Initial Study summarize the findings within the environmental documents listed above. The analysis, supporting technical materials, and findings of the environmental document are incorporated by reference, and are available for review at the Civic Center, 311 Vernon Street, Roseville, CA.

EXPLANATION OF INITIAL STUDY CHECKLIST

The California Environmental Quality Act (CEQA) Guidelines recommend that lead agencies use an Initial Study Checklist to determine potential impacts of the proposed project on the physical environment. The Initial Study Checklist provides a list of questions concerning a comprehensive array of environmental issue areas potentially affected by this project. This section of the Initial Study incorporates a portion of Appendix G Environmental Checklist Form, contained in the CEQA Guidelines. Within each topical section (e.g. Air Quality), a description of the setting is provided, followed by the checklist responses, thresholds used, and finally a discussion of each checklist answer.

There are four (4) possible answers to the Environmental Impacts Checklist on the following pages. Each possible answer is explained below:

- 1) A “Potentially Significant Impact” is appropriate if there is enough relevant information and reasonable inferences from the information that a fair argument based on substantial evidence can be made to support a conclusion that a substantial, or potentially substantial, adverse change may occur to any of the physical conditions within the area affected by the project. When one or more “Potentially significant Impact” entries are made, an EIR is required.
- 2) A “Less Than Significant With Mitigation” answer is appropriate when the lead agency incorporates mitigation measures to reduce an impact from “Potentially Significant” to “Less than Significant.” For example, floodwater impacts could be reduced from a potentially-significant level to a less-than-significant level by relocating a building to an area outside of the floodway. The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level. Mitigation measures are identified as MM followed by a number.
- 3) A “Less Than significant Impact” answer is appropriate if there is evidence that one or more environmental impacts may occur, but the impacts are determined to be less than significant, or the application of development policies and standards to the project will reduce the impact(s) to a less-than-significant level. For instance, the application of the City’s Improvement Standards reduces potential erosion impacts to a less-than-significant level.
- 4) A “No Impact” answer is appropriate where it can be demonstrated that the impact does not have the potential to adversely affect the environment. For instance, a project in the center of an urbanized area with no agricultural lands on or adjacent to the project area clearly would not have an adverse effect on agricultural resources or operations. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources cited in the Initial Study. Where a “No Impact” answer is adequately supported by the information sources cited in the Initial Study, further narrative explanation is not required. A “No Impact” answer is explained when it is based on project-specific factors as well as generous standards.

All answers must take account of the whole action involved, including off- and on-site, indirect, direct, construction, and operation impacts, except as provided for under State CEQA Guidelines.

INITIAL STUDY CHECKLIST

I. Aesthetics

The proposed project consists of a two-story Sikh Temple (house of worship), approximately 43,434 square feet in size, with associated parking, landscaping and lighting. The temple building square footage includes two porticos (approximately 2,394 sq. ft. each) for visitor drop-off and a patio area of

7,754 square feet. The height of the building will be approximately 34 feet to the top of the parapet. The temple will include several Sikh architectural dome elements with a maximum height of 56 feet to the top of the highest dome, plus additional nine feet (9') to the top of the ornate finial atop the dome (see Exhibit D). The building's exterior will be of a stucco finish (cream in color), with use of stacked stone accents on columns and other architectural tower elements. Columns and dome elements will be white in color with traditional gold trim atop the domes.

Setbacks to the exterior walls of the temple will be 263 feet from the north property line (residences), 70' from the east (school district office & park) and west (residences under construction) property lines, and 250 feet from the street (Main Street). The facing of the porticos on the east and west elevations will have setbacks of approximately 22 feet from the property lines. The project will include six-foot high masonry walls and 20-foot wide landscape buffers along the north and west property lines.

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?			X	

Thresholds of Significance and Regulatory Setting:

The significance of an environmental impact cannot always be determined through the use of a specific, quantifiable threshold. CEQA Guidelines Section 15064(b) affirms this by the statement "an ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting." This is particularly true of aesthetic impacts. As an example, a proposed parking lot in a dense urban center would have markedly different visual effects than a parking lot in an open space area. For the purpose of this study, the significance thresholds are as stated in CEQA Guidelines Appendix G, as shown in a–d of the checklist below. The Findings of the Implementing Procedures indicate that compliance with the Zoning Ordinance (e.g. building height, setbacks, etc), Subdivision Ordinance (RMC Ch. 18), Community Design Guidelines (Resolution 95-347), and applicable Specific Plan Policies and/or Specific Plan Design Guidelines will prevent significant impacts in urban settings as it relates to items a, b, and c, below.

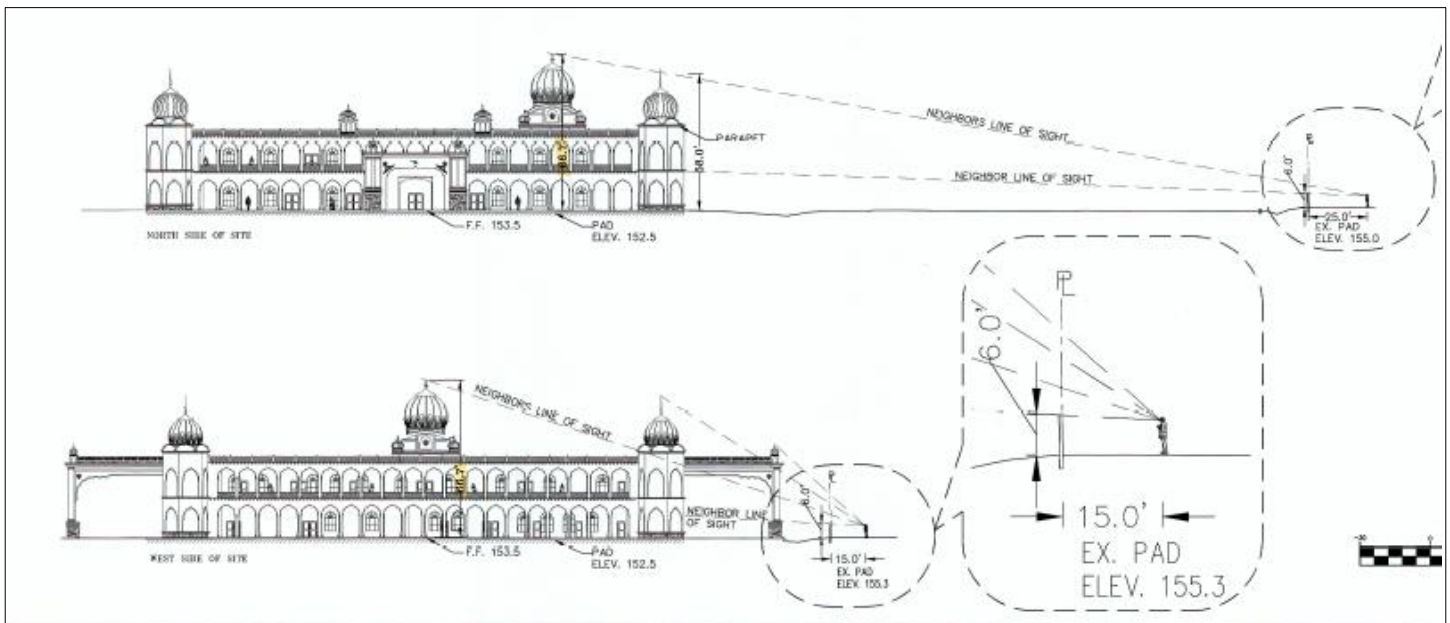
Discussion of Checklist Answers:

a-b) There are no designated or eligible scenic vistas or scenic highways within or adjacent to the City of Roseville.

c) The project site is in an urban setting, and as a result lacks any prominent or high-quality natural features that could be negatively impacted by development. There are currently three buildings (totaling approximately 20,000 square feet) and associated parking located on the site. Additionally, the properties adjacent to the project site and in the immediate vicinity are developed with commercial buildings and centers (including associated parking, lighting and landscaping), a school site, offices, and residential homes.

The proposed two-story temple will be constructed approximately 250 feet north of Main Street (four-lane collector roadway), and ± 375 east of Foothills Boulevard, (six-lane arterial roadway). The property boundaries adjacent to residential development (north and west property lines) will have six-foot tall masonry walls, as well as 20-foot landscape buffers. The landscape areas will include plantings of several species of trees that at maturity will reach 40' – 50' in height which will serve to visually screen the temple from nearby properties. The project prepared a sight line exhibit illustrating the relationship between the proposed temple structure and adjacent residential communities to the west and north (see Figure 2).

Figure 2: Sight Lines



The project will have a significant setback from nearby streets, and will include landscaping and trees that will serve to minimize the potential visual impact. From this analysis staff has concluded that the visual impacts from the proposed temple construction will be mitigated by the project's setbacks from nearby roadways and adjacent properties, project landscaping and masonry walls, as well as screening by existing buildings and landscaping in the immediate vicinity.

The City of Roseville has adopted Community Design Guidelines (CDG) for the purpose of creating building and community designs which are a visual asset to the community. The CDG includes guidelines for building design, site design and landscape design, which will result in a project that enhances the existing urban visual environment. The City's approving authority (Planning Commission) will review the Design Review Permit (DRP) for conformance with City standards and requirements. The project will not result in any new aesthetic impacts

beyond those identified in the General Plan EIR. Accordingly, the aesthetic impacts of the project are ***less than significant***.

d) The project involves nighttime lighting to provide for the security and safety of project users, however, the project is already located within an urbanized setting with many existing lighting sources. Lighting is conditioned to comply with City standards (i.e. CDG) to limit the height of light standards and to require cut-off lenses and glare shields to minimize light and glare impacts. The project will not create a new source of substantial light. None of the project elements are highly reflective, and thus the project will not contribute to an increased source of glare; therefore, potential light and glare impacts are ***less than significant***.

II. Agricultural & Forestry Resources

The State Department of Conservation oversees the Farmland Mapping and Monitoring Program, which was established to document the location, quality, and quantity of agricultural lands, and the conversion of those lands over time. The primary land use classifications on the maps generated through this program are: Urban and Built Up Land, Grazing Land, Farmland of Local Importance, Unique Farmland, Farmland of Statewide Importance, and Prime Farmland. According to the current California Department of Conservation Placer County Important Farmland Map (2012), the majority of the City of Roseville is designated as Urban and Built Up Land and most of the open space areas of the City are designated as Grazing Land. There are a few areas designated as Farmland of Local Importance and two small areas designated as Unique Farmland located on the western side of the City along Baseline Road. The current Williamson Act Contract map (2013/2014) produced by the Department of Conservation shows that there are no Williamson Act contracts within the City, and only one (on PFE Road) that is adjacent to the City. None of the land within the City is considered forest land by the Board of Forestry and Fire Protection.

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

Thresholds of Significance and Regulatory Setting:

Unique Farmland, Farmland of Statewide Importance, and Prime Farmland are called out as protected farmland categories within CEQA Guidelines Appendix G. Neither the City nor the State has adopted quantified significance thresholds related to impacts to protected farmland categories or to agricultural and forestry resources. For the purpose of this study, the significance thresholds are as stated in CEQA Guidelines Appendix G, as shown in a–e of the checklist above.

Discussion of Checklist Answers:

a–e) The project site is not used for agricultural purposes, does not include agricultural zoning, is not within or adjacent to one of the areas of the City designated as a protected farmland category on the Placer County Important Farmland map, is not within or adjacent to land within a Williamson Act Contract, and is not considered forest land. Given the foregoing, the proposed project will have no impact on agricultural resources.

III. Air Quality

The City of Roseville, along with the south Placer County area, is located in the Sacramento Valley Air Basin (SVAB). The SVAB is within the Sacramento Federal Ozone Non-Attainment Area. Under the Clean Air Act, Placer County has been designated a "serious non-attainment" area for the federal 8-hour ozone standard, "non-attainment" for the state ozone standard, and a "non-attainment" area for the federal and state PM₁₀ standard (particulate matter less than 10 microns in diameter). Within Placer County, the Placer County Air Pollution Control District (PCAPCD) is responsible for ensuring that emission standards are not violated. Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Create objectionable odors affecting a substantial number of people?			X	

Thresholds of Significance and Regulatory Setting:

In responding to checklist items a, b, and d, project-related air emissions would have a significant effect if they would result in concentrations that either violate an ambient air quality standard or contribute to an existing air quality violation. To assist in making this determination, the PCAPCD adopted thresholds of significance, which were developed by considering both the health-based ambient air quality standards and the attainment strategies outlined in the State Implementation Plan. The PCAPCD-recommended significance threshold for reactive organic gases (ROG), nitrogen oxides (NO_x) is 82 pounds daily during construction and 55 pounds daily during operation, and for particulate matter (PM) is 82 pounds per day during both construction and operation. For all other constituents, significance is determined based on the concentration-based limits in the Federal and State Ambient Air Quality Standards. Toxic Air Contaminants (TAC) are also of public health concern, but no thresholds or standards are provided because they are considered to have no safe level of exposure. Analysis of TAC is based on the *Air Quality and Land Use Handbook – A Community Health Perspective* (April 2005, California Air Resources Board), which lists TAC sources and recommended buffer distances from sensitive uses. For checklist item c, the PCAPCD's *CEQA Air Quality Handbook (Handbook)* recommends that the same thresholds used for the project analysis be used for the cumulative impact analysis.

With regard to checklist item e, there are no quantified significance thresholds for exposure to objectionable odors. Significance is determined after taking into account multiple factors, including screening distances from odor sources (as found in the PCAPCD CEQA Handbook), the direction and frequency of prevailing winds, the time of day when odors are present, and the nature and intensity of the odor source.

Discussion of Checklist Answers:

a–b) Analyses are not included for sulfur dioxide, lead, and other constituents because there are no mass emission thresholds; these are concentration-based limits in the Federal and State Ambient Air Quality Standards which require substantial, point-source emissions (e.g. refineries, concrete plants, etc.) before exceedance will occur, and the SVAB is in attainment for these constituents. Likewise, carbon monoxide is not analyzed because the SVAB is in attainment for this constituent, and it requires high, localized concentrations (called carbon monoxide “hot spots”) before the ambient air quality standard would be exceeded. “Hot spots” are typically associated with heavy traffic congestion occurring at high-volume roadway intersections. The

Amoruso Ranch EIR analysis of Citywide traffic indicated that 198 out of 226 signalized intersections would operate at level of service C or better—that is, they will not experience heavy traffic congestion. It further indicated that analyses of existing CO concentrations at the most congested intersections in Roseville show that CO levels are well below federal and state ambient air quality standards. The discussions below focus on emissions of ROG, NO_x, or PM. A project-level analysis has been prepared to determine whether the project will, on a singular level, exceed the established thresholds.

The City of Roseville is located within the boundaries of the Sacramento Valley Air Basin (SVAB) and under the jurisdiction of the Placer County Air Pollution Control District (PCAPCD). The federal Clean Air Act (CAA) and the California Clean Air Act (CCAA) require that federal and State ambient air quality standards (AAQS) be established, respectively, for six common air pollutants, known as criteria pollutants. The criteria pollutants include particulate matter (PM), ground-level ozone, carbon monoxide (CO), sulfur oxides, nitrogen oxides (NO_x), and lead. At the federal level, the SVAB area is designated as nonattainment for the 8-hour ozone and the 24-hour particulate matter 2.5 microns in diameter (PM_{2.5}) AAQS, and attainment or unclassified for all other federal criteria pollutant AAQS. At the State level, the SVAB area is designated as nonattainment for the 1-hour ozone, 8-hour ozone, particulate matter 10 microns in diameter (PM₁₀) AAQS, and attainment or unclassified for all other State AAQS.

The CAA requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The SIPs are modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. Due to the nonattainment designations, PCAPCD, along with the other air districts in the SVAB region, periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the NAAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies.

The current applicable air quality plan for the proposed project area is the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Ozone Attainment Plan), adopted September 26, 2013. The U.S. Environmental Protection Agency (USEPA) determined the motor vehicle emission budgets in the Plan to be adequate and made such findings effective August 25, 2014. On January 9, 2015, the USEPA approved the 2013 Ozone Attainment Plan.

The 2013 Ozone Attainment Plan demonstrates how existing and new control strategies would provide the necessary future emission reductions to meet the CAA requirements, including the NAAQS. It should be noted that in addition to strengthening the 8-hour ozone NAAQS, the USEPA also strengthened the secondary 8-hour ozone NAAQS, making the secondary standard identical to the primary standard. The SVAB remains classified as a severe nonattainment area with an attainment deadline of 2027. On October 26, 2015, the USEPA released a final implementation rule for the revised NAAQS for ozone to address the requirements for reasonable further progress, modeling and attainment demonstrations, and reasonably available control measures (RACM) and reasonably available control technology (RACT). With the publication of the new NAAQS ozone rules, areas in nonattainment must update their ozone attainment plans and submit new plans by 2020/2021.

General conformity requirements of the regional air quality plan include whether a project would cause or contribute to new violations of any NAAQS, increase the frequency or severity of an existing violation of any NAAQS, or delay timely attainment of any NAAQS. In order to evaluate ozone and other criteria air pollutant emissions and support attainment goals for those pollutants that the area is designated nonattainment, the PCAPCD recommends significance thresholds for emissions of PM₁₀ and ozone precursors – reactive organic gases (ROG) and oxides of nitrogen (NO_x). On October 13, 2016, the PCAPCD adopted updated significance thresholds for the aforementioned pollutants.

The significance thresholds, expressed in pounds per day (lbs/day), listed in Table 1 are the PCAPCD's recommended thresholds of significance for use in the evaluation of air quality impacts associated with proposed development projects. The City of Roseville, as lead agency, utilizes the PCAPCD's recommended thresholds of significance for CEQA evaluation purposes. Thus, if the proposed project's emissions exceed the pollutant thresholds presented in Table 1, the project could have a significant effect on air quality, the attainment of federal and State AAQS, and could conflict with or obstruct implementation of the applicable air quality plan.

Table 1		
PCAPCD Thresholds of Significance		
Pollutant	Construction Threshold (lbs/day)	Operational Threshold (lbs/day)
ROG	82	55
NO _x	82	55
PM ₁₀	82	82
<i>Source: Placer County Air Pollution Control District. Placer County Air Pollution Control District Policy. Review of Land Use Projects Under CEQA. October 13, 2016.</i>		

Implementation of the proposed project would contribute local emissions in the area during construction and operation of the proposed project. The proposed project's short-term construction-related and long-term operational emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.1 software (CalEEMod) – a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers (ITE) Manual, vehicle mix, trip length, average speed, etc. However, where project-specific data is available, such data should be input into the model. As such, the proposed project's modeling assumed the following:

- Demolition of existing parking area and two existing buildings on site.
- Construction of a 43,400 square foot Sikh Temple (place of worship with associated parking, lighting & landscaping).
- Peak operation on Sundays – 700 visitors for 43,400 sq. ft. building results in an assumed trip rate of 16.28, based on trip generation information provided by Kimley Horn.
- Compliance with the 2016 California Building Energy Efficiency Standards Code.

The proposed project's estimated emissions associated with construction and operations are presented and discussed in further detail below.

Construction Emissions

During construction of the project, various types of equipment and vehicles would temporarily operate on the project site. Construction exhaust emissions would be generated from construction equipment, vegetation clearing and earth movement activities, construction worker commutes, and construction material hauling for the entire construction period. The aforementioned activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project construction activities also represent sources of fugitive dust, which includes PM emissions. As construction of the proposed project would generate

air pollutant emissions intermittently within the site, and the vicinity of the site, until all construction has been completed, construction is a potential concern because the proposed project is in a non-attainment area for ozone and PM.

All projects under the jurisdiction of PCAPCD are required to comply with all applicable PCAPCD rules and regulations. Accordingly, the proposed project would be required to comply with all applicable PCAPCD rules and regulations for construction, which would be noted on City-approved construction plans. The applicable rules and regulations for construction would include, but would not be limited to, the following:

- Rule 202 related to visible emissions;
- Rule 217 related to cutback and emulsified asphalt paving materials;
- Rule 218 related to architectural coatings;
- Rule 228 related to fugitive dust; and
- Rule 501 related to general permit requirements.

It should be noted that PCAPCD prohibits open burning of cleared site vegetation during construction activities through Rule 3. The project site is currently developed with buildings and parking areas; therefore, little vegetation clearing would be necessary during construction. However, when landscaping vegetation is cleared, open burning of such material would be prohibited by the City of Roseville's Municipal Code, Section 16.16.070. Thus, open burning of vegetation during construction would not occur.

According to the CalEEMod results, which inherently accounts for applicable PCAPCD rules and regulations, the proposed project would result in maximum construction criteria air pollutant emissions as shown in Table 2. Assumptions used for the modeling are presented above.

Table 2			
Maximum Unmitigated Construction-Related Emissions			
Pollutant	Project Emissions (lbs/day)	PCAPCD Significance Threshold (lbs/day)	Exceeds Threshold?
ROG	22.75	82.0	NO
NO _x	52.33	82.0	NO
PM ₁₀	21.09	82.0	NO
<i>Source: CalEEMod, March 2017</i>			

As shown in the table, the proposed project's maximum unmitigated construction-related emissions would be well below the applicable thresholds of significance. Therefore, construction activities associated with development of the proposed project would not substantially contribute to the PCAPCD's nonattainment status for ozone or PM. Accordingly, construction of the proposed project would not violate any AAQS or contribute to an existing or projected air quality violation or conflict with or obstruct implementation of the applicable air quality plan, and a less-than-significant impact would occur associated with construction.

Operational Emissions

Operational emissions of ROG, NO_x, and PM₁₀ would be generated by the proposed project from area, energy, and mobile sources. Area sources include architectural coating vapors, landscape maintenance equipment exhaust, and use of consumer products (e.g., deodorants, cleaning products, spray paint, etc.). Energy sources

include electricity and natural gas consumption. Mobile-source emissions would result from the future employee and visitor vehicle trips.

As stated above, the proposed project would be required to comply with all applicable PCAPCD rules and regulations, including the following related to operations:

- Rule 205 related to nuisances;
- Rule 242 related to stationary internal combustion engines;
- Rule 231 or Rule 247 related to commercial water heaters and boilers; and
- Rule 502 related to review of new sources of emissions.

According to the CalEEMod results, the proposed project would result in maximum unmitigated operational emissions as shown in Table 3. Assumptions used for the modeling are presented above. As shown in the table, the proposed project's operational emissions would be well below the applicable thresholds of significance.

Table 3 Maximum Unmitigated Operational Emissions (lbs/day)			
Pollutant	Project Emissions (lbs/day)	PCAPCD Significance Threshold (lbs/day)	Exceeds Threshold?
ROG	7.17	55	NO
NO _x	4.53	55	NO
PM ₁₀	2.85	82	NO
Source: CalEEMod, March 2017			

Therefore, the proposed project would not substantially contribute to the PCAPCD's nonattainment status for ozone or PM during operations. Accordingly, operation of the proposed project would not violate any AAQS or contribute to an existing or projected air quality violation or conflict with or obstruct implementation of the applicable air quality plan, and a **less than significant** impact would occur associated with operations.

Conclusion

The proposed project's construction and operational emissions would not exceed the applicable thresholds of significance. In addition, the project would be required to comply with all applicable PCAPCD rules and regulations. Because the project would not exceed the thresholds of significance, the proposed project would not substantially contribute to the region's nonattainment status of ozone or PM. Therefore, implementation of the proposed project would not violate an air quality standard or contribute to an existing or projected air quality violation, and a **less than significant** impact related to air quality could occur.

c. A cumulative impact analysis considers a project over time in conjunction with other past, present, and reasonably foreseeable future projects whose impacts might compound those of the project being assessed. Due to the dispersive nature and regional sourcing of air pollutants, air pollution is already largely a cumulative impact. The nonattainment status of regional pollutants, including ozone and PM, is a result of past and present development, and, thus, cumulative impacts related to these pollutants could be considered cumulatively significant.

To improve air quality and attain the health-based standards, reductions in emissions are necessary within nonattainment areas. The project is part of a pattern of urbanization occurring in the greater Sacramento ozone nonattainment area. The growth and combined vehicle usage, and business activity within the nonattainment area from the project, in combination with other past, present, and reasonably foreseeable projects within Roseville and surrounding areas, could either delay attainment of the standards or require the adoption of additional controls on existing and future air pollution sources to offset emission increases. Thus, the project could cumulatively contribute to regional air quality health effects through emissions of criteria and mobile source air pollutants.

The PCAPCD recommends using the region's existing attainment plans as a basis for analysis of cumulative emissions. If a project would interfere with an adopted attainment plan, the project would inhibit the future attainment of AAQS, and thus result in a cumulative impact. As discussed above, the PCAPCD's recommended thresholds of significance for ozone precursors and PM₁₀ are based on attainment plans for the region. Thus, the PCAPCD concluded that if a project's ozone precursor and PM₁₀ emissions would be less than PCAPCD project-level thresholds, the project would not be expected to conflict with any relevant attainment plans, and would not result in a cumulatively considerable contribution to a significant cumulative impact. As a result, the PCACPD established operational phase cumulative-level emissions thresholds identical to the operational thresholds identified above, in Table 1.

As shown in Table 3 above, the proposed project would not result in emissions in exceedance of the applicable thresholds of significance for ozone precursors or PM₁₀. Accordingly, impacts related to the cumulative emissions of criteria pollutants for which PCAPCD is in non-attainment would be considered ***less than significant***.

d. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics. The proposed project involves construction and operation of a 43,400 square foot temple. Nearby residents, children attending the nearby school, park visitors, and future visitors to the new temple would be considered sensitive receptors.

The major pollutant concentrations of concern are localized CO emissions and toxic air contaminant (TAC) emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Implementation of the proposed project would increase traffic volumes on streets near the project site; therefore, the project would be expected to increase local CO concentrations. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. The Statewide CO Protocol document identifies signalized intersections operating at Level of Service (LOS) E or F, or projects that would result in the worsening of signalized intersections to LOS E or F, as having the potential to result in localized CO concentrations in excess of the State or federal AAQS, as a result of large numbers of cars idling at stop lights.¹

Consistent with the State CO Protocol, the PCAPCD recommends further analysis for localized CO concentrations if the project would cause a signalized intersection to be degraded from an acceptable LOS (i.e., LOS A, B, C, or D) to an unacceptable LOS (i.e., LOS E or F), or substantially worsen an already existing

¹ California Department of Transportation. *Transportation Project-Level Carbon Monoxide Protocol*. December 1997.

unacceptable peak-hour LOS at an intersection, as determined by a traffic study. Substantially worsen is defined by PCAPCD as an increase in delay by 10 seconds or more.

To assess potential traffic impacts that could result from operation of the proposed project, Kimley Horn completed a *Traffic Study* for the proposed project. Kimley Horn concluded that the proposed project would not result in the degradation of any intersections from acceptable to unacceptable LOS. The proposed project would cause a 0.8 second increase the delay at the intersection of Main Street and Elm Street that currently operates at an acceptable LOS B. It was concluded that this intersection will continue to operate at LOS C. A maximum increase in delay of 0.8 seconds would not be considered to substantially worsen the intersection according to the PCAPCD. Thus, the proposed project would not result in the degradation of an intersection operating at an acceptable LOS to an unacceptable LOS.

Based on the above, the proposed project would not result in substantial concentrations of localized CO at any affected intersection. Therefore, the proposed project would not expose sensitive receptors to substantial concentrations of CO.

TAC Emissions

Another category of environmental concern is TACs. The *CARB's Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks from TACs are a function of both the concentration of emissions and the duration of exposure. Health-related risks associated with DPM in particular are primarily associated with long-term exposure and associated risk of contracting cancer.

As part of the *California Building Industry Association v. Bay Area Air Quality Management District* case, the California Supreme Court granted limited review to the question: Under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users (receptors) of a proposed project? In the opinion published on December 17, 2015, the Supreme Court stated that even in those specific instances where evaluation of a project's potentially significant exacerbating effects on existing environmental hazards is appropriate, the evaluation of how future residents or users could be affected by the exacerbated conditions is still compelled by the project's impact on the environment, and not the environment's impact on the project.²

Considering the recent court rulings, while the proposed project would be considered a sensitive receptor, due to the presence of medical patients, consideration of potential impacts related to existing sources of TACs on future patients at the proposed medical office are outside of the scope of CEQA. However, potential sources of TACs related to operation or construction of the proposed project could have the potential to expose existing sensitive receptors to TACs. As discussed previously, the closest sensitive receptors to the project site are nearby residences, visitors to the nearby park, school children, and visitors to the Temple.

Construction-related activities could result in the generation of TACs, specifically diesel particulate matter (DPM), from on-road haul trucks and off-road equipment exhaust emissions. However, construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. All construction equipment and operation thereof would be regulated per the State's In-Use Off-Road Diesel Vehicle Regulation. Project construction would also be required to comply with all applicable PCAPCD rules and

² Alameda County Superior Court. *California Building Industry Association v. Bay Area Air Quality Management District*. A135335 and A136212. Filed August 12, 2016.

regulations, particularly associated with permitting of air pollutant sources. In addition, construction equipment would operate intermittently throughout the course of a day, would be restricted to daytime hours per Chapter 9.24 of the City's Municipal Code, and would likely only occur over portions of the project site at a time. According to PCAPCD, if construction emissions are below the applicable mass emissions thresholds of significance and grading would disturb less than 15 acres per day, construction DPM would not be generated such that associated health risks would result.³ As discussed above, and presented in Table 2, construction activity related to the proposed project would not result in mass emissions in excess of the thresholds of significance, nor would the project disturb more than 15 acres per day. In fact, construction of the proposed project would only disturb approximately three acres of land. As such, construction of the proposed project would not be expected to generate substantial DPM emissions that could result in health risks.

Considering the short-term nature of construction activities, the limited extent of ground disturbance, and the regulated and intermittent nature of the operation of construction equipment, the likelihood that any one sensitive receptor would be exposed to high concentrations of DPM for any extended period of time during construction would be low. For the aforementioned reasons, project construction would not be expected to expose sensitive receptors to substantial pollutant concentrations.

Conclusion

Based on the above, the proposed project would not expose any sensitive receptors to substantial concentrations of any pollutants. Therefore, impacts related to exposing sensitive receptors to substantial pollutant concentrations would be ***less than significant***.

e. Odors are generally regarded as an annoyance rather than a health hazard. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative methodologies to determine the presence of a significant odor impact do not exist. Certain land uses such as wastewater treatment facilities, landfills, confined animal facilities, composting operations, food manufacturing plants, refineries, and chemical plants have the potential to generate considerable odors. The project site is located in a developed area and is not located in the vicinity of any existing or planned such land uses. Community Assembly land uses (churches, temples) are not typically associated with the creation of objectionable odors. As discussed earlier, the Sikh Temple already operates at the site within existing buildings. As such, the proposed project would not be anticipated to change the odor setting of project area by introducing new land uses. Thus, the project would not introduce any new sources or be exposed to any existing sources of potential objectionable odors.

Although less common, diesel fumes associated with substantial diesel-fueled equipment and heavy-duty trucks, such as from construction activities or operations of emergency generators, could be found to be objectionable. However, as addressed above, construction is temporary and construction equipment would operate intermittently throughout the course of a day, would be restricted to certain hours per the City's Municipal Code, and would likely only occur over portions of the improvement area at a time. All construction equipment and operation thereof would be regulated per the statewide In-Use Off-Road Diesel Vehicle Regulation and the CARB's Airborne Toxic Control Measure for Stationary Compression Ignition Engines. Construction equipment and the emergency generator would also be required to comply with applicable PCAPCD rules and regulations, particularly associated with permitting of air pollutant sources. The aforementioned regulations would help to minimize air pollutant emissions as well as any associated odors. Considering the short-term nature of construction activities and the regulated and intermittent nature of the operation of construction, construction of the proposed project would not be expected to create objectionable odors affecting a substantial number of people.

³ Placer County Air Pollution Control District. Personal communication with Angel Green, Associate Planner. September 21, 2015.

PCAPCD Rule 205, Nuisance, addresses the exposure of “nuisance or annoyance” air contaminant discharges, including odors, and provides enforcement of odor control. Rule 205 is complaint-based, where if public complaints are sufficient to cause the odor source to be considered a public nuisance, then the PCAPCD is required to investigate the identified source, as well as determine and ensure a solution for the source of the complaint, which could include operational modifications to correct the nuisance condition. Thus, although not anticipated, if odor or air quality complaints are made upon development of the proposed project, the PCAPCD would be required (per PCAPCD Rule 205) to ensure that such complaints are addressed and mitigated, as necessary.

For the aforementioned reasons, construction and operation of the proposed project would not create objectionable odors affecting a substantial number of people, and impacts would be ***less than significant***.

IV. Biological Resources

The Sikh Temple site is currently developed with three buildings (totaling 19,925 square feet). The developed area of the site is 2.6 acres and is located on the southern portion of the site. This area includes buildings, parking areas, drive aisles, landscaping (trees and shrubbery) and lighting. The remaining area of the site to the north has been previously graded and has patchy covering of non-native grasses. During the site visit, staff observed soil disturbance from vehicles that have driven on the site.

A single native oak tree (Valley Oak – 16” Diameter at Breast Height [DBH]) was observed on the site, ±150 feet north of Main Street, and approximately 15 feet west of the easternmost drive aisle. It will be necessary to remove this tree. Additional native oak trees were observed along the eastern property boundary, at the western edge of the drainage swale located on the school district property immediately adjacent to and east of the project site, and also along the northern property line.

As defined by the City of Roseville Zoning Ordinance (Section 19.66, Tree Preservation) native oak trees of greater than six (6”) diameter at breast height are defined as protected. Requests to remove a protected native oak tree require approval of a Tree Permit from the approving authority. The project proposes removal of the native oak tree located on site (see Exhibit B – Grading Plan & Attachment 3 – Arborist Report/Tree Inventory). As required, the applicant has submitted a request for a Tree Permit. Conditions of approval of the Tree Permit will include additional protective measures for trees to remain on site, and mitigation measures that will include on-site replacement plantings, payment of in-lieu mitigation fees, or a combination thereof.

No other permits were required for the subject site of the proposed temple. No other natural resources exist on the subject property; therefore, the potential impacts to biological resources are considered to be less than significant.

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of				X

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Fish and Game or U.S. Fish and Wildlife Service?				
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

Thresholds of Significance and Regulatory Setting:

There is no ironclad definition of significance as it relates to biological resources. Thus, the significance of impacts to biological resources is defined by the use of expert judgment supported by facts, and relies on the policies, codes, and regulations adopted by the City and by regulatory agencies that relate to biological resources (as cited and described in the Discussion of Checklist Answers section). Thresholds for assessing the

significance of environmental impacts are based on the CEQA Guidelines checklist items a–f, above. Consistent with CEQA Guidelines Section 15065, a project may have a significant effect on the environment if:

The project has the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; [or] substantially reduce the number or restrict the range of an endangered, rare or threatened species . . .

Various agencies regulate impacts to the habitats and animals addressed by the CEQA Guidelines checklist. These include the United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration–Fisheries, United States Army Corps of Engineers, Central Valley Regional Water Quality Control Board, and California Department of Fish and Wildlife. The primary regulations affecting biological resources are described in the sections below.

Checklist item a addresses impacts to special status species. A “special status” species is one which has been identified as having relative scarcity and/or declining populations. Special status species include those formally listed as threatened or endangered, those proposed for formal listing, candidates for federal listing, and those classified as species of special concern. Also included are those species considered to be “fully protected” by the California Department of Fish and Wildlife (California Fish and Wildlife), those granted “special animal” status for tracking and monitoring purposes, and those plant species considered to be rare, threatened, or endangered in California by the California Native Plant Society (CNPS). The primary regulatory protections for special status species are within the Federal Endangered Species Act, California Endangered Species Act, California Fish and Game Code, and the Federal Migratory Bird Treaty Act.

Checklist item b addresses all “sensitive natural communities” that may be affected by local, state, or federal regulations/policies while checklist item c focuses specifically on one type of such a community: federally-protected wetlands. Focusing first on wetlands, there are two questions to be posed in examining wet habitats: the first is whether the wetted area meets the technical definition of a wetland, making it subject to checklist item b, and the second is whether the wetland is subject to federal jurisdiction, making it subject to checklist item c. The 1987 Army Corps Wetlands Delineation Manual is used to determine whether an area meets the technical criteria for a wetland. A delineation verification by the Army Corps verifies the size and condition of the wetlands and other waters in question, and determines the extent of government jurisdiction as it relates to Section 404 of the Federal Clean Water Act and Section 401 of the State Clean Water Act.

The Clean Water Act protects all “navigable waters”, which are defined as traditional navigable waters that are or were used for commerce, or may be used for interstate commerce; tributaries of covered waters; and wetlands adjacent to covered waters, including tributaries. Non-navigable waters are called isolated wetlands, and are not subject to either the Federal or State Clean Water Act. Thus, isolated wetlands are not subject to federal wetland protection regulations. However, in addition to the Clean Water Act, the State also has jurisdiction over impacts to surface waters through the Porter-Cologne Water Quality Control Act (Porter-Cologne), which does not require that waters be “navigable”. For this reason, isolated wetlands are regulated by the State of California pursuant to Porter-Cologne. The City of Roseville General Plan also provides protection for wetlands, including isolated wetlands, pursuant to the General Plan Open Space and Conservation Element. Federal, State and City regulations/policies all seek to achieve no net loss of wetland acreage, values, or function.

Aside from wetlands, checklist item b also addresses other “sensitive natural communities,” which includes any habitats protected by local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. The City of Roseville General Plan Open Space and Conservation Element includes policies for the protection of riparian areas (streamside habitat) and floodplain areas; these are Vegetation and Wildlife section Policies 2 and 3. Policy 4 also directs preservation of additional area around stream corridors and floodplain if there is sensitive woodland, grassland, or other habitat which could be made part of a contiguous open space area. Other than wetlands, which were already discussed, US Fish and Wildlife

and California Department of Fish and Wildlife habitat protections generally result from species protections, and are thus addressed via checklist item a.

For checklist item d, there are no regulations specific to the protection of migratory corridors. This item is addressed by an analysis of the habitats present in the vicinity and analyzing the probable effects on access to those habitats which will result from a project.

The City of Roseville Tree Preservation ordinance (RMC Ch.19.66) requires protection of native oak trees, and compensation for oak tree removal. The Findings of the Implementing Procedures indicate that compliance with the City of Roseville Tree Preservation ordinance (RMC Ch.19.66) will prevent significant impacts related to loss of native oak trees, referenced by item e, above.

Regarding checklist item f, there are no adopted Habitat Conservation Plans within the City of Roseville.

Discussion of Checklist Answers:

a) The site of proposed temple building is currently developed with three buildings and associated parking, landscaping and lighting. The site is isolated from other habitat and is only approximately 5.8 acres in size. While the property could provide refuge for common, small burrowing mammals or reptile species found in urban environments, it is too small and isolated to provide habitat for larger animals or predators. Birds of prey could forage incidentally on the site; however, the site is too isolated and small to provide any substantial or vital habitat. The Northwest Roseville Specific Plan (NWRSP) EIR did not identify any rare or endangered wildlife species that inhabited the project site. Therefore, the project will not cause any substantial adverse impacts to a special status species.

b) There were no sensitive natural communities observed or identified on the site, and thus the project will have no impact with regard to this criterion.

c) No potential wetlands have been identified or observed on the site, nor has the site been known historically to support wetlands. Since the site does not contain wetlands, there is no impact with regard to this criterion.

d) The City includes an interconnected network of open space corridors and preserves located throughout the City to ensure that the movement of wildlife is not substantially impeded as the City develops. The development of the project site will not negatively impact these existing and planned open space corridors, nor is the project site located in an area that has been designated by the City, United States Fish and Wildlife, or California Department of Fish and Wildlife as vital or important for the movement of wildlife or the use of native wildlife nursery sites.

e) The City has a Tree Preservation Ordinance for the protection of native oak trees. As required, the applicant has submitted a request for a Tree Permit for removal of the one native oak tree on site. Conditions of approval of the Tree Permit will include additional protective measures and mitigation measures that will include on-site replacement plantings, payment of in-lieu mitigation fees, or a combination thereof. Therefore, project-specific impacts are ***less than significant***.

f) There are no Habitat Conservation Plans; Natural Community Conservation Plans; or other approved local, regional, or state habitat conservation plans that apply to the project site.

V. Cultural Resources

As described within the Open Space and Conservation Element of the City of Roseville General Plan, the Roseville region was within the territory of the Nisenan (also Southern Maidu or Valley Maidu). Two large

permanent Nisenan habitation sites have been identified and protected within the City's open space (in Maidu Park). Numerous smaller cultural resources, such as midden deposits and bedrock mortars, have also been recorded in the City. The gold rush which began in 1848 marked another settlement period, and evidence of Roseville's ranching and mining past are still found today. Historic features include rock walls, ditches, low terraces, and other remnants of settlement and activity. A majority of documented sites within the City are located in areas designated for open space uses.

Also, pursuant to Assembly Bill 52 (AB 52) the current project was routed to all tribes which requested such notice. The United Auburn Indian Community (UAIC) and Shingle Springs Rancheria responded to the AB 52 notification letter. As Lead Agency, the City of Roseville has provided background information regarding the project site and is in continuing dialogue with the tribes, per AB 52 protocol.

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of an historic resource as defined in Section 15064.5?			X	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?			X	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	
d) Disturb any human remains, including those interred outside of dedicated cemeteries?			X	

Thresholds of Significance and Regulatory Setting:

The significance of impacts to cultural resources is based directly on the CEQA Guidelines checklist items a–e listed above. The Archaeological, Historic, and Cultural Resources section of the City of Roseville General Plan also directs the proper evaluation of and, when feasible, protection of significant resources (Policies 1 and 2). There are also various federal and State regulations regarding the treatment and protection of cultural resources, including the National Historic Preservation Act and the Antiquities Act (which regulate items of significance in history), Section 7050.5 of the California Health and Safety Code, Section 5097.9 of the California Public Resources Code (which regulates the treatment of human remains) and Section 21073 et seq. of the California Public Resources Code (regarding Tribal Cultural Resources). The CEQA Guidelines also contains specific sections, other than the checklist items, related to the treatment of effects on historic resources.

The CEQA Guidelines contains specific sections, other than the checklist items, related to the treatment of effects on historic and archeological resources. Pursuant to the CEQA Guidelines, if it can be demonstrated that a

project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2 (a), (b), and (c)). A *historical resource* is a resource listed, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR) (Section 21084.1); a resource included in a local register of historical resources (Section 15064.5(a)(2)); or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (Section 15064.5 (a)(3)). Public Resources Code Section 5024.1 requires evaluation of historical resources to determine their eligibility for listing on the CRHR.

Discussion of Checklist Answers:

a–b and d) The project site is developed with the existing Sikh Temple, and is surrounded with urban development, including major roadways, a school district office, school site, residential communities, and commercial centers.

The Northwest Roseville Specific Plan (NWRSP) EIR included an Archeology and History chapter with reference to the Cultural Resource Inventory and Evaluation prepared by Public Anthropological Research (PAR) in 1986, and concluded that no significant archeologic or historic sites were identified in the survey. The EIR includes Mitigation Measures applicable to archeological features and artifacts, should any be found on site. Language included in the measure requires an immediate cessation of work, and the requirement to contact the appropriate agencies to address the resource before work can resume. This mitigation need not be applied herein, as it is already applicable and required of the project pursuant to the NWRSP. The project will not result in any new impacts beyond those already discussed and disclosed in the NWRSP EIR; therefore, project-specific impacts are ***less than significant***.

c) No paleontological resources are known to exist on the project site per the NWRSP EIR; however, standard mitigation measures apply which are designed to reduce impacts to such resources, should any be found on-site. The measure requires an immediate cessation of work, and contact with the appropriate agencies to address the resource before work can resume. The project will not result in any new impacts beyond those already discussed and disclosed in the NWRSP EIR; therefore, project-specific impacts are ***less than significant***.

VI. Geology and Soils

As described in the Safety Element of the City of Roseville General Plan, there are three inactive faults (Volcano Hill, Linda Creek, and an unnamed fault) in the vicinity, but there are no known active seismic faults within Placer County. The last seismic event recorded in the South Placer area occurred in 1908, and is estimated to have been at least a 4.0 on the Richter Scale. Due to the geographic location and soil characteristics within the City, the General Plan indicates that soil liquefaction, landslides, and subsidence are not a significant risk in the area.

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:			X	

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
i) Ruptures of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located in a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

Thresholds of Significance and Regulatory Setting:

The significance of impacts related to geology and soils is based directly on the CEQA Guidelines checklist items a–e listed above. Regulations applicable to this topic include the Alquist-Priolo Act, which addresses earthquake safety in building permits, and the Seismic Hazards Mapping Act, which requires the state to gather and publish data on the location and risk of seismic faults.

The Findings of the Implementing Procedures indicate that compliance with the Flood Damage Prevention Ordinance (RMC Ch.9.80) and Design/Construction Standards (Resolution 07-107) will prevent significant impacts related to checklist item b. The Ordinance and standards include permit requirements for construction and development in erosion-prone areas and ensure that grading activities will not result in significant soil erosion or loss of topsoil. The use of septic tanks or alternative waste systems is not permitted in the City of Roseville, and therefore no analysis of criterion e is necessary.

Discussion of Checklist Answers:

a) The project will not expose people or structures to potential substantial adverse effects involving seismic shaking, ground failure or landslides.

i–iii) According to United States Geological Service mapping and literature, active faults are largely considered to be those which have had movement within the last 10,000 years (within the Holocene or Historic time periods)⁴ and there are no major active faults in Placer County. The California Geological Survey has prepared a map of the state which shows the earthquake shaking potential of areas throughout California based primarily on an area's distance from known active faults. The map shows that the City lies in a relatively low-intensity ground-shaking zone. Commercial, institutional, and residential buildings as well as all related infrastructure are required, in conformance with Chapter 16, *Structural Design Requirements*, Division IV, *Earthquake Design* of the California Building Code, to lessen the exposure to potentially damaging vibrations through seismic-resistant design. In compliance with the Code, all structures in the Project area would be well-built to withstand ground shaking from possible earthquakes in the region; impacts are **less than significant**.

iv) Landslides typically occur where soils on steep slopes become saturated or where natural or manmade conditions have taken away supporting structures and vegetation. The project site is relatively flat and existing and proposed slopes of the project site are not steep enough to present a hazard during development or upon completion of the project. In addition, measures would be incorporated during construction to shore minor slopes and prevent potential earth movement. Therefore, impacts associated with landslides are **less than significant**.

b) Grading activities will result in the disruption, displacement, compaction and over-covering of soils associated with site preparation (grading and trenching for utilities). Grading activities for the project will be limited to the project site. Grading activities require a grading permit from the Engineering Division. The grading permit is reviewed for compliance with the City's Improvement Standards, including the provision of proper drainage, appropriate dust control, and erosion control measures. Grading and erosion control measures will be incorporated into the required grading plans and improvement plans. Therefore, the impacts associated with disruption, displacement, and compaction of soils associated with the project are **less than significant**.

c, d) A review of the Natural Resources Conservation Service Soil Survey for Placer County, accessed via the Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/>), indicates that the soils on the site are Cometa-Fiddyment complex (1% - 5% slopes), which are not listed as geologically unstable or sensitive. Additionally, the Roseville General Plan finds such impacts to be **less than significant** since new buildings and structures are required to comply with all applicable building codes. A soil report is required with the submittal of the

⁴ United States Geological Survey, <http://earthquake.usgs.gov/learn/glossary/?term=active%20fault>, Accessed January 2016

improvement plans. The City of Roseville Building Department will review construction plans before a building permit is issued and the Engineering Division will review and approve all rough grading plans to ensure that all grading and structures would withstand shrink-swell potentials and earthquake activity in this area.

e) The City's General Plan Policy requires that new development connect to the City's sanity sewer system. The City's Environmental Utilities Department has reviewed the project and determined that City's sanity sewer system can accommodate the project. No septic tanks will be permitted as part of the project. Therefore, no impact to soils relative to supporting use of septic tanks would occur.

VII. Greenhouse Gases

Greenhouse gases trap heat in the earth's atmosphere. The principal greenhouse gases (GHGs) that enter the atmosphere because of human activities are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. As explained by the United States Environmental Protection Agency⁵, global average temperature has increased by more than 1.5 degrees Fahrenheit since the late 1800s, and most of the warming of the past half century has been caused by human emissions. The City has taken proactive steps to reduce greenhouse gas emissions, which include the introduction of General Plan policies to reduce emissions, changes to City operations, and climate action initiatives. These are all described in a fact sheet available at http://www.roseville.ca.us/gov/development_services/_planning/general_plan_n_development_guidelines.as

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

Thresholds of Significance and Regulatory Setting:

In Assembly Bill 32 (the California Global Warming Solutions Act), signed by Governor Schwarzenegger of California in September 2006, the legislature found that climate change resulting from global warming was a threat to California, and directed that "the State Air Resources Board design emissions reduction measures to meet the statewide emissions limits for greenhouse gases . . .". The target established in AB 32 was to reduce emissions to 1990 levels by the year 2020. CARB subsequently prepared the *Climate Change Scoping Plan* (Scoping Plan) for California, which was approved in 2008. The Scoping Plan provides the outline for actions to reduce California's GHG emissions. CARB's updated August 2011 Scoping Plan calculated a reduction needed of 21.7% from future "Business As Usual" (BAU) conditions in the year 2020. The current Scoping Plan (adopted May 2014) indicates that statewide emissions of GHG in 1990 amounted to 431 million metric tons, and that the 2020 "Business As Usual" (BAU) scenario is estimated as 509⁶ million metric tons, which would require a reduction of 15.3% from 2020 BAU. In addition to this, Senate Bill 32 was signed by the Governor on September

⁵ <http://www3.epa.gov/climatechange/science/overview.html>, Accessed January 2016

⁶ Includes Pavely and Renewables Portfolio Standard reduction

8, 2016, to establish a reduction target of 40 percent below 1990 levels by 2030. The Air Resources Board is currently updating the Scoping Plan to reflect this target.

The Placer County Air Pollution Control District (PCAPCD) recommends that thresholds of significance for GHG be related to AB 32 reduction goals, and has adopted thresholds of significance which take into account the 2030 reduction target. The thresholds include a de minimis and a bright-line maximum threshold. Any project emitting less than 1,100 metric tons of carbon dioxide equivalents per year (MT CO₂e/yr) during construction or operation results in **less than significant** impacts. The PCAPCD considers any project with emissions greater than the bright-line cap of 10,000 MT CO₂e/yr to have significant impacts. For projects exceeding the de minimis threshold, but below the bright-line threshold, comparison to the appropriate efficiency threshold is recommended. The significance thresholds are shown in Table 1 below.

Table 1: GHG Significance Thresholds

Bright-line Threshold 10,000 MT CO ₂ e/yr			
Residential Efficiency (MT CO ₂ e/capita ¹)		Non-Residential Efficiency (MT CO ₂ e/ksf ²)	
Urban	Rural	Urban	Rural
4.5	5.5	26.5	27.3
De Minimis Threshold 1,100 MT CO ₂ e/yr			
1. Per Capita = per person 2. Per ksf = per 1,000 square feet of building			

Discussion of Checklist Answers:

a,b) Emissions of greenhouse gases (GHGs) contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Recognizing the global scale of climate change, California has enacted several pieces of legislations in an attempt to address GHG emissions. Specifically, Assembly Bill (AB) 32, and more recently Senate Bill (SB) 32, have established statewide GHG emissions reduction targets. Accordingly, the CARB has prepared the Climate Change Scoping Plan for California (Scoping Plan), which was approved in 2008 and updated in 2014. The Scoping Plan provides the outline for actions to reduce California's GHG emissions and achieve the emissions reductions targets required by AB 32. In concert with statewide efforts to reduce GHG emissions, air districts, counties, and local jurisdictions throughout the State have implemented their own policies and plans to achieve emissions reductions in line with the Scoping Plan and emissions reductions targets, including AB 32 and SB 32.

As a means of achieving the regional GHG emissions reductions goals required by AB 32, on October 13, 2016, the PCAPCD adopted GHG emissions thresholds to help the district attain the GHG reduction goals established by AB 32 and SB 32. The common unit of measurement for GHG, used by PCAPCD, is expressed in terms of annual metric tons of CO₂ equivalents (MTCO₂e/yr). The updated thresholds begin with a screening emission level of 1,100 MT CO₂e/yr. Any project below the 1,100 MT CO₂e/yr threshold is judged by the PCAPCD as having a less-than-significant impact on GHG emissions within the District, and thus would not conflict with any

state or regional GHG emissions reduction goals. Projects that would result in emissions above the 1,100 MT CO₂e/yr threshold would not necessarily result in substantial impacts, if certain efficiency thresholds are met. The efficiency thresholds, which are calculated on a per capita or square foot basis, are presented in Table 4.

Table 4			
PCAPCD Operational Thresholds of Significance			
Efficiency Thresholds			
Residential (MT CO₂e/capita)		Non-Residential (MT CO₂e/1,000 sf)	
Urban	Rural	Urban	Rural
4.5	5.5	26.5	27.3
<i>Source: Placer County Air Pollution Control District. Placer County Air Pollution Control District Policy. Review of Land Use Projects Under CEQA. October 13, 2016.</i>			

Projects that fall below the 1,100 MT CO₂e/yr threshold or meet the efficiency thresholds are considered to be in keeping with statewide GHG emissions reduction targets, which would ensure that the proposed project would not inhibit the State's achievement of GHG emissions reductions. Thus, projects with emissions below the 1,100 MT CO₂e/yr threshold or below the efficiency thresholds presented in Table 4, are considered to result in less-than-significant impacts in regards to GHG emissions within the District and thus would not conflict with any state or regional GHG emissions reduction goals. Finally, the PCAPCD has also established a Bright Line Cap, which shall be the maximum limit for any proposed project. The Bright Line Cap is 10,000 MT CO₂e/yr for all types of projects.

Implementation of the proposed project would cumulatively contribute to increases of GHG emissions. Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO₂) and, to a lesser extent, other GHG pollutants, such as methane (CH₄) and nitrous oxide (N₂O) associated with area sources, mobile sources or vehicles, utilities (electricity and natural gas), water usage, wastewater generation, the generation of solid waste, and the use of the emergency generator. The primary source of GHG emissions for the project would be mobile source emissions.

Buildout of the proposed project would contribute to increases of GHG emissions that are associated with global climate change during construction and operations. The proposed project's short-term construction-related and long-term operational GHG emissions are presented below.

Short-Term Construction GHG Emissions

Construction-related GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change, as global climate change is inherently a cumulative effect that occurs over a long period of time and is quantified on a yearly basis. However, the proposed project's construction GHG emissions have been estimated and compared to the PCAPCD's operational thresholds of significance for informational purposes. The proposed project's total construction-related GHG emissions are presented in Table 5. The construction modeling assumptions are described in the Air Quality section above.

Table 5	
Total Unmitigated Project Construction GHG Emissions	
Construction GHG Emissions (MTCO₂e)	Threshold of Significance (MTCO₂e/yr)
426.14	1,100
<i>Source: CalEEMod, March 2017</i>	

As shown in Table 5 above, the proposed project's total unmitigated construction-related GHG emissions would be below the applicable 1,100 MT CO₂e/yr threshold. Accordingly, the proposed project would not be expected to have a significant impact related to GHG emissions during construction.

Long-Term Operational GHG Emissions

The proposed project's estimated operational GHG emissions are presented in Table 6. It should be noted that modeling for operation of the proposed project was adjusted to reflect the CO₂ intensity factor for energy provided by Roseville Electric, based on Roseville Electric's progress towards meeting the State's Renewable Energy Portfolio Standards. All other operational modeling assumptions are described in the Air Quality section above.

Table 6	
Unmitigated Project Operational GHG Emissions	
Emission Source	Annual GHG Emissions (MTCO₂e/yr)
Area	8.50
Energy	231/34
Mobile	349.76
Solid Waste	50.25
Water	5.76
TOTAL ANNUAL GHG EMISSIONS	637.10
<i>Source: CalEEMod, March 2017</i>	

As shown in the table, the proposed project would not result in operational GHG emissions in excess of the 1,100 MTCO₂e threshold.

Based on the above, the proposed project would not be considered to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, impacts related to GHG emissions and global climate change would not be cumulatively considerable and would be considered **less than significant**.

VIII. Hazards and Hazardous Materials

There are no hazardous cleanup sites of record within 1,000 feet of the site according to either the Department of Toxic Substances Control Envirostor database (<http://www.envirostor.dtsc.ca.gov/public/>) or the State Water Resources Control Board Geotracker database (<http://geotracker.waterboards.ca.gov/>). The nearest properties where hazardous materials are stored or handled includes the underground fuel storage tank at the gas station adjacent approximately 400 feet southwest of the project site. No previous environmental review of the site has found evidence of contamination or hazardous conditions. The nearest school to the project site is Kaseberg Elementary school, located approximately 600 feet west of the site.

The project is not located within an airport land use plan area, no airports are located within two miles of the project site, and the project site is not located within the vicinity of a private airstrip; therefore, no impact would occur.

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment though reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing in the project area?			X	
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

Thresholds of Significance and Regulatory Setting:

The significance of impacts related to hazardous materials is based directly on the CEQA Guidelines checklist items a–h listed above. A material is defined as hazardous if it appears on a list of hazardous materials prepared by a federal, state or local regulatory agency, or if it has characteristics defined as hazardous by such an agency. The determination of significance based on the above criteria depends on the probable frequency and severity of consequences to people who might be exposed to the health hazard, and the degree to which Project design or existing regulations would reduce the frequency of or severity of exposure. As an example, products commonly used for household cleaning are classified as hazardous when transported in large quantities, but one would not conclude that the presence of small quantities of household cleaners at a home would pose a risk to a school located within ¼-mile.

Many federal and State agencies regulate hazards and hazardous substances, including the United States Environmental Protection Agency (US EPA), California Department of Toxic Substances Control (DTSC), Central Valley Regional Water Quality Control Board (Regional Water Board), and the California Occupational Safety and Health Administration (CalOSHA). The state has been granted primacy (primary responsibility for oversight) by the US EPA to administer and enforce hazardous waste management programs. State regulations also have detailed planning and management requirements to ensure that hazardous materials are handled, stored, and disposed of properly to reduce human health risks. California regulations pertaining to hazardous waste management are published in the California Code of Regulations (see 8 CCR, 22 CCR, and 23 CCR).

The project is not within an airport land use plan, within two miles of a public or public use airport and there are no private airstrips in the vicinity of the project areas.

Discussion of Checklist Answers:

The City's Mitigating Policies and Standards that have been adopted as they relate to hazards and hazardous materials (i.e. Hazardous Materials Management Program (HMMP), Site-specific Business Plan with the City's Fire Department, Risk Management and Prevention Program (RMPP)) will substantially mitigate any potential impacts.

a-b) Standard construction activities would require the use of hazardous materials such as fuels, oils, lubricants, glues, paints and paint thinners, soaps, bleach, and solvents. These are common household and commercial materials routinely used by both businesses and average members of the public. The materials only pose a hazard if they are improperly used, stored, or transported either through upset conditions (e.g. a vehicle accident) or mishandling. Regulations pertaining to the transport of materials are codified in 49 Code of Federal Regulations 171–180, and transport regulations are enforced and monitored by the California Department of Transportation and by the California Highway Patrol. Specifications for storage on a construction site are contained in various regulations and codes, including the California Code of Regulations, the Uniform Fire Code, and the California Health and Safety Code. These same codes require that all hazardous materials be used and stored in the manner specified on the material packaging. Existing

regulations and programs are sufficient to ensure that potential impacts as a result of the use or storage of hazardous materials are reduced to less than significant levels.

c) See response to Items (a) and (b) above. The project is located approximately 600 feet west of Kaseberg Elementary School. The potential does exist for community assembly uses to store and/or use toxic/flammable materials (i.e. solvents for cleaning and maintenance, etc.). The California Health and Safety Code, and local City Ordinances regulate the handling, storage and transportation of hazardous and toxic materials. The California Health and Safety Codes require a Risk Management and Prevention Program (RMPP) for those uses that handle specified quantities of toxic and/or hazardous materials. Also, businesses which handle toxic or hazardous materials are required to complete a Hazardous Materials Management Program (HMMP). Furthermore, all business owners must file a site-specific business plan with the City's Fire Department before a new building is occupied. All plans would specify what to do in the event of an accident, and which transportation routes would be used. Because the community assembly use that is proposed would be required to comply with these codes, ordinances and programs, staff has determined that the impact to the environment will be ***less than significant***.

d) The project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5⁷; therefore, no impact will occur.

e-f) The project site is not located near or within an airport land use plan or private airstrip.

g) This project is located within an area currently receiving City emergency services and development of the site has been anticipated and incorporated into emergency response plans. Therefore, the project will cause a ***less than significant*** impact to the City's Emergency Response or Management Plans. Furthermore, the project will be required to comply with all local, State and federal requirements for the handling of hazardous materials. These will require the following programs:

- A Risk Management and Prevention Program (RMPP) is required of uses that handle toxic and/or hazardous materials in quantities regulated by the California Health and Safety Code and/or the City.
- Businesses that handle toxic or hazardous materials are required to complete a Hazardous Materials Management Program (HMMP) pursuant to local, State, or federal requirements.

h) The California Department of Forestry and Fire Protection (CAL FIRE) is the state agency responsible for wildland fire protection and management. As part of that task, CAL FIRE maintains maps designating Wildland Fire Hazard Severity zones. The City is not located within a Very High Fire Hazard Severity Zone, and is not in a CAL FIRE responsibility area; fire suppression is entirely within local responsibility. The project site is in an urban area, on a developed Sikh Temple property, and therefore would not expose people to any risk from wildland fire. There would be no impact with regard to this criterion.

IX. Hydrology and Water Quality

As described in the Open Space and Conservation Element of the City of Roseville General Plan, the City is located within the Pleasant Grove Creek Basin and the Dry Creek Basin. Pleasant Grove Creek and its tributaries drain most of the western and central areas of the City and Dry Creek and its tributaries drain the remainder of the City. Most major stream areas in the City are located within designated open space.

⁷ <http://www.calepa.ca.gov/SiteCleanup/CorteseList/SectionA.htm>

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site?			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site?			X	
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted water?			X	

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiches, tsunami, or mudflow?				X

Thresholds of Significance and Regulatory Setting:

The significance of impacts related to hydrology and water quality is based directly on the CEQA Guidelines checklist items a–j listed above. For checklist item a, the Findings of the Implementing Procedures indicate that compliance with the City of Roseville Design/Construction Standards (Resolution 07-107), Urban Stormwater Quality Management and Discharge Control Ordinance (RMC Ch. 14.20), and Stormwater Quality Design Manual (Resolution 16-152) will prevent significant impacts. The standards require preparation of an erosion and sediment control plan for construction activities and includes designs to control pollutants within post-construction urban water runoff. Likewise, it is indicated that the Drainage Fees for the Dry Creek and Pleasant Grove Watersheds (RMC Ch.4.48) and City of Roseville Design/Construction Standards (Resolution 07-107) will prevent significant impacts related to item e. The ordinance and standards require the collection of drainage fees to fund improvements that mitigate potential flooding impacts, and require the design of a water drainage system that will adequately convey anticipated stormwater flows. Finally, it is indicated that compliance with the Flood Damage Prevention Ordinance (RMC Ch. 9.80) will prevent significant impacts related to items g, h, and i. The Ordinance includes standard requirements for all new construction, including regulation of development with the potential to impede or redirect flood flows, and prohibits development within flood hazard areas. Impacts from tsunamis and seiches were screened out of the analysis (item j) given the fact that the project is not located near a water body or other feature that would pose a risk of such an event.

Discussion of Checklist Answers:

a,c,d,e, f) The project will involve the disturbance of on-site soils and the construction of impervious surfaces, such as asphalt paving and buildings. Disturbing the soil can allow sediment to be mobilized by rain or wind, and cause displacement into waterways. To address this and other issues, the developer is required to receive

approval of a grading permit and/or improvement plans prior to the start of construction. The permit or plans are required to incorporate mitigation measures for dust and erosion control. In addition, the City has a National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit issued by the Central Valley Regional Water Quality Control Board which requires the City to reduce pollutants in stormwater to the maximum extent practicable. The City does this, in part, by means of the City's 2013 Design/Construction Standards, which require preparation and implementation of a Stormwater Pollution Prevention Plan. All permanent stormwater quality control measures must be designed to comply with the City's Manual for Stormwater Quality Control Standards for New Development, the City's 2013 Design/Construction Standards, Urban Stormwater Quality Management and Discharge Control Ordinance, and Stormwater Quality Design Manual. For these reasons, impacts related to water quality are **less than significant**.

b) The project does not involve the installation of groundwater wells. The City maintains wells to supplement surface water supplies during multiple dry years, but the effect of groundwater extraction on the aquifer was addressed in the Water Supply Assessment of the Amoruso Ranch Specific Plan EIR, which included a Citywide water analysis. The proposed project is consistent with the General Plan land use designation, and is thus consistent with the citywide Water Supply Assessment. Project impacts related to groundwater extraction are **less than significant**.

g, h, j) According to the City's floodplain data, the project is not located within the City's Regulatory Floodplain. As a result, implementation of the proposed project would not place housing or any structures within an area at risk of flood flows. There would be no impact with regard to these criteria.

k) Folsom Dam, which is located approximately 10 miles southeast of the project site, is the closet dam to the project site. While portions of the City could be subject to flooding in the event of failure or damage of Folsom Dam, the project site is not located in an area that would be subject to inundation due to dam failure. Therefore, there would be no impact.

l) Because the proposed project is located within an area of flat topography and is furthermore not within a floodplain there is no risk of debris flow or mudflow. There would be no impact with regard to this criterion.

X. Land Use and Planning

The project site is located within the City's Northwest Roseville Specific Plan area with a zoning designation of Single-Family Residential (R1), with a General Plan and Specific Plan land use designation of Public/Quasi-Public (P/QP). The proposed project is consistent with the zoning designation; with the exception of the proposed height of the Temple (65 feet). Zoning Ordinance Development Standards permit a maximum height of 35 feet within the R1 zoning district. Per the City's Zoning Ordinance, a Variance shall be obtained to allow deviation from development standards, including building height. The project entitlements include a Variance request. With approval of the Variance, the project is considered to be consistent with the zoning and land use designations.

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?				X

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Thresholds of Significance and Regulatory Setting:

The significance of impacts related to land use is based directly on the CEQA Guidelines checklist items a–c listed above. Consistency with applicable City General Plan policies, Improvement Standards, and design standards is already required and part of the City’s processing of permits and plans, so these requirements do not appear as mitigation measures.

Discussion of Checklist Answers:

a) The project area has been master planned for development, including adequate roads, pedestrian paths, and bicycle paths to provide connections within the community. The project will not physically divide an established community.

b) As referenced above, the tallest Sikh architectural dome element has a maximum height of 56 feet to the top of the dome, plus an additional nine feet (9’±) to the top of the ornate finial atop the dome. The Zoning Ordinance Development Standard for maximum building height in the R1 zoning district is 35 feet. Zoning Ordinance Chapter 19.74.020A. states that a Variance must be obtained to allow deviation from development standards, including height requirements. The applicant has applied for a Variance to allow the Temple’s height to exceed the Zoning Ordinance R1 standard of 35 feet. With approval of the Variance, the project is consistent with, and does not conflict with the City’s General Plan, Zoning Ordinance, Northwest Roseville Specific Plan’s Land Use Plan.

c) There are no Habitat Conservation Plans or Natural Community Conservation Plans covering the project site; therefore, no impact would occur.

XI. Mineral Resources

The Surface Mining and Reclamation Act (SMARA) of 1975 requires the State Geologist to classify land into Mineral Resource Zones (MRZ’s) based on the known or inferred mineral resource potential of that land. The California Division of Mines and Geology (CDMG) was historically responsible for the classification and designation of areas containing—or potentially containing—significant mineral resources, though that responsibility now lies with the California Geological Survey (CGS). CDMG published Open File Report 95-10,

which provides the mineral classification map for Placer County. A detailed evaluation of mineral resources has not been conducted within the City limits, but MRZ's have been identified. There are four broad MRZ categories (MRZ-1 through MRZ-4), and only MRZ-2 represents an area of known significant mineral resources. The City of Roseville General Plan EIR included Exhibit 4.1-3, depicting the location of MRZ's in the City limits. There is only one small MRZ-2 designation area, located at the far eastern edge of the City.

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

Thresholds of Significance and Regulatory Setting:

The significance of impacts related to mineral resources is based directly on the CEQA Guidelines checklist items a and b listed above.

Discussion of Checklist Answers:

a–b) The project site is not in the area of the City known to include any mineral resources that would be of local, regional, or statewide importance; therefore, the project has no impacts on mineral resources.

XII. Noise

The project site and adjacent properties are fully developed, or under construction. Existing development on site and within the immediate vicinity includes major roadways (six-lane arterial and four-lane collector), existing church/temple buildings, commercial buildings and centers, and surface parking lots.

Would the project result in:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Exposure of persons to or generation of excessive ground borne vibration of ground borne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

Thresholds of Significance and Regulatory Setting:

Standards for transportation noise and non-transportation noise affecting existing or proposed land uses are established within the City of Roseville General Plan Noise Element Table IX-1 and IX-3, and these standards are used as the thresholds to determine the significance of impacts related to items a and c. The significance of other noise impacts is based directly on the CEQA Guidelines checklist items b, and d–f listed above. The Findings of the Implementing Procedures indicate that compliance with the City Noise Regulation (RMC Ch. 9.24) will prevent significant non-transportation noise as it relates to items a, b, and c. The Ordinance establishes noise exposure standards that protect noise-sensitive receptors from a variety of noise sources, including non-transportation/fixed noise, amplified sound, industrial noise, and events on public property. The project is not within an airport land use plan, within two miles of a public or public use airport and there are also no private airstrips in the vicinity of the project area. Therefore, items e and f have been ruled out from further analysis.

Discussion of Checklist Answers:

a,c) The principally permitted use on the site, (community assembly) typically generates low to moderate noise levels through the use of mechanical equipment such as roof top air conditioning units. The site is adjacent to commercial buildings, a school site and major roadways. Consistent with the City's Community Design

Guidelines the mechanical equipment will be required to be screened. It is anticipated that long-term noise impacts will be minimal and well within the limits established by the City's Municipal Code Section 9.24.

b,d) Surrounding uses may experience short-term increases in groundborne vibration, groundborne noise, and airborne noise levels during construction. However, these impacts are temporary in nature and are not anticipated to result in any unusual or excessive ground-borne vibration or noise levels. When conducted during daytime hours, construction activities are exempt from Noise Ordinance standards, but the standards do apply to construction occurring during nighttime hours. While the noise generated may be a minor nuisance, the City Noise Regulation standards are designed to ensure that impacts are not unduly intrusive. Because the project would comply with the provisions of the City's General Plan and Noise Ordinance, impacts related to noise are considered ***less than significant***.

e, f) The proposed project site is not located within an airport land use plan area nor is it located within two miles of an airport. Therefore, no impact would occur relative to exposing people to excessive airport related noise levels.

XIII. Population and Housing

The project site is located within the Northwest Roseville Specific Plan and has a land use designation of Public/Quasi-Public. The City of Roseville General Plan Table II-4 identifies the total number of residential units and population anticipated as a result of buildout of the City, and the Specific Plan likewise includes unit allocations and population projections for the Plan Area. Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, though extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Thresholds of Significance and Regulatory Setting:

The significance of impacts related to population and housing is based directly on the CEQA Guidelines checklist items a–c listed above.

Discussion of Checklist Answers:

a) The CEQA Guidelines identify several ways in which a project could have growth-inducing impacts (Public Resources Code Section 15126.2), either directly or indirectly. Growth-inducement may be the result of fostering economic growth, fostering population growth, providing new housing, or removing barriers to growth. Growth inducement may be detrimental, beneficial, or of no impact or significance under CEQA. An impact is only deemed to occur when it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be shown that the growth will significantly affect the environment in some other way. The project is consistent with the land use designation of the site. Therefore, while the project in question may induce some level of growth, this growth was already identified and its effects disclosed and mitigated within the Northwest Roseville Specific Plan EIR. Therefore, the impact of the project is ***less than significant***.

b, c) The proposal is not a housing-related project, does not induce growth beyond that anticipated in the General Plan EIR and does not displace any existing housing. No housing exists on the project site, and there would be no impact with respect to these criteria.

XIV. Public Services

Fire protection, police protection, park services, and library services are provided by the City. The project is located within the Roseville City School District. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Fire protection?			X	
b) Police protection?			X	
c) Schools?			X	
d) Parks?			X	
e) Other public facilities?			X	

Thresholds of Significance and Regulatory Setting:

The General Plan EIR identifies and adopts mitigation for impacts to public services, including police and fire protection, wastewater services, and solid waste disposal. The proposed project may incrementally increase the need for public services. However, the City's Fire, Police, Parks, and Utilities Departments have all reviewed the project plans and have not identified any significant impacts to City services.

The significance of impacts related to public services is based directly on the CEQA Guidelines checklist items a–e listed above. The EIR for the Northwest Roseville Specific Plan addressed the level of public services which would need to be provided in order to serve planned growth in the community. Development Agreements and other conditions have been adopted in all proposed growth areas of the City which identify the physical facilities needed to serve growth, and the funding needed to provide for the construction and operation of those facilities and services; the project is consistent with the Specific Plan. In addition, the project has been routed to the various public service agencies, both internal and external, to ensure that the project meets the agencies' design standards (where applicable) and to provide an opportunity to recommend appropriate conditions of approval.

Discussion of Checklist Answers:

- a) Existing City codes and regulations require adequate water pressure in the water lines, and construction must comply with the Uniform Fire and Building Codes used by the City of Roseville. Additionally, the applicant is required to pay a fire service construction tax, which is used for purchasing capital facilities for the Fire Department. Existing codes, regulations, funding agreements, and facilities plans are sufficient to ensure **less than significant** impacts.
- b) Sales taxes and property taxes resulting from the development will add revenue to the General Fund, which serves to fund police services. Existing codes, regulations, funding agreements, and facilities plans are sufficient to ensure **less than significant** impacts.
- c) The applicant for this project is required to pay school impact fees at a rate determined by the local school districts. School fees will be collected prior to the issuance of building permits, consistent with City requirements. School sites have already been designated as part of the Specific Plan process. Existing codes, regulations, funding agreements, and facilities plans are sufficient to ensure **less than significant** impacts.
- d) Future park and recreation sites and facilities have already been identified as part of the Specific Plan process. Existing codes, regulations, funding agreements, and facilities plans are sufficient to ensure **less than significant** impacts.
- e) Sales taxes and property taxes resulting from development will add revenue to the General Fund, which serves to fund the library system and other such facilities and services. In addition, the City charges fees to end-users for other services, such as garbage and greenwaste collection, in order to fund those services. Existing codes, regulations, funding agreements, and facilities plans are sufficient to ensure **less than significant** impacts.

XV. Recreation

The proposed project will not provide on-site recreational areas for visitors to the site. However, five City parks are located within one mile of the project site (Kaseberg Park, immediately adjacent to the east, Weber Park, 0.8 miles east, June W. Wanish Park, 0.5 miles northwest, Silverado Oaks Park, 0.7 miles northwest, and James A. Hall Park, one mile west). Additional facilities will not need to be added as a result of the project. Therefore, the project will have a **less than significant** impact on the existing and planned park facilities.

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated?			X	

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

Thresholds of Significance and Regulatory Setting:

The significance of impacts related to recreation services is based directly on the CEQA Guidelines checklist items a–b listed above.

Discussion of Checklist Answers:

a) The EIR for the Northwest Roseville Specific Plan addressed the level of park services (including new construction, maintenance, and operation) which would need to be provided in order to serve planned growth in the community. Given that the project is consistent with the General Plan and Specific Plan, the project would not cause any unforeseen or new impacts related to the use of existing or proposed parks and recreational facilities. Existing codes, regulations, funding agreements, and facilities plans are sufficient to ensure **less than significant** impacts.

b) Park sites and other recreational facilities were identified within the Specific Plan, and the plan-level impacts of developing those facilities were addressed within the Final EIR for the Specific Plan. The project will not cause any unforeseen or new impacts related to the construction or expansion of recreational facilities.

XVI. Transportation/Traffic

The proposed project has frontage on Main Street, an east-west four-lane collector roadway. Foothills Boulevard, a north-south six-lane arterial roadway intersects Main Street approximately 225 feet west of the project site. Foothills Boulevard is one of several north-south routes through the western portion of the City that provide connectivity between Blue Oaks Boulevard on the north, with Baseline Road/Main Street and points farther south. The project site's primary access point is via two driveways accessed off Main Street, through the Foothills Boulevard/Main Street signalized intersection. There are multiple internal drive-aisles providing access to the surface parking areas, and around the proposed temple building.

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?			X	
d) Substantially increase hazards due to a design feature(s) (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
e) Result in inadequate emergency access?			X	

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f) Conflict with adopted policies, plans, or programs supporting public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			X	

Thresholds of Significance and Regulatory Setting:

The significance of checklist items c–f are based directly on the CEQA Guidelines checklist descriptions. For checklist items a and b, the Circulation Element of the General Plan establishes Level of Service C or better as an acceptable operating condition at all signalized intersections during a.m. and p.m. peak hours. Exceptions to this policy may be made by the City Council, but a minimum of 70% of all signalized intersections should maintain LOS C. The Findings of the Implementing Procedures indicate that compliance with the Traffic Mitigation Fee (RMC Ch. 4.44) will fund roadway projects and improvements necessary to maintain the City's Level of Service standards for projects consistent with the General Plan and related Specific Plan. An existing plus project conditions (short-term) traffic impact study may be required for projects with unique trip generation or distribution characteristics, in areas of local traffic constraints, or to study the proposed project access. A cumulative plus project conditions (long-term) study is required if a project is inconsistent with the General Plan or Specific Plan and would generate more than 50 pm peak-hour trips. The guidelines for traffic study preparation are found in the City of Roseville Design and Construction Standards - Section 4.

To assess potential traffic impacts that could result from operation of the proposed project, Kimley Horn completed a *Traffic Study* for the proposed project (see Attachment 2). Kimley Horn concluded that the proposed project would not result in the degradation of any intersections from acceptable to unacceptable LOS.

The project site is not located within an airport planning area or within any height restriction area established around an airport for the purpose of protecting navigable airspace. Consequently, impacts to changes in air traffic patterns (checklist item c) were screened out of the analysis.

Impacts with regard to items d and e are assessed based on the expert judgment of the City Engineer and City Fire Department, as based upon facts and consistency with the City's Design and Construction Standards.

Discussion of Checklist Answers:

a,b) The proposed project is consistent with the land use designations of the General Plan and Specific Plan, and therefore does not contribute more traffic to the roadways system than was anticipated in Citywide analyses. The traffic study prepared by Kimley Horn focused on examining the project access design and the intersection of six potentially-impacted intersections, as shown below.

1. Main Street/Baseline Road @ Foothills Boulevard
2. Main Street @ Commercial Driveway
3. Main Street @ Site Driveway (West)
4. Main St. @ Site Driveway (East)
5. Main Street @ Elm Street
6. Main Street @ Porter Drive

The study analyzed the existing transportation conditions along with the expected transportation conditions with the proposed Sikh Temple building in place (existing plus project conditions). Based on the analyses documented in the Study, the proposed project does not result in a significant impact at studies intersections; therefore, project impacts to intersection operations are considered **less than significant** and no mitigation is

required. The study prepared by Kimley Horn included specific design recommendations for the project access, which have been incorporated into the site design. The project will not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, nor will it conflict with an applicable congestion management program.

d,e) The project has been reviewed by the City Engineering and City Fire Department staff, and has been found to be consistent with the City's Design Standards. The study prepared by Kimley Horn included specific design recommendations for the project access, which have been incorporated into the site design. Furthermore, standard conditions of approval added to all City project require compliance with Fire Codes and other design standards. Compliance with existing regulations ensure that impacts are **less than significant**.

f) The City of Roseville has adopted a Pedestrian Master Plan, Bicycle Master Plan, and Short-Range Transit Plan. The project was reviewed for consistency with these documents and found that:

- i. The project would not be inconsistent with any applicable policies and guidelines of Roseville's Bikeway Master Plan. Therefore, project impacts to bicycle facilities are considered **less than significant** and no mitigation is required.
- ii. The project would not have a negative impact on transit operations, travel times, and/or circulation. Therefore, project impacts to transit facilities are considered **less than significant** and no mitigation is required.
- iii. The project would not interfere with the operation of an existing pedestrian facility or preclude the construction of a planned pedestrian facility. Therefore, project impacts to pedestrian facilities are considered **less than significant** and no mitigation is required.

XVII. Tribal Cultural Resources

As described within the Open Space and Conservation Element of the City of Roseville General Plan, the Roseville region was within the territory of the Nisenan (also Southern Maidu or Valley Maidu). Two large permanent Nisenan habitation sites have been identified and protected within the City's open space (in Maidu Park). Numerous smaller cultural resources, such as midden deposits and bedrock mortars, have also been recorded in the City. A majority of documented sites within the City are located in areas designated for open space uses.

Would the project cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?			X	

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1 the lead agency shall consider the significance of the resource to a California Native American tribe.			X	

Thresholds of Significance and Regulatory Setting:

In addition to archeological resources, tribal cultural resources are also given particular treatment. Tribal cultural resources are defined in Public Resources Code Section 21074, as either 1) a site, feature, place, geographically-defined cultural landscape, sacred place, or object with cultural value to a California Native American Tribe, that is listed or eligible for listing on the California Register or Historical Resources, or on a local register of historical resources or as 2) a resource determined by the lead agency, supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code section 5024.1(c), and considering the significance of the resource to a California Native American Tribe.

Discussion of Checklist Answers:

a) The Northwest Roseville Specific Plan (NWRSP) EIR included an Archeology and History chapter with reference to the Cultural Resource Inventory and Evaluation prepared by Public Anthropological Research (PAR) in 1986, and concluded that no significant archeologic or historic sites were identified in the survey. The EIR includes Mitigation Measures applicable to archeological features and artifacts, should any be found on site. Language included in the measure requires an immediate cessation of work, and the requirement to contact the appropriate agencies to address the resource before work can resume. This mitigation need not be applied herein, as it is already applicable and required of the project pursuant to the NWRSP. The project will not result in any new impacts beyond those already discussed and disclosed in the NWRSP EIR; therefore, project-specific impacts are ***less than significant***.

b) Pursuant to Assembly Bill 52 (AB 52) the current project was routed to all tribes which requested such notice. The United Auburn Indian Community (UAIC) and Shingle Springs Rancheria responded to the AB 52 notification letter. As Lead Agency, the City of Roseville has provided background information regarding the project site and is in continuing dialogue with the tribes, per AB 52 protocol.

Mitigation measures are included in the NWRSP EIR that are designed to reduce impacts to resources, should any be found on-site. The EIR includes Mitigation Measures applicable to archeological features and artifacts, should any be found on site. Language included in the measure requires an immediate cessation of work, and the requirement to contact the appropriate agencies to address the resource before work can resume. The City has developed modified language for the mitigation to include tribal notification of a start-date for a project's earthwork, and for a tribal representative to visually inspect the site within the first five days of initial earthwork

to determine if there is any evidence that tribal cultural resources have been unearthed. The updates to mitigation measure NWRSP EIR – Chapter VI, Cultural Setting, Impacts, and Mitigation – Archaeology and History: “Stop Work if Cultural Resources are Discovered During Construction” are equivalent or more effective than the existing mitigation and will not cause any potentially significant effects on the environment. Language included in the measure requires an immediate cessation of work, and contact with the appropriate agencies to address the resource before work can resume. This mitigation need not be applied herein, as it is already applicable and required of the project pursuant to the NWRSP. The project will not result in any new impacts beyond those already discussed and disclosed in the NWRSP EIR; project-specific impacts are ***less than significant***.

XVIII. Utilities and Service Systems

Water and sewer services are provided, by the City of Roseville. Since utility services are already provided to the site, it is expected that minimal work will need to be completed to the existing utility services serving the site. Storm water will be collected on-site and transferred via the existing storm drain system into an off-site storm drain system. Solid waste will be collected by the City of Roseville’s Refuse Department. The City of Roseville will provide electric service to the site, while natural gas will be provided by PG&E. Comcast will provide cable. The project has been reviewed by the City’s Engineering Division, Environmental Utilities, Roseville Electric and PG&E. Adequate services are available for the project.

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
e) Result in a determination by the wastewater treatment provider which serves the project that it has adequate capacity to serve the project's projected demand in addition of the provider's existing commitments?			X	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			X	

Thresholds of Significance and Regulatory Setting:

The significance of impacts related to utilities and service systems is based directly on the CEQA Guidelines checklist items a–g listed above.

Discussion of Checklist Answers:

a,e) The proposed project would be served by the Dry Creek Wastewater Treatment Plant (DCWWTP). The Central Valley Regional Water Quality Control Board (RWQCB) regulates water quality and quantity of effluent discharged from the City's wastewater treatment facilities. The DCWWTP has the capacity to treat 18 million gallons per day (mgd) and is currently treating 8.9 mgd. The volume of wastewater generated by the proposed project could be accommodated by the facility; the proposed project will not contribute to an exceedance of applicable wastewater treatment requirements. The impact would be ***less than significant***.

b,c) The project is consistent with the Northwest Roseville Specific Plan, and will be required to construct any lines necessary to serve the project, as well as pay fees which fund the operation of the facilities and the construction of major infrastructure. The construction impacts related to building the major infrastructure were disclosed in the EIR for the Specific Plan, and appropriate mitigation was adopted. Minor additional infrastructure will be constructed within the project site to tie the project into the major systems, but these facilities will be constructed in locations where site development has already occurred as part of the existing medical campus; there are no additional substantial impacts specific or particular to the minor infrastructure improvements.

In terms of overall treatment capacity, sewage treatment was discussed in section a, above. An expansion of sewage treatment facilities is not required. Domestic water in the City of Roseville is treated at the City's Water Treatment Plant on Barton Road. The City's water treatment plant currently has a treatment capacity of 100 mgd, though due to pipe sizes a slightly smaller total capacity of 96.1 mgd can be conveyed to the plant for treatment. The Amoruso Ranch Specific Plan Water Supply Assessment (AR WSA, Appendix E of the Amoruso Ranch FEIR), dated May 2016, analyzed water demand at City buildout. The analysis indicates that peak treatment demand will be approximately 115 mgd, which is insufficient to serve the treatment plant has insufficient capacity to serve peak demand at City buildout. However, the additional water demand will be provided through contracts with other water suppliers, such as the Placer County Water Agency and the San Juan Water District, rather

than through a treatment plant expansion. The project is consistent with existing land use designations and will not require an expansion of water treatment capacity.

d) The City of Roseville 2015 Urban Water Management Plan (UWMP), adopted May 2016, estimates water demand and supply for the City through the year 2040, based on existing land use designations and population projections. In addition, the AR WSA estimates water demand and supply for ultimate General Plan buildout. The project is consistent with existing land use designations, and is therefore consistent with the assumptions of the UWMP and AR WSA. The UWMP indicates that existing water supply sources are sufficient to meet all near term needs, estimating an annual water demand of 45,475 acre-feet per year (AFY) by the year 2020 and existing surface and recycled water supplies in the amount of 70,421 AFY. The AR WSA estimates a Citywide buildout demand of 64,370 AFY when including recycled water, and of 59,657 AFY of potable water. The AR WSA indicates that surface water supply is sufficient to meet demand during normal rainfall years, but is insufficient during single- and multiple-dry years. However, the City's UWMP establishes mandatory water conservation measures and the use of groundwater to offset reductions in surface water supplies. Both the UWMP and AR WSA indicate that these measures, in combination with additional purchased water sources, will ensure that supply meets projected demand. The project, which is consistent with existing land use designations, would not require new or expanded water supply entitlements.

f, g) The Western Placer Waste Management Authority is the regional agency handling recycling and waste disposal for Roseville and surrounding areas. The regional waste facilities include a Material Recovery Facility (MRF) and the Western Regional Sanitary Landfill (WRSL). Currently, the WRSL is permitted to accept up to 1,900 tons of municipal solid waste per day. According to the solid waste analysis of the Amoruso Ranch Specific Plan FEIR, under current projected development conditions the WRSL has a projected lifespan extending through 2058. There is sufficient existing capacity to serve the proposed project. Though the project will contribute incrementally to an eventual need to find other means of waste disposal, this impact of City buildout has already been disclosed and mitigation applied as part of each Specific Plan the City has approved, including the most recent Amoruso Ranch Specific Plan. All residences and business in the City pay fees for solid waste collection, a portion of which is collected to fund eventual solid waste disposal expansion. The project will not result in any new impacts associated with major infrastructure. Environmental Utilities staff has reviewed the project for consistency with policies, codes, and regulations related to waste disposal services and has found that the project design is in compliance.

XIX. Mandatory Findings of Significance

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, threatened or rare species, or eliminate important examples of the			X	

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
major periods of California history or prehistory?				
b) Does the project have impacts which are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Significance Criteria and Regulatory Setting:

The significance of impacts related to mandatory findings of significance is based directly on the CEQA Guidelines checklist items a–c listed above.

Discussion of Checklist Answers:

a–c) Long term environmental goals are not impacted by the proposed project. The cumulative impacts do not deviate beyond what was contemplated in the Specific Plan EIR, and mitigation measures have already been incorporated via the Specific Plan EIR. With implementation of the City’s Mitigating Ordinances, Guidelines, and Standards and best management practices, mitigation measures described in this chapter, and permit conditions, the proposed project will not have a significant impact on the habitat of any plant or animal species. Based on the foregoing, the proposed project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of any wildlife species, or create adverse effects on human beings.

ENVIRONMENTAL DETERMINATION:

*In reviewing the site specific information provided for this project and acting as Lead Agency, the City of Roseville, Development Services Department, Planning Division has analyzed the potential environmental impacts created by this project and determined that the impacts are less than significant. As demonstrated in the initial study checklist, there are no "project specific significant effects which are peculiar to the project or site" that cannot be reduced to less than significant effects through mitigation (CEQA Section 15183) and therefore an EIR is **not** required. Therefore, **on the basis of the foregoing initial study:***

[X] I find that the proposed project WILL NOT have a significant effect on the environment and a **NEGATIVE DECLARATION** has been prepared.

Initial Study Prepared by:

Ron Miller, Associate Planner
City of Roseville, Development Services – Planning Division

Exhibits:

- A. Site Plan
- B. Grading Plan
- C. Landscape Plan
- D. Elevations
- E. Rendering

Attachments:

1. CalEEMod - March 2017
2. Kimley Horn Traffic Study – Sikh Temple – March 2016
3. Arborist Report/Tree Inventory

Sikh Temple - Placer County APCD Air District, Annual

Sikh Temple

Placer County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	43.43	1000sqft	1.00	43,434.00	0
Parking Lot	3.86	Acre	3.86	168,141.60	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	74
Climate Zone	2			Operational Year	2019
Utility Company	Roseville Electric				
CO2 Intensity (lb/MW hr)	793.8	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Trips - Changed Sunday rate consistent with traffic study (700 people total on Sundays for a 43 ksf building equates to a 16.28 rate).

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2018	2019
tblVehicleTrips	SU_TR	36.63	16.28

Sikh Temple - Placer County APCD Air District, Annual

2.0 Emissions Summary**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.4074	3.6037	2.4324	4.6900e-003	0.1578	0.2033	0.3611	0.0618	0.1906	0.2524	0.0000	426.1385	426.1385	0.0771	0.0000	428.0655
2018	0.3008	0.8326	0.6560	1.2900e-003	0.0249	0.0458	0.0708	6.7700e-003	0.0430	0.0498	0.0000	116.1080	116.1080	0.0207	0.0000	116.6246
Maximum	0.4074	3.6037	2.4324	4.6900e-003	0.1578	0.2033	0.3611	0.0618	0.1906	0.2524	0.0000	426.1385	426.1385	0.0771	0.0000	428.0655

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.4074	3.6037	2.4324	4.6900e-003	0.1578	0.2033	0.3611	0.0618	0.1906	0.2524	0.0000	426.1382	426.1382	0.0771	0.0000	428.0651
2018	0.3008	0.8326	0.6560	1.2900e-003	0.0249	0.0458	0.0708	6.7700e-003	0.0430	0.0498	0.0000	116.1079	116.1079	0.0207	0.0000	116.6245
Maximum	0.4074	3.6037	2.4324	4.6900e-003	0.1578	0.2033	0.3611	0.0618	0.1906	0.2524	0.0000	426.1382	426.1382	0.0771	0.0000	428.0651

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-6-2017	6-5-2017	1.2860	1.2860
2	6-6-2017	9-5-2017	1.1701	1.1701
3	9-6-2017	12-5-2017	1.1484	1.1484
4	12-6-2017	3-5-2018	1.0445	1.0445
5	3-6-2018	6-5-2018	0.3579	0.3579
		Highest	1.2860	1.2860

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8495	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004
Energy	4.3900e-003	0.0399	0.0335	2.4000e-004		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	231.3399	231.3399	7.7000e-003	2.2200e-003	232.1928
Mobile	0.2375	0.5279	2.1566	3.8600e-003	0.3085	4.7200e-003	0.3132	0.0827	4.4500e-003	0.0871	0.0000	349.7561	349.7561	0.0250	0.0000	350.3798
Waste						0.0000	0.0000		0.0000	0.0000	50.2504	0.0000	50.2504	2.9697	0.0000	124.4933
Water						0.0000	0.0000		0.0000	0.0000	0.4311	5.3260	5.7571	0.0445	1.0900e-003	7.1925
Total	1.0914	0.5678	2.1905	4.1000e-003	0.3085	7.7500e-003	0.3162	0.0827	7.4800e-003	0.0902	50.6815	586.4228	637.1043	3.0468	3.3100e-003	714.2593

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2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8512	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004
Energy	4.3900e-003	0.0399	0.0335	2.4000e-004		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	231.3399	231.3399	7.7000e-003	2.2200e-003	232.1928
Mobile	0.2375	0.5279	2.1566	3.8600e-003	0.3085	4.7200e-003	0.3132	0.0827	4.4500e-003	0.0871	0.0000	349.7561	349.7561	0.0250	0.0000	350.3798
Waste						0.0000	0.0000		0.0000	0.0000	50.2504	0.0000	50.2504	2.9697	0.0000	124.4933
Water						0.0000	0.0000		0.0000	0.0000	0.4311	5.3260	5.7571	0.0445	1.0900e-003	7.1925
Total	1.0931	0.5678	2.1905	4.1000e-003	0.3085	7.7500e-003	0.3162	0.0827	7.4800e-003	0.0902	50.6815	586.4228	637.1043	3.0468	3.3100e-003	714.2593

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	-0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	4/3/2018	4/26/2018	5	18	
2	Building Construction	Building Construction	4/20/2017	3/7/2018	5	230	
3	Demolition	Demolition	3/6/2017	3/31/2017	5	20	
4	Grading	Grading	4/8/2017	4/19/2017	5	8	
5	Paving	Paving	3/8/2018	4/2/2018	5	18	
6	Site Preparation	Site Preparation	4/1/2017	4/7/2017	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 3.86

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 65,151; Non-Residential Outdoor: 21,717; Striped Parking Area: 10,088
(Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	89.00	35.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2013					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3034
Total	0.2040	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3034

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3.2 Architectural Coating - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	5.1000e-004	5.2600e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1693	1.1693	4.0000e-005	0.0000	1.1702
Total	6.8000e-004	5.1000e-004	5.2600e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1693	1.1693	4.0000e-005	0.0000	1.1702

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2013					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3034
Total	0.2040	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3034

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3.2 Architectural Coating - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	5.1000e-004	5.2600e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1693	1.1693	4.0000e-005	0.0000	1.1702
Total	6.8000e-004	5.1000e-004	5.2600e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1693	1.1693	4.0000e-005	0.0000	1.1702

3.3 Building Construction - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2835	2.4165	1.6546	2.4500e-003		0.1627	0.1627		0.1528	0.1528	0.0000	218.8485	218.8485	0.0539	0.0000	220.1964
Total	0.2835	2.4165	1.6546	2.4500e-003		0.1627	0.1627		0.1528	0.1528	0.0000	218.8485	218.8485	0.0539	0.0000	220.1964

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3.3 Building Construction - 2017**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0186	0.4635	0.1086	9.5000e-004	0.0208	3.9400e-003	0.0247	6.0200e-003	3.7700e-003	9.7900e-003	0.0000	89.7541	89.7541	5.2600e-003	0.0000	89.8856
Worker	0.0384	0.0291	0.3025	6.7000e-004	0.0636	4.5000e-004	0.0641	0.0169	4.2000e-004	0.0173	0.0000	60.1832	60.1832	2.0200e-003	0.0000	60.2337
Total	0.0570	0.4926	0.4111	1.6200e-003	0.0844	4.3900e-003	0.0888	0.0230	4.1900e-003	0.0271	0.0000	149.9373	149.9373	7.2800e-003	0.0000	150.1192

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2835	2.4165	1.6546	2.4500e-003		0.1627	0.1627		0.1528	0.1528	0.0000	218.8482	218.8482	0.0539	0.0000	220.1962
Total	0.2835	2.4165	1.6546	2.4500e-003		0.1627	0.1627		0.1528	0.1528	0.0000	218.8482	218.8482	0.0539	0.0000	220.1962

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3.3 Building Construction - 2017**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0186	0.4635	0.1086	9.5000e-004	0.0208	3.9400e-003	0.0247	6.0200e-003	3.7700e-003	9.7900e-003	0.0000	89.7541	89.7541	5.2600e-003	0.0000	89.8856
Worker	0.0384	0.0291	0.3025	6.7000e-004	0.0636	4.5000e-004	0.0641	0.0169	4.2000e-004	0.0173	0.0000	60.1832	60.1832	2.0200e-003	0.0000	60.2337
Total	0.0570	0.4926	0.4111	1.6200e-003	0.0844	4.3900e-003	0.0888	0.0230	4.1900e-003	0.0271	0.0000	149.9373	149.9373	7.2800e-003	0.0000	150.1192

3.3 Building Construction - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0643	0.5614	0.4219	6.5000e-004		0.0360	0.0360		0.0338	0.0338	0.0000	57.0641	57.0641	0.0140	0.0000	57.4137
Total	0.0643	0.5614	0.4219	6.5000e-004		0.0360	0.0360		0.0338	0.0338	0.0000	57.0641	57.0641	0.0140	0.0000	57.4137

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3.3 Building Construction - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2200e-003	0.1148	0.0251	2.5000e-004	5.4800e-003	8.1000e-004	6.2900e-003	1.5900e-003	7.7000e-004	2.3600e-003	0.0000	23.5710	23.5710	1.3000e-003	0.0000	23.6034
Worker	8.9300e-003	6.6600e-003	0.0693	1.7000e-004	0.0168	1.2000e-004	0.0169	4.4600e-003	1.1000e-004	4.5700e-003	0.0000	15.4177	15.4177	4.6000e-004	0.0000	15.4292
Total	0.0132	0.1214	0.0944	4.2000e-004	0.0223	9.3000e-004	0.0232	6.0500e-003	8.8000e-004	6.9300e-003	0.0000	38.9886	38.9886	1.7600e-003	0.0000	39.0326

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0643	0.5614	0.4219	6.5000e-004		0.0360	0.0360		0.0338	0.0338	0.0000	57.0641	57.0641	0.0140	0.0000	57.4136
Total	0.0643	0.5614	0.4219	6.5000e-004		0.0360	0.0360		0.0338	0.0338	0.0000	57.0641	57.0641	0.0140	0.0000	57.4136

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3.3 Building Construction - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2200e-003	0.1148	0.0251	2.5000e-004	5.4800e-003	8.1000e-004	6.2900e-003	1.5900e-003	7.7000e-004	2.3600e-003	0.0000	23.5710	23.5710	1.3000e-003	0.0000	23.6034
Worker	8.9300e-003	6.6600e-003	0.0693	1.7000e-004	0.0168	1.2000e-004	0.0169	4.4600e-003	1.1000e-004	4.5700e-003	0.0000	15.4177	15.4177	4.6000e-004	0.0000	15.4292
Total	0.0132	0.1214	0.0944	4.2000e-004	0.0223	9.3000e-004	0.0232	6.0500e-003	8.8000e-004	6.9300e-003	0.0000	38.9886	38.9886	1.7600e-003	0.0000	39.0326

3.4 Demolition - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0410	0.4275	0.2301	3.9000e-004		0.0219	0.0219		0.0204	0.0204	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438
Total	0.0410	0.4275	0.2301	3.9000e-004		0.0219	0.0219		0.0204	0.0204	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438

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3.4 Demolition - 2017**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.4000e-004	5.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.1146	1.1146	4.0000e-005	0.0000	1.1156
Total	7.1000e-004	5.4000e-004	5.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.1146	1.1146	4.0000e-005	0.0000	1.1156

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0410	0.4275	0.2301	3.9000e-004		0.0219	0.0219		0.0204	0.0204	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438
Total	0.0410	0.4275	0.2301	3.9000e-004		0.0219	0.0219		0.0204	0.0204	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438

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3.4 Demolition - 2017**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.4000e-004	5.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.1146	1.1146	4.0000e-005	0.0000	1.1156
Total	7.1000e-004	5.4000e-004	5.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.1146	1.1146	4.0000e-005	0.0000	1.1156

3.5 Grading - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0123	0.1356	0.0684	1.2000e-004		7.1100e-003	7.1100e-003		6.5400e-003	6.5400e-003	0.0000	11.0238	11.0238	3.3800e-003	0.0000	11.1082
Total	0.0123	0.1356	0.0684	1.2000e-004	0.0262	7.1100e-003	0.0333	0.0135	6.5400e-003	0.0200	0.0000	11.0238	11.0238	3.3800e-003	0.0000	11.1082

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3.5 Grading - 2017**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.2000e-004	2.2400e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4459	0.4459	1.0000e-005	0.0000	0.4462
Total	2.8000e-004	2.2000e-004	2.2400e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4459	0.4459	1.0000e-005	0.0000	0.4462

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0123	0.1356	0.0684	1.2000e-004		7.1100e-003	7.1100e-003		6.5400e-003	6.5400e-003	0.0000	11.0238	11.0238	3.3800e-003	0.0000	11.1082
Total	0.0123	0.1356	0.0684	1.2000e-004	0.0262	7.1100e-003	0.0333	0.0135	6.5400e-003	0.0200	0.0000	11.0238	11.0238	3.3800e-003	0.0000	11.1082

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3.5 Grading - 2017**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.2000e-004	2.2400e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4459	0.4459	1.0000e-005	0.0000	0.4462
Total	2.8000e-004	2.2000e-004	2.2400e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4459	0.4459	1.0000e-005	0.0000	0.4462

3.6 Paving - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0128	0.1307	0.1119	1.7000e-004		7.5300e-003	7.5300e-003		6.9500e-003	6.9500e-003	0.0000	15.2887	15.2887	4.6300e-003	0.0000	15.4045
Paving	5.0600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0179	0.1307	0.1119	1.7000e-004		7.5300e-003	7.5300e-003		6.9500e-003	6.9500e-003	0.0000	15.2887	15.2887	4.6300e-003	0.0000	15.4045

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3.6 Paving - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.5000e-004	5.6000e-004	5.8400e-003	1.0000e-005	1.4100e-003	1.0000e-005	1.4200e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2992	1.2992	4.0000e-005	0.0000	1.3002
Total	7.5000e-004	5.6000e-004	5.8400e-003	1.0000e-005	1.4100e-003	1.0000e-005	1.4200e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2992	1.2992	4.0000e-005	0.0000	1.3002

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0128	0.1307	0.1119	1.7000e-004		7.5300e-003	7.5300e-003		6.9500e-003	6.9500e-003	0.0000	15.2887	15.2887	4.6300e-003	0.0000	15.4045
Paving	5.0600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0179	0.1307	0.1119	1.7000e-004		7.5300e-003	7.5300e-003		6.9500e-003	6.9500e-003	0.0000	15.2887	15.2887	4.6300e-003	0.0000	15.4045

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3.6 Paving - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.5000e-004	5.6000e-004	5.8400e-003	1.0000e-005	1.4100e-003	1.0000e-005	1.4200e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2992	1.2992	4.0000e-005	0.0000	1.3002
Total	7.5000e-004	5.6000e-004	5.8400e-003	1.0000e-005	1.4100e-003	1.0000e-005	1.4200e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2992	1.2992	4.0000e-005	0.0000	1.3002

3.7 Site Preparation - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0124	0.1307	0.0586	1.0000e-004		7.2000e-003	7.2000e-003		6.6200e-003	6.6200e-003	0.0000	8.8336	8.8336	2.7100e-003	0.0000	8.9013
Total	0.0124	0.1307	0.0586	1.0000e-004	0.0452	7.2000e-003	0.0524	0.0248	6.6200e-003	0.0315	0.0000	8.8336	8.8336	2.7100e-003	0.0000	8.9013

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3.7 Site Preparation - 2017**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.6000e-004	1.6800e-003	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3344	0.3344	1.0000e-005	0.0000	0.3347
Total	2.1000e-004	1.6000e-004	1.6800e-003	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3344	0.3344	1.0000e-005	0.0000	0.3347

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0124	0.1307	0.0586	1.0000e-004		7.2000e-003	7.2000e-003		6.6200e-003	6.6200e-003	0.0000	8.8336	8.8336	2.7100e-003	0.0000	8.9013
Total	0.0124	0.1307	0.0586	1.0000e-004	0.0452	7.2000e-003	0.0524	0.0248	6.6200e-003	0.0315	0.0000	8.8336	8.8336	2.7100e-003	0.0000	8.9013

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3.7 Site Preparation - 2017**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.6000e-004	1.6800e-003	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3344	0.3344	1.0000e-005	0.0000	0.3347
Total	2.1000e-004	1.6000e-004	1.6800e-003	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3344	0.3344	1.0000e-005	0.0000	0.3347

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2375	0.5279	2.1566	3.8600e-003	0.3085	4.7200e-003	0.3132	0.0827	4.4500e-003	0.0871	0.0000	349.7561	349.7561	0.0250	0.0000	350.3798
Unmitigated	0.2375	0.5279	2.1566	3.8600e-003	0.3085	4.7200e-003	0.3132	0.0827	4.4500e-003	0.0871	0.0000	349.7561	349.7561	0.0250	0.0000	350.3798

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4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Place of Worship	395.68	450.41	707.11	838,050	838,050
Total	395.68	450.41	707.11	838,050	838,050

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Place of Worship	0.479040	0.045925	0.208422	0.153946	0.033880	0.007044	0.017189	0.011123	0.000927	0.000372	0.034705	0.000747	0.006681
Parking Lot	0.479040	0.045925	0.208422	0.153946	0.033880	0.007044	0.017189	0.011123	0.000927	0.000372	0.034705	0.000747	0.006681

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	187.9275	187.9275	6.8700e-003	1.4200e-003	188.5224
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	187.9275	187.9275	6.8700e-003	1.4200e-003	188.5224
NaturalGas Mitigated	4.3900e-003	0.0399	0.0335	2.4000e-004		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	43.4125	43.4125	8.3000e-004	8.0000e-004	43.6704
NaturalGas Unmitigated	4.3900e-003	0.0399	0.0335	2.4000e-004		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	43.4125	43.4125	8.3000e-004	8.0000e-004	43.6704

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	813519	4.3900e-003	0.0399	0.0335	2.4000e-004		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	43.4125	43.4125	8.3000e-004	8.0000e-004	43.6704
Total		4.3900e-003	0.0399	0.0335	2.4000e-004		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	43.4125	43.4125	8.3000e-004	8.0000e-004	43.6704

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5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	813519	4.3900e-003	0.0399	0.0335	2.4000e-004		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	43.4125	43.4125	8.3000e-004	8.0000e-004	43.6704
Total		4.3900e-003	0.0399	0.0335	2.4000e-004		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	43.4125	43.4125	8.3000e-004	8.0000e-004	43.6704

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	147965	53.2764	1.9500e-003	4.0000e-004	53.4450
Place of Worship	373967	134.6511	4.9200e-003	1.0200e-003	135.0774
Total		187.9275	6.8700e-003	1.4200e-003	188.5224

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5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Place of Worship	373967	134.6511	4.9200e-003	1.0200e-003	135.0774
Parking Lot	147965	53.2764	1.9500e-003	4.0000e-004	53.4450
Total		187.9275	6.8700e-003	1.4200e-003	188.5224

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8512	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004
Unmitigated	0.8495	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004

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6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0225					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8270					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004
Total	0.8495	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0248					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8263					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004
Total	0.8512	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.5000e-004	8.5000e-004	0.0000	0.0000	9.0000e-004

7.0 Water Detail

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7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.7571	0.0445	1.0900e-003	7.1925
Unmitigated	5.7571	0.0445	1.0900e-003	7.1925

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	1.35888 / 2.12542	5.7571	0.0445	1.0900e-003	7.1925
Total		5.7571	0.0445	1.0900e-003	7.1925

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7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	1.35888 / 2.12542	5.7571	0.0445	1.0900e-003	7.1925
Total		5.7571	0.0445	1.0900e-003	7.1925

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	50.2504	2.9697	0.0000	124.4933
Unmitigated	50.2504	2.9697	0.0000	124.4933

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8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	247.55	50.2504	2.9697	0.0000	124.4933
Total		50.2504	2.9697	0.0000	124.4933

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	247.55	50.2504	2.9697	0.0000	124.4933
Total		50.2504	2.9697	0.0000	124.4933

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation

Sikh Temple - Placer County APCD Air District, Summer

Sikh Temple

Placer County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	43.43	1000sqft	1.00	43,434.00	0
Parking Lot	3.86	Acre	3.86	168,141.60	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	74
Climate Zone	2			Operational Year	2019
Utility Company	Roseville Electric				
CO2 Intensity (lb/MW hr)	793.8	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Trips - Changed Sunday rate consistent with traffic study (700 people total on Sundays for a 43 ksf building equates to a 16.28 rate).

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2018	2019
tblVehicleTrips	SU_TR	36.63	16.28

Sikh Temple - Placer County APCD Air District, Summer

2.0 Emissions Summary**2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	5.0558	52.3323	24.2023	0.0455	18.2141	2.8796	21.0937	9.9699	2.6492	12.6191	0.0000	4,551.6307	4,551.6307	1.1987	0.0000	4,570.1278
2018	22.7513	28.3279	21.7656	0.0452	0.9682	1.5380	2.5062	0.2622	1.4462	1.7084	0.0000	4,494.5728	4,494.5728	0.7215	0.0000	4,512.6097
Maximum	22.7513	52.3323	24.2023	0.0455	18.2141	2.8796	21.0937	9.9699	2.6492	12.6191	0.0000	4,551.6307	4,551.6307	1.1987	0.0000	4,570.1278

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	5.0558	52.3323	24.2023	0.0455	18.2141	2.8796	21.0937	9.9699	2.6492	12.6191	0.0000	4,551.6307	4,551.6307	1.1987	0.0000	4,570.1278
2018	22.7513	28.3279	21.7656	0.0452	0.9682	1.5380	2.5062	0.2622	1.4462	1.7084	0.0000	4,494.5728	4,494.5728	0.7215	0.0000	4,512.6097
Maximum	22.7513	52.3323	24.2023	0.0455	18.2141	2.8796	21.0937	9.9699	2.6492	12.6191	0.0000	4,551.6307	4,551.6307	1.1987	0.0000	4,570.1278

Sikh Temple - Placer County APCD Air District, Summer

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Sikh Temple - Placer County APCD Air District, Summer

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.6549	5.0000e-005	4.8800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Energy	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2140	262.2140	5.0300e-003	4.8100e-003	263.7722
Mobile	2.4903	4.3125	18.9440	0.0359	2.7972	0.0408	2.8380	0.7469	0.0385	0.7854		3,592.1409	3,592.1409	0.2333		3,597.9727
Total	7.1692	4.5310	19.1325	0.0372	2.7972	0.0575	2.8546	0.7469	0.0551	0.8020		3,854.3653	3,854.3653	0.2383	4.8100e-003	3,861.7559

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.6641	5.0000e-005	4.8800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Energy	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2140	262.2140	5.0300e-003	4.8100e-003	263.7722
Mobile	2.4903	4.3125	18.9440	0.0359	2.7972	0.0408	2.8380	0.7469	0.0385	0.7854		3,592.1409	3,592.1409	0.2333		3,597.9727
Total	7.1784	4.5310	19.1325	0.0372	2.7972	0.0575	2.8546	0.7469	0.0551	0.8020		3,854.3653	3,854.3653	0.2383	4.8100e-003	3,861.7559

Sikh Temple - Placer County APCD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	-0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	4/3/2018	4/26/2018	5	18	
2	Building Construction	Building Construction	4/20/2017	3/7/2018	5	230	
3	Demolition	Demolition	3/6/2017	3/31/2017	5	20	
4	Grading	Grading	4/8/2017	4/19/2017	5	8	
5	Paving	Paving	3/8/2018	4/2/2018	5	18	
6	Site Preparation	Site Preparation	4/1/2017	4/7/2017	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 3.86

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 65,151; Non-Residential Outdoor: 21,717; Striped Parking Area: 10,088 (Architectural Coating – sqft)

OffRoad Equipment

Sikh Temple - Placer County APCD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Sikh Temple - Placer County APCD Air District, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	89.00	35.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	22.3685					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	22.6671	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

Sikh Temple - Placer County APCD Air District, Summer

3.2 Architectural Coating - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267
Total	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	22.3685					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	22.6671	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

Sikh Temple - Placer County APCD Air District, Summer

3.2 Architectural Coating - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267
Total	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267

3.3 Building Construction - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791		2,650.9797	2,650.9797	0.6531		2,667.3078
Total	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791		2,650.9797	2,650.9797	0.6531		2,667.3078

Sikh Temple - Placer County APCD Air District, Summer

3.3 Building Construction - 2017**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1999	4.9908	1.0969	0.0105	0.2371	0.0430	0.2800	0.0683	0.0411	0.1093		1,102.0726	1,102.0726	0.0605		1,103.5839
Worker	0.4698	0.2814	3.6931	8.0300e-003	0.7311	4.9500e-003	0.7361	0.1939	4.5700e-003	0.1985		798.5784	798.5784	0.0263		799.2361
Total	0.6698	5.2722	4.7901	0.0186	0.9682	0.0479	1.0161	0.2622	0.0457	0.3078		1,900.6510	1,900.6510	0.0868		1,902.8200

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791	0.0000	2,650.9797	2,650.9797	0.6531		2,667.3078
Total	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791	0.0000	2,650.9797	2,650.9797	0.6531		2,667.3078

Sikh Temple - Placer County APCD Air District, Summer

3.3 Building Construction - 2017**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1999	4.9908	1.0969	0.0105	0.2371	0.0430	0.2800	0.0683	0.0411	0.1093		1,102.0726	1,102.0726	0.0605		1,103.5839
Worker	0.4698	0.2814	3.6931	8.0300e-003	0.7311	4.9500e-003	0.7361	0.1939	4.5700e-003	0.1985		798.5784	798.5784	0.0263		799.2361
Total	0.6698	5.2722	4.7901	0.0186	0.9682	0.0479	1.0161	0.2622	0.0457	0.3078		1,900.6510	1,900.6510	0.0868		1,902.8200

3.3 Building Construction - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883

Sikh Temple - Placer County APCD Air District, Summer

3.3 Building Construction - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1721	4.6937	0.9565	0.0105	0.2371	0.0333	0.2704	0.0683	0.0319	0.1001		1,097.8025	1,097.8025	0.0564		1,099.2117
Worker	0.4161	0.2442	3.2286	7.8000e-003	0.7311	4.8000e-003	0.7359	0.1939	4.4300e-003	0.1984		775.8351	775.8351	0.0230		776.4098
Total	0.5882	4.9378	4.1852	0.0183	0.9682	0.0381	1.0063	0.2622	0.0363	0.2985		1,873.6377	1,873.6377	0.0794		1,875.6214

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883

Sikh Temple - Placer County APCD Air District, Summer

3.3 Building Construction - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1721	4.6937	0.9565	0.0105	0.2371	0.0333	0.2704	0.0683	0.0319	0.1001		1,097.8025	1,097.8025	0.0564		1,099.2117
Worker	0.4161	0.2442	3.2286	7.8000e-003	0.7311	4.8000e-003	0.7359	0.1939	4.4300e-003	0.1984		775.8351	775.8351	0.0230		776.4098
Total	0.5882	4.9378	4.1852	0.0183	0.9682	0.0381	1.0063	0.2622	0.0363	0.2985		1,873.6377	1,873.6377	0.0794		1,875.6214

3.4 Demolition - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1031	42.7475	23.0122	0.0388		2.1935	2.1935		2.0425	2.0425		3,924.2833	3,924.2833	1.0730		3,951.1070
Total	4.1031	42.7475	23.0122	0.0388		2.1935	2.1935		2.0425	2.0425		3,924.2833	3,924.2833	1.0730		3,951.1070

Sikh Temple - Placer County APCD Air District, Summer

3.4 Demolition - 2017**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0792	0.0474	0.6224	1.3500e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		134.5919	134.5919	4.4300e-003		134.7027
Total	0.0792	0.0474	0.6224	1.3500e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		134.5919	134.5919	4.4300e-003		134.7027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1031	42.7475	23.0122	0.0388		2.1935	2.1935		2.0425	2.0425	0.0000	3,924.2833	3,924.2833	1.0730		3,951.1070
Total	4.1031	42.7475	23.0122	0.0388		2.1935	2.1935		2.0425	2.0425	0.0000	3,924.2833	3,924.2833	1.0730		3,951.1070

Sikh Temple - Placer County APCD Air District, Summer

3.4 Demolition - 2017**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0792	0.0474	0.6224	1.3500e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		134.5919	134.5919	4.4300e-003		134.7027
Total	0.0792	0.0474	0.6224	1.3500e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		134.5919	134.5919	4.4300e-003		134.7027

3.5 Grading - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	3.0705	33.8868	17.1042	0.0297		1.7774	1.7774		1.6352	1.6352		3,037.9107	3,037.9107	0.9308		3,061.1809
Total	3.0705	33.8868	17.1042	0.0297	6.5523	1.7774	8.3298	3.3675	1.6352	5.0027		3,037.9107	3,037.9107	0.9308		3,061.1809

Sikh Temple - Placer County APCD Air District, Summer

3.5 Grading - 2017**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0792	0.0474	0.6224	1.3500e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		134.5919	134.5919	4.4300e-003		134.7027
Total	0.0792	0.0474	0.6224	1.3500e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		134.5919	134.5919	4.4300e-003		134.7027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	3.0705	33.8868	17.1042	0.0297		1.7774	1.7774		1.6352	1.6352	0.0000	3,037.9107	3,037.9107	0.9308		3,061.1809
Total	3.0705	33.8868	17.1042	0.0297	6.5523	1.7774	8.3298	3.3675	1.6352	5.0027	0.0000	3,037.9107	3,037.9107	0.9308		3,061.1809

Sikh Temple - Placer County APCD Air District, Summer

3.5 Grading - 2017**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0792	0.0474	0.6224	1.3500e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		134.5919	134.5919	4.4300e-003		134.7027
Total	0.0792	0.0474	0.6224	1.3500e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		134.5919	134.5919	4.4300e-003		134.7027

3.6 Paving - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4239	14.5184	12.4333	0.0189		0.8370	0.8370		0.7718	0.7718		1,872.5505	1,872.5505	0.5672		1,886.7312
Paving	0.5618					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.9858	14.5184	12.4333	0.0189		0.8370	0.8370		0.7718	0.7718		1,872.5505	1,872.5505	0.5672		1,886.7312

Sikh Temple - Placer County APCD Air District, Summer

3.6 Paving - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741
Total	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4239	14.5184	12.4333	0.0189		0.8370	0.8370		0.7718	0.7718	0.0000	1,872.5505	1,872.5505	0.5672		1,886.7312
Paving	0.5618					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.9858	14.5184	12.4333	0.0189		0.8370	0.8370		0.7718	0.7718	0.0000	1,872.5505	1,872.5505	0.5672		1,886.7312

Sikh Temple - Placer County APCD Air District, Summer

3.6 Paving - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741
Total	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741

3.7 Site Preparation - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.9608	52.2754	23.4554	0.0380		2.8786	2.8786		2.6483	2.6483		3,894.9500	3,894.9500	1.1934		3,924.7852
Total	4.9608	52.2754	23.4554	0.0380	18.0663	2.8786	20.9448	9.9307	2.6483	12.5790		3,894.9500	3,894.9500	1.1934		3,924.7852

Sikh Temple - Placer County APCD Air District, Summer

3.7 Site Preparation - 2017**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0950	0.0569	0.7469	1.6200e-003	0.1479	1.0000e-003	0.1489	0.0392	9.3000e-004	0.0402		161.5102	161.5102	5.3200e-003		161.6433
Total	0.0950	0.0569	0.7469	1.6200e-003	0.1479	1.0000e-003	0.1489	0.0392	9.3000e-004	0.0402		161.5102	161.5102	5.3200e-003		161.6433

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.9608	52.2754	23.4554	0.0380		2.8786	2.8786		2.6483	2.6483	0.0000	3,894.9500	3,894.9500	1.1934		3,924.7852
Total	4.9608	52.2754	23.4554	0.0380	18.0663	2.8786	20.9448	9.9307	2.6483	12.5790	0.0000	3,894.9500	3,894.9500	1.1934		3,924.7852

Sikh Temple - Placer County APCD Air District, Summer

3.7 Site Preparation - 2017**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0950	0.0569	0.7469	1.6200e-003	0.1479	1.0000e-003	0.1489	0.0392	9.3000e-004	0.0402		161.5102	161.5102	5.3200e-003		161.6433
Total	0.0950	0.0569	0.7469	1.6200e-003	0.1479	1.0000e-003	0.1489	0.0392	9.3000e-004	0.0402		161.5102	161.5102	5.3200e-003		161.6433

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.4903	4.3125	18.9440	0.0359	2.7972	0.0408	2.8380	0.7469	0.0385	0.7854		3,592.1409	3,592.1409	0.2333		3,597.9727
Unmitigated	2.4903	4.3125	18.9440	0.0359	2.7972	0.0408	2.8380	0.7469	0.0385	0.7854		3,592.1409	3,592.1409	0.2333		3,597.9727

Sikh Temple - Placer County APCD Air District, Summer

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Place of Worship	395.68	450.41	707.11	838,050	838,050
Total	395.68	450.41	707.11	838,050	838,050

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Place of Worship	0.479040	0.045925	0.208422	0.153946	0.033880	0.007044	0.017189	0.011123	0.000927	0.000372	0.034705	0.000747	0.006681
Parking Lot	0.479040	0.045925	0.208422	0.153946	0.033880	0.007044	0.017189	0.011123	0.000927	0.000372	0.034705	0.000747	0.006681

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Sikh Temple - Placer County APCD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2140	262.2140	5.0300e-003	4.8100e-003	263.7722
NaturalGas Unmitigated	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2140	262.2140	5.0300e-003	4.8100e-003	263.7722

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	2228.82	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2140	262.2140	5.0300e-003	4.8100e-003	263.7722
Total		0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2140	262.2140	5.0300e-003	4.8100e-003	263.7722

Sikh Temple - Placer County APCD Air District, Summer

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	2.22882	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2140	262.2140	5.0300e-003	4.8100e-003	263.7722
Total		0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2140	262.2140	5.0300e-003	4.8100e-003	263.7722

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.6641	5.0000e-005	4.8800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Unmitigated	4.6549	5.0000e-005	4.8800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111

Sikh Temple - Placer County APCD Air District, Summer

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5313					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.6000e-004	5.0000e-005	4.8800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Total	4.6549	5.0000e-005	4.8800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1359					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5277					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.6000e-004	5.0000e-005	4.8800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111
Total	4.6641	5.0000e-005	4.8800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0104	0.0104	3.0000e-005		0.0111

7.0 Water Detail

Sikh Temple - Placer County APCD Air District, Summer

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation

Traffic Study

Sikh Temple Roseville, California

March 22, 2016

Prepared for:



Prepared by:

Kimley»Horn

555 Capitol Mall, Suite 300
Sacramento, California 95814

Phone: (916) 858-5800



EXECUTIVE SUMMARY

This report documents the results of a traffic study completed for the proposed Sikh temple in Roseville, California (the “project”). The American Sikh Foundation of Northern California proposes to construct a 43,434-square foot temple on their property located at 1090 Main Street. One of the existing buildings (10,574-square feet) is understood to remain. The purpose of this study is to evaluate near-term traffic conditions including local circulation and vehicle queuing (both on- and off-site), project trip generation and distribution, and potential impacts to local intersections. This study was performed in accordance with the Scope of Services approved by the City. This evaluation also includes the effect of the proposed onsite changes on offsite traffic operations in the vicinity of the project site.

The following intersections are included in this evaluation:

1. Main Street/Baseline Road @ Foothills Boulevard
2. Main Street @ Commercial Driveway
3. Main Street @ Site Driveway (West)
4. Main Street @ Site Driveway (East)
5. Main Street @ Elm Street
6. Main Street @ Porter Drive

Consistent with methodology approved by the City, Levels of Service were determined using the SimTraffic® traffic analysis software. SimTraffic® is a microsimulation tool that is useful for analyzing complex situations such as closely spaced intersections and the effects of signals on nearby unsignalized intersections and driveways. SimTraffic® Measures of Effectiveness (MOEs) were compared against the Highway Capacity Manual (HCM) intersection delay thresholds to equate the SimTraffic® results to HCM LOS.

Although the proposed project is consistent with the City’s *General Plan* (and the project’s long term traffic impact is already accounted for through the City’s Capital Improvement Program), because the proposed project is anticipated to have a net increase in project site traffic, the effect of this additional traffic is evaluated to ensure the surrounding transportation facilities operate at acceptable levels. Per the City’s direction and consistent with the City’s guidelines, a “Short-Term” traffic study was performed to identify the project’s effect on the external roadway network under existing conditions and to evaluate site access and operations. A short-term traffic analysis was conducted for the Sunday peak-hour for the following scenarios:

- A. Existing (2016) Conditions
- B. Existing (2016) plus Proposed Project Conditions

The addition of the proposed project does not result in a significant impact at the study intersections. As such, no mitigations are required to satisfy the City’s Level of Service standard.

A site visit was completed during Sunday peak-period conditions (11:30-12:30) on February 28, 2016 to observe existing project site operations. The following are the primary observations noted during this site visit:

- The observation period was intentionally selected to enable observation of the combined, overlapping peak operations of the project site and the adjacent Iglesia Ni Cristo Church of Christ.
- The majority of the site trips originate from or are destined for the west.
- The eastern site driveway is the primary access point for the existing site. Site observations and the driveway counts indicate that nearly 90 percent of the site’s trips use the eastern driveway.

- Although this segment of Main Street has multiple, offset driveways, minimal conflicts were observed between turning vehicles during the Sunday peak period.
- The existing eastern site driveway is offset from Elm Street by approximately 50-feet. As noted above, although conflicts were minimal, it is anticipated that this offset creates occurrences of conflicting turning vehicles at both the eastern site driveway and Elm Street.

The proposed project includes the following access modification:

- Relocation of the eastern site driveway approximately 50-feet east, thereby approximately lining up with existing Elm Street.

In addition, the project site plan suggests that the eastern driveway will continue to be the primary access point given its connectivity to the site's primary parking areas and the turn restrictions that appear to be proposed at the western driveway. Using the City's guidelines¹, the Minimum Required Throat Depth (MRTD) has been calculated for the project site's driveway intersections with Main Street. According to guidelines' Exhibit 4-1, the required MRTD is as follows:

Intersection #3 (Main St/Site Dwy (West)): 25-feet required MRTD

Intersection #4 (Main St/Site Dwy (East)/Elm St): 75-feet required MRTD

The project site plan should be modified in an effort to achieve these MRTD values.

Finally, in an effort to minimize on-site vehicle conflicts at the western site driveway, although the project site plan shows the use of a channelizing island to require right-turns in and right-turns out, this on-site traffic control should be more restrictive. As an example, it is suggested that all entering traffic at this driveway be forced to turn right with no "cross-traffic" allowed. Essentially, this modification would result in counter-clockwise circulation around the proposed fountain area.

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INTRODUCTION

This report documents the results of a traffic study completed for the proposed Sikh temple in Roseville, California (the “project”). The American Sikh Foundation of Northern California proposes to construct a 43,434-square foot temple on their property located at 1090 Main Street. One of the existing buildings (10,574-square feet) is understood to remain. The purpose of this study is to evaluate near-term traffic conditions including local circulation and vehicle queuing (both on- and off-site), project trip generation and distribution, and potential impacts to local intersections. This study was performed in accordance with the Scope of Services approved by the City.

PROJECT DESCRIPTION

The project proposes to construct a 43,434-square foot temple on the property located at 1090 Main Street. One of the existing buildings (10,574-square feet) is understood to remain. Similar to the current site conditions, upon completion access to the site will be provided via two driveways along Main Street. The project location is shown in **Figure 1**, and the proposed project site plan is depicted in **Figure 2**.

PROJECT AREA ROADWAYS

Main Street is an east-west arterial roadway that links downtown Roseville with the western extents of the City. This roadway becomes **Baseline Road** west of Foothills Boulevard. Through the project area, Main Street has two westbound lanes, one east bound lane, and a continuous two-way left-turn lane (TWLTL). The project is proposed to gain access from two full-access driveways along this roadway.

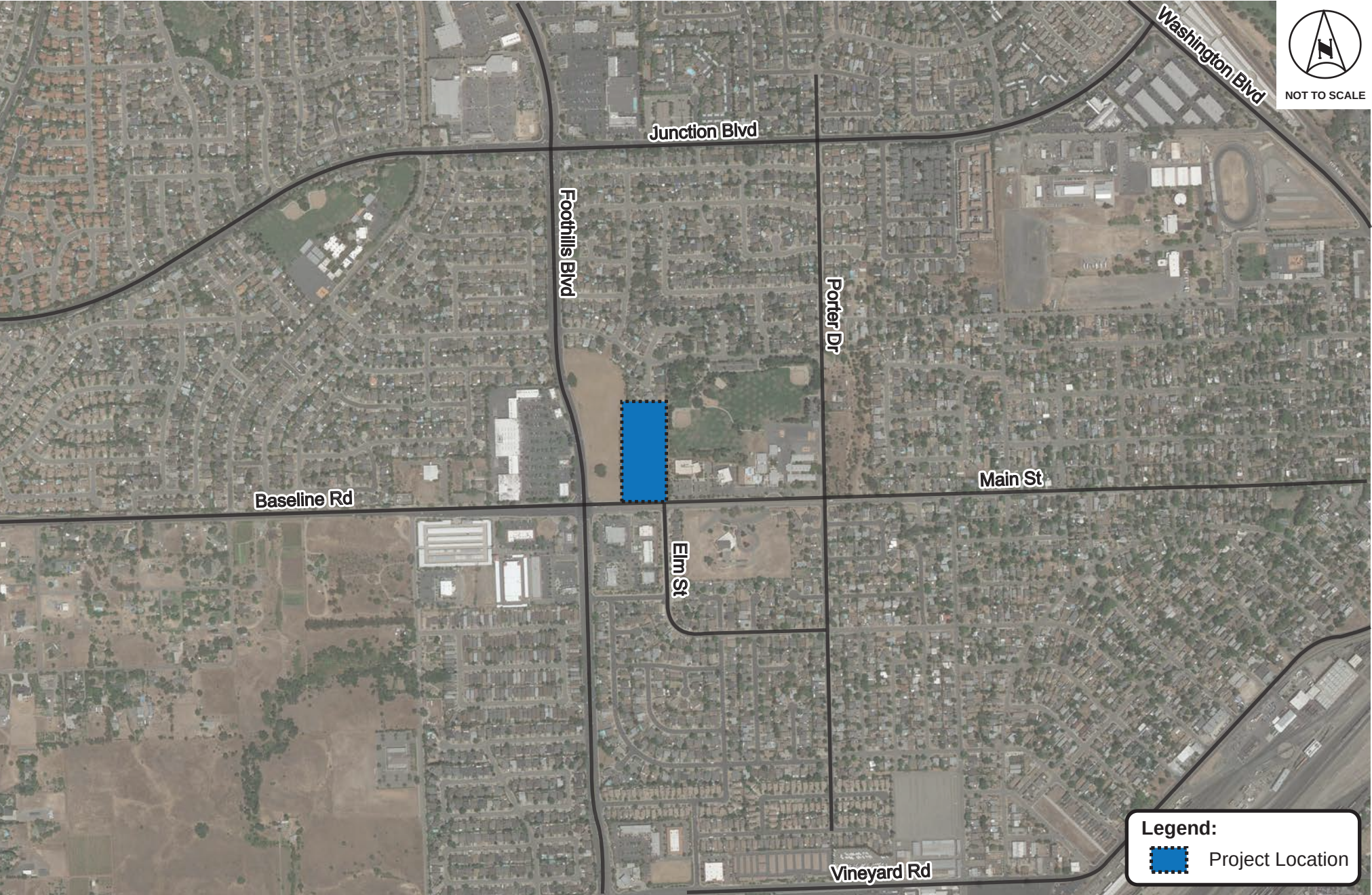
Foothills Boulevard is a north-south arterial roadway that intersects Main Street just west of the project site. This roadway is one of a handful of north-south routes through the western portion of the City that provide vital connectivity between Blue Oaks Boulevard on the north, with Baseline Road/Main Street and points farther to the south. Primary access to the project site is through the Foothills Boulevard signalized intersection with Baseline Road/Main Street.

ASSESSMENT OF PROPOSED PROJECT

Peak-Period Determination

Through consultation with the project applicant and the City, it was determined that the project site (both currently and with the proposed project) experiences peak operations on Sunday’s generally between 10:30 AM and 1:00 PM. According to the project applicant, during this two and a half hour period, approximately 400 people are onsite at any given time, with a total of 600-700 total people attending over the period. In an effort to verify this operation, we obtained multiple consecutive Sundays’ traffic data from the City at the adjacent Foothills Boulevard signalized intersection with Baseline Road/Main Street. Review of the Sunday data confirmed consistent volumes and traffic patterns thereby increasing the confidence in the predictability of a single peak period of operations for the proposed project.

Site driveway counts (inbound and outbound) were conducted on Sunday, February 28, 2016, between 10:00 AM and 2:00 PM. The site 15-minute inbound and outbound volumes, as well as the Main Street 15-minute volumes are depicted in **Exhibit 1**. As shown in Exhibit 1, the site experiences pronounced entering and exiting traffic patterns at approximately 11:00 AM and 1:30 PM, respectively. These 15-minute peak volumes equate to approximately 4 vehicles entering or exiting the site, per minute, during peak periods. In addition, it is apparent from Exhibit 1 that Main Street traffic peaks between 12:30 and 1:00 PM.



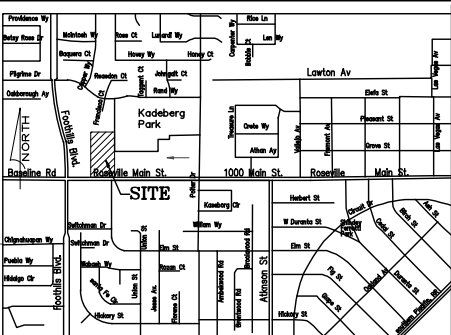
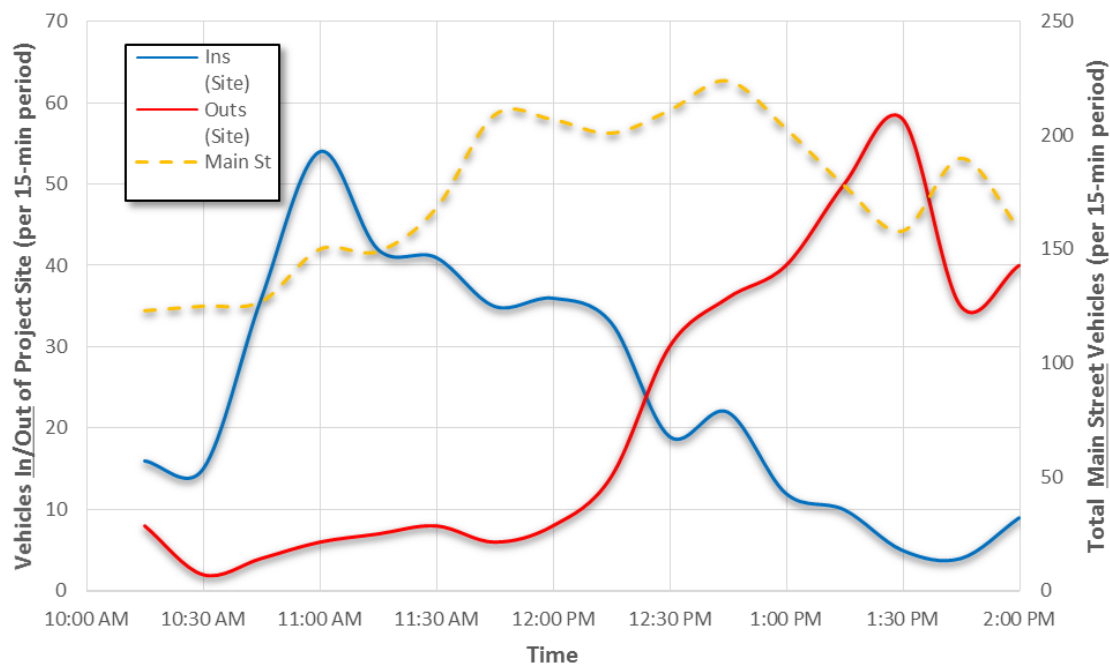


Exhibit 1 – Existing Project Site and Main Street Traffic Patterns (Sunday)

Further review of the site's trip data indicates that over 90 percent of the site's trips originate from or are destined for points west of the project site. As such, the peak entering period (approximately 11:00 AM) is considered to be the critical time period during which site trips should be evaluated as the trip pattern results in left-turns entering the site from Main Street. Conversely, the peak outbound period, while slightly higher than the inbound peak, is understood to be primarily comprised of right-turns out of the site, thereby having minimal impact on Main Street. In an effort to be appropriately conservative and to allow the City to consider a worst case combination of volumes, the site peak inbound period (10:30 AM to 11:30 AM) volumes were combined with Main Street's peak period (11:45 AM to 12:45 PM) to create the combination of peak-hour volumes at the site driveways. This Main Street peak-hour (11:45 AM to 12:45 PM) was then used at the other study intersections to create the peak-hour volume conditions for use in this operational evaluation.

Proposed Project Trip Generation

The number of trips anticipated to be generated by a proposed project are typically approximated using *Trip Generation Manual, 9th Edition* published by the Institute of Transportation Engineers (ITE). Project traffic is then typically distributed to the surrounding roadway network based on existing traffic volumes, output from the City's travel demand model, or professional judgment.

For this project, peak period traffic counts were collected at the existing site driveways, along with information pertaining to the existing site operations, in an effort to enable the calculation of the site's unique trip generation rate. It was further anticipated that this trip generation rate would then be applied to the proposed project to quantify the number of trips anticipated to be associated with the site improvements. Because neither precise onsite attendance numbers nor accurate vehicle occupancy data was readily available from the project applicant or the traffic data collected, an alternate approach to projecting the anticipated increase in site trips was necessary. Through consultation with the project applicant and the City, it was determined that a 10 percent increase in site trips would be an appropriate assumption for use in the study. Accordingly, under conditions with addition of the proposed project, the site's peak-hour trips were increased by 10 percent (using the existing distribution pattern). Similar to the previous discussion pertaining to the existing site operations, the addition of the proposed project is anticipated to result in approximately 4 vehicles entering or exiting the site, per minute, during peak periods.

Proposed Project Trip Distribution and Assignment

The distribution of project trips was based on existing traffic volumes, knowledge of local traffic patterns, and professional judgment. Accordingly, the following intersections are included in this evaluation:

1. Main Street/Baseline Road @ Foothills Boulevard
2. Main Street @ Commercial Driveway
3. Main Street @ Site Driveway (West)
4. Main Street @ Site Driveway (East)
5. Main Street @ Elm Street
6. Main Street @ Porter Drive

Figure 3 illustrates the study intersections, existing traffic control, and existing lane geometries.

TRAFFIC ANALYSIS METHODOLOGY

Analysis of traffic operations at intersections is typically based on the concept of Level of Service (LOS). The LOS of an intersection is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Intersection LOS for this study was determined using methods defined in the *Highway Capacity Manual, 2010* (HCM) and appropriate traffic analysis software.

The HCM includes procedures for analyzing side-street stop controlled (SSSC), all-way stop controlled (AWSC), and signalized intersections. These procedures define LOS as a function of average control delay.

Table 1 presents intersection LOS definitions as defined in the HCM.

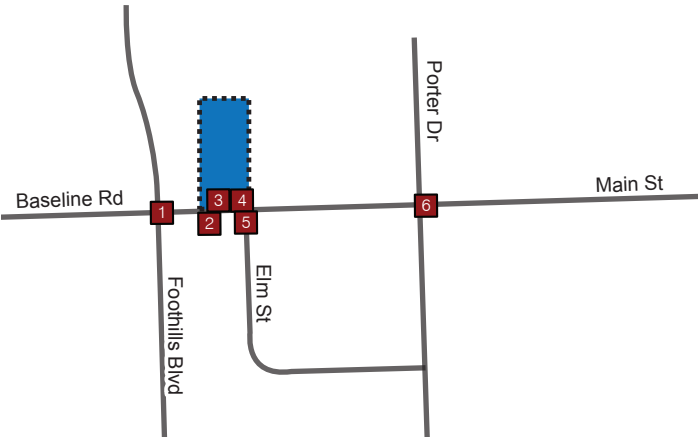
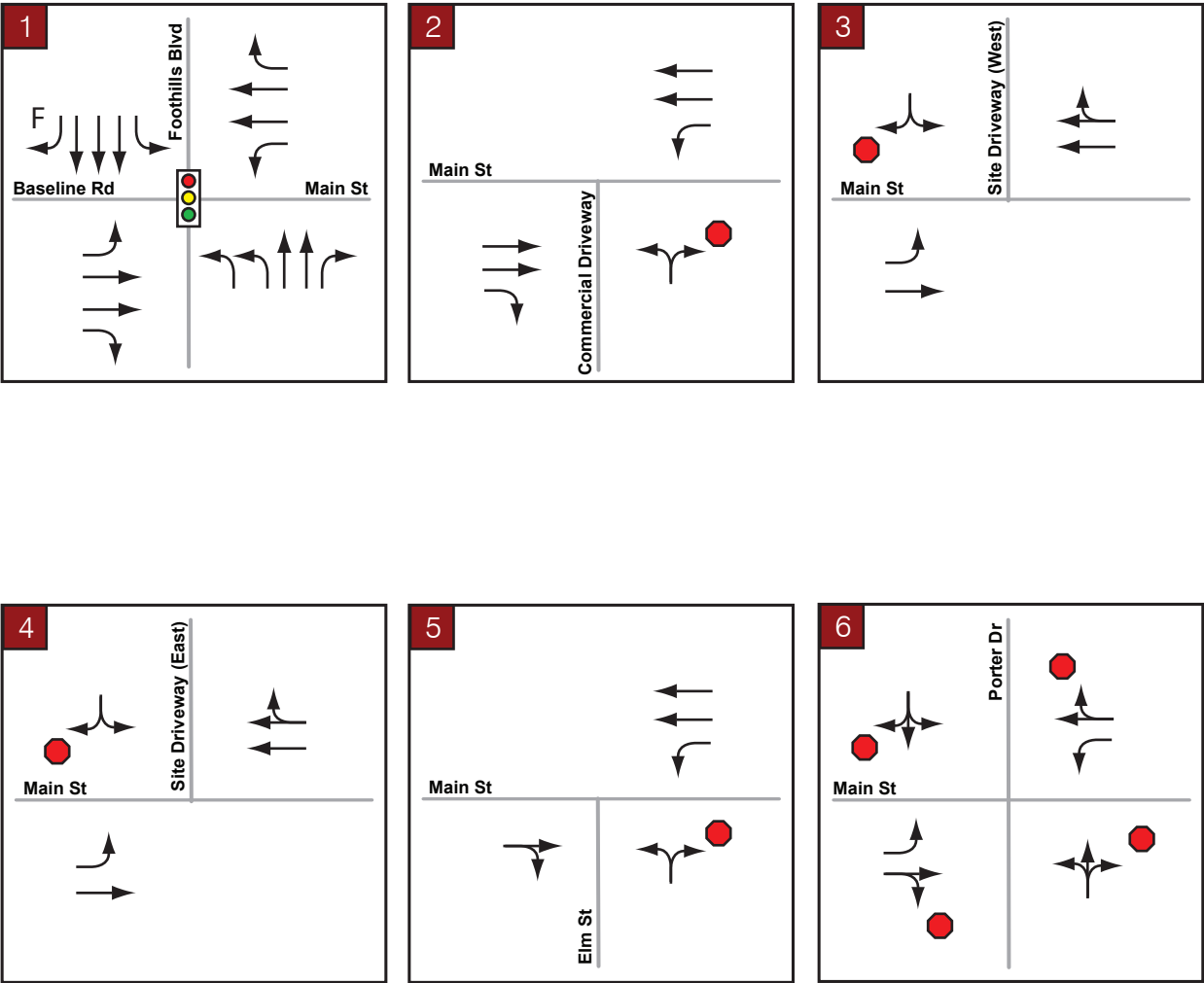
Table 1 – Intersection Level of Service Criteria

Level of Service (LOS)	Un-Signalized	Signalized
	Average Control Delay (sec/veh)	Control Delay per Vehicle (sec/veh)
A	≤ 10	≤ 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80
Source: Highway Capacity Manual, 2010		

Consistent with methodology approved by the City, Levels of Service were determined using the SimTraffic® traffic analysis software. SimTraffic® is a microsimulation tool that is useful for analyzing complex situations such as closely spaced intersections and the effects of signals on nearby unsignalized intersections and driveways. SimTraffic® Measures of Effectiveness (MOEs) were compared against the HCM intersection delay thresholds (Table 1) to equate the SimTraffic® results to HCM LOS.



NOT TO SCALE



LEGEND	
#	Study Intersection
	Stop Controlled Approach
	Signalized Study Intersection
F	Free Right
	Project Location

Although the proposed project is consistent with the City's *General Plan* (and the project's long term traffic impact is already accounted for through the City's Capital Improvement Program), because the proposed project is anticipated to have a net increase in project site traffic, the effect of this additional traffic is evaluated to ensure the surrounding transportation facilities operate at acceptable levels. Per the City's direction and consistent with the City's guidelines¹, a "Short-Term" traffic study was performed to identify the project's effect on the external roadway network under existing conditions and to evaluate site access and operations. A short-term traffic analysis was conducted for the Sunday peak-hour for the following scenarios:

- A. Existing (2016) Conditions
- B. Existing (2016) plus Proposed Project Conditions

The following is a discussion of the analyses completed for these scenarios.

EXISTING (2016) CONDITIONS

Traffic counts were conducted for the study intersections on Sunday, February 28, 2016. Count data was obtained between the hours of 10:00 AM and 2:00 PM to identify the peak-hour conditions. Traffic count data for the signalized intersection (Intersection #1) were obtained from the City's central traffic control system. Supplemental counts were performed manually for the remaining Main Street study intersections. All data collection efforts were performed concurrently.

As previously discussed, in an effort to be appropriately conservative and to allow the City to consider a worst case combination of volumes, the site peak inbound period (10:30 AM to 11:30 AM) volumes were combined with Main Street's peak period (11:45 AM to 12:45 PM) to create the combination of peak-hour volumes at the site driveways. This Main Street peak-hour (11:45 AM to 12:45 PM) was then used at the other study intersections to create the peak-hour volume conditions for use in this operational evaluation.

Existing (2016) peak-hour turn movement volumes are presented in **Figure 4**, and the traffic count data sheets are provided in **Appendix A**. **Table 2** presents the peak-hour intersection operating conditions for this analysis scenario.

Table 2 – Existing (2016) Intersection Levels of Service

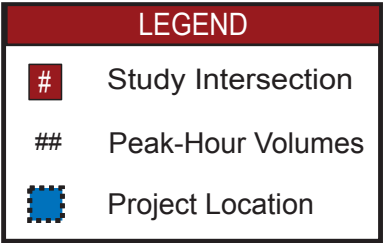
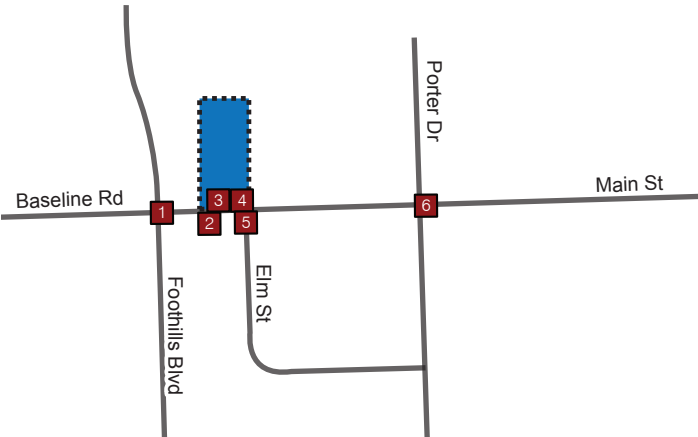
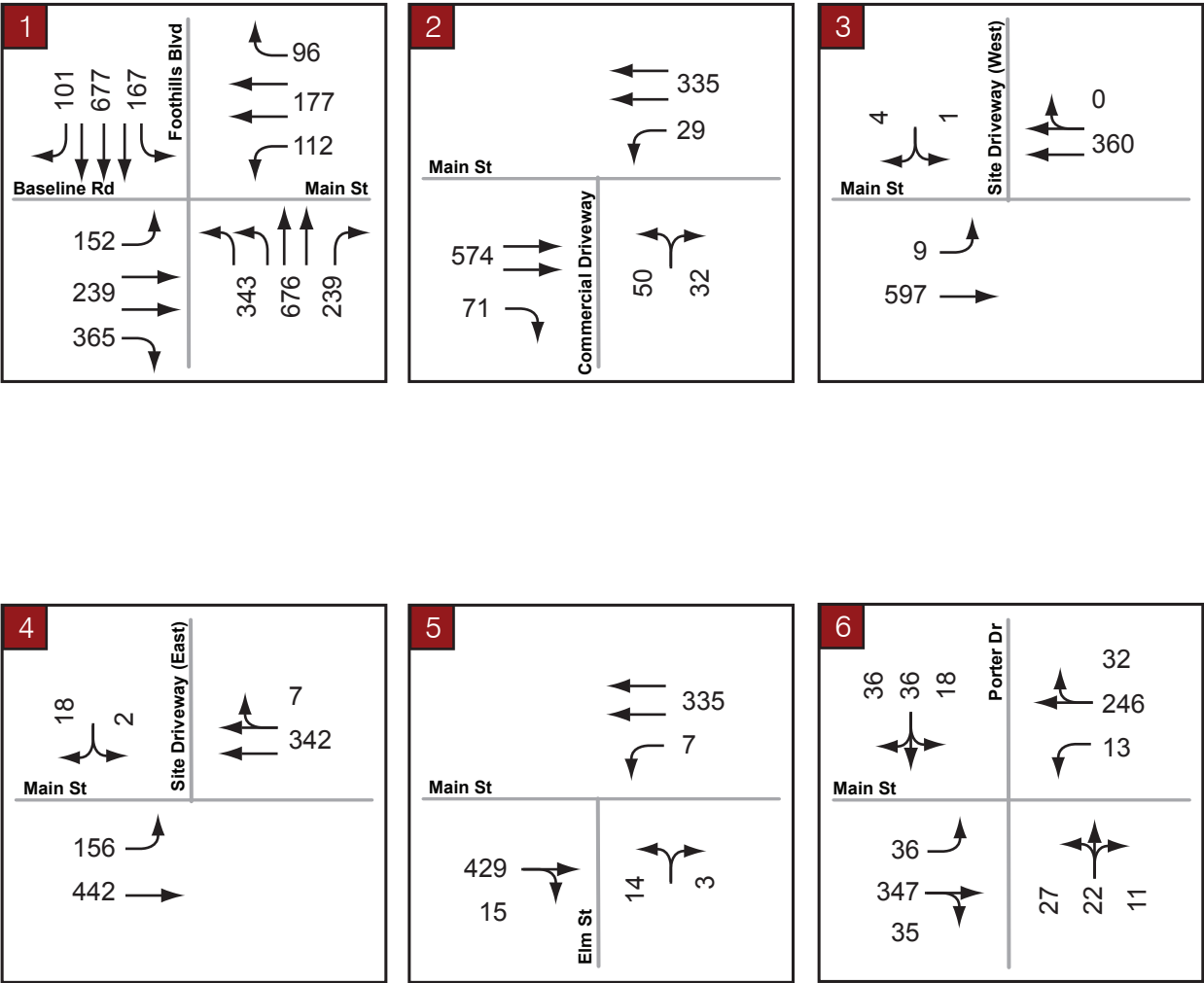
#	Intersection	Traffic Control	Sunday Peak-Hour	
			Delay* (seconds)	LOS
1	Main St/Baseline Rd @ Foothills Blvd	Signal	29.6	C
2	Main St @ Commercial Dwy	SSSC	2.8 (15.5)	C
3	Main St @ Site Dwy (West)	SSSC	1.0 (5.7 SB)	A
4	Main St @ Site Dwy (East)	SSSC	1.1 (6.0 SB)	A
5	Main St @ Elm St	SSSC	1.1 (10.7)	B
6	Main St @ Porter Dr	AWSC	7.4	A
* SSSC presented as Overall Intersection (Worst Minor Approach Movement).				

As indicated in **Table 2**, the study intersections operate from LOS A to LOS C during the peak hours. Analysis worksheets for this scenario are provided in **Appendix B**.

¹ Section 4 Traffic Impact Studies, City of Roseville Design Standards, January 2016.



NOT TO SCALE



EXISTING (2016) PLUS PROJECT CONDITIONS

Peak-hour traffic associated with the proposed project (10-percent growth to the site's peak inbound period traffic volumes, and a shift in the traffic split between driveways) was added to the existing traffic volumes and LOS was determined at the study intersections. In addition, traffic from an adjacent development project² was added to these conditions in an effort to capture the near-term traffic conditions anticipated to be realized along this segment of Main Street. As reflected in **Figure 5**, the addition of the project includes the realignment of the eastern driveway (Intersection #4) with Elm Street. This configuration change is also reflected in **Table 3**. **Figure 6** provides the peak-hour traffic volumes at the study intersections for this analysis scenario while **Table 3** provides a summary of the intersection analysis results.

**Table 3 – Existing (2016) and Existing (2016) plus Proposed Project
Intersection Levels of Service**

#	Intersection	Traffic Control	Analysis Scenario*	Sunday Peak-Hour	
				Delay** (seconds)	LOS
1	Main St/Baseline Rd @ Foothills Blvd	Signal	Exist	29.6	C
			Exist+PP+	29.6	C
2	Main St @ Commercial Dwy	SSSC	Exist	2.8 (15.5 NB)	C
			Exist+PP	2.8 (18.0 NB)	C
3	Main St @ Site Dwy (West)	SSSC	Exist	1.0 (5.7 SB)	A
			Exist+PP	0.8 (8.5 SB)	B
4	Main St @ Site Driveway (East)	SSSC	Exist	1.1 (6.0 SB)	A
			Exist+PP	See Int. #5	
5	Main St @ Elm St	SSSC	Exist	1.1 (10.7 NB)	B
			Exist+PP	1.9 (14.2 NB)	B
6	Main St @ Porter Dr	AWSC	Exist	7.4	A
			Exist+PP	7.1	A
* Exist. = Existing (2016), Exist+PP = Existing (2016) plus Proposed Project					
** SSSC presented as Overall Intersection (Worst Minor Approach Movement).					
+ It is acknowledged that the adjacent development project will construct an additional northbound through lane at this intersection. Although not incorporated in this analysis, conditions with the completion of this additional through lane would be expected to be improved from those documented herein.					

As indicated in **Table 3**, the study intersections operate from LOS A to LOS C with the addition of the project during the peak-hours. The analysis worksheets for this scenario are provided in **Appendix C**.

IMPACTS AND MITIGATION

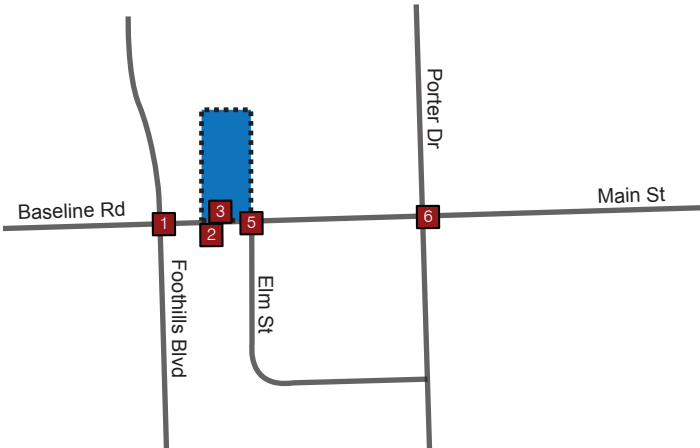
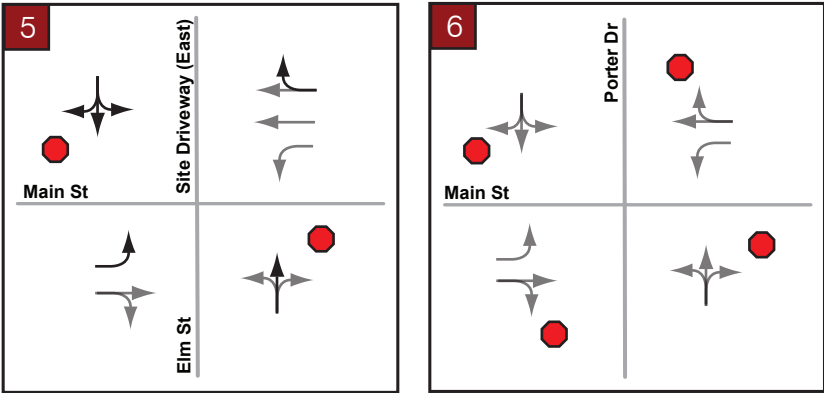
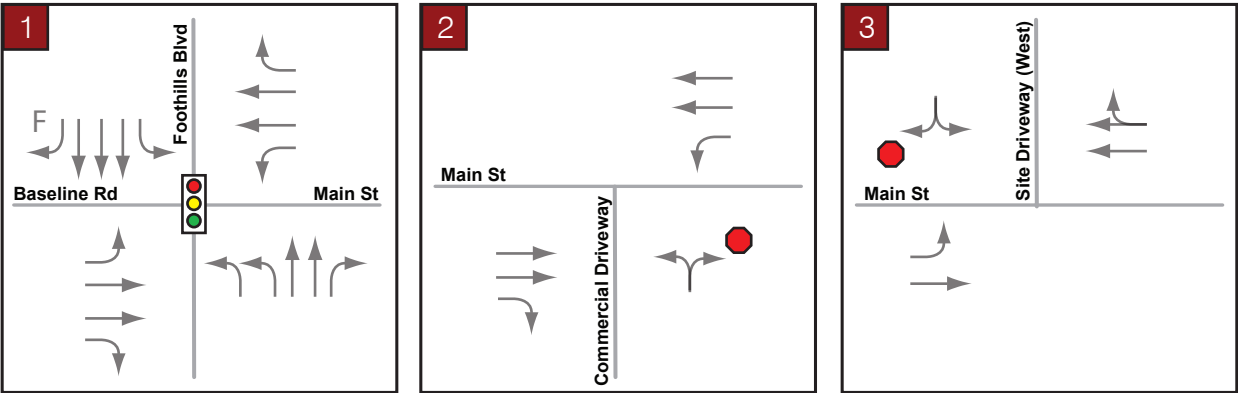
Standards of Significance

Project impacts were determined by comparing conditions with the proposed project to those without the project. Impacts for intersections are created when traffic from the proposed project forces the LOS to fall below a specific threshold. The City's guidelines³ specify the following:

"Maintain a level of service (LOS) "C" standard at a minimum of 70 percent of all signalized intersections and roadway segments in the City during the [weekday] p.m. peak hours."

² Parkland Estates project information per email from Marc Stout, City of Roseville, March 8, 2016.

³ City of Roseville General Plan 2025, City of Roseville, May 5, 2010.



LEGEND

#

Study Intersection

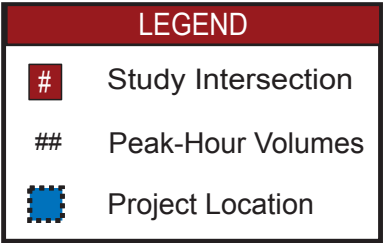
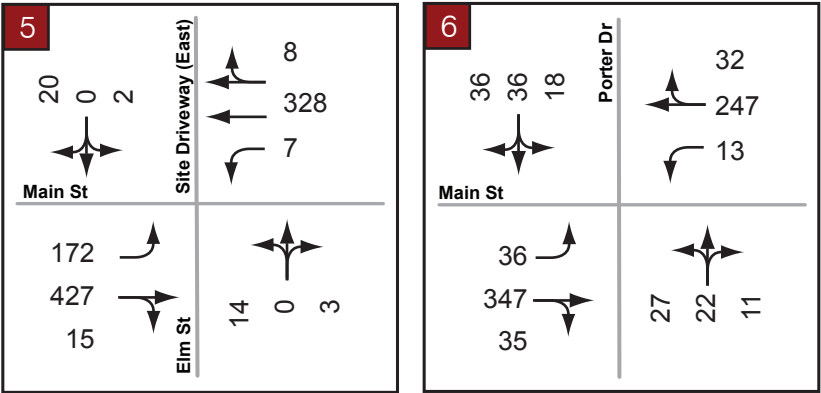
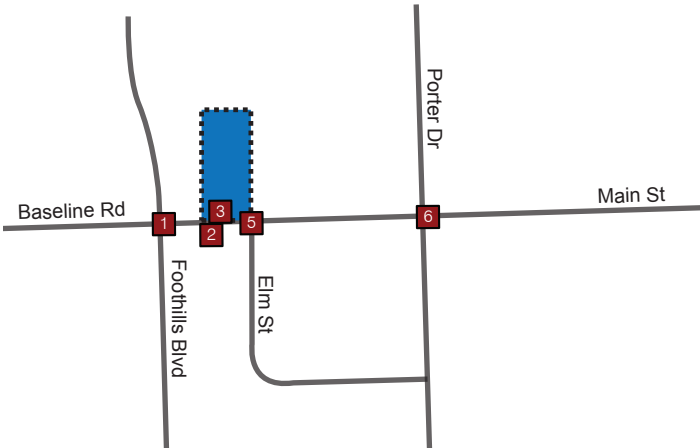
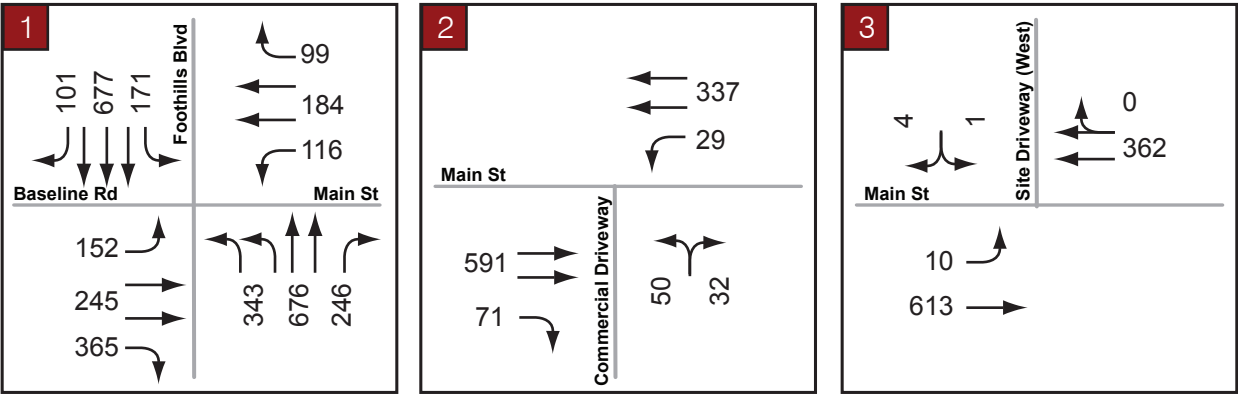
Stop Controlled Approach

Signalized Study Intersection

F

Free Right

Project Location



Furthermore, a significant impact was determined to occur if the proposed project causes:

- A signalized intersection that is currently operating at LOS C or better to operate at LOS D or worse during the AM or PM peak hours; or
- A signalized intersection that is currently operating at LOS D or E to worsen by one or more LOS categories (i.e., from LOS D to E) during the AM or PM peak hours.

Impacts and Mitigation

As reflected in **Table 3**, when the weekday peak-hour thresholds are applied to the Sunday peak-hour, the addition of the proposed project does not result in a significant impact at a study intersections. As such, no mitigations are required to satisfy the City's LOS standard.

OTHER CONSIDERATIONS

Site Observations

A site visit was completed during Sunday peak-period conditions (11:30-12:30) on February 28, 2016 to observe existing project site operations including intersection/driveway lane configurations, vehicle storage lengths, lane utilization, existing traffic control, speed limits, adjacent land uses, and other readily apparent features. The following are the primary observations noted during this site visit:

- The observation period was intentionally selected to enable observation of the combined peak operations of the project site and the adjacent Iglesia Ni Cristo Church of Christ.
- The majority of the site trips originate from or are destined for the west. As a result, the predominant turning movements along Main Street were observed to be eastbound left-turns into the site and southbound (exiting) right-turns onto Main Street. Only a small portion (less than 10 percent) of the project site's trips originate from or were observed to be destined for points to the east.
- The eastern site driveway is the primary access point for the existing site. Site observations and the driveway counts indicate that nearly 90 percent of the site's trips use the eastern driveway. This access pattern is consistent with expectations considering the limited parking field accessible from the western driveway. Conversely, the eastern driveway provides access to the site's eastern and northern parking areas.
- Although this segment of Main Street has multiple, offset driveways, minimal conflicts were observed between turning vehicles during the Sunday peak period. The Main Street two-way left-turn lane is used effectively and provides refuge for the various turning vehicles.
- The existing eastern site driveway is offset from Elm Street by approximately 50-feet. As noted above, although conflicts were minimal, it is anticipated that this offset creates occurrences of conflicting turning vehicles at both the eastern site driveway and Elm Street.
- Nominal vehicle queuing was observed along this segment of Main Street.

Site Access

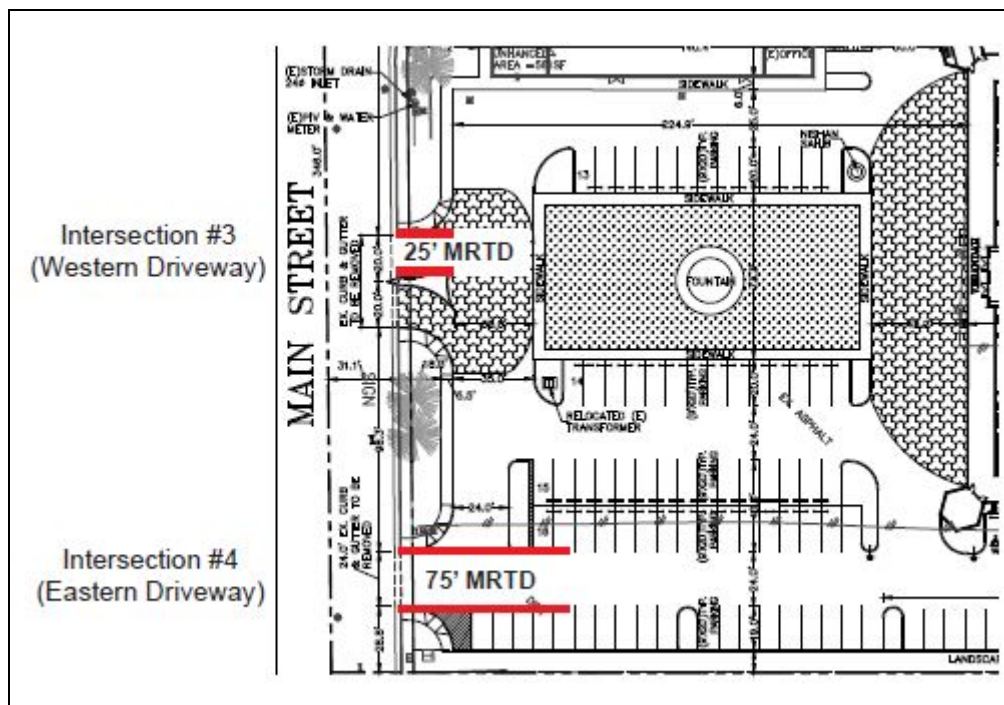
As reflected in **Figure 2**, access to the project site is proposed to be modified with the addition of the project. More specifically, the proposed project includes the following access modification:

- Relocation of the eastern site driveway approximately 50-feet east, thereby approximately lining up with existing Elm Street.

In addition, the project site plan suggests that the eastern driveway will continue to be the primary access point given its connectivity to the site's primary parking areas and the turn restrictions that appear to be proposed at the western driveway. Using the City's guidelines¹, the Minimum Required Throat Depth (MRTD) has been calculated for the project site's driveway intersections with Main Street (using peak outbound trip data, see Exhibit 1). According to guidelines' Exhibit 4-1, the required MRTD is as follows:

Intersection #4 (Main St/Site Dwy (East)/Elm St): 75-feet required MRTD

Exhibit 2 – Recommended Minimum Required Throat Depth (MRTD)



Finally, in an effort to minimize on-site vehicle conflicts at the western site driveway, although the project site plan shows the use of a channelizing island to require right-turns in and right-turns out, this on-site traffic control should be more restrictive. As an example, it is suggested that all entering traffic at this driveway be forced to turn right with no “cross-traffic” allowed. Essentially, this modification would result in counter-clockwise circulation around the proposed fountain area.

Based on the analyses documented in this report and the supporting information provided by the project applicant, the proposed project is not anticipated to result in significant offsite Level of Service (LOS) impacts or adversely affect on-site operations. The project's relocation of the eastern site driveway to approximately align with Elm Street is considered an improvement to this segment of Main Street. Finally, the minimum required throat depths should be provide at both site driveways and on-site circulation restrictions should be enforced in the vicinity of the western site access driveway.

Appendix A:

Traffic Count Data Sheets

Turning Movement Volume Report

2/29/2016

Foothills & Baseline \ Main

Intersection: 15

Date & Time	N				S				E				W				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
02/28/16 10:00-10:14	56	116	16	188	23	162	16	201	17	36	82	135	13	37	21	71	595
02/28/16 10:15-10:29	49	129	19	197	25	163	18	206	17	35	117	169	16	26	19	61	633
02/28/16 10:30-10:44	65	151	30	246	29	164	17	210	39	42	103	184	13	32	18	63	703
02/28/16 10:45-10:59	64	167	33	264	38	197	16	251	36	64	97	197	23	32	16	71	783
02/28/16 11:00-11:14	80	154	39	273	36	172	21	229	35	56	105	196	18	32	13	63	761
02/28/16 11:15-11:29	74	157	38	269	36	203	23	262	39	61	87	187	19	36	27	82	800
02/28/16 11:30-11:44	68	163	47	278	36	191	18	245	46	46	83	175	41	43	32	116	814
02/28/16 11:45-11:59	89	171	56	316	39	188	20	247	42	59	84	185	29	41	22	92	840
02/28/16 12:00-12:14	79	159	61	299	37	170	22	229	31	50	99	180	32	47	17	96	804
02/28/16 12:15-12:29	76	156	47	279	29	147	31	207	45	53	104	202	28	60	37	125	813
02/28/16 12:30-12:44	99	190	51	340	44	172	28	244	34	53	78	165	39	54	34	127	876
02/28/16 12:45-12:59	89	192	27	308	35	187	20	242	43	51	101	195	36	59	43	138	883
02/28/16 13:00-13:14	88	165	27	280	32	172	21	225	45	42	89	176	37	62	31	130	811
02/28/16 13:15-13:29	110	165	29	304	20	146	17	183	42	40	66	148	32	61	35	128	763
02/28/16 13:30-13:44	101	177	22	300	30	181	27	238	28	35	82	145	32	64	44	140	823
02/28/16 13:45-13:59	86	195	23	304	30	178	26	234	22	31	83	136	38	50	33	121	795

ALL TRAFFIC DATA

City of Roseville
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7141-001 Driveway 2/Driveway 3 & Main Street
Date : 2/28/2016

Unshifted Count = All Vehicles & Uturns

	Driveway 2 Southbound					Main Street Westbound					Driveway 3 Northbound					Main Street Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
10:00	1	0	1	0	2	6	64	0	0	70	4	0	3	0	7	1	77	6	0	84	163	0
10:15	0	0	2	0	2	5	55	1	0	61	5	0	3	0	8	0	59	7	0	66	137	0
10:30	1	0	0	0	1	4	52	0	0	56	8	0	5	0	13	1	104	4	0	109	179	0
10:45	0	0	1	0	1	3	64	0	0	67	8	0	3	0	11	2	123	8	0	133	212	0
Total	2	0	4	0	6	18	235	1	0	254	25	0	14	0	39	4	363	25	0	392	691	0
11:00	0	0	2	0	2	3	59	0	0	62	4	0	8	0	12	1	110	12	0	123	199	0
11:15	0	0	1	0	1	7	70	0	0	77	13	0	5	0	18	5	118	19	0	142	238	0
11:30	1	0	1	0	2	3	97	1	0	101	9	0	7	0	16	5	107	14	0	126	245	0
11:45	0	0	1	0	1	10	78	0	0	88	9	0	9	0	18	1	128	14	0	143	250	0
Total	1	0	5	0	6	23	304	1	0	328	35	0	29	0	64	12	463	59	0	534	932	0
12:00	1	0	0	0	1	8	82	0	0	90	12	0	7	0	19	2	132	16	0	150	260	0
12:15	0	0	0	0	0	6	112	0	0	118	14	0	6	0	20	2	100	20	0	122	260	0
12:30	1	0	0	0	1	5	104	0	0	109	15	0	10	0	25	3	129	21	0	153	288	0
12:45	0	0	5	0	5	8	114	1	0	123	22	1	12	0	35	0	99	17	0	116	279	0
Total	2	0	5	0	7	27	412	1	0	440	63	1	35	0	99	7	460	74	0	541	1087	0
13:00	0	0	7	0	7	11	112	0	0	123	13	0	12	0	25	1	89	13	0	103	258	0
13:15	1	0	6	0	7	9	111	0	0	120	14	0	6	0	20	0	70	13	0	83	230	0
13:30	0	0	3	0	3	16	117	0	0	133	10	0	13	0	23	0	84	11	0	95	254	0
13:45	0	0	9	0	9	11	117	0	0	128	13	0	9	0	22	2	58	19	0	79	238	0
Total	1	0	25	0	26	47	457	0	0	504	50	0	40	0	90	3	301	56	0	360	980	0
Grand Total	6	0	39	0	45	115	1408	3	0	1526	173	1	118	0	292	26	1587	214	0	1827	3690	0
Apprch %	13.3%	0.0%	86.7%	0.0%		7.5%	92.3%	0.2%	0.0%		59.2%	0.3%	40.4%	0.0%		1.4%	86.9%	11.7%	0.0%			
Total %	0.2%	0.0%	1.1%	0.0%	1.2%	3.1%	38.2%	0.1%	0.0%	41.4%	4.7%	0.0%	3.2%	0.0%	7.9%	0.7%	43.0%	5.8%	0.0%	49.5%	100.0%	

NOON PEAK	Driveway 2 Southbound					Main Street Westbound					Driveway 3 Northbound					Main Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 12:00 to 13:00																					
Peak Hour For Entire Intersection Begins at 12:00																					
12:00	1	0	0	0	1	8	82	0	0	90	12	0	7	0	19	2	132	16	0	150	260
12:15	0	0	0	0	0	6	112	0	0	118	14	0	6	0	20	2	100	20	0	122	260
12:30	1	0	0	0	1	5	104	0	0	109	15	0	10	0	25	3	129	21	0	153	288
12:45	0	0	5	0	5	8	114	1	0	123	22	1	12	0	35	0	99	17	0	116	279
Total Volume	2	0	5	0	7	27	412	1	0	440	63	1	35	0	99	7	460	74	0	541	1087
% App Total	28.6%	0.0%	71.4%	0.0%		6.1%	93.6%	0.2%	0.0%		63.6%	1.0%	35.4%	0.0%		1.3%	85.0%	13.7%	0.0%		
PHF	.500	.000	.250	.000	.350	.844	.904	.250	.000	.894	.716	.250	.729	.000	.707	.583	.871	.881	.000	.884	.944

ALL TRAFFIC DATA

City of Roseville
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7141-002 Driveway 1/Elm Street & Main Street

Date : 2/28/2016

Unshifted Count = All Vehicles & Uturns

	Driveway 1 Southbound					Main Street Westbound					Elm Street Northbound					Main Street Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
10:00	0	0	6	0	6	0	63	0	0	63	2	0	1	0	3	15	61	2	0	78	150	0
10:15	0	0	0	0	0	0	58	1	0	59	2	0	0	0	2	13	53	2	0	68	129	0
10:30	1	0	2	0	3	0	50	1	0	51	2	0	1	0	3	34	64	2	0	100	157	0
10:45	0	0	5	0	5	0	61	4	0	65	2	0	3	0	5	48	79	3	0	130	205	0
Total	1	0	13	0	14	0	232	6	0	238	8	0	5	0	13	110	257	9	0	376	641	0
11:00	1	0	4	0	5	1	55	3	0	59	2	0	0	0	2	38	80	4	0	122	188	0
11:15	0	0	7	0	7	0	68	0	0	68	3	0	0	0	3	36	83	1	0	120	198	0
11:30	1	1	2	0	4	1	91	1	0	93	5	0	3	0	8	28	86	3	0	117	222	0
11:45	2	0	5	0	7	3	78	3	0	84	3	0	1	0	4	32	97	3	0	132	227	0
Total	4	1	18	0	23	5	292	7	0	304	13	0	4	0	17	134	346	11	0	491	835	0
12:00	1	0	12	0	13	3	74	2	0	79	5	0	0	0	5	29	113	1	0	143	240	0
12:15	3	0	27	0	30	2	86	3	0	91	4	0	2	0	6	14	89	4	0	107	234	0
12:30	3	0	32	0	35	0	80	3	0	83	2	0	0	0	2	16	115	7	0	138	258	0
12:45	2	0	33	0	35	2	83	0	0	85	3	0	4	0	7	10	102	4	0	116	243	0
Total	9	0	104	0	113	7	323	8	0	338	14	0	6	0	20	69	419	16	0	504	975	0
13:00	2	0	41	0	43	3	77	5	0	85	2	0	1	0	3	4	94	2	0	100	231	0
13:15	2	1	48	0	51	6	81	0	0	87	4	0	2	0	6	5	74	1	0	80	224	0
13:30	1	0	31	0	32	3	93	1	0	97	0	0	1	0	1	3	89	3	0	95	225	0
13:45	2	0	29	0	31	1	97	1	0	99	3	0	0	0	3	6	59	5	0	70	203	0
Total	7	1	149	0	157	13	348	7	0	368	9	0	4	0	13	18	316	11	0	345	883	0
Grand Total	21	2	284	0	307	25	1195	28	0	1248	44	0	19	0	63	331	1338	47	0	1716	3334	0
Apprch %	6.8%	0.7%	92.5%	0.0%		2.0%	95.8%	2.2%	0.0%		69.8%	0.0%	30.2%	0.0%		19.3%	78.0%	2.7%	0.0%			
Total %	0.6%	0.1%	8.5%	0.0%	9.2%	0.7%	35.8%	0.8%	0.0%	37.4%	1.3%	0.0%	0.6%	0.0%	1.9%	9.9%	40.1%	1.4%	0.0%	51.5%	100.0%	

NOON PEAK	Driveway 1 Southbound					Main Street Westbound					Elm Street Northbound					Main Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 12:00 to 13:00																					
Peak Hour For Entire Intersection Begins at 12:00																					
12:00	1	0	12	0	13	3	74	2	0	79	5	0	0	0	5	29	113	1	0	143	240
12:15	3	0	27	0	30	2	86	3	0	91	4	0	2	0	6	14	89	4	0	107	234
12:30	3	0	32	0	35	0	80	3	0	83	2	0	0	0	2	16	115	7	0	138	258
12:45	2	0	33	0	35	2	83	0	0	85	3	0	4	0	7	10	102	4	0	116	243
Total Volume	9	0	104	0	113	7	323	8	0	338	14	0	6	0	20	69	419	16	0	504	975
% App Total	8.0%	0.0%	92.0%	0.0%		2.1%	95.6%	2.4%	0.0%		70.0%	0.0%	30.0%	0.0%		13.7%	83.1%	3.2%	0.0%		
PHF	.750	.000	.788	.000	.807	.583	.939	.667	.000	.929	.700	.000	.375	.000	.714	.595	.911	.571	.000	.881	.945

ALL TRAFFIC DATA

City of Roseville
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7141-003 Porter Street & Main Street

Date : 2/28/2016

Unshifted Count = All Vehicles & Uturns

	Porter Street Southbound					Main Street Westbound					Porter Street Northbound					Main Street Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
10:00	4	2	4	0	10	4	46	3	0	53	8	7	6	3	21	3	45	7	0	55	139	0
10:15	5	3	5	0	13	2	48	8	0	58	5	11	5	0	21	4	43	6	0	53	145	0
10:30	5	3	5	0	13	3	43	10	0	56	9	7	3	0	19	3	61	9	0	73	161	0
10:45	2	9	6	0	17	1	53	10	0	64	7	7	3	0	17	8	67	4	0	79	177	0
Total	16	17	20	0	53	10	190	31	0	231	29	32	17	0	78	18	216	26	0	260	622	0
11:00	3	4	3	0	10	2	40	8	0	50	9	7	0	0	16	11	59	3	0	73	149	0
11:15	4	2	7	0	13	4	53	3	0	60	4	9	2	0	15	6	67	9	0	82	170	0
11:30	5	7	6	0	18	5	57	9	0	71	5	7	2	0	14	12	77	6	0	95	198	0
11:45	6	8	13	0	27	3	49	7	0	59	9	5	1	0	15	8	95	5	0	108	209	0
Total	18	21	29	0	68	14	199	27	0	240	27	28	5	0	60	37	298	23	0	358	726	0
12:00	7	7	4	0	18	1	57	6	0	64	5	2	3	0	10	10	88	8	0	106	198	0
12:15	3	7	12	0	22	4	69	11	0	84	6	9	6	0	21	8	74	8	0	90	217	0
12:30	2	14	3	0	19	5	63	8	0	76	8	6	1	0	15	10	92	14	0	116	226	0
12:45	8	10	10	0	28	4	64	9	0	77	10	4	1	0	15	16	81	10	0	107	227	0
Total	20	38	29	0	87	14	253	34	0	301	29	21	11	0	61	44	335	40	0	419	868	0
13:00	2	6	8	0	16	2	77	6	0	85	8	5	3	0	16	14	77	7	0	98	215	0
13:15	7	3	11	0	21	6	60	5	0	71	3	3	3	0	9	9	66	5	0	80	181	0
13:30	6	3	13	0	22	3	78	4	0	85	14	3	3	0	20	10	72	5	0	87	214	0
13:45	4	7	10	0	21	1	76	8	0	85	9	8	2	0	19	10	47	5	0	62	187	0
Total	19	19	42	0	80	12	291	23	0	326	34	19	11	0	64	43	262	22	0	327	797	0
Grand Total	73	95	120	0	288	50	933	115	0	1098	119	100	44	0	263	142	1111	111	0	1364	3013	0
Apprch %	25.3%	33.0%	41.7%	0.0%		4.6%	85.0%	10.5%	0.0%		45.2%	38.0%	16.7%	0.0%		10.4%	81.5%	8.1%	0.0%			
Total %	2.4%	3.2%	4.0%	0.0%	9.6%	1.7%	31.0%	3.8%	0.0%	36.4%	3.9%	3.3%	1.5%	0.0%	8.7%	4.7%	36.9%	3.7%	0.0%	45.3%	100.0%	

NOON PEAK	Porter Street Southbound					Main Street Westbound					Porter Street Northbound					Main Street Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 12:15 to 13:15																					
Peak Hour For Entire Intersection Begins at 12:15																					
12:15	3	7	12	0	22	4	69	11	0	84	6	9	6	0	21	8	74	8	0	90	217
12:30	2	14	3	0	19	5	63	8	0	76	8	6	1	0	15	10	92	14	0	116	226
12:45	8	10	10	0	28	4	64	9	0	77	10	4	1	0	15	16	81	10	0	107	227
13:00	2	6	8	0	16	2	77	6	0	85	8	5	3	0	16	14	77	7	0	98	215
Total Volume	15	37	33	0	85	15	273	34	0	322	32	24	11	0	67	48	324	39	0	411	885
% App Total	17.6%	43.5%	38.8%	0.0%		4.7%	84.8%	10.6%	0.0%		47.8%	35.8%	16.4%	0.0%		11.7%	78.8%	9.5%	0.0%		
PHF	.469	.661	.688	.000	.759	.750	.886	.773	.000	.947	.800	.667	.458	.000	.798	.750	.880	.696	.000	.886	.975

Appendix B:

Analysis Worksheets for Existing (2016) Conditions

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	11:35	11:35	11:35	11:35	11:35	11:35	11:35
End Time	12:45	12:45	12:45	12:45	12:45	12:45	12:45
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	3778	3734	3815	3764	3709	3734	3763
Vehs Exited	3775	3737	3836	3771	3669	3755	3760
Starting Vehs	61	78	70	79	47	69	68
Ending Vehs	64	75	49	72	87	48	71
Travel Distance (mi)	1206	1173	1217	1199	1174	1177	1188
Travel Time (hr)	72.6	71.0	74.5	72.2	69.5	70.4	72.2
Total Delay (hr)	36.3	36.1	38.3	36.5	34.3	35.6	36.8
Total Stops	3756	3617	3792	3722	3635	3615	3704
Fuel Used (gal)	66.2	65.4	67.7	66.6	64.5	65.4	65.8

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	11:35	11:35	11:35	11:35
End Time	12:45	12:45	12:45	12:45
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	3845	3761	3823	3772
Vehs Exited	3855	3776	3837	3776
Starting Vehs	72	63	69	62
Ending Vehs	62	48	55	57
Travel Distance (mi)	1203	1195	1221	1195
Travel Time (hr)	72.6	71.4	74.0	72.0
Total Delay (hr)	36.7	35.8	37.5	36.4
Total Stops	3747	3677	3806	3707
Fuel Used (gal)	66.9	66.2	67.7	66.2

Interval #0 Information Seeding

Start Time	11:35
End Time	11:45
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	11:45
End Time	12:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	937	883	916	886	876	877	923
Vehs Exited	943	895	920	901	859	881	935
Starting Vehs	61	78	70	79	47	69	68
Ending Vehs	55	66	66	64	64	65	56
Travel Distance (mi)	305	289	291	287	282	284	301
Travel Time (hr)	18.1	16.9	17.9	17.4	16.3	16.8	18.4
Total Delay (hr)	8.9	8.4	9.3	8.9	7.9	8.5	9.5
Total Stops	927	861	915	885	841	843	887
Fuel Used (gal)	16.8	15.9	16.3	16.3	15.5	15.7	16.6

Interval #1 Information Recording

Start Time	11:45
End Time	12:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	947	872	917	900
Vehs Exited	957	865	913	904
Starting Vehs	72	63	69	62
Ending Vehs	62	70	73	59
Travel Distance (mi)	302	280	293	291
Travel Time (hr)	18.4	16.0	17.3	17.4
Total Delay (hr)	9.5	7.6	8.5	8.7
Total Stops	922	848	887	883
Fuel Used (gal)	17.1	15.2	16.0	16.1

Interval #2 Information

Start Time	12:00
End Time	12:15
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	1116	1087	1071	1045	1049	1107	1060
Vehs Exited	1091	1073	1070	1040	1027	1097	1054
Starting Vehs	55	66	66	64	64	65	56
Ending Vehs	80	80	67	69	86	75	62
Travel Distance (mi)	343	324	331	320	315	331	317
Travel Time (hr)	21.5	19.8	20.9	19.2	19.0	20.3	19.0
Total Delay (hr)	11.1	10.0	11.0	9.6	9.5	10.4	9.4
Total Stops	1153	1042	1102	1009	1007	1079	1041
Fuel Used (gal)	18.8	18.1	18.5	17.7	17.1	18.5	17.3

Interval #2 Information

Start Time	12:00
End Time	12:15
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	1084	1102	1118	1083
Vehs Exited	1087	1102	1122	1078
Starting Vehs	62	70	73	59
Ending Vehs	59	70	69	70
Travel Distance (mi)	331	330	351	329
Travel Time (hr)	20.4	19.9	21.9	20.2
Total Delay (hr)	10.3	10.1	11.4	10.3
Total Stops	1087	1038	1151	1071
Fuel Used (gal)	18.1	18.3	19.4	18.2

Interval #3 Information

Start Time	12:15
End Time	12:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	877	879	893	938	882	894	871
Vehs Exited	896	883	895	940	904	902	895
Starting Vehs	80	80	67	69	86	75	62
Ending Vehs	61	76	65	67	64	67	38
Travel Distance (mi)	281	277	286	303	289	282	283
Travel Time (hr)	16.5	17.3	16.8	18.4	17.2	16.7	17.1
Total Delay (hr)	8.2	9.1	8.3	9.3	8.6	8.5	8.7
Total Stops	842	837	839	951	890	844	865
Fuel Used (gal)	15.5	15.5	15.6	16.7	16.2	15.7	15.8

Interval #3 Information

Start Time	12:15
End Time	12:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	912	891	913	894
Vehs Exited	917	897	932	905
Starting Vehs	59	70	69	70
Ending Vehs	54	64	50	55
Travel Distance (mi)	285	284	299	287
Travel Time (hr)	16.9	17.0	18.3	17.2
Total Delay (hr)	8.4	8.6	9.4	8.7
Total Stops	860	855	929	868
Fuel Used (gal)	16.0	16.0	16.8	16.0

Interval #4 Information

Start Time	12:30
End Time	12:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	848	885	935	895	902	856	909
Vehs Exited	845	886	951	890	879	875	876
Starting Vehs	61	76	65	67	64	67	38
Ending Vehs	64	75	49	72	87	48	71
Travel Distance (mi)	277	283	309	288	287	280	288
Travel Time (hr)	16.4	17.1	18.9	17.2	16.9	16.6	17.7
Total Delay (hr)	8.2	8.6	9.7	8.7	8.3	8.2	9.2
Total Stops	834	877	936	877	897	849	911
Fuel Used (gal)	15.1	15.9	17.3	16.0	15.7	15.6	16.1

Interval #4 Information

Start Time	12:30
End Time	12:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	902	896	875	890
Vehs Exited	894	912	870	888
Starting Vehs	54	64	50	55
Ending Vehs	62	48	55	57
Travel Distance (mi)	285	301	278	287
Travel Time (hr)	16.9	18.5	16.4	17.3
Total Delay (hr)	8.4	9.5	8.2	8.7
Total Stops	878	936	839	883
Fuel Used (gal)	15.7	16.8	15.6	16.0

1: Foothills Blvd & Baseline Rd/Main St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.5	0.0	0.5	0.2	1.2
Denied Del/Veh (s)	2.2	0.0	1.5	0.9	1.3
Total Delay (hr)	5.7	3.6	10.6	8.6	28.5
Total Del/Veh (s)	26.1	32.4	29.3	31.6	29.6
Vehicles Entered	777	395	1293	970	3435
Vehicles Exited	780	397	1294	970	3441
Hourly Exit Rate	780	397	1294	970	3441
Input Volume	775	402	1289	960	3426
% of Volume	101	99	100	101	100

2: Walgreens Dwy & Main St Performance by approach

Approach	EB	WB	NB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.5	0.1	0.4	0.9
Total Del/Veh (s)	2.6	0.6	15.5	2.8
Vehicles Entered	662	401	83	1146
Vehicles Exited	662	401	83	1146
Hourly Exit Rate	662	401	83	1146
Input Volume	661	403	86	1151
% of Volume	100	100	96	100

3: Main St & Site Dwy #2 Performance by approach

Approach	EB	WB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.0
Total Delay (hr)	0.2	0.1	0.0	0.3
Total Del/Veh (s)	1.2	0.6	5.7	1.0
Vehicles Entered	676	396	7	1079
Vehicles Exited	676	396	7	1079
Hourly Exit Rate	676	396	7	1079
Input Volume	672	398	6	1076
% of Volume	101	99	127	100

4: Main St & Site Dwy #1 Performance by approach

Approach	EB	WB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Delay (hr)	0.3	0.0	0.0	0.3
Total Del/Veh (s)	1.5	0.2	6.0	1.1
Vehicles Entered	668	385	20	1073
Vehicles Exited	668	385	20	1073
Hourly Exit Rate	668	385	20	1073
Input Volume	664	386	22	1073
% of Volume	101	100	91	100

5: Elm St & Main St Performance by approach

Approach	EB	WB	NB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.2	0.1	0.3
Total Del/Veh (s)	0.2	1.8	10.7	1.1
Vehicles Entered	495	378	19	892
Vehicles Exited	494	378	18	890
Hourly Exit Rate	494	378	18	890
Input Volume	492	379	19	889
% of Volume	101	100	96	100

6: Porter Dr & Main St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.5	0.1	0.2	0.2
Total Delay (hr)	1.2	0.6	0.1	0.1	1.9
Total Del/Veh (s)	8.7	6.6	5.2	5.0	7.4
Vehicles Entered	481	302	63	98	944
Vehicles Exited	481	302	63	98	944
Hourly Exit Rate	481	302	63	98	944
Input Volume	478	305	66	96	944
% of Volume	101	99	96	102	100

Total Network Performance

Denied Delay (hr)	1.3
Denied Del/Veh (s)	1.3
Total Delay (hr)	35.1
Total Del/Veh (s)	32.9
Vehicles Entered	3772
Vehicles Exited	3776
Hourly Exit Rate	3776
Input Volume	12201
% of Volume	31

Roseville Sikh Temple
Queuing and Blocking Report

Existing
Midday Peak

Intersection: 1: Foothills Blvd & Baseline Rd/Main St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	T
Maximum Queue (ft)	202	222	163	163	123	178	136	93	217	234	331	263
Average Queue (ft)	116	88	62	73	78	64	56	28	123	174	176	142
95th Queue (ft)	190	165	125	128	132	134	108	63	221	243	283	228
Link Distance (ft)		1046	1046			230	230				677	677
Upstream Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)	200			360	100			125	210	210		
Storage Blk Time (%)	1	0			8	1	0	0	0	2	2	0
Queuing Penalty (veh)	2	0			8	1	0	0	0	7	8	0

Intersection: 1: Foothills Blvd & Baseline Rd/Main St

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	T
Maximum Queue (ft)	105	232	336	255	161
Average Queue (ft)	44	129	191	147	52
95th Queue (ft)	81	220	287	229	135
Link Distance (ft)			419	419	419
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)	260	210			
Storage Blk Time (%)		1	3		0
Queuing Penalty (veh)		3	6		0

Intersection: 2: Walgreens Dwy & Main St

Movement	EB	EB	EB	WB	NB
Directions Served	T	T	R	LT	LR
Maximum Queue (ft)	89	101	11	32	71
Average Queue (ft)	18	22	1	15	25
95th Queue (ft)	61	71	6	41	54
Link Distance (ft)	230	230		32	226
Upstream Blk Time (%)				4	
Queuing Penalty (veh)				8	
Storage Bay Dist (ft)			125		
Storage Blk Time (%)		0			
Queuing Penalty (veh)		0			

Roseville Sikh Temple
Queuing and Blocking Report

Existing
Midday Peak

Intersection: 3: Main St & Site Dwy #2

Movement	EB	WB	SB
Directions Served	LT	T	LR
Maximum Queue (ft)	77	63	35
Average Queue (ft)	17	8	6
95th Queue (ft)	59	38	26
Link Distance (ft)	32	67	217
Upstream Blk Time (%)	1	0	
Queuing Penalty (veh)	9	1	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Main St & Site Dwy #1

Movement	EB	EB	WB	WB	SB
Directions Served	L	T	T	TR	LR
Maximum Queue (ft)	52	74	28	17	44
Average Queue (ft)	31	6	2	1	14
95th Queue (ft)	57	38	16	8	40
Link Distance (ft)		67	2	2	252
Upstream Blk Time (%)	0	0	0	0	
Queuing Penalty (veh)	0	1	0	0	
Storage Bay Dist (ft)	100				
Storage Blk Time (%)	0	0			
Queuing Penalty (veh)	0	0			

Intersection: 5: Elm St & Main St

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	21	31	8	42
Average Queue (ft)	1	4	0	15
95th Queue (ft)	11	20	5	41
Link Distance (ft)	2		1096	333
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Roseville Sikh Temple
Queuing and Blocking Report

Existing
Midday Peak

Intersection: 6: Porter Dr & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	47	345	37	112	55	67
Average Queue (ft)	23	82	12	59	31	33
95th Queue (ft)	48	239	37	93	51	55
Link Distance (ft)		1096		364	342	419
Upstream Blk Time (%)		0				
Queuing Penalty (veh)		0				
Storage Bay Dist (ft)	245		160			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 56

Appendix C:

Analysis Worksheets for Existing (2016) plus Proposed Project Conditions

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	11:35	11:35	11:35	11:35	11:35	11:35	11:35
End Time	12:45	12:45	12:45	12:45	12:45	12:45	12:45
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	3670	3733	3828	3786	3751	3753	3814
Vehs Exited	3674	3739	3840	3801	3760	3752	3804
Starting Vehs	60	73	75	73	77	79	54
Ending Vehs	56	67	63	58	68	80	64
Travel Distance (mi)	1182	1190	1228	1207	1203	1196	1214
Travel Time (hr)	69.3	72.1	74.4	72.6	72.9	72.2	72.2
Total Delay (hr)	33.8	36.6	37.7	36.5	36.9	36.4	36.0
Total Stops	3606	3656	3858	3685	3691	3710	3708
Fuel Used (gal)	64.2	65.6	67.8	66.3	66.5	66.0	66.3

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	11:35	11:35	11:35	11:35
End Time	12:45	12:45	12:45	12:45
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	3864	3773	3765	3774
Vehs Exited	3840	3775	3793	3778
Starting Vehs	74	64	84	67
Ending Vehs	98	62	56	65
Travel Distance (mi)	1240	1196	1212	1207
Travel Time (hr)	75.7	72.2	72.9	72.7
Total Delay (hr)	38.8	36.7	36.4	36.6
Total Stops	3795	3672	3740	3711
Fuel Used (gal)	68.8	66.1	66.8	66.4

Interval #0 Information Seeding

Start Time	11:35
End Time	11:45
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	11:45
End Time	12:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	875	913	932	858	932	921	931
Vehs Exited	870	927	922	871	943	927	909
Starting Vehs	60	73	75	73	77	79	54
Ending Vehs	65	59	85	60	66	73	76
Travel Distance (mi)	289	292	301	276	301	299	298
Travel Time (hr)	16.7	17.9	18.2	15.8	18.6	18.2	17.6
Total Delay (hr)	7.9	9.3	9.2	7.6	9.6	9.3	8.7
Total Stops	878	890	954	815	953	921	909
Fuel Used (gal)	15.7	16.2	16.5	15.1	16.7	16.5	16.1

Interval #1 Information Recording

Start Time	11:45
End Time	12:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	894	910	931	908
Vehs Exited	890	914	952	912
Starting Vehs	74	64	84	67
Ending Vehs	78	60	63	65
Travel Distance (mi)	286	287	303	293
Travel Time (hr)	16.6	16.9	18.6	17.5
Total Delay (hr)	8.2	8.5	9.5	8.8
Total Stops	828	843	901	890
Fuel Used (gal)	16.0	15.8	17.0	16.2

Interval #2 Information

Start Time	12:00						
End Time	12:15						
Total Time (min)	15						
Volumes adjusted by PHF, Growth Factors.							
Run Number	1	10	2	3	4	5	6
Vehs Entered	1030	1050	1082	1089	1086	1086	1070
Vehs Exited	1017	1028	1097	1055	1066	1085	1065
Starting Vehs	65	59	85	60	66	73	76
Ending Vehs	78	81	70	94	86	74	81
Travel Distance (mi)	319	320	335	338	332	334	333
Travel Time (hr)	19.4	19.6	20.3	21.1	20.5	20.7	19.7
Total Delay (hr)	9.7	10.1	10.2	10.9	10.4	10.6	9.7
Total Stops	1055	997	1052	1083	1068	1095	1028
Fuel Used (gal)	17.4	17.7	18.4	18.5	18.4	18.5	18.0

Interval #2 Information

Start Time	12:00			
End Time	12:15			
Total Time (min)	15			
Volumes adjusted by PHF, Growth Factors.				
Run Number	7	8	9	Avg
Vehs Entered	1158	1065	1060	1078
Vehs Exited	1145	1051	1038	1065
Starting Vehs	78	60	63	65
Ending Vehs	91	74	85	77
Travel Distance (mi)	357	329	325	332
Travel Time (hr)	23.7	20.5	19.2	20.5
Total Delay (hr)	12.9	10.6	9.4	10.4
Total Stops	1188	1073	1005	1068
Fuel Used (gal)	20.2	18.3	17.7	18.3

Interval #3 Information

Start Time	12:15
End Time	12:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	881	897	879	911	857	841	880
Vehs Exited	898	904	886	931	873	866	900
Starting Vehs	78	81	70	94	86	74	81
Ending Vehs	61	74	63	74	70	49	61
Travel Distance (mi)	287	289	284	293	280	277	286
Travel Time (hr)	16.6	17.2	17.1	17.2	16.3	16.6	17.2
Total Delay (hr)	8.1	8.6	8.6	8.6	8.1	8.3	8.7
Total Stops	818	879	865	849	829	821	854
Fuel Used (gal)	15.5	15.7	15.8	16.0	15.5	15.4	15.9

Interval #3 Information

Start Time	12:15
End Time	12:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	905	868	873	876
Vehs Exited	931	888	912	899
Starting Vehs	91	74	85	77
Ending Vehs	65	54	46	57
Travel Distance (mi)	303	283	297	288
Travel Time (hr)	17.7	16.7	18.7	17.1
Total Delay (hr)	8.6	8.2	9.6	8.5
Total Stops	899	847	980	862
Fuel Used (gal)	16.8	15.4	16.5	15.9

Interval #4 Information

Start Time	12:30
End Time	12:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	884	873	935	928	876	905	933
Vehs Exited	889	880	935	944	878	874	930
Starting Vehs	61	74	63	74	70	49	61
Ending Vehs	56	67	63	58	68	80	64
Travel Distance (mi)	287	289	308	300	290	285	298
Travel Time (hr)	16.7	17.3	18.9	18.5	17.5	16.7	17.7
Total Delay (hr)	8.1	8.6	9.6	9.4	8.8	8.2	8.9
Total Stops	855	890	987	938	841	873	917
Fuel Used (gal)	15.7	15.9	17.2	16.6	15.9	15.5	16.4

Interval #4 Information

Start Time	12:30
End Time	12:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	907	930	901	905
Vehs Exited	874	922	891	902
Starting Vehs	65	54	46	57
Ending Vehs	98	62	56	65
Travel Distance (mi)	294	296	286	293
Travel Time (hr)	17.7	18.2	16.4	17.6
Total Delay (hr)	9.0	9.4	7.9	8.8
Total Stops	880	909	854	893
Fuel Used (gal)	15.8	16.6	15.6	16.1

1: Foothills Blvd & Baseline Rd/Main St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.5	0.0	0.5	0.2	1.3
Denied Del/Veh (s)	2.2	0.0	1.5	0.9	1.3
Total Delay (hr)	5.6	3.8	10.5	8.9	28.8
Total Del/Veh (s)	26.2	32.8	28.7	32.3	29.6
Vehicles Entered	767	415	1304	975	3461
Vehicles Exited	764	412	1306	979	3461
Hourly Exit Rate	764	412	1306	979	3461
Input Volume	781	414	1296	964	3455
% of Volume	98	100	101	102	100

2: Walgreens Dwy & Main St Performance by approach

Approach	EB	WB	NB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.4	0.1	0.4	0.9
Total Del/Veh (s)	2.2	0.5	18.0	2.8
Vehicles Entered	677	407	86	1170
Vehicles Exited	677	407	86	1170
Hourly Exit Rate	677	407	86	1170
Input Volume	678	405	86	1169
% of Volume	100	100	99	100

3: Main St & Site Dwy #2 Performance by approach

Approach	EB	WB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.0
Total Delay (hr)	0.2	0.1	0.0	0.3
Total Del/Veh (s)	0.9	0.5	8.5	0.8
Vehicles Entered	694	401	6	1101
Vehicles Exited	694	402	6	1102
Hourly Exit Rate	694	402	6	1102
Input Volume	690	401	6	1096
% of Volume	101	100	109	101

5: Elm St/Site Dwy #1 & Main St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.3	0.2	0.1	0.0	0.6
Total Del/Veh (s)	1.6	1.8	14.2	4.2	1.9
Vehicles Entered	686	383	20	24	1113
Vehicles Exited	687	382	20	24	1113
Hourly Exit Rate	687	382	20	24	1113
Input Volume	684	380	19	24	1106
% of Volume	101	101	107	98	101

6: Porter Dr & Main St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.5	0.1	0.2	0.2
Total Delay (hr)	1.1	0.6	0.1	0.1	1.9
Total Del/Veh (s)	8.1	6.6	5.2	5.0	7.1
Vehicles Entered	477	308	68	93	946
Vehicles Exited	476	309	69	93	947
Hourly Exit Rate	476	309	69	93	947
Input Volume	478	306	66	96	945
% of Volume	100	101	105	97	100

Total Network Performance

Denied Delay (hr)	1.3
Denied Del/Veh (s)	1.3
Total Delay (hr)	35.2
Total Del/Veh (s)	33.0
Vehicles Entered	3774
Vehicles Exited	3778
Hourly Exit Rate	3778
Input Volume	11456
% of Volume	33

Intersection: 1: Foothills Blvd & Baseline Rd/Main St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	T
Maximum Queue (ft)	201	193	148	157	123	183	134	102	220	234	353	248
Average Queue (ft)	113	89	61	70	78	68	57	29	126	176	178	139
95th Queue (ft)	190	151	118	122	131	137	107	67	234	248	292	219
Link Distance (ft)		1046	1046			230	230				677	677
Upstream Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)	200			360	100			125	210	210		
Storage Blk Time (%)	1	0			7	1	0	0	0	3	2	0
Queuing Penalty (veh)	1	0			7	1	0	0	1	10	8	0

Intersection: 1: Foothills Blvd & Baseline Rd/Main St

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	T
Maximum Queue (ft)	164	234	340	275	173
Average Queue (ft)	47	136	193	150	53
95th Queue (ft)	105	233	287	234	142
Link Distance (ft)			419	419	419
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	260	210			
Storage Blk Time (%)	0	2	4		0
Queuing Penalty (veh)	0	4	8		0

Intersection: 2: Walgreens Dwy & Main St

Movement	EB	EB	EB	WB	NB
Directions Served	T	T	R	LT	LR
Maximum Queue (ft)	80	81	23	32	91
Average Queue (ft)	15	17	1	14	27
95th Queue (ft)	53	59	16	40	66
Link Distance (ft)	230	230		32	226
Upstream Blk Time (%)				3	
Queuing Penalty (veh)				7	
Storage Bay Dist (ft)			125		
Storage Blk Time (%)		0			
Queuing Penalty (veh)		0			

Intersection: 3: Main St & Site Dwy #2

Movement	EB	WB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	70	57	10	35
Average Queue (ft)	14	6	0	6
95th Queue (ft)	51	31	10	26
Link Distance (ft)	32	131	131	217
Upstream Blk Time (%)	1			
Queuing Penalty (veh)	9			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Elm St/Site Dwy #1 & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	83	2	31	9	46	42
Average Queue (ft)	36	0	5	0	17	18
95th Queue (ft)	71	0	23	5	45	43
Link Distance (ft)		131		1090	334	250
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)	100		100			
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 6: Porter Dr & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	43	141	34	116	67	73
Average Queue (ft)	21	73	11	59	31	34
95th Queue (ft)	47	116	36	93	55	58
Link Distance (ft)		1090		364	342	419
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245		160			
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Network Summary

Network wide Queuing Penalty: 56

**ARBORIST REPORT,
TREE INVENTORY SUMMARY,
AND IMPACT ASSESSMENT**

**SIKH TEMPLE BUILDING COMMITTEE
1090 MAIN STREET PROJECT SITE
City of Roseville, California**

Prepared for:

**Balraj Randhawa
1090 Main Street
Roseville, California 95678**

Prepared by:

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International Society of Arboriculture
Certified Arborist WE-0510A
ISA Tree Risk Assessment Qualified
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**Acorn Arboricultural Services, Inc.
129 Linda Drive
Roseville, California 95678**

April 18, 2017

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This consultant's report, dated April 18, 2017, is for the exclusive and confidential use of the Sikh Temple Building Committee concerning potential development of the Gurdwara Sri Sachkhand Sahib project site located at 1090 Main Street in the City of Roseville, California. Any use of this report, the accompanying appendices, or portions thereof, other than for project review and approval by appropriate governmental authorities, shall be subject to and require the written permission of Acorn Arboricultural Services, Inc. Unauthorized modification, distribution and/or use of this report, including the data or portions thereof contained within the accompanying appendices, is strictly prohibited.

QUALIFICATION STATEMENT

Acorn Arboricultural Services, Inc. is a fully insured, Roseville-based arboriculture consulting firm founded by its Principal, Jay Bate. Edwin E. Stirtz is an ISA Certified Arborist and a member of the American Society of Consulting Arborists and International Society of Arboriculture. Mr. Stirtz possesses in excess of 30 years of experience in horticulture and arboriculture, both maintenance and construction, and has spent the last 23 years as a consulting and preservation specialist in the Sacramento and surrounding regions.

INTRODUCTION

Acorn Arboricultural Services is pleased to present to the Sikh Temple Building Committee this Arborist Report and Tree Inventory Summary for the trees located within and/or overhanging the subject parcel at 1091 Main Street Project Site in the City of Roseville, California. This report memorializes the tree data obtained by Edwin E. Stirtz, ISA Certified Arborist WE-0510A, at the time of field reconnaissance and inventory efforts on April 18, 2017

SCOPE OF INVENTORY EFFORT

The City of Roseville Municipal Code, Chapter 19.66, Tree Preservation, defines a "Protected Tree" as any native oak tree equal to or greater than six inches' diameter at breast height (DBH) measured as a total of a single trunk or multiple trunks.

At the request of the Sikh Temple Building Committee, on April 17, 2017, Edwin E. Stirtz of Acorn Arboricultural Services visited the Gurdwara Sri Sachkhand Sahib Project Site located at 1090 Main Street in the City of Roseville, California. The purpose of this field reconnaissance effort was to identify, inventory and comment upon the current structure and vigor of the "protected trees" located within and/or overhanging the project boundaries as depicted on the site plan provided by Baker Williams Engineers.

This Arborist Report and Tree Inventory Summary presents information concerning the species, size, and current condition of the trees meeting the criteria detailed above within the proposed project area, along with initial pre-development recommendations on a tree-by-tree basis which logically follow the characteristics noted within the trees at the time of field inventory efforts. Information concerning the nature and extent of root system and canopy impacts which will be sustained by the trees from proposed development activities, along with specific tree-by-tree mitigation recommendations for the trees which will sustain encroachment into their protected root zones can be provided in a Supplemental Arborist Report and Construction Impact Assessment once development plans have been refined and finalized for the proposed project area.

METHODOLOGY

During field reconnaissance and inventory efforts Edwin E. Stirtz of Acorn Arboricultural Services conducted a visual review from ground level of the trees within and/or overhanging the proposed project area as depicted on the Site Plan. The trees which met the defined criteria were tagged in the field with a round pre-stamped number tag backed with orange flagging. The tree numbers utilized in this report and accompanying inventory summaries correspond to the tree tag which is affixed to the tree in the field, and those tree numbers or grouping of numbers have been rough-plotted on the enclosed copy of the Tree Inventory Exhibit so that the precise vertical and horizontal location of the trees may be surveyed in the

field by a licensed land surveyor and data for the trees (i.e., tree number, diameter, dripline and protected root zone radii) may be properly depicted on future development plans and Tree Location Exhibit.

At the time of field identification and inventory efforts specific data was gathered for each tagged tree including the tree's species, diameter measured at breast height ("DBH") and dripline radius ("DLR"). Utilizing this data, the tree's overall structural condition and vigor were separately assessed ranging from "excellent"¹ to "poor" based upon the observed characteristics noted within the tree and the Arborist's best professional judgment. Ratings are subjective and are dependent upon both the structure and vigor of the tree. The vigor rating considers factors such as the size, color and density of the foliage; the amount of deadwood within the canopy; bud viability; evidence of wound closure; and the presence or evidence of stress, disease, nutrient deficiency and insect infestation. The structural rating reflects the root crown/collar, trunk and branch configurations; canopy balance; the presence of included bark, weak crotches and other structural defects and decay and the potential for structural failure. Finally, notable characteristics were documented and recommendations on a tree-by-tree basis were made which logically followed the observed characteristics noted within the trees at the time of the field inventory effort. The recommendations are based on the assumption that the tree would be introduced into a developed environment and may require maintenance and/or may not be suitable for retention within a post-development setting.

SUMMARY OF INVENTORY EFFORT

Field reconnaissance and inventory efforts found eleven trees measuring six inches in diameter and larger measured at breast height within and/or overhanging the proposed project area which may qualify as a "protected tree." Composition of the eleven inventoried trees includes the following species and accompanying aggregate diameter inches:

SPECIES DIVERSIFICATION		
Valley Oak	=	11 trees (127 aggregate diameter inches)
TOTAL	=	11 trees (127 aggregate diameter inches)

¹ It is rare that a tree qualifies in an "excellent" category, and it should be noted that there were no trees observed within the project area which fell within the criteria of an "excellent" or "good" rating. A complete description of the terms and ratings utilized in this report and accompany inventory summary are found on pages 8-9.

CONSTRUCTION IMPACT ASSESSMENT

This Arborist Report and Tree Inventory Summary is intended to provide to the Sikh Temple Building Committee, the City of Roseville, and other members of the development team a detailed *pre-development review* of the species, size, and current structure and vigor of the trees within and/or overhanging the proposed project area. It is not an exhaustive review of the impacts which will be sustained from project implementation. At this early stage of the project specific root system and canopy impacts on a tree-by-tree basis cannot be definitively assessed until the site development, grading, and other improvement plans have been refined and finalized and data from the accompanying inventory summary (i.e., tree numbers, dripline radius, and root protection zones) is properly depicted on the plans.

Since trees are living organisms whose condition may change at any time a complete assessment of construction impacts and specific recommendations to help mitigate for the adverse impacts which may be sustained by the trees from contemplated construction activities cannot be made until the development plans have been refined and finalized. Once final plans have been developed for the site a qualified ISA Certified Arborist with special expertise and demonstrated experience with construction projects in and among native and non-native trees should review those plans and provide a more detailed assessment of impacts, including identification of trees which may require removal to facilitate home construction and other contemplated site development activities. This review will be particularly important if structures and/or residential activities will fall within or near the fall zone of a tree which has been noted as exhibiting structural defects, questionable long-term longevity and/or a conditional rating which is less than "fair", and for trees which measure 16 inches and greater in diameter which will be retained within close proximity to development as trees of this size may pose a more significant hazard if a sudden limb shed and/or catastrophic failure should occur. In addition, the review should include an assessment of root system and canopy impacts which will be sustained by the trees which will be retained within the proposed development area, along with specific recommendations on a tree-by-tree basis to help reduce adverse impacts of construction on the retained trees. In the meantime, this report provides some pre-development recommendations which logically follow the observed characteristics noted in the trees at the time of the field inventory efforts, as well as General Protection Measures which should be utilized as a guideline for the protection of trees which may be retained within the development area. These recommendations will require modification and/or augmentation as development plans are refined and finalized.

GENERAL COMMENTS AND ARBORISTS' DISCLAIMER

The City of Roseville regulates both the removal of certain trees and the encroachment of construction activities within their driplines. Therefore, a tree permit and/or additional development authorization should be obtained from the City of Roseville prior to the removal of any trees within the proposed project area. All terms and conditions of the tree permit and/or other Conditions of Approval are the sole and exclusive responsibility of the project applicant. It should be noted that prior to final inspection written verification from an ISA

Certified Arborist may be required certifying the approved removal activities and/or implementation of other Conditions of Approval outlined for the retained trees on the site. ***Acorn Arboricultural Services will not provide written Certification of Compliance unless we have been provided with a copy of the approved site development plans, applicable permits and/or Conditions of Approval, and are on site to monitor and observe regulated activities during the course of construction.*** Therefore, it will be necessary for the project applicant to notify Acorn Arboricultural Services well in advance (at least 72 hours prior notice) of any regulated activities which are scheduled to occur on site so that those activities can be properly monitored and documented for compliance certification.

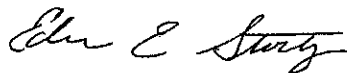
Please bear in mind that implementation of the recommendations provided within this report will help to reduce adverse impacts of construction on the retained trees; however, implementation of any recommendations should not be viewed as a guarantee or warranty against the trees' ultimate demise and/or failure in the future. Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of the trees and ***attempt to reduce the risk of living near trees***. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. There are some inherent risks with trees that cannot be predicted with any degree of certainty, even by a skilled and experienced arborist. Entities who choose to construct homes on wooded property are accepting a certain level of risk from unpredictable tree related hazards such as toppling in storms, limbs falling and fires that may damage property at some time in the future. Since trees are living organisms their structure and vigor constantly change over time, and they are not immune to changes in site conditions or seasonal variations in the weather. Further, conditions are often hidden within the tree and/or below ground. Arborists and other tree care professionals cannot guarantee that a tree will be healthy and/or safe under all circumstances or for a specific period of time. Likewise remedial treatments cannot be guaranteed. Trees can be managed but they cannot be controlled. To develop land and live near trees is to accept some degree of risk and the only way to eliminate all risk associated with trees would be to eliminate all of the trees. ***An entity who develops land and builds a home with a tree in the vicinity should be aware of and inform their future residents of this Arborists' Disclaimer, and be further advised that the developer and the future residents assume the risk that a tree could at any time suffer a branch and/or limb failure, blow over in a storm and/or fail for no apparent reason which may cause bodily injury or property damage.*** Acorn Arboricultural Services cannot predict acts of nature including, without limitation, storms of sufficient strength which can even take down a tree with a structurally sound and vigorous appearance.

Finally, the trees preserved within and/or overhanging the proposed project area will experience a physical environment different from the pre-development environment. As a result, tree health and structural stability should be regularly monitored. Occasional pruning, fertilization, mulch, pest management, replanting and/or irrigation may be required. In addition, ***provisions for monitoring both tree health and structural stability following construction must be made a priority.*** As trees age, the likelihood of failure of branches or entire trees increases. Therefore, ***the future management plan must include an annual inspection*** by a qualified ISA Certified Arborist to keep abreast of the trees' changing

condition(s) and to assess the trees' ongoing structural integrity and potential for hazard in a developed environment.

Thank you for allowing Acorn Arboricultural Services to assist you with this review. Please feel free to give me a call if you have any questions or require additional information and/or clarification.

Sincerely,

A handwritten signature in cursive script, appearing to read "Edwin E. Stirtz".

Edwin E. Stirtz
International Society of Arboriculture
Certified Arborist WE-0510A
ISA Tree Risk Assessment Qualified
Member, American Society of Consulting Arborists

ASSUMPTIONS AND LIMITING CONDITIONS

1. Any legal description provided to the consultant is assumed to be correct. Any titles and ownership to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
2. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other governmental regulations.
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10. Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without laboratory analysis, dissection, excavation, probing or coring, unless otherwise stated.
11. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.
12. This report is based on the observations and opinions of Edwin E. Stirtz, and does not provide guarantees regarding the future performance, health, vigor, structural stability or safety of the plants described herein. Neither this author nor Acorn Arboricultural Services has assumed any responsibility for liability associated with the trees on or adjacent to this project site, their future demise and/or any damage which may result therefrom.
13. The information contained within this report is true to the best of the author's knowledge and experience as of the date it was prepared; however, certain conditions may exist which only a comprehensive, scientific, investigation might reveal which should be performed by other consulting professionals.
14. The legal description, dimensions, and areas herein are assumed to be correct. No responsibility is assumed for matters that are legal in nature.
15. Any changes to an established tree's environment can cause its decline, death and/or structural failure.

DEFINITIONS AND RATINGS

Tree Number:	Corresponds to aluminum tag attached to the tree.
Species Identification:	Scientific and common species name.
Diameter ("DBH"):	This is the trunk diameter measured at breast height (industry standard 4.5 feet above ground level).
Dripline radius ("DLR"):	A radius equal to the horizontal distance from the trunk of the tree to the end of the farthest most branch tip prior to any cutting. When depicted on a map, the dripline will appear as an irregularly shaped circle that follows the contour of the tree's branches as seen from overhead.
Protected Zone:	A circle equal to the largest radius of a protected tree's dripline plus 1 foot.
Root Crown:	Assessment of the root crown/collar area located at the base of the trunk of the tree at soil level.
Trunk:	Assessment of the tree's main trunk from ground level generally to the point of the primary crotch structure.
Limbs:	Assessment of both smaller and larger branching, generally from primary crotch structure to branch tips.
Foliage:	Tree's leaves.
Overall Condition:	Describes overall condition of the tree in terms of structure and vigor.
Recommendation:	Pre-development recommendations based upon observed characteristics noted at the time of the field inventory effort.
Obscured:	Occasionally some portion of the tree may be obscured from visual inspection due to the presence of dense vegetation which, during the course of inspection for the arborist report, prevented a complete evaluation of the tree. In these cases, if the tree is to be retained on site the vegetation should be removed to allow for a complete assessment of the tree prior to making final decisions regarding the suitability for retention.

Sikh Temple Building Committee
1090 Main Street Project Site
Arborist Report and Tree Inventory Summary
April 18, 2017

TREE CONDITION RATING CRITERIA

RATING TERM	ROOT CROWN	TRUNK	LIMBS	FOLIAGE	STRUCTURE	VIGOR
Good	No apparent injuries, decay, cavities or evidence of hollowing; no anchoring roots exposed; no indications of infestation or disease	No apparent injuries, decay, cavities or evidence of hollowing; no codominant attachments or multiple trunk attachments are observed; no indications of infestation or disease	No apparent injuries, decay, cavities or evidence of hollowing; below average amount of dead limbs or twigs; no major limb failures or included bark; callus growth is vigorous	Leaf size, color and density are typical for the species; buds are normal in size, viable, abundant and uniform throughout the canopy; annual seasonal growth increments are average or above average; no insect or disease infestations/ infections evident	No apparent structural defects; no weak crotches; no excessively weighted branches and no significant cavities or decay	Tree appears healthy and has little or no significant deadwood; foliage is normal and healthy
Fair	Small to moderate injuries, decay, cavities or hollowing may be evident but are not currently affecting the overall structure; some evidence of infestation or disease may be present but is not currently affecting the tree's structure	Small to moderate injuries, decay, cavities or hollowing may be evident; codominant branching or multiple trunk attachments or minor bark inclusion may be observed; some infestation or disease may be present but not currently affecting the tree's structure	Small to moderate injuries, decay or cavities may be present; average or above average dead limbs or twigs may be present; some limb failures or bark inclusion observed; callus growth is average	Leaf size, color and density are typical or slightly below typical for the species; buds are normal or slightly sparse with potentially varied viability, abundance and distribution throughout the canopy; annual seasonal growth increments are average or slightly below average; minor insect or disease infestation/infection may be present	Minor structural problems such as weak crotches, minor wounds and/or cavities or moderate amount of excessive weight; non-critical structural defects which can be mitigated through pruning, cabling or bracing	Tree appears stressed or partially damaged; minimal vegetative growth since previous season; moderate amount of deadwood, abnormal foliage and minor lesions or cambium dieback
Poor	Moderate to severe injuries, decay, cavities or hollowing may be evident and are affecting the overall structure; presence of infestation or disease may be significant and affecting the tree's structure	Moderate to severe injuries, decay, cavities or hollowing may be evident and are affecting the tree's structure; presence of infestation or disease may be significant and affecting the tree's structure	Severe injuries, decay or cavities may be present; major deadwood, twig dieback, limb failures or bark inclusion observed; callus growth is below average	Leaf size, color and density are obviously abnormal; buds are obviously abnormal or absent; annual seasonal growth is well below average for the species; insect or disease problems may be severe	Obvious major structural problems which cannot be corrected with mitigation; potential for major limb, trunk or root system failure is high; significant decay or dieback may be present	Tree health is declining; no new vegetative growth; large amounts of deadwood; foliage is severely abnormal

The ratings "good to fair" and "fair to poor" are used to describe trees that fall between the described major categories and have elements of both

**GENERAL PROTECTION GUIDELINES
FOR TREES PLANNED FOR PRESERVATION**

Great care must be exercised when work is conducted upon or around protected trees. The purpose of these General Protection Measures is to provide guidelines to protect the health of the affected protected trees. These guidelines apply to all encroachments into the protected zone of a protected tree, and may be incorporated into tree permits and/or other Conditions of Approval as deemed appropriate by the applicable governing body.

A circle with a radius measurement from the trunk of the tree to the tip of its longest limb, plus one foot, shall constitute the critical root zone protection area of each protected tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of each protected tree. Removing limbs that make up the dripline does not change the protected area.

Any protected trees on site which require pruning shall be pruned by an ISA Certified Arborist prior to the start of construction work. All pruning shall be in accordance with the American National Standards Institute (ANSI) A300 pruning standards, ANSI Standard 2133.1-2000 regarding safety practices, and the International Society of Arboriculture (ISA) "Tree Pruning Guidelines" and Best Management Practices.

Prior to initiating construction, temporary protective fencing shall be installed at least one foot outside the root protection zone of the protected trees in order to avoid damage to the tree canopies and root systems. Fencing shall be installed in accordance with the approved fencing plan prior to the commencement of any grading operations or such other time as determined by the review body. The developer shall contact the Project Arborist and the Planning Department for an inspection of the fencing prior to commencing construction activities on site.

Signs shall be installed on the protective fence in four (4) equidistant locations around each individual protected tree. The size of each sign must be a minimum of two (2) feet by two (2) feet and must contain the following language:

**WARNING: THIS FENCE SHALL NOT BE REMOVED OR RELOCATED
WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF
ROSEVILLE MUNICIPAL SERVICES AGENCY.**

Once approval has been obtained by the City of Roseville Municipal Services Agency protective fencing shall remain in place throughout the entire construction period and shall not be removed, relocated, taken down or otherwise modified in whole or in part without prior written authorization from the Agency, or as deemed necessary by the Project Arborist to facilitate approved activities within the root protection zone.

Any removal of paving or structures (i.e. demolition) that occurs within the dripline of a protected tree shall be done under the direct supervision of the Project Arborist. To the maximum extent feasible, demolition work within the dripline protection area of the protected tree shall be performed by hand. If the Project Arborist determines that it is not feasible to perform some portion(s) of this work by hand, then the smallest/lightest weight equipment that will adequately perform the demolition work shall be used.

No signs, ropes, cables (except those which may be installed by an ISA Certified Arborist to provide limb support) or any other items shall be attached to the protected trees. Small metallic numbering tags for the purpose of identification in preparing tree reports and inventories shall be allowed.

No vehicles, construction equipment, mobile homes/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the driplines of protected trees.

Drainage patterns on the site shall not be modified so that water collects, stands or is diverted across the dripline of any protected tree.

No trenching shall be allowed within the driplines of protected trees, except as specifically approved by the Planning Department as set forth in the project's Conditions of Approval and/or approved tree permit. If it is absolutely necessary to install underground utilities within the dripline of a protected tree the utility line within the protected zone shall be "bored and jacked" or performed utilizing hand tools to avoid root injury under the direct supervision of the Project Arborist.

Grading within the protected zone of a protected tree shall be minimized. Cuts within the protected zone shall be maintained at less than 20% of the critical root zone area. Grade cuts shall be monitored by the Project Arborist. Any damaged roots encountered shall be root pruned and properly treated as deemed necessary by the Project Arborist.

Minor roots less than one (1) inch in diameter encountered during approved excavation and/or grading activities may be cut, but damaged roots shall be traced back and cleanly cut behind any split, cracked or damaged area as deemed necessary by the Project Arborist.

Major roots greater than one (1) inch in diameter encountered during approved excavation and/or grading activities may not be cut without approval of the Project Arborist. Depending upon the type of improvement being proposed, bridging techniques or a new site design may need to be employed to protect the roots and the tree.

Cut faces, which will be exposed for more than 2-3 days, shall be covered with dense burlap fabric and watered to maintain soil moisture at least on a daily basis (or possibly more frequently during summer months). If any native ground surface fabric within the protected zone must be removed for any reason, it shall be replaced within forty-eight (48) hours.

If fills exceed 1 foot in depth up to 20% of the critical root zone area, aeration systems may serve to mitigate the presence of the fill materials as determined by the Project Arborist.

When fill materials are deemed necessary on two or three sides of a tree it is critical to provide for drainage away from the critical root zone area of the tree (particularly when considering heavy winter rainfalls). Overland releases and subterranean drains dug outside the critical root zone area and tied directly to the main storm drain system are two options.

In cases where a permit has been approved for construction of a retaining wall(s) within the protected zone of a protected tree the applicant will be required to provide for immediate protection of exposed roots from moisture loss during the time prior to completion of the wall. The retaining wall within the protected zone of the protected tree shall be constructed within seventy-two (72) hours after completion of grading within the root protection zone.

The construction of impervious surfaces within the dripline of a protected tree shall be minimized. When necessary, a piped aeration system shall be installed under the direct supervision of the Project Arborist.

Preservation devices such as aeration systems, tree wells, drains, special paving and cabling systems must be installed in conformance with approved plans and certified by the Project Arborist.

No sprinkler or irrigation system shall be installed in such a manner that sprays water or requires trenching within the dripline of a protected tree. An above ground drip irrigation system is recommended. An independent low-flow drip irrigation system may be used for establishing drought-tolerant plants within the protected zone of a protected tree. Irrigation shall be gradually reduced and discontinued after a two (2) year period.

All portions of permanent fencing that will encroach into the protected zone of a protected tree shall be constructed using posts set no closer than ten (10) feet on center. Posts shall be spaced in such a manner as to maximize the separation between the tree trunks and the posts in order to reduce impacts to the tree(s).

Landscaping beneath native oak trees may include non-plant materials such as bark mulch, wood chips, boulders, etc. Planting live material under protected native oak trees is generally discouraged, and is not recommended within six (6) feet of the trunk of a native oak tree with a diameter at breast height (DBH) of eighteen (18) inches or less, or within ten (10) feet of the trunk of a native oak tree with a DBH of more than eighteen (18) inches. The only plant species which shall be planted within the dripline of native oak trees are those which are tolerant of the natural, semi-arid environs of the tree(s).

SIKH TEMPLE BUILDING COMMITTEE
1090 Main Street Project Site
City of Roseville, California
TREE INVENTORY SUMMARY

TREE#	COMMON NAME	SPECIES	MULTI-STEMS (inches)	TOTAL DBH INCHES	DLR (feet)	CONDITIONAL ASSESSMENT						NOTABLE CHARACTERISTICS	MAINTENANCE RECOMMENDATIONS	
						RT CR	TRUNK	LIMBS	FOLIAGE	STRUCTURE	VIGOR			
80	Valley Oak	(<i>Quercus lobata</i>)		16	22	Fair	Fair	Fair	Fair	Fair	Fair		None at this time	
81	Valley Oak	(<i>Quercus lobata</i>)		12	19	Fair	Fair	Fair	Fair	Fair	Fair	Profuse epicormic sprout growth along the primary stems and branches.	None at this time	
82	Valley Oak	(<i>Quercus lobata</i>)		11	15	Fair	Fair	Fair	Fair	Fair	Fair	Profuse epicormic sprout growth along the trunk and branches.	None at this time	
83	Valley Oak	(<i>Quercus lobata</i>)		8	14	Fair	Fair	Fair	Fair	Fair	Fair		None at this time	
84	Valley Oak	(<i>Quercus lobata</i>)		7	15	Fair	Fair	Fair	Fair	Fair	Fair		None at this time	
85	Valley Oak	(<i>Quercus lobata</i>)		7	12	Fair	Fair	Fair	Fair	Fair	Fair	Tree is offsite approximately 1/2 foot east of the east property line.	None at this time	
86	Valley Oak	(<i>Quercus lobata</i>)	5,6,7	18	14	Fair	Fair	Fair	Fair	Fair	Fair	Imbedded bark in the primary crotch.	None at this time	
87	Valley Oak	(<i>Quercus lobata</i>)		11	14	Fair	Fair	Fair	Fair	Fair	Fair		None at this time	
88	Valley Oak	(<i>Quercus lobata</i>)		18	20	Fair	Fair	Fair	Fair	Fair	Fair	Tree is offsite approximately 2 feet north of the north property fence.	None at this time	
89	Valley Oak	(<i>Quercus lobata</i>)		13	19	Fair	Fair	Fair	Fair	Fair	Fair	Tree is offsite approximately 8 feet east of the east property line.	None at this time	
90	Valley Oak	(<i>Quercus lobata</i>)		6	11	Fair	Poor to fair	Fair	Fair	Poor to fair	Fair	Callusing trunk wounds west side with minor interior decay.	None at this time	

TOTAL INVENTORIED TREES = 11 Trees (127 aggregate diameter inches)
PRECAUTIONARY TREES HIGHLIGHTED FOR REFERENCE