City of Buellton

Meritage Senior Living Project

Final

Subsequent Environmental Impact Report

Volume II: Appendices

rincon

June 2013

Environmental Scientists Planners Engineers

Meritage Senior Living Project

Final
Subsequent Environmental Impact Report

Volume II: Appendices

Prepared by:

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June 2013

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Final
Meritage Senior Living Project SEIR

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Volume II

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Appendix A

Notice of Preparation and Responses

City of Buellton Planning Department

Notice of Preparation of a Subsequent Environmental Impact Report
for the Meritage Senior Living Project
Buellton, California

Lead Agency:
City of Buellton
Planning Department
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Buellton, CA 93427

Contact:
Marc Bierdzinski, AICP
Planning Director

Consulting Firm:
Rincon Consultants
1530 Monterey St., Suite D
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Contact:
Richard Daulton

Summary: The City of Buellton will prepare a Subsequent Environmental Impact Report (EIR) for the Meritage Senior Living project. The Subsequent EIR will tier from the City of Buellton Land Use Element and Circulation Element Update Program EIR, which is available for review on the city's website, www.cityofbuellton.com, and at the Buellton library, 140 West Highway 246. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the Subsequent EIR prepared by our agency when considering your permit or other approval for the project. The Subsequent EIR is intended to serve as an informational document to inform decision-makers and the general public of the environmental consequences of the proposed action.

Due to the time limits mandated by State law, your response to this notice must be sent at the earliest possible date but ***not later than 30 days from receipt of this notice.*** Please send your response to the City of Buellton at the address shown above. We will need the name for a contact person in your agency.

A copy of the Initial Study *is not* attached.

Project Title: Meritage Senior Living

Project Applicant: Norman Williams (property owner) and Mark Edwards (agent)

Project Location: Jonata Park Road, APN's 099-400-064 and 099-400-065 (see enclosed vicinity map)

Project Description: The Meritage Senior Living Project is located on Jonata Park Road, at the north end of the city limits. The general plan land use designation and zoning is General Commercial (CR). The site comprises approximately 18 acres on Assessor Parcel Numbers 099-400-064 and 099-400-065. Portions

of the site are currently used for grazing and farming. A small residence and some outbuildings are currently on the site and will be removed.

The two existing parcels will be split into six parcels. Parcels one and two will remain vacant and are 2.79 acres each. Parcels three, four, five, and six are planned as a new senior care facility. A skilled nursing facility with 24 units and an enclosed garden will be located on parcel three, which is 2.07 acres. The skilled nursing building will have two stories and will be 33 feet in height. A memory building with 40 units, an enclosed garden, 91 assisted living units, a dining hall, and commercial kitchen will be located on parcel four, which is 5.39 acres. The memory building will have two stories and will be 35 feet in height. The assisted living building will have three stories and will be 35 feet in height. There are two outdoor courtyards associated with the assisted living buildings. 56 independent living units, a community center, and a swimming pool will be located on parcel five, which is 3.27 acres. 36 independent living units and an outdoor activity area will be located on parcel six, which is 1.86 acres. The independent living units will be located in 4-plex and 12-plex buildings. The 4-plex buildings will have one story and will be 20 feet in height. The 12-plex buildings will have two stories and will be 33 feet in height. The independent living units include one and two bedroom units. Some garages and carports will be provided for the parking spaces for the independent living units. The community center building will have one story and will be 23 feet in height. It includes a kitchen, exercise room, multi-purpose room, and restrooms.

The facility will be staffed 24 hours per day, seven days per week. Staff will include positions in the areas of administration, care-giving, skilled nursing, memory care, food service, housekeeping, activities, marketing, and maintenance. The architectural style of the buildings is Agrarian. There are walking paths throughout the site and along Jonata Park Road. Offsite drainage will be collected in a retention basin located to the west of the site. A portion of the roadway along the west property line of parcels four, five, and six will be located on land in the County of Santa Barbara via a dedicated use easement. Parallel guest parking will also be located on this roadway. A total of 242 parking spaces are provided. This includes 24 spaces for the skilled nursing building, 20 spaces for the memory building, 70 spaces for the assisted living building, and 128 spaces for the independent living units. (see enclosed Project plans)

Potential Environmental Effects: Key issues that the EIR will address include: aesthetics, agricultural resources, air quality, cultural resources, geology and soils, greenhouse gas emissions, hydrology and water quality, land use and policy consistency, noise, public services and utilities, and transportation/traffic.

If you have any questions regarding this project, please contact Angela Perez, Assistant Planner at the City of Buellton (805-688-7474 or angelap@cityofbuellton.com).

Prepared By:
Marc P. Bierdzinski, AICP
Planning Director
City of Buellton

Marc P. Bierdzinski 4-26-2012
Signature Date

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

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May 10, 2012

RECEIVED
MAY 14 2012
CITY OF BUELLTON

Ms. Angela Perez, Planner
City of Buellton Planning Department
P.O. Box 1819
Buellton, CA 93427

Re: SCH#2012041088; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the **"Meritage Senior Living;"** located in the City of Buellton; Santa Barbara County, California.

Dear Ms. Perez:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604).

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC did conduct a Sacred Lands File (SLF) search within the 'area of potential effect (APE) with the following results: No Native American cultural resources were found in the APE. Also, the absence of archaeological resources does not preclude their existence at the subsurface level.

The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you

make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources.

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a).

Native American Contacts
Santa Barbara County
May 10, 2012

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This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2012041088; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR for the Meritage Senior Living Project; located in the City of Buellton; Santa Barbara County, california.

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This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2012041088; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR for the Meritage Senior Living Project; located in the City of Buellton; Santa Barbara County, california.

DEPARTMENT OF TRANSPORTATION
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SAN LUIS OBISPO, CA 93401-5415
PHONE (805) 549-3101
FAX (805) 549-3329
TDD (805) 549-3259
http://www.dot.ca.gov/dist05/

Flex your power!
Be energy efficient!

May 16, 2012

Angela Perez
City of Buellton
PO Box 1819
Buellton, CA 93427

SB 101 pm 57.8
SCH 2012041088

Subject: Meritage Senior Living Notice of Preparation

Dear Ms. Perez:

Thank you for the opportunity to review and provide guidance for the Notice of Preparation (NOP) on the subject project. The Draft Environmental Impact Report (DEIR) should include discussion and analysis of the following:

1. Hydraulics. The preliminary drainage report suggests there will be no impacts to US 101 or the Caltrans maintenance station adjacent to the south end of the project's property, if the proposed basin and system functions as represented. However the mapping is somewhat rough and there are no details for the basin. The DEIR should provide greater clarity and refinement for the basin and mapping. In the event those analyses refinements will be delayed until after the project advances beyond the environmental review period, Caltrans requests a second review with the opportunity to provide guidance when the refinements are made and prior to approval of entitlement or grading permits.

2. Landscaping. The landscape plan sheets suggest that screen planting is anticipated within Caltrans right of way. Any planting within the right of way should maintain the character of the corridor and should be native plants. The proposed plant list includes a number of appropriate candidates. An encroachment permit will be required for work within the right of way.

The area between the edge of traveled way and the right of way line appears constrained in terms of width. Trees and other significant sized plants may not be allowed. Trees should be 40' from the edge of traveled way. Large shrubs may be more appropriate and acceptable.

With respect to landscape maintenance and irrigation, the City will be the responsible party and will be required to enter into a maintenance agreement with Caltrans for these tasks. This would be one component and requirement to obtain and execute an encroachment permit.

3. Traffic. Thorough treatment of the US 101 SB off ramp / Avenue of Flags intersection and SR 246 / Avenue of Flags intersection must accompany the traffic study. The discussion should include incorporation of the planned park'n'ride lot adjacent to the off-ramp and the turning movements associated with that facility, as well as the 2010 Avenue of Flags planning concepts and City Visioning efforts related to that concept.

Caltrans discourages adding more trips and turning movements at the US 101 / Jonata Park road at-grade intersection. The cumulative traffic analysis for this project should include a scenario in which the median crossover no longer exists, effectively creating a right in/right out only at Jonata Park Road.

If you have any questions regarding these comments, please call me at (805) 549-3632.

Sincerely,

Chris Shaeffer
Development Review
Caltrans District 5

Cc: L. Newland
P. Mcclintic
L. Wickham
D. Reeves
S. Senet
F. Boyle

May 21, 2012

Rincon Consultants
Mr. Richard Daulton
1530 Monterey St. Suite D
San Luis Obispo, CA 93401

Dear Mr. Daulton:

This is an opposition letter to the MERITAGE SENIOR LIVING project proposed on Commercial Retail zoned land in Buellton, California.

This is a good project for the City of Buellton. The project belongs near convenient shopping, recreation, entertainment, parks and in a safe neighborhood away from the noise, congestion and hazards of Highway 101.

This is a request to suspend the EIR until the project plan conforms to Buellton's Municipal Codes.

The following identifies a non-conforming project:

PROJECT TITLE: Meritage Senior Living

PROJECT APPLICANT: Norman Williams (owner) and Mark Edwards (agent)

PROJECT LOCATION: Jonata Park Road, APN 099-400-064 and 099-400-065

PROJECT DESCRIPTION: Please refer to the letter titled-

Notice of Preparation of a Subsequent Impact Report for the Meritage Senior Living Project Buellton, California

As submitted and prepared by Marc P. Bierdzinski, AICP, Planning Director for the City of Buellton

This residential project does not conform to the general plan land use definitions and Buellton municipal codes zoning of GENERAL COMMERCIAL (CR).

- This project is incomplete and does not meet the zoning requirements of the Buellton Municipal Code. The planning commission *directed staff to process this project as Medical Services.* The developer did not revise the project to the standards specified in the Buellton Municipal Code. The units are 90% residential with 10% medical services.
- This project requires a City Council down zoning change from the existing General Commercial to Residential zoning.
- This project replaces land use that will supplement future Buellton government revenues with a facility that can not produce the equivalent retail tax revenues.

- The planning director has not performed planning duties that are required to conform to city codes, accurate zoning review or the corrections of deficiencies prior to engaging an EIR review.
- This project is in direct violation of Buellton Municipal Codes and land use designations.
- The completion of this non-conforming project will have adverse impacts on the City of Buellton and surrounding neighborhoods and pedestrian access and motorists and the financial future of this government.
- The Buellton Planning Director communicated to the City Council members that this project was approved by the Planning Commission. The project has not yet been approved for a CUP which requires City Council review and approval. A statement that the Planning Commission approved this project is false. The commission directed staff **to process the project as medical services** and the plan is deficient of those requirements.

BACKGROUND-

On April 15, 2010 the owner and agent made a presentation to the Buellton Planning Commission to design a Medical Service facility for elderly, senior citizens on parcels located on Jonata Park road. Based upon the owner's commitment and request, the planning commission approved a motion "to direct staff **<u>to process this project</u>** as Medical Services."

The project plan as submitted does not comply Code requirements for either land use of General Commercial or Medical Services zoning. The owner and agent have presented a residential project primarily composed of 90% residential units as assisted and independent living for senior citizens with only 10% medical services as defined by the Municipal Code. **The plans do not meet the motion's requirements as a primary Medical Services facility**. This project must be redesigned to the standards set forth by the Buellton Planning Commission's motion requiring primary medical services facilities or rejected because of adverse environmental impacts on the City of Buellton. The owner and/or agent completely ignored the requirements of the Municipal Code and the language of the planning commission motion. The Buellton Planning Director completely ignored the standards required by the Buellton Municipal Code. **An EIR can not be completed when a project is non-conforming and/or in violation of city codes.** The citizens of Buellton advise Rincon Consultants to return this project to the City of Buellton for redesign and compliance with all codes and requirements of a medical services facility.

The environmental impacts of a predominately residential project on land use zoned as CR are severe and do not qualify for approval by the City of Buellton. The following prevents an EIR from being completed. Buellton zoning infractions exist in the plan submitted to RINCON CONSULTANTS.

- ZONING CHANGE REQUIRED BY THE BUELLTON CITY COUNCIL- The proposed parcels are zoned CR. On April 15, 2010 the Buellton Planning Commission approved a motion to **"direct staff to process this project as Medical Services."**

  1- This motion did not approve a zoning change. The applicant and planning director were given permission to proceed (as requested) with the project by revising a residential project into a medical services project. The Buellton Municipal Code, Chapter 19.12-DEFINITIONS describe medical services as-

  "Medical services—hospitals and extended care (land use)" means hospitals and similar establishments primarily engaged in providing diagnostic services, extensive medical treatment including surgical and other hospital services; such establishments have an organized medical staff, inpatient beds, and equipment and facilities to provide

complete health care. May include accessory retail pharmacies, and emergency heliports. Also includes residential establishments providing nursing and health related care as a principal use with in-patient beds, such as: skilled nursing facilities (facilities allowing care for physically or mentally disabled persons, where care is less than that provided by an acute care facility); extended care facilities; convalescent and rest homes; board and care homes. ***Long-term personal care facilities that do not emphasize medical treatment are classified in "residential care."***

2- The proposed project design is incomplete by omission of primary facilities requirements for a medical service. The total project on 18.17 acres will contain 247 units when completed. Only 10% of the units are designated medical services with another 40 units (16%) quasi health care protective. The following unit categories reveals the lack of medical services to achieve the Buellton Municipal Code requirement of diagnostic services, extensive medical treatment, organized medical staff, inpatient beds and equipment. This project meets the description that includes residential units that provide nursing and health related care when care is "less than provided by an acute care facility," The Buellton Municipal Code specifically states- **"LONG-TERM PERSONAL CARE FACILITIES THAT DO NOT EMPHASIZE MEDICAL TREATMENT ARE CLASSIFIED IN "RESIDENTIAL CARE."** The following describes the purpose and use of the 247 proposed units.-

1. **24 UNITS, 10%,** SKILLED NURSING (Medical Services)
2. **40 UNITS, 16%,** MEMORY ASSISTED LIVING (Non-Medical, Protective Residential Care)
3. **91 UNITS, 37%,** ASSISTED LIVING (Non-Medical, Residential Assistance Only)
4. **92 UNITS, 37%,** INDEPENDENT LIVING (Non-Medical, Residential Only)

Clearly, the above project is a residential project that failed to meet the standards and requirements for medical services as defined by BUELLTON MUNICIPAL CODE. This projected failed to meet the primary availability of MEDICAL SERVICES standards as the **principle use** as defined in Chapter 19.12 of the Buellton Municipal Code.

- ZONING ISSUES- The proposed project does not meet the requirements of CR zoning for the existing parcels on Jonata Park Road. *The Planning Commission does not possess the authority to amend or change existing zoning.*
  1. A residential project placed upon General Commercial zoned property is downing zoning which removes revenue producing property from Buellton's financial assets. Down zoning is a decision of the City Council as protection of community property values.
  2. Owner or agent should have applied for a zoning change rather than disguise a residential plan as a medical service plan.
  3. Non conforming project designs should have been corrected or altered by the Buellton Planning Director to avoid community controversy.
  4. The owner and the agent wasted government resources by ignoring the zoning requirements for the proposed parcels and ignoring the Planning Commission requirements.
  5. Approval of a zoning change for this project by the planning director and/or planning commission would be a violation of oaths and credentials to represent the City of Buellton.

6. The EIR approval of this project that is non-conforming would be a violation of California Business and Professional Law standards and ethics.

- AIR QUALITY, CULTURAL RESOURCES, NOISE, TRANSPORTATION AND TRAFFIC environmental conditions are not compatible for a senior citizen and/or elderly care because of the location of the proposed parcels. Buellton code states that conditional use permit **may not be granted** when such conditions and limitations to protect the health, safety, and general welfare of the community do not exist.

1. The poor air quality, the complex traffic intersections, the absence of safe side walks and traffic signals, the highway traffic noise and the danger of transients trespassing on property inhabited by fragile, vulnerable citizens can not be mitigated to remove environmental impacts for this project.
2. Senior residential living is located too far from entertainment, convenient commerce, restaurants, parks and recreation to encourage independent pedestrian travel.
3. Senior citizens can not navigate the intersection containing a South bound off ramp from Highway 101; Jonata Park Road and Central Avenue and/or North bound Avenue of Flags.
4. The presents of elderly pedestrians on three busy, dangerous road beds would pose an unsafe condition for both the motorists and the elderly pedestrians.
5. Buellton Municipal Code restricts the issuance of a CUP when the project will be detrimental to the health, safety, comfort, convenience, and general welfare of the neighborhood and the surrounding area. The proposed Commercial Retail zoning is not compatible for senior residential living environment.

SUMMARY-

Buellton needs quality senior citizens residential development and medical services to meet the needs of the community. This project as designed and submitted is not in conformance with the community design guidelines. This project does not meet the standards approved by the Buellton Planning Commission on April 15, 2010.

All community representatives pledged an oath to uphold and protect the City of Buellton and conform to all laws, regulations, policies and land use designations. This project is in violation of our community standards and must not be approved by an EIR or Planning Director or Planning Commission.

Submitted by-
Ron Dale ~ 381 Thumbelina Drive ~ Buellton, CA. 93427

Formerly President of the Incorporation Committee for Buellton City Hood and member of the first Buellton Planning Commission that prepared and established the initial General Plan; Buellton Zoning Codes and the Redevelopment Agency. Formerly chair of the Planning and Development committee for the Santa Barbara Civil Grand Jury. Presently retired as a former General Contractor, business owner, educator and school administrator in California, Illinois and Indiana. Presently superior court commissioner for the department of juvenile justice.

Cc: Linda Reid, City Clerk for City of Buellton

Santa Barbara County
Air Pollution Control District

May 22, 2012

Marc Bierdzinski
City of Buellton Planning Department
PO Box 1819
Buellton, CA 93427

Re: APCD Response to Notice of Preparation of a Draft Subsequent Environmental Impact Report for Meritage Senior Living Project

Dear Mr. Bierdzinski:

The Santa Barbara County Air Pollution Control District (APCD) appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the Meritage Senior Living Project. The proposed project site consists of two parcels, identified as APNs 099-400-064 and 099-400-065, and totaling approximately 18 acres. Existing structures on the site, including a small single-family residence and accessory structures, would be demolished. The applicant proposes to divide the two parcels into six parcels and construct a senior residential project with assisted living, medical facilities, and recreational components housed in several buildings. The proposed structures include a two-story skilled nursing building of approximately 22,600 square feet, a two-story memory care building of approximately 32,400 square feet, a three-story assisted living building of approximately 118,300 square feet, 56 independent living units with various sizes and configurations, a community building of 3,100 square feet and enclosed garages of 5,500 square feet.

APCD staff reviewed the NOP of a Draft EIR. APCD's guidance document, entitled *Scope and Content of Air Quality Sections in Environmental Documents* (updated December, 2011) is available online at www.sbcapcd.org/apcd/landuse.htm. This document should be referenced for general guidance in assessing air quality impacts in the Draft EIR. The EIR should evaluate the following potential impacts related to the Meritage Senior Living Project:

1. **Proximity to Highway 101.** APCD staff recommends that sensitive land uses, such as residential, should not be sited within 500 feet of the highway. This is based on guidance from the California Resources Board (*Air Quality and Land Use Handbook: A Community Health Perspective,* CARB, April 2005) and supplemented by information gathered by APCD, summarized in the attached "Public Health and High Traffic Roadways".

These materials summarize the numerous studies that have demonstrated a correlation between proximity to high-traffic roads and respiratory illness. The studies are not based on specific pollutants or dose-response relationships, and no mitigation or threshold is identified that can reduce the proximity-related impacts other than increasing the distance between the sensitive receptors and the road. This is not intended to discourage mitigation measures such as particulate filters in household ventilation systems.

Siting of sensitive receptors within 500 feet of the freeway would potentially increase the occurrence of respiratory illness for future residents in the project area, and should be discussed in the Air Quality section of the environmental document.

2. Attainment Status and Consistency with the APCD Clean Air Plan (CAP). The APCD has posted the most up-to-date attainment status for the County on the APCD website www.sbcapcd.org/sbc/attainment.htm and the most recent Clean Air Plan is available at www.sbcapcd.org/cap.htm. The website should be consulted for the most up-to-date air quality information prior to the release of the Public Draft EIR.

The 2010 CAP used the 2007 regional growth factors for land use and population projections provided by the Santa Barbara County Association of Governments (SBCAG), along with on-road emissions forecasts provided by the California Air Resources Board (ARB) as a basis for vehicle emissions forecasting. The EIR should examine whether the proposed project will be consistent with the growth assumptions in the 2010 CAP.

3. Increase in Emissions from Proposed Project. The EIR should present significance thresholds for ozone precursor emissions (reactive organic compounds [ROC], and oxides of nitrogen [NO_X]) and particulate matter and determine whether the proposed project will produce emissions in excess of the thresholds. APCD's *Scope and Content* document contains the APCD Board-adopted criteria for evaluating the significance of adverse air quality impacts for APCD projects. In the absence of locally-adopted thresholds, APCD recommends that these thresholds be used to determine significance of air quality impacts.

The proposed project will involve air quality impacts associated with motor vehicle trips from residents, employees and visitors to the proposed residential project. The air quality impact analysis for mobile source emissions should be based on a project-specific traffic study whenever possible. In addition to motor vehicle emissions, the analysis should include emissions associated with unpermitted stationary sources such as residential and commercial heating and cooling equipment. These emissions (termed "area source" emissions) should be included in the operational phase emission evaluation. If any of the land uses are anticipated to require APCD permits (for example, large boilers and emergency/standby power generators, termed "stationary sources"), these emissions should also be presented in the analysis.

Stationary and area source emissions must be added to transportation source emissions prior to applying the project-specific thresholds of significance. If the proposed project exceeds the significance thresholds for air quality, mitigations should be applied to reduce those emissions to below the levels of significance. Section 6 of APCD's *Scope and Content* document offers ideas for air quality mitigations. However, project-specific measures should be developed that are pertinent to the specific project and are enforceable by the lead agency.

4. Construction Impacts. The EIR should discuss the potential air quality impacts associated with construction activities for the proposed project. APCD's December, 2011 *Scope and Content* document, Section 6, presents recommended mitigation measures for fugitive dust and equipment exhaust emissions associated with construction projects. Construction mitigation measures should be enforced

as conditions of approval for the project. The EIR should have a Mitigation Monitoring and Reporting Plan that explicitly states the required mitigations and establishes a mechanism for enforcement.

5. Asbestos Reporting Requirements. If the project will involve any demolition or renovation of existing structures, the EIR should discuss notification and reporting requirements pursuant to APCD Rule 1001 – National Emission Standards for Hazardous Air Pollutants (NESHAP) – Asbestos.

6. Global Climate Change/Greenhouse Gas impacts. Global climate change is a growing concern that must be addressed in CEQA documents. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases.

The California Office of Planning & Research (OPR) developed amendments to the CEQA Guidelines, which were adopted by the California Natural Resources Agency on December 30, 2009 and became effective March 18, 2010. These amendments establish a framework for including global climate change impacts in the CEQA process, and include revisions to the Environmental Checklist Form (Appendix G) as well as to the Energy Conservation appendix (Appendix F). A new section (§15064.4) has been added that provides an approach to assessing impacts from GHG's. For additional information on the SB 97 CEQA Guidelines amendments, visit the Resources Agency's website at www.ceres.ca.gov/ceqa/guidelines/.

We recommend that all projects subject to CEQA review be considered in the context of GHG emissions and climate change impacts. CEQA documents should include a quantification of GHG emissions from all project sources, direct and indirect, as applicable. In addition, we recommend that climate change impacts be mitigated to the extent reasonably possible, whether or not they are determined to be significant. The discussion of climate change impacts can be included under cumulative air quality impacts or in its own section. At a minimum, the project should include greenhouse gas reduction measures as applicable from the following sector-based list:

- Energy use (energy efficiency, low carbon fuels, renewable energy)
- Transportation (reduce vehicle miles traveled, compact and transit-oriented development, pedestrian- and bicycle-friendly communities)
- Water conservation (improved practices and equipment, landscaping)
- Waste reduction (material re-use/recycling, composting, waste diversion, waste minimization)
- Architectural features (green building practices, cool roofs)

For guidance regarding greenhouse gas analysis for CEQA environmental documents, please refer to the *CAPCOA CEQA & Climate Change* document. CAPCOA has also published *Quantifying Greenhouse Gas Mitigation Measures*, an extensive sector-by-sector compendium of project-specific mitigation measures, including quantification methods to calculate GHG reductions. Both of these documents are available online at www.capcoa.org/documents.

7. Transportation Measures to Reduce Air Quality Impacts. The Meritage Senior Living Project and the associated EIR should include measures that promote the use of alternate modes of transportation

and focus on reducing vehicle miles traveled, vehicle trips, and peak-hour travel. Because the proposed project involves a substantial amount of new residential and care facilities on largely vacant land, additional transit services or enhancements to existing services should be considered for the project area and surrounding community.

We hope you find our comments useful. We look forward to reviewing the Draft EIR. Please contact me at 961-8893 or by e-mail at edg@sbcapcd.org if you have questions.

Sincerely,

Eric Gage
Air Quality Specialist
Technology and Environmental Assessment Division

Attachment: Public Health and High Traffic Roadways

cc: Project File
TEA Chron File

Public Health and High Traffic Roadways

California Air Resources Board Recommended Policy:
Sensitive land uses such as residences, schools, day care centers, playgrounds, and medical facilities should not be sited within 500 feet of:

- A freeway
- Urban roads with 100,000 or more vehicles/day
- Rural roads with 50,000 or more vehicles/day

(Ref. *"Air Quality and Land Use: A Community Health Perspective."* California Air Resources Board. April 2005)

Reason for the Policy:
Many studies show that living in proximity to freeways and other high traffic roadways leads to adverse health effects beyond those associated with regional air pollution. A number of studies that focused on children have found slower lung development and significant increases in the incidence of lung disease, such as asthma, bronchitis, and decreased lung function, in children who live or attend school near heavily travelled roadways. In addition to children, seniors, and people with heart and lung conditions are considered particularly sensitive to effects of air pollution. Residence in high-traffic areas has been shown to increase the risk of mortality within a cohort of male veterans.

Health Studies:
The results of health studies suggests that it is important to avoid exposing children and other sensitive populations to the elevated air pollution levels near freeways and other high traffic roads. While particulate pollution is suspected as contributing the most to the adverse health effects, studies have not yet determined which specific pollutants and sources (cf. diesel particulate, re-entrained roadway dust particulate, NO2 vehicle exhaust, diesel trucks vs. gasoline cars, &c.) are responsible. Additional studies are underway. While significant adverse health effects were observed in children who lived within 1,500 feet of a freeway (Gauderman, 2007), the studies indicate a substantial benefit to a 500 foot separation (McConnell, 2006).

Key Findings:
- Reduced lung function in children is associated with traffic density within 1,000 feet and the strongest association is within 300 feet of the roadway. (Brunekreef, 1997)
- Children living within 550 feet of heavy traffic have more medical visits than children who live further away from traffic. (English, 1999)
- Increased asthma hospitalizations are associated with living within 650 feet of heavy traffic. (Lin, 2000)
- Asthma symptoms increase with proximity to roadways and the risk is greatest within 300 feet. (Venn, 2001)
- Asthma and bronchitis symptoms in children are associated with proximity to high traffic in a community with good overall regional air quality. (Kim, 2004)
- Children living within 150 – 200 meters (~450 feet – 600 feet) of heavy traffic have higher rates of asthma than children living further away from traffic. (McConnell, 2006)
- Children living within 500 meters (~1,500 feet) of heavy traffic have significantly slower lung development than children living further away from traffic. (Gauderman, 2007)
- Survival of members of the Washington University-EPRI Veterans Cohort is strongly and robustly associated with county-average levels of traffic related air pollution and mortality relationships are stronger in the counties with higher levels of traffic density. (Lipfert et al, 2009)

Applicability to Santa Barbara County:
The studies covered children in a variety of urban environments living in proximity to roadways covering a wide spectrum of traffic volumes. The adverse health effects were measured at traffic volumes as low as 41,000 vehicles per day (English) and between 80,000 and 150,000 vehicles per day (Brunekreef). Highway 101, through Santa Barbara County, experiences traffic volumes within the range where health effects have been observed. Also, some parts of Highway 101 see over 7000 diesel trucks per day

(SBCAG). Furthermore, running parallel to Highway 101 through the southern portion of Santa Barbara County is a rail corridor that contributes significantly to the pollution levels near the highway (cf., rail contributes an additional 10% or 0.07 tons per day to mobile source generated PM10 emissions in Santa Barbara County).

2006 Average Daily Traffic (ADT) Volumes for Highway 101 (SBCAG):
US 101 at Glenn Annie = 65,800 ADT
US 101 at Highway 150 = 68,000 ADT
US 101 at Las Positas = 140,000 ADT
US 101 at Highway 166, Santa Maria = 55,000 ADT

Conclusion:
In order to protect the public health, especially the health of children, from the adverse effects of air pollutants generated by traffic on Highway 101, land use policies should prohibit the construction of new residences, schools, day care centers, playgrounds, and medical facilities within 500 feet of Highway 101. No other roadways in Santa Barbara County currently have estimated traffic volumes at the magnitude for which the proximity studies have identified adverse health effects.

References:

"Air Quality and Land Use: A Community Health Perspective." California Air Resources Board. (April 2005).
W. James Gauderman, et al. ***"Effect of exposure to traffic on lung development from 10 to 18 years of age: A cohort study."*** The Lancet. Volume 369, Issue 9561. 17 February 2007 – 23 February 2007: Pages 571-577.
Rob McConnell, et al. ***"Traffic, Susceptibility, and Childhood Asthma."*** Environmental Health Perspectives. Volume 114, Number 5, May 2006.
John M. Peters, M.D., Sc.D. ***"Epidemiologic Investigation to Identify Chronic Effects of Ambient Air Pollutants in Southern California (USC Children's Health Study)."*** California Air Resources Board (May 2004).
Brunekreef, B. et al. ***"Air pollution from truck traffic and lung function in children living near motorways."*** Epidemiology. 1997; 8:298-303.
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Knape, M. ***"Traffic related air pollution in city districts near motorways."*** The Science of the Total Environment. 1999; 235:339-341.
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Delfino RJ ***"Epidemiologic Evidence for Asthma and Exposure to Air Toxics: Linkages Between Occupational, Indoor, and Community Air Pollution Research."*** Environmental Health Perspectives. (2002) 110 (supplement 4): 573-589.
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"2007 Travel Trends Report for Santa Barbara County." Santa Barbara County Association of Governments. (December 2007)
Lipfert, F. et al. **"Air Pollution and Survival within the Washington University-EPRI Veterans Cohort: Risks Based on Modeled Estimates of Ambient Levels of Hazardous and Criteria Air Pollutants."** Journal of the Air & Waste Management Association. Vol. 59 April 2009, pp. 473-487.

County Of Santa Barbara

Chandra L. Wallar
County Executive Officer

105 East Anapamu Street, Room 406
Santa Barbara, California 93101
805-568-3400 • Fax 805-568-3414
www.countyofsb.org

Executive Office

May 25, 2012

Marc Bierdzinski, AICP, Planning Director
City of Buellton
Planning Department
P.O. Box 1819
Buellton, CA 93427

Email: marcb@cityofbuellton.com

RE: Notice of Preparation of a Subsequent Environmental Impact Report for the Meritage Senior Living Project

Dear Mr. Bierdzinski:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) for the Meritage Senior Living Project Subsequent Environmental Impact Report. At this time, the County submits comments from the Planning and Development Department and the Fire Department for your consideration.

The County looks forward to continued dialogue on the Meritage Senior Living Project. If you should have further questions, please do not hesitate to contact my office directly, or Glenn Russell, Director, Planning and Development Department, at (805) 568-2085.

Sincerely,

Chandra L. Wallar
County Executive Officer

cc: Glenn Russell, Director, Planning and Development Department
Jeff Hunt, Deputy Director, Long Range Planning Division
Eric Peterson, Division Chief/Fire Marshal, Fire Department

Enclosures: Planning and Development Department comment letter
Fire Department comment letter

Renée E. Bahl
Assistant County Executive Officer
rbahl@co.santa-barbara.ca.us

Terri Maus-Nisich
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County of Santa Barbara
Planning and Development

Glenn S. Russell, Ph.D., Director
Dianne Black, Assistant Director

May 21, 2012

Mr. Marc Bierdzinski, AICP, Planning Director
City of Buellton
Planning Department
P.O. Box 1819
Buellton, CA 93427

RE: Comments on Notice of Preparation of a Subsequent Environmental Impact Report for the Meritage Senior Living Project

Dear Mr. Bierdzinski:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) of a Subsequent Environmental Impact Report for the Meritage Senior Living Project. Although we appreciate the goals of the project to provide much needed senior housing and care for the residents of the Santa Ynez Valley, we have concerns about the location, design, and potential environmental impact of the proposed project as stated below:

Components of the Project Within the Unincorporated County

The proposed stormwater basin (including cut & fill materials) and perimeter road with parking spaces are shown located within the unincorporated county. The components of the project within the unincorporated county would require county permits. However, the county would not be able to support findings for a partial urban project on agricultural zoned property within a Rural area. We suggest that the project be redesigned and/or relocated so that all necessary components are located within city limits and potential impacts to agriculture are avoided. Planning and Development requests an opportunity to review the revised project description under a recirculated NOP.

Impacts to Agriculture

The environmental document should analyze potential direct and indirect impacts to agriculture. It appears the northern portion of the project site and adjacent lands to the north within the unincorporated county are actively farmed in row crops, and are classified as Prime Farmland by the State Department of Conservation. The analysis should describe the quantity and quality of agricultural land being converted to a non-agricultural use. This includes acreage calculations for crop type, soil type and any special designations such as prime soils or Important Farmland (Prime, Statewide, Local, or Unique). In addition to direct loss of farmland, the introduction of urban uses of a sensitive nature could indirectly impact the surrounding agricultural operations.

123 E. Anapamu Street, Santa Barbara, CA 93101 · Phone: (805) 568-2000 · FAX: (805) 568-2030
624 W. Foster Road, Santa Maria, CA 93455 · Phone: (805) 934-6250 · FAX: (805) 934-6258
www.sbcountyplanning.org

The incompatibility of urban uses with agricultural operations stems from the noise, dust, and pesticide applications inherent to active agricultural operations. Urban night lighting can also affect agricultural crops. This incompatibility of uses has been shown, over time, to result in the loss of agricultural viability in agricultural lands near urban development. These impacts are even more acute with the introduction of sensitive populations, such as those associated with the proposed project. The environmental document should analyze potential impacts to adjacent agriculture including existing/historical crops grown on the site, typical farming practices associated with the crop type, soil types, and any Important Farmland designations. Tools for reducing land use conflicts include thoughtful site design, inclusion of physical barriers such as walls, fences and landscape screening as well as incorporating agricultural buffers.

The County is in the process of creating an agricultural buffer ordinance. The ordinance will soon be in the environmental review phase with an expected adoption date by summer 2012. The current draft ordinance language recommends a 300–400 foot agricultural buffer between sensitive non-agricultural uses, such as a senior living facility, and adjacent production agriculture (excluding grazing and pasturelands). It would appear that the constrained available area within the subject property, as described above by required components being proposed outside of City Limits, would not allow for the provision of adequate agricultural buffers, let alone avoidance of Prime Farmland. Therefore, we recommend redesigning the project to provide for adequate agricultural buffers and minimize loss of productive agricultural land.

Visual Resources/Night Lighting Impacts

The proposed project site is a visually prominent portion of the Highway 101 viewshed with a rural background. The project design should seek to maximize compatibility with the rural agricultural visual setting utilizing alternative structural layouts and heights, architectural treatments, and accompanying landscaping. In addition, impacts due to night lighting should be minimized by limiting the number, wattage, and height of installed luminaires. Also, installed luminaires should be fully shielded (full cutoff) to avoid glare impacts.

If you have any questions or comments regarding this letter, or would like to discuss these issues further, please call Brian A. Tetley (805) 884-6848.

Sincerely,

Glenn S. Russell, Ph.D., Director

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Fire Department

"Serving the community since 1926"

HEADQUARTERS

4410 Cathedral Oaks Road
Santa Barbara, CA 93110-1042
(805) 681-5500 FAX: (805) 681-5563

Michael W. Dyer
Fire Chief
County Fire Warden

Christian J. Hahn
Deputy Fire Chief

May 4, 2012

City of Buellton
Planning Department
Attn: Marc Bierdzinski, AICP
PO Box 1819
Buellton, CA 93427

Dear Mr. Bierdzinski:

SUBJECT: Notice of Preparation – Meritage Senior Living – City of Buellton

The above project is located within the jurisdiction of the Santa Barbara County Fire Department. To comply with the established standards, we submit the following with the understanding that the Fire Protection Certificate application may involve modifications, which may determine additional conditions.

GENERAL NOTICE

1. Stop work immediately and contact the County Fire Department, Hazardous Materials Unit if visual contamination or chemical odors are detected while implementing the approved work at this site. Resumption of work requires approval of the HMU, 805-686-8170.

Please notify the Fire Prevention Division of any changes to the project proposal. Further intensification of use or change in the project description may require additional review.

As always, if you have any questions or require further information, please call 805-681-5523 or 805-681-5500.

In the interest of life and fire safety,

Eric Peterson

Eric Peterson
Division Chief/Fire Marshal

WE: mkb

State of California -The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
http://www.dfg.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

RECEIVED
MAY 29 2012
CITY OF BUELLTON
Planning Department

May 29, 2012

Ms. Angela Perez
City of Buellton
PO Box 1819
Buellton, Ca 93427

Subject: Notice of Preparation of a Draft Environmental Impact Report for the Meritage Senior Living Project SCH #2012041088

Dear Ms. Perez:

The Department of Fish and Game (Department) appreciates this opportunity to comment on the above-referenced project, relative to impacts to biological resources. The Meritage Senior Living Project is located on Jonata Park Road, at the north end of the city limits. The general plan land use designation and zoning is General Commercial (CR). The site comprises ~18 acres on APNs 099-400-064 and 099-400-065. Portions of the site are currently used for grazing and farming. A small residence and some outbuildings are currently on the site and will be removed. The two existing parcels will be split into six parcels. Parcels one and two will remain vacant and are 2.79 acres each. Parcels three, four, five, and six are planned as a new senior care facility. A skilled nursing facility with 24 units and an enclosed garden will be located on parcel three, which is 2.07 acres. The skilled nursing building will have two stories and will be 33 feet in height. A memory building with 40 units, an enclosed garden 91 assisted living units, a dining hall, and commercial kitchen will be located on parcel four, which is 5.39 acres.

The Department is California's trustee agency for fish and wildlife resources, holding these resources in trust for the People of the State pursuant to various provisions of the California Fish and Game Code. (Fish & G. Code, §§ 711.7, subd. (a), 1802.) The Department submits these comments in that capacity under the California Environmental Quality Act (CEQA). (See generally Pub. Resources Code, §§ 21070; 21080.4.) Given its related permitting authority under the California Endangered Species Act (CESA) and Fish and Game Code section 1600 et seq., the Department also submits these comments likely as a responsible agency for the Project under CEQA. (*Id.*, § 21069.)

The California Wildlife Action Plan, a recent Department guidance document, identified the following stressors affecting wildlife and habitats within the project area: 1) growth and development; 2) water management conflicts and degradation of aquatic ecosystems; 3) invasive species; 4) altered fire regimes; and 5) recreational pressures. The Department looks forward to working with the County of Santa Barbara to minimize impacts to fish and wildlife resources with a focus on these stressors. Please let Department staff know if you would like a copy of the plan to review.

The proposed project may have the potential to affect Federal Endangered Species Act (ESA)-listed California red-legged frog (*Rana draytonii*), southern steelhead (*Oncorhynchus mykiss*), and arroyo toad (*Anaxyrus californicus*); ESA-listed and California Endangered Species Acts (CESA)- listed, southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's Vireo

(*Vireo bellii pusillus*), California tiger salamander (Ambystoma californiense), Gaviota tarplant (*Deinandra increscens ssp. villosa*), and La Graciosa thistle (*Cirsium scariosum var. loncholepis*);; CESA-listed and ; state species of concern, American badger (*Taxidea taxus*), Cooper's hawk (*Accipiter cooperii*), ferruginous hawk (*Buteo regalis*), monarch butterfly (*Danus plexippus*), Townsend's big-eared bat (Thamnophis hammondii), tri-colored blackbird (*Agelaius tricolor*), two-striped garter snake (*Thamnophis hammondii*), western pond turtle (*Emys marmorata*), silvery legless lizard (*Anniella pulhra pulchra*) coast horned lizard (*Phrynosoma coronatum*); western spadefoot (*Spea hammondii*), and yellow warbler (*Dendroica petechia brewsteri*); California rare plant rank 1 black-flowered figwort (*Scrophularia atrata*), Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*), dune larkspur (*Delphinium parryi ssp. blochmaniae*), Davidson's saltscale (*Atriplex serenana var. davidsoni*), Hoover's bent grass (*Agrostis hooverii*), late-flowered mariposa lily (*Calochortus weedii var. vestus*), La Purisima manzanita (*Arctostaphylos purissima*), mesa horkelia (*Horkelia cuneata ssp. puberula*), Nutall's scrub oak (*Quercus dumosa*), pale-yellow layia (*Layia heterotricha*), refugio manzanita (*Arctostaphylos refugioensis*), Santa Barbara honeysuckle (*Lonicera subspicata var. subspicata*), Santa Barbara morning glory (*Calystegia sepium ssp. binghamiae*), Santa Ynez false lupine (*Thermopsis macrophylla*), southern tarplant (*Centromadia parryi ssp. australis*), umbrella larkspur (*Delphinium umbraculorum*); California rare plant rank 2 California saw grass and chaparral ragwort (*Senecio aphanactis*).

1. To enable Department staff to adequately review and comment on the proposed project we recommend the following information, where applicable, be included in the draft Environmental Impact Report:

   a. A complete, recent assessment of flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, and locally unique species and sensitive habitats utilizing the Department's Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities (http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf)

   b. A thorough recent assessment of rare plants and rare natural communities, following the Department's Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities.

   c. A complete, recent assessment of sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use within the project area should also be addressed. Recent, focused, species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and U.S. Fish and Wildlife Service.

   d. Endangered, rare, and threatened species to address should include all those species which meet the related definition under the CEQA Guidelines. (See Cal. Code Regs., tit. 14, § 15380.)

   e. The Department's Biogeographic Data Branch in Sacramento should be contacted at (916) 322-2493 (www.dfg.ca.gov/biogeodata) to obtain current information on any previously reported sensitive species and habitats, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code. Also, any Significant Ecological Areas (SEAs) or Environmentally Sensitive Habitats (ESHs) or any areas that

are considered sensitive by the local jurisdiction that are located in or adjacent to the project area must be addressed.

2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts. This discussion should focus on maximizing avoidance, and minimizing impacts.

   a. CEQA Guidelines, Section 15125(a), direct that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.

   b. Project impacts should also be analyzed relative to their effects on off-site habitats and populations. Specifically, this should include nearby public lands, open space, adjacent natural habitats, and riparian ecosystems. Impacts to and maintenance of wildlife corridor/movement areas, including access to undisturbed habitat in adjacent areas are of concern to the Department and should be fully evaluated and provided. The analysis should also include a discussion of the potential for impacts resulting from such effects as increased vehicle traffic, outdoor artificial lighting, noise and vibration.

   c. A cumulative effects analysis should be developed as described under CEQA Guidelines, Section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

   d. Impacts to migratory wildlife affected by the project should be fully evaluated including proposals to remove/disturb native and ornamental landscaping and other nesting habitat for native birds. Impact evaluation may also include such elements as migratory butterfly roost sites and neo-tropical bird and waterfowl stop-over and staging sites. All migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of birds and their active nests, including raptors and other migratory nongame birds as listed under the MBTA.

   e. Impacts to all habitats from City or County required Fuel Modification Zones (FMZ). Areas slated as mitigation for loss of habitat shall not occur within the FMZ.

   f. Proposed project activities (including disturbances to vegetation) should take place outside of the breeding bird season (February 1- September 1) to avoid take (including disturbances which would cause abandonment of active nests containing eggs and/or young). If project activities cannot avoid the breeding bird season, nest surveys should be conducted and active nests should be avoided and provided with a minimum buffer as determined by a biological monitor (the Department recommends a minimum 500-foot buffer for all active raptor nests).

3. A range of alternatives should be analyzed to ensure that alternatives to the proposed project are fully considered and evaluated. A range of alternatives which avoid or otherwise minimize impacts to sensitive biological resources including wetlands/riparian habitats, alluvial scrub, coastal sage scrub should be included. Specific alternative locations should also be evaluated in areas with lower resource sensitivity where appropriate.

a. Mitigation measures for project impacts to sensitive plants, animals, and habitats should emphasize evaluation and selection of alternatives which avoid or otherwise minimize project impacts. Compensation for unavoidable impacts through acquisition and protection of high quality habitat elsewhere should be addressed with off-site mitigation locations clearly identified.

b. The Department considers Rare Natural Communities as threatened habitats having both regional and local significance. Thus, these communities should be fully avoided and otherwise protected from project-related impacts.

c. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Department studies have shown that these efforts are experimental in nature and largely unsuccessful.

4. An Incidental Take Permit from the Department may be required if the Project, Project construction, or any Project-related activity during the life of the Project will result in "take" as defined by the Fish and Game Code of any species protected by CESA. (Fish & G. Code, §§86, 2080, 2081, subd. (b), (c).) Early consultation with Department regarding potential permitting obligations under CESA with respect to the Project is encouraged. (Cal. Code Regs., tit. 14, § 783.2, subd. (b).) It is imperative with these potential permitting obligations that the draft environmental impact report prepared by the County in the present case includes a thorough and robust analysis of the potentially significant impacts to endangered, rare, and threatened species, and their habitat, that may occur as a result of the proposed Project. For any such potentially significant impacts the County should also analyze and describe specific, potentially feasible mitigation measures to avoid or substantially lessen any such impacts as required by CEQA and, if an ITP is necessary, as required by the relevant permitting criteria prescribed by Fish and Game Code section 2081, subdivisions (b) and (c). The failure to include this analysis in the Project environmental impact report could preclude the Department from relying on the County's analysis to issue an ITP without the Department first conducting its own, separate lead agency subsequent or supplemental analysis for the Project. (See, e.g., Cal. Code Regs., tit. 14, § 15096, subd. (f); Pub. Resources Code, § 21166.) For these reasons, the following information is requested:

a. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit.

5. The Department opposes the elimination of watercourses (including concrete channels) and/or the canalization of natural and manmade drainages or conversion to subsurface drains. All wetlands and watercourses, whether intermittent, ephemeral, or perennial, must be retained and provided with substantial setbacks which preserve the riparian and aquatic habitat values and maintain their value to on-site and off-site wildlife populations. The Department recommends a minimum natural buffer of 100 feet from the outside edge of the riparian zone on each side of drainage.

a. The Department also has regulatory authority with regard to activities occurring in streams and/or lakes that could adversely affect any fish or wildlife resource. For any activity that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) or a river or stream or use material from a streambed, the project applicant (or "entity") must provide written notification to the Department pursuant to Section 1602 of the Fish and Game Code. Based on this

notification and other information, the Department then determines whether a Lake and Streambed Alteration (LSA) Agreement is required. The Department's issuance of an LSA is a project subject to CEQA. To facilitate issuance of an Agreement, if necessary, the environmental impact report should fully identify the potential impacts to the lake, stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the Agreement. Early consultation is recommended, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources. Again, the failure to include this analysis in the Project environmental impact report could preclude the Department from relying on the County's analysis to issue an Agreement without the Department first conducting its own, separate lead agency subsequent or supplemental analysis for the Project.

Department staff review of this project included the use of the Department's California Natural Diversity Database (CNDDB). The CNDDB describes past observation locations of sensitive species in the general area of the proposed project and as such is a useful tool to evaluate potential sensitive biological resources on the project site. These observations do not represent the current status of sensitive biological resources in the area as CNDDB data is provided only by site specific projects and hence the entire map area has not been surveyed. Site specific surveys should be conducted in the manner described above, as needed.

Thank you for this opportunity to provide comments. Please contact Mr. Martin Potter, Environmental Scientist, at (805) 640-377 if you should have any questions and for further coordination on the proposed project.

Sincerely,

for Betty J. Courtney
Senior Environmental Scientist
South Coast Region

cc: Betty Courtney, CDFG, Santa Clarita
Leslie S MacNair, CDFG, Los Alamitos
Natasha Lohmus, CDFG, Santa Barbara
Scott Morgan, State Clearinghouse, Sacramento

Sensitivity of Top Priority Rare Natural Communities in Southern California

Sensitivity rankings are determined by the Department of Fish and Game, California Natural Diversity Data Base and based on either number of known occurrences (locations) and/or amount of habitat remaining (acreage). The three rankings used for these top priority rare natural communities are as follows:

S1.# Fewer than 6 known locations and/or on fewer than 2,000 acres of habitat remaining.

S2.# Occurs in 6-20 known locations and/or 2,000-10,000 acres of habitat remaining.

S3.# Occurs in 21-100-known locations and/or 10,000-50,000 acres of habitat remaining.

The number to the right of the decimal point after the ranking refers to the degree of threat posed to that natural community regardless of the ranking. For example:

S1.1 = very threatened
S2.2 = threatened
S3.3 = no current threats known

Sensitivity Rankings (February 1992)

Rank	Community Name
S1.1	Mojave Riparian Forest
	Sonoran Cottonwood Willow Riparian
	Mesquite Bosque
	Elephant Tree Woodland
	Crucifixion Thorn Woodland
	Allthorn Woodland
	Arizonan Woodland
	Southern California Walnut Forest
	Mainland Cherry Forest
	Southern Bishop Pine Forest
	Torrey Pine Forest
	Desert Mountain White Fir Forest
	Southern Dune Scrub
	Southern Coastal Bluff Scrub
	Maritime Succulent Scrub
	Riversidean Alluvial Fan Sage Scrub
	Southern Maritime Chaparral
	Valley Needlegrass Grassland
	Great Basin Grassland
	Mojave Desert Grassland
	Pebble Plains
	Southern Sedge Bog
	Cismontane Alkali Marsh

S1.2

Southern Foredunes
Mono Pumice Flat
Southern Interior Basalt Flow Vernal Pool

S2.1

Venturan Coastal Sage Scrub
Diegan Coastal Sage Scrub
Riversidean Upland Coastal Sage Scrub
Riversidean Desert Sage Scrub
Sagebrush Steppe
Desert Sink Scrub
Mafic Southern Mixed Chaparral
San Diego Mesa Hardpan Vernal Pool
San Diego Mesa Claypan Vernal Pool
Alkali Meadow
Southern Coastal Salt Marsh
Coastal Brackish Marsh
Transmontane Alkali Marsh
Coastal and Valley Freshwater Marsh
Southern Arroyo Willow Riparian Forest
Southern Willow Scrub
Modoc-Great Basin Cottonwood Willow Riparian
Modoc-Great Basin Riparian Scrub
Mojave Desert Wash Scrub
Engelmann Oak Woodland
Open Engelmann Oak Woodland
Closed Engelmann Oak Woodland
Island Oak Woodland
California Walnut Woodland
Island Ironwood Forest
Island Cherry Forest
Southern Interior Cypress Forest
Bigcone Spruce-Canyon Oak Forest

S2.2

Active Coastal Dunes
Active Desert Dunes
Stabilized and Partially Stabilized Desert Dunes
Stabilized and Partially Stabilized Desert Sandfield
Mojave Mixed Steppe
Transmontane Freshwater Marsh
Coulter Pine Forest
Southern California Fellfield
White Mountains Fellfield

S2.3

Bristlecone Pine Forest
Limber Pine Forest

LAFCO

Santa Barbara Local Agency Formation Commission
105 East Anapamu Street ◆ Santa Barbara CA 93101
805/568-3391 ◆ FAX 805/647-7647
www.sblafco.org ◆ lafco@sblafco.org

June 18, 2012

Marc P. Bierdzinski, AICP
Planning Director
City of Buellton
PO Box 1819
Buellton CA 93427

Meritage Senior Living Project

Dear Marc:

We have reviewed the Notice of Preparation and accompanying materials you provided for the above-referenced development project.

We believe the City's standard compliance with CEQA in evaluating this proposal will be sufficient for LAFCO reliance on the City-prepared environmental document when a request to annex the property to the City is submitted.

Our specific requests are that (1) this Subsequent EIR identify and evaluate alternative locations consistent with CEQA Guidelines 15126.6 and (2) the City describe the means and adequacy of public services for the intended uses, notably water supply, treatment and disposal of liquid wastes, access to the project, law enforcement and fire protection.

Let me know if you have any questions or would care to discuss our comments.

Sincerely,

BOB BRAITMAN
Executive Officer

cc: Richard Daulton, Rincon Consultants

Commissioners: Jeff Moorhouse, Chair ◆ Lupe Alvarez ◆ Doreen Farr ◆ Craig Geyer ◆ Bob Orach ◆ Bob Short
Janet Wolf ◆ Roger Aceves ◆ John Fox ◆ Steve Lavagnino ◆ Roger Welt **Executive Officer:** Bob Braitman

Appendix B

Land Evaluation Worksheets

Final LESA Scoresheet

Factor Name	Factor Rating (0-100 Points)	X	Factor Weighting (Total = 1.0)	=	Weighted Factor Rating
Land Evaluation					
1. Land Capability Classification	70.98	X	0.25	=	17.75
2. Storie Index Rating	27.21	X	0.25	=	6.80
Site Assessment					
1. Project Size	0	X	0.15	=	0.00
2. Water Resource Availability	65	X	0.15	=	9.75
3. Surrounding Agricultural Lands	30	X	0.15	=	4.50
4. Protected Resource Lands	20	X	0.05	=	1.00
				Total:	***39.80***

Total LE	24.55
Total SA	15.25

Appendix C

Air Quality and Greenhouse Gas Emissions Technical Data

Meritage Senior Living Project

Santa Barbara-North of Santa Ynez County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	242	Space
Congregate Care (Assisted Living)	247	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.1	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	37		

1.3 User Entered Comments

Project Characteristics -

Land Use - The project site totals 18.2 acres, however, 2 parcels would remain vacant, therefore only 12.6 acres would be developed (10.42 + 2.18=12.6). 64 of the 247 units would be single occupancy and 183 units would house a maximum of 2 seniors (64 + 366 =430). The gross square footage of all proposed buildings totals 288,665.

Construction Phase - Demo=01/02/2013-01/29 (20 days), site prep=01/30/2013-02/12 (10 days), grading=02/13/2013-03/26 (30 days), building construction=03/27/2013-05/20/2014 (300 days), paving=05/21/2014-06/17 (20 days), and architectural coating=06/18/2014-07/15/2014 (20 days).

Demolition - Small residence and several outbuildings total approximately 6,385 square feet or 0.15 acres.

Vehicle Trips - Trip rates based on the Traffic Study prepared by ATE July 10, 2012. Trip rate was adjusted from 2.81 to 2.94 to be consistent with ADT and annual VMT from the Traffic Study.

Construction Off-road Equipment Mitigation - Proposed project is required to implement the standard dust control measures outlined in the SBCAPCD's Scope and Content of Air Quality Sections in Environmental Documents (December 2011).

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					
2013	12.02	97.68	54.71	0.10	18.33	4.59	22.27	9.94	4.59	13.88	0.00	11,051.55	0.00	1.07	0.00	11,074.13
2014	564.02	38.01	46.24	0.07	3.50	2.74	5.71	0.14	2.74	2.75	0.00	6,824.58	0.00	0.61	0.00	6,837.32
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2013	12.02	97.68	54.71	0.10	8.40	4.59	12.34	4.48	4.59	8.42	0.00	11,051.55	0.00	1.07	0.00	11,074.13
2014	564.02	38.01	46.24	0.07	3.50	2.74	5.71	0.14	2.74	2.75	0.00	6,824.58	0.00	0.61	0.00	6,837.32
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	12.02	0.25	21.13	0.00		0.00	0.11		0.00	0.11	0.00	37.14		0.04	0.00	37.97
Energy	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
Mobile	4.39	8.21	44.12	0.05	6.63	0.26	6.89	0.22	0.26	0.48		5,062.67		0.27		5,068.38
Total	**16.49**	**9.14**	**65.54**	**0.05**	**6.63**	**0.26**	**7.05**	**0.22**	**0.26**	**0.64**	**0.00**	**5,967.29**		**0.33**	**0.02**	**5,979.11**

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	12.02	0.25	21.13	0.00		0.00	0.11		0.00	0.11	0.00	37.14		0.04	0.00	37.97
Energy	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
Mobile	4.39	8.21	44.12	0.05	6.63	0.26	6.89	0.22	0.26	0.48		5,062.67		0.27		5,068.38
Total	**16.49**	**9.14**	**65.54**	**0.05**	**6.63**	**0.26**	**7.05**	**0.22**	**0.26**	**0.64**	**0.00**	**5,967.29**		**0.33**	**0.02**	**5,979.11**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2013

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					0.32	0.00	0.32	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50		7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.32**	**3.50**	**3.82**	**0.00**	**3.50**	**3.50**		**7,510.81**		**0.80**		**7,527.57**

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	0.09	0.73	0.66	0.00	0.68	0.02	0.70	0.00	0.02	0.03		112.24		0.00		112.33
Vendor	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
Worker	0.12	0.16	1.40	0.00	0.22	0.01	0.23	0.01	0.01	0.01		146.17		0.01		146.42
Total	**0.21**	**0.89**	**2.06**	**0.00**	**0.90**	**0.03**	**0.93**	**0.01**	**0.03**	**0.04**		**258.41**		**0.01**		**258.75**

3.2 Demolition - 2013

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					0.15	0.00	0.15	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50	0.00	7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.15**	**3.50**	**3.65**	**0.00**	**3.50**	**3.50**	**0.00**	**7,510.81**		**0.80**		**7,527.57**

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	0.09	0.73	0.66	0.00	0.68	0.02	0.70	0.00	0.02	0.03		112.24		0.00		112.33
Vendor	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
Worker	0.12	0.16	1.40	0.00	0.22	0.01	0.23	0.01	0.01	0.01		146.17		0.01		146.42
Total	**0.21**	**0.89**	**2.06**	**0.00**	**0.90**	**0.03**	**0.93**	**0.01**	**0.03**	**0.04**		**258.41**		**0.01**		**258.75**

3.3 Site Preparation - 2013

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					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93		7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**18.07**	**3.93**	**22.00**	**9.93**	**3.93**	**13.86**		**7,997.69**		**0.89**		**8,016.38**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.15	0.19	1.68	0.00	0.27	0.01	0.27	0.01	0.01	0.02		175.40		0.01		175.70
Total	**0.15**	**0.19**	**1.68**	**0.00**	**0.27**	**0.01**	**0.27**	**0.01**	**0.01**	**0.02**		**175.40**		**0.01**		**175.70**

3.3 Site Preparation - 2013

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					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93	0.00	7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**8.13**	**3.93**	**12.06**	**4.47**	**3.93**	**8.40**	**0.00**	**7,997.69**		**0.89**		**8,016.38**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.15	0.19	1.68	0.00	0.27	0.01	0.27	0.01	0.01	0.02		175.40		0.01		175.70
Total	**0.15**	**0.19**	**1.68**	**0.00**	**0.27**	**0.01**	**0.27**	**0.01**	**0.01**	**0.02**		**175.40**		**0.01**		**175.70**

3.4 Grading - 2013

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					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59		10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**8.67**	**4.59**	**13.26**	**3.31**	**4.59**	**7.90**		**10,856.66**		**1.06**		**10,878.90**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.17	0.21	1.87	0.00	0.30	0.01	0.30	0.01	0.01	0.02		194.89		0.02		195.22
Total	**0.17**	**0.21**	**1.87**	**0.00**	**0.30**	**0.01**	**0.30**	**0.01**	**0.01**	**0.02**		**194.89**		**0.02**		**195.22**

3.4 Grading - 2013

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					3.90	0.00	3.90	1.49	0.00	1.49						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59	0.00	10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**3.90**	**4.59**	**8.49**	**1.49**	**4.59**	**6.08**	**0.00**	**10,856.66**		**1.06**		**10,878.90**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.17	0.21	1.87	0.00	0.30	0.01	0.30	0.01	0.01	0.02		194.89		0.02		195.22
Total	**0.17**	**0.21**	**1.87**	**0.00**	**0.30**	**0.01**	**0.30**	**0.01**	**0.01**	**0.02**		**194.89**		**0.02**		**195.22**

3.5 Building Construction - 2013

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	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28		4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**		**4,040.62**		**0.46**		**4,050.31**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.54	4.17	4.93	0.01	0.24	0.12	0.36	0.02	0.12	0.14		688.10		0.03		688.69
Worker	1.82	2.34	20.42	0.02	3.26	0.08	3.34	0.12	0.08	0.20		2,134.08		0.17		2,137.70
Total	**2.36**	**6.51**	**25.35**	**0.03**	**3.50**	**0.20**	**3.70**	**0.14**	**0.20**	**0.34**		**2,822.18**		**0.20**		**2,826.39**

3.5 Building Construction - 2013

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	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28	0.00	4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**	**0.00**	**4,040.62**		**0.46**		**4,050.31**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.54	4.17	4.93	0.01	0.24	0.12	0.36	0.02	0.12	0.14		688.10		0.03		688.69
Worker	1.82	2.34	20.42	0.02	3.26	0.08	3.34	0.12	0.08	0.20		2,134.08		0.17		2,137.70
Total	**2.36**	**6.51**	**25.35**	**0.03**	**3.50**	**0.20**	**3.70**	**0.14**	**0.20**	**0.34**		**2,822.18**		**0.20**		**2,826.39**

3.5 Building Construction - 2014

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	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02		4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**		**4,040.61**		**0.42**		**4,049.51**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.50	3.83	4.49	0.01	0.24	0.11	0.35	0.02	0.11	0.13		693.49		0.03		694.03
Worker	1.67	2.12	18.56	0.02	3.26	0.08	3.34	0.12	0.08	0.20		2,090.47		0.16		2,093.78
Total	**2.17**	**5.95**	**23.05**	**0.03**	**3.50**	**0.19**	**3.69**	**0.14**	**0.19**	**0.33**		**2,783.96**		**0.19**		**2,787.81**

3.5 Building Construction - 2014

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	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02	0.00	4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**	**0.00**	**4,040.61**		**0.42**		**4,049.51**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.50	3.83	4.49	0.01	0.24	0.11	0.35	0.02	0.11	0.13		693.49		0.03		694.03
Worker	1.67	2.12	18.56	0.02	3.26	0.08	3.34	0.12	0.08	0.20		2,090.47		0.16		2,093.78
Total	**2.17**	**5.95**	**23.05**	**0.03**	**3.50**	**0.19**	**3.69**	**0.14**	**0.19**	**0.33**		**2,783.96**		**0.19**		**2,787.81**

3.6 Paving - 2014

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	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74		2,917.65		0.47		2,927.48
Paving	0.29					0.00	0.00		0.00	0.00						0.00
Total	**5.49**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**		**2,917.65**		**0.47**		**2,927.48**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.11	0.15	1.27	0.00	0.22	0.01	0.23	0.01	0.01	0.01		143.18		0.01		143.41
Total	**0.11**	**0.15**	**1.27**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**143.18**		**0.01**		**143.41**

3.6 Paving - 2014

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	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74	0.00	2,917.65		0.47		2,927.48
Paving	0.29					0.00	0.00		0.00	0.00						0.00
Total	**5.49**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**	**0.00**	**2,917.65**		**0.47**		**2,927.48**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.11	0.15	1.27	0.00	0.22	0.01	0.23	0.01	0.01	0.01		143.18		0.01		143.41
Total	**0.11**	**0.15**	**1.27**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**143.18**		**0.01**		**143.41**

3.7 Architectural Coating - 2014

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	563.24					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24		281.19		0.04		282.03
Total	**563.69**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**		**281.19**		**0.04**		**282.03**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.33	0.43	3.73	0.00	0.65	0.02	0.67	0.02	0.02	0.04		420.00		0.03		420.67
Total	**0.33**	**0.43**	**3.73**	**0.00**	**0.65**	**0.02**	**0.67**	**0.02**	**0.02**	**0.04**		**420.00**		**0.03**		**420.67**

3.7 Architectural Coating - 2014

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	563.24					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24	0.00	281.19		0.04		282.03
Total	**563.69**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**	**0.00**	**281.19**		**0.04**		**282.03**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.33	0.43	3.73	0.00	0.65	0.02	0.67	0.02	0.02	0.04		420.00		0.03		420.67
Total	**0.33**	**0.43**	**3.73**	**0.00**	**0.65**	**0.02**	**0.67**	**0.02**	**0.02**	**0.04**		**420.00**		**0.03**		**420.67**

4.0 Mobile Detail

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	4.39	8.21	44.12	0.05	6.63	0.26	6.89	0.22	0.26	0.48		5,062.67		0.27		5,068.38
Unmitigated	4.39	8.21	44.12	0.05	6.63	0.26	6.89	0.22	0.26	0.48		5,062.67		0.27		5,068.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	726.18	726.18	726.18	2,003,626	2,003,626
Parking Lot	0.00	0.00	0.00		
Total	726.18	726.18	726.18	2,003,626	2,003,626

4.3 Trip Type Information

	Miles			Trip %		
Land Use	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
Congregate Care (Assisted Living)	12.30	5.90	6.40	37.50	15.00	47.50
Parking Lot	8.80	4.60	4.60	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	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	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
NaturalGas Unmitigated	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Congregate Care (Assisted Living)	7373.59	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.08**	**0.68**	**0.29**	**0.00**		**0.00**	**0.05**		**0.00**	**0.05**		**867.48**		**0.02**	**0.02**	**872.76**

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	lb/day										lb/day					
Congregate Care (Assisted Living)	7.37359	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.08**	**0.68**	**0.29**	**0.00**		**0.00**	**0.05**		**0.00**	**0.05**		**867.48**		**0.02**	**0.02**	**872.76**

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	12.02	0.25	21.13	0.00		0.00	0.11		0.00	0.11	0.00	37.14		0.04	0.00	37.97
Unmitigated	12.02	0.25	21.13	0.00		0.00	0.11		0.00	0.11	0.00	37.14		0.04	0.00	37.97
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	3.09					0.00	0.00		0.00	0.00						0.00
Consumer Products	8.25					0.00	0.00		0.00	0.00						0.00
Hearth	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
Landscaping	0.69	0.25	21.13	0.00		0.00	0.11		0.00	0.11		37.14		0.04		37.97
Total	**12.03**	**0.25**	**21.13**	**0.00**		**0.00**	**0.11**		**0.00**	**0.11**	**0.00**	**37.14**		**0.04**	**0.00**	**37.97**

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	3.09					0.00	0.00		0.00	0.00						0.00
Consumer Products	8.25					0.00	0.00		0.00	0.00						0.00
Hearth	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
Landscaping	0.69	0.25	21.13	0.00		0.00	0.11		0.00	0.11		37.14		0.04		37.97
Total	**12.03**	**0.25**	**21.13**	**0.00**		**0.00**	**0.11**		**0.00**	**0.11**	**0.00**	**37.14**		**0.04**	**0.00**	**37.97**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Meritage Senior Living Project

Santa Barbara-North of Santa Ynez County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	242	Space
Congregate Care (Assisted Living)	247	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.1	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	37		

1.3 User Entered Comments

Project Characteristics -

Land Use - The project site totals 18.2 acres, however, 2 parcels would remain vacant, therefore only 12.6 acres would be developed (10.42 + 2.18=12.6). 64 of the 247 units would be single occupancy and 183 units would house a maximum of 2 seniors (64 + 366 =430). The gross square footage of all proposed buildings totals 288,665.

Construction Phase - Demo=01/02/2013-01/29 (20 days), site prep=01/30/2013-02/12 (10 days), grading=02/13/2013-03/26 (30 days), building construction=03/27/2013-05/20/2014 (300 days), paving=05/21/2014-06/17 (20 days), and architectural coating=06/18/2014-07/15/2014 (20 days).

Demolition - Small residence and several outbuildings total approximately 6,385 square feet or 0.15 acres.

Vehicle Trips - Trip rates based on the Traffic Study prepared by ATE July 10, 2012. Trip rate was adjusted from 2.81 to 2.94 to be consistent with ADT and annual VMT from the Traffic Study.

Construction Off-road Equipment Mitigation - Proposed project is required to implement the standard dust control measures outlined in the SBCAPCD's Scope and Content of Air Quality Sections in Environmental Documents (December 2011).

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					
2013	12.04	97.71	54.74	0.10	18.33	4.59	22.27	9.94	4.59	13.88	0.00	11,043.99	0.00	1.07	0.00	11,066.56
2014	564.08	38.33	47.27	0.07	3.50	2.74	5.71	0.14	2.74	2.75	0.00	6,738.83	0.00	0.61	0.00	6,751.60
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2013	12.04	97.71	54.74	0.10	8.40	4.59	12.34	4.48	4.59	8.42	0.00	11,043.99	0.00	1.07	0.00	11,066.56
2014	564.08	38.33	47.27	0.07	3.50	2.74	5.71	0.14	2.74	2.75	0.00	6,738.83	0.00	0.61	0.00	6,751.60
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	12.02	0.25	21.13	0.00		0.00	0.11		0.00	0.11	0.00	37.14		0.04	0.00	37.97
Energy	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
Mobile	4.95	8.80	46.12	0.05	6.63	0.26	6.89	0.22	0.26	0.48		4,903.48		0.28		4,909.28
Total	**17.05**	**9.73**	**67.54**	**0.05**	**6.63**	**0.26**	**7.05**	**0.22**	**0.26**	**0.64**	**0.00**	**5,808.10**		**0.34**	**0.02**	**5,820.01**

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	12.02	0.25	21.13	0.00		0.00	0.11		0.00	0.11	0.00	37.14		0.04	0.00	37.97
Energy	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
Mobile	4.95	8.80	46.12	0.05	6.63	0.26	6.89	0.22	0.26	0.48		4,903.48		0.28		4,909.28
Total	**17.05**	**9.73**	**67.54**	**0.05**	**6.63**	**0.26**	**7.05**	**0.22**	**0.26**	**0.64**	**0.00**	**5,808.10**		**0.34**	**0.02**	**5,820.01**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2013

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					0.32	0.00	0.32	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50		7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.32**	**3.50**	**3.82**	**0.00**	**3.50**	**3.50**		**7,510.81**		**0.80**		**7,527.57**

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	0.09	0.76	0.71	0.00	0.68	0.02	0.70	0.00	0.02	0.03		111.96		0.00		112.06
Vendor	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
Worker	0.14	0.18	1.42	0.00	0.22	0.01	0.23	0.01	0.01	0.01		140.49		0.01		140.74
Total	**0.23**	**0.94**	**2.13**	**0.00**	**0.90**	**0.03**	**0.93**	**0.01**	**0.03**	**0.04**		**252.45**		**0.01**		**252.80**

3.2 Demolition - 2013

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					0.15	0.00	0.15	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50	0.00	7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.15**	**3.50**	**3.65**	**0.00**	**3.50**	**3.50**	**0.00**	**7,510.81**		**0.80**		**7,527.57**

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	0.09	0.76	0.71	0.00	0.68	0.02	0.70	0.00	0.02	0.03		111.96		0.00		112.06
Vendor	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
Worker	0.14	0.18	1.42	0.00	0.22	0.01	0.23	0.01	0.01	0.01		140.49		0.01		140.74
Total	**0.23**	**0.94**	**2.13**	**0.00**	**0.90**	**0.03**	**0.93**	**0.01**	**0.03**	**0.04**		**252.45**		**0.01**		**252.80**

3.3 Site Preparation - 2013

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					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93		7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**18.07**	**3.93**	**22.00**	**9.93**	**3.93**	**13.86**		**7,997.69**		**0.89**		**8,016.38**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.17	0.21	1.70	0.00	0.27	0.01	0.27	0.01	0.01	0.02		168.59		0.01		168.89
Total	**0.17**	**0.21**	**1.70**	**0.00**	**0.27**	**0.01**	**0.27**	**0.01**	**0.01**	**0.02**		**168.59**		**0.01**		**168.89**

3.3 Site Preparation - 2013

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					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93	0.00	7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**8.13**	**3.93**	**12.06**	**4.47**	**3.93**	**8.40**	**0.00**	**7,997.69**		**0.89**		**8,016.38**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.17	0.21	1.70	0.00	0.27	0.01	0.27	0.01	0.01	0.02		168.59		0.01		168.89
Total	**0.17**	**0.21**	**1.70**	**0.00**	**0.27**	**0.01**	**0.27**	**0.01**	**0.01**	**0.02**		**168.59**		**0.01**		**168.89**

3.4 Grading - 2013

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					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59		10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**8.67**	**4.59**	**13.26**	**3.31**	**4.59**	**7.90**		**10,856.66**		**1.06**		**10,878.90**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.19	0.24	1.89	0.00	0.30	0.01	0.30	0.01	0.01	0.02		187.33		0.02		187.66
Total	**0.19**	**0.24**	**1.89**	**0.00**	**0.30**	**0.01**	**0.30**	**0.01**	**0.01**	**0.02**		**187.33**		**0.02**		**187.66**

3.4 Grading - 2013

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					3.90	0.00	3.90	1.49	0.00	1.49						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59	0.00	10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**3.90**	**4.59**	**8.49**	**1.49**	**4.59**	**6.08**	**0.00**	**10,856.66**		**1.06**		**10,878.90**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.19	0.24	1.89	0.00	0.30	0.01	0.30	0.01	0.01	0.02		187.33		0.02		187.66
Total	**0.19**	**0.24**	**1.89**	**0.00**	**0.30**	**0.01**	**0.30**	**0.01**	**0.01**	**0.02**		**187.33**		**0.02**		**187.66**

3.5 Building Construction - 2013

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	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28		4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**		**4,040.62**		**0.46**		**4,050.31**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.59	4.27	5.76	0.01	0.24	0.12	0.36	0.02	0.12	0.14		684.15		0.03		684.79
Worker	2.10	2.60	20.70	0.02	3.26	0.08	3.34	0.12	0.08	0.20		2,051.22		0.17		2,054.83
Total	**2.69**	**6.87**	**26.46**	**0.03**	**3.50**	**0.20**	**3.70**	**0.14**	**0.20**	**0.34**		**2,735.37**		**0.20**		**2,739.62**

3.5 Building Construction - 2013

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	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28	0.00	4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**	**0.00**	**4,040.62**		**0.46**		**4,050.31**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.59	4.27	5.76	0.01	0.24	0.12	0.36	0.02	0.12	0.14		684.15		0.03		684.79
Worker	2.10	2.60	20.70	0.02	3.26	0.08	3.34	0.12	0.08	0.20		2,051.22		0.17		2,054.83
Total	**2.69**	**6.87**	**26.46**	**0.03**	**3.50**	**0.20**	**3.70**	**0.14**	**0.20**	**0.34**		**2,735.37**		**0.20**		**2,739.62**

3.5 Building Construction - 2014

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	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02		4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**		**4,040.61**		**0.42**		**4,049.51**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.55	3.90	5.31	0.01	0.24	0.11	0.35	0.02	0.11	0.13		689.26		0.03		689.86
Worker	1.93	2.37	18.76	0.02	3.26	0.08	3.34	0.12	0.08	0.20		2,008.95		0.16		2,012.24
Total	**2.48**	**6.27**	**24.07**	**0.03**	**3.50**	**0.19**	**3.69**	**0.14**	**0.19**	**0.33**		**2,698.21**		**0.19**		**2,702.10**

3.5 Building Construction - 2014

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	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02	0.00	4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**	**0.00**	**4,040.61**		**0.42**		**4,049.51**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.55	3.90	5.31	0.01	0.24	0.11	0.35	0.02	0.11	0.13		689.26		0.03		689.86
Worker	1.93	2.37	18.76	0.02	3.26	0.08	3.34	0.12	0.08	0.20		2,008.95		0.16		2,012.24
Total	**2.48**	**6.27**	**24.07**	**0.03**	**3.50**	**0.19**	**3.69**	**0.14**	**0.19**	**0.33**		**2,698.21**		**0.19**		**2,702.10**

3.6 Paving - 2014

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	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74		2,917.65		0.47		2,927.48
Paving	0.29					0.00	0.00		0.00	0.00						0.00
Total	**5.49**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**		**2,917.65**		**0.47**		**2,927.48**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.13	0.16	1.28	0.00	0.22	0.01	0.23	0.01	0.01	0.01		137.60		0.01		137.82
Total	**0.13**	**0.16**	**1.28**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**137.60**		**0.01**		**137.82**

3.6 Paving - 2014

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	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74	0.00	2,917.65		0.47		2,927.48
Paving	0.29					0.00	0.00		0.00	0.00						0.00
Total	**5.49**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**	**0.00**	**2,917.65**		**0.47**		**2,927.48**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.13	0.16	1.28	0.00	0.22	0.01	0.23	0.01	0.01	0.01		137.60		0.01		137.82
Total	**0.13**	**0.16**	**1.28**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**137.60**		**0.01**		**137.82**

3.7 Architectural Coating - 2014

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	563.24					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24		281.19		0.04		282.03
Total	**563.69**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**		**281.19**		**0.04**		**282.03**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.39	0.48	3.77	0.00	0.65	0.02	0.67	0.02	0.02	0.04		403.62		0.03		404.29
Total	**0.39**	**0.48**	**3.77**	**0.00**	**0.65**	**0.02**	**0.67**	**0.02**	**0.02**	**0.04**		**403.62**		**0.03**		**404.29**

3.7 Architectural Coating - 2014

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	563.24					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24	0.00	281.19		0.04		282.03
Total	**563.69**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**	**0.00**	**281.19**		**0.04**		**282.03**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.39	0.48	3.77	0.00	0.65	0.02	0.67	0.02	0.02	0.04		403.62		0.03		404.29
Total	**0.39**	**0.48**	**3.77**	**0.00**	**0.65**	**0.02**	**0.67**	**0.02**	**0.02**	**0.04**		**403.62**		**0.03**		**404.29**

4.0 Mobile Detail

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	4.95	8.80	46.12	0.05	6.63	0.26	6.89	0.22	0.26	0.48		4,903.48		0.28		4,909.28
Unmitigated	4.95	8.80	46.12	0.05	6.63	0.26	6.89	0.22	0.26	0.48		4,903.48		0.28		4,909.28
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	726.18	726.18	726.18	2,003,626	2,003,626
Parking Lot	0.00	0.00	0.00		
Total	726.18	726.18	726.18	2,003,626	2,003,626

4.3 Trip Type Information

	Miles			Trip %		
Land Use	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
Congregate Care (Assisted Living)	12.30	5.90	6.40	37.50	15.00	47.50
Parking Lot	8.80	4.60	4.60	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	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	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
NaturalGas Unmitigated	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Congregate Care (Assisted Living)	7373.59	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.08**	**0.68**	**0.29**	**0.00**		**0.00**	**0.05**		**0.00**	**0.05**		**867.48**		**0.02**	**0.02**	**872.76**

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	lb/day										lb/day					
Congregate Care (Assisted Living)	7.37359	0.08	0.68	0.29	0.00		0.00	0.05		0.00	0.05		867.48		0.02	0.02	872.76
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.08**	**0.68**	**0.29**	**0.00**		**0.00**	**0.05**		**0.00**	**0.05**		**867.48**		**0.02**	**0.02**	**872.76**

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	12.02	0.25	21.13	0.00		0.00	0.11		0.00	0.11	0.00	37.14		0.04	0.00	37.97
Unmitigated	12.02	0.25	21.13	0.00		0.00	0.11		0.00	0.11	0.00	37.14		0.04	0.00	37.97
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	3.09					0.00	0.00		0.00	0.00						0.00
Consumer Products	8.25					0.00	0.00		0.00	0.00						0.00
Hearth	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
Landscaping	0.69	0.25	21.13	0.00		0.00	0.11		0.00	0.11		37.14		0.04		37.97
Total	**12.03**	**0.25**	**21.13**	**0.00**		**0.00**	**0.11**		**0.00**	**0.11**	**0.00**	**37.14**		**0.04**	**0.00**	**37.97**

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	3.09					0.00	0.00		0.00	0.00						0.00
Consumer Products	8.25					0.00	0.00		0.00	0.00						0.00
Hearth	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
Landscaping	0.69	0.25	21.13	0.00		0.00	0.11		0.00	0.11		37.14		0.04		37.97
Total	**12.03**	**0.25**	**21.13**	**0.00**		**0.00**	**0.11**		**0.00**	**0.11**	**0.00**	**37.14**		**0.04**	**0.00**	**37.97**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Meritage Senior Living Project

Santa Barbara-North of Santa Ynez County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	242	Space
Congregate Care (Assisted Living)	247	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.1	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	37		

1.3 User Entered Comments

Project Characteristics -

Land Use - The project site totals 18.2 acres, however, 2 parcels would remain vacant, therefore only 12.6 acres would be developed (10.42 + 2.18=12.6). 64 of the 247 units would be single occupancy and 183 units would house a maximum of 2 seniors (64 + 366 =430). The gross square footage of all proposed buildings totals 288,665.

Construction Phase - Demo=01/02/2013-01/29 (20 days), site prep=01/30/2013-02/12 (10 days), grading=02/13/2013-03/26 (30 days), building construction=03/27/2013-05/20/2014 (300 days), paving=05/21/2014-06/17 (20 days), and architectural coating=06/18/2014-07/15/2014 (20 days).

Demolition - Small residence and several outbuildings total approximately 6,385 square feet or 0.15 acres.

Vehicle Trips - Trip rates based on the Traffic Study prepared by ATE July 10, 2012. Trip rate was adjusted from 2.81 to 2.94 to be consistent with ADT and annual VMT from the Traffic Study.

Construction Off-road Equipment Mitigation - Proposed project is required to implement the standard dust control measures outlined in the SBCAPCD's Scope and Content of Air Quality Sections in Environmental Documents (December 2011).

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					
2013	1.09	6.70	6.49	0.01	0.55	0.37	0.92	0.12	0.37	0.49	0.00	873.49	873.49	0.09	0.00	875.31
2014	6.05	2.26	2.64	0.00	0.16	0.14	0.30	0.01	0.14	0.15	0.00	340.15	340.15	0.03	0.00	340.84
Total	**7.14**	**8.96**	**9.13**	**0.01**	**0.71**	**0.51**	**1.22**	**0.13**	**0.51**	**0.64**	**0.00**	**1,213.64**	**1,213.64**	**0.12**	**0.00**	**1,216.15**

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					
2013	1.09	6.70	6.49	0.01	0.42	0.37	0.79	0.06	0.37	0.43	0.00	873.49	873.49	0.09	0.00	875.31
2014	6.05	2.26	2.64	0.00	0.16	0.14	0.30	0.01	0.14	0.15	0.00	340.15	340.15	0.03	0.00	340.84
Total	**7.14**	**8.96**	**9.13**	**0.01**	**0.58**	**0.51**	**1.09**	**0.07**	**0.51**	**0.58**	**0.00**	**1,213.64**	**1,213.64**	**0.12**	**0.00**	**1,216.15**

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	2.13	0.02	1.90	0.00		0.00	0.01		0.00	0.01	0.00	3.03	3.03	0.00	0.00	3.10
Energy	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	401.91	401.91	0.01	0.01	404.40
Mobile	0.83	1.51	8.39	0.01	1.06	0.05	1.11	0.04	0.05	0.09	0.00	813.05	813.05	0.05	0.00	814.00
Waste						0.00	0.00		0.00	0.00	45.75	0.00	45.75	2.70	0.00	102.53
Water						0.00	0.00		0.00	0.00	0.00	41.36	41.36	0.02	0.01	45.77
Total	**2.97**	**1.65**	**10.34**	**0.01**	**1.06**	**0.05**	**1.13**	**0.04**	**0.05**	**0.11**	**45.75**	**1,259.35**	**1,305.10**	**2.78**	**0.02**	**1,369.80**

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	2.13	0.02	1.90	0.00		0.00	0.01		0.00	0.01	0.00	3.03	3.03	0.00	0.00	3.10
Energy	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	401.91	401.91	0.01	0.01	404.40
Mobile	0.83	1.51	8.39	0.01	1.06	0.05	1.11	0.04	0.05	0.09	0.00	813.05	813.05	0.05	0.00	814.00
Waste						0.00	0.00		0.00	0.00	45.75	0.00	45.75	2.70	0.00	102.53
Water						0.00	0.00		0.00	0.00	0.00	41.36	41.36	0.02	0.01	45.77
Total	**2.97**	**1.65**	**10.34**	**0.01**	**1.06**	**0.05**	**1.13**	**0.04**	**0.05**	**0.11**	**45.75**	**1,259.35**	**1,305.10**	**2.78**	**0.02**	**1,369.80**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2013

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					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.71	0.43	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.27
Total	**0.09**	**0.71**	**0.43**	**0.00**	**0.00**	**0.04**	**0.04**	**0.00**	**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.27**

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	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	1.02	1.02	0.00	0.00	1.02
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	1.28	0.00	0.00	1.28
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.30**	**2.30**	**0.00**	**0.00**	**2.30**

3.2 Demolition - 2013

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					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.71	0.43	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.27
Total	**0.09**	**0.71**	**0.43**	**0.00**	**0.00**	**0.04**	**0.04**	**0.00**	**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.27**

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	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	1.02	1.02	0.00	0.00	1.02
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	1.28	0.00	0.00	1.28
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.30**	**2.30**	**0.00**	**0.00**	**2.30**

3.3 Site Preparation - 2013

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					0.09	0.00	0.09	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.40	0.23	0.00		0.02	0.02		0.02	0.02	0.00	36.27	36.27	0.00	0.00	36.35
Total	**0.05**	**0.40**	**0.23**	**0.00**	**0.09**	**0.02**	**0.11**	**0.05**	**0.02**	**0.07**	**0.00**	**36.27**	**36.27**	**0.00**	**0.00**	**36.35**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.77	0.00	0.00	0.77
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**	**0.77**	**0.00**	**0.00**	**0.77**

3.3 Site Preparation - 2013

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					0.04	0.00	0.04	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.40	0.23	0.00		0.02	0.02		0.02	0.02	0.00	36.27	36.27	0.00	0.00	36.35
Total	**0.05**	**0.40**	**0.23**	**0.00**	**0.04**	**0.02**	**0.06**	**0.02**	**0.02**	**0.04**	**0.00**	**36.27**	**36.27**	**0.00**	**0.00**	**36.35**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.77	0.00	0.00	0.77
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**	**0.77**	**0.00**	**0.00**	**0.77**

3.4 Grading - 2013

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					0.13	0.00	0.13	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.18	1.46	0.79	0.00		0.07	0.07		0.07	0.07	0.00	147.69	147.69	0.01	0.00	148.00
Total	**0.18**	**1.46**	**0.79**	**0.00**	**0.13**	**0.07**	**0.20**	**0.05**	**0.07**	**0.12**	**0.00**	**147.69**	**147.69**	**0.01**	**0.00**	**148.00**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56	2.56	0.00	0.00	2.57
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.56**	**2.56**	**0.00**	**0.00**	**2.57**

3.4 Grading - 2013

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					0.06	0.00	0.06	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.18	1.46	0.79	0.00		0.07	0.07		0.07	0.07	0.00	147.69	147.69	0.01	0.00	148.00
Total	**0.18**	**1.46**	**0.79**	**0.00**	**0.06**	**0.07**	**0.13**	**0.02**	**0.07**	**0.09**	**0.00**	**147.69**	**147.69**	**0.01**	**0.00**	**148.00**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56	2.56	0.00	0.00	2.57
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.56**	**2.56**	**0.00**	**0.00**	**2.57**

3.5 Building Construction - 2013

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	0.52	3.47	2.34	0.00		0.23	0.23		0.23	0.23	0.00	366.46	366.46	0.04	0.00	367.34
Total	**0.52**	**3.47**	**2.34**	**0.00**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**366.46**	**366.46**	**0.04**	**0.00**	**367.34**

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	0.00	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
Vendor	0.06	0.41	0.57	0.00	0.02	0.01	0.03	0.00	0.01	0.01	0.00	62.21	62.21	0.00	0.00	62.27
Worker	0.19	0.24	2.08	0.00	0.29	0.01	0.30	0.01	0.01	0.02	0.00	187.11	187.11	0.02	0.00	187.44
Total	**0.25**	**0.65**	**2.65**	**0.00**	**0.31**	**0.02**	**0.33**	**0.01**	**0.02**	**0.03**	**0.00**	**249.32**	**249.32**	**0.02**	**0.00**	**249.71**

3.5 Building Construction - 2013

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	0.52	3.47	2.34	0.00		0.23	0.23		0.23	0.23	0.00	366.46	366.46	0.04	0.00	367.34
Total	**0.52**	**3.47**	**2.34**	**0.00**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**366.46**	**366.46**	**0.04**	**0.00**	**367.34**

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	0.00	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
Vendor	0.06	0.41	0.57	0.00	0.02	0.01	0.03	0.00	0.01	0.01	0.00	62.21	62.21	0.00	0.00	62.27
Worker	0.19	0.24	2.08	0.00	0.29	0.01	0.30	0.01	0.01	0.02	0.00	187.11	187.11	0.02	0.00	187.44
Total	**0.25**	**0.65**	**2.65**	**0.00**	**0.31**	**0.02**	**0.33**	**0.01**	**0.02**	**0.03**	**0.00**	**249.32**	**249.32**	**0.02**	**0.00**	**249.71**

3.5 Building Construction - 2014

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	0.24	1.60	1.16	0.00		0.10	0.10		0.10	0.10	0.00	183.23	183.23	0.02	0.00	183.63
Total	**0.24**	**1.60**	**1.16**	**0.00**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**183.23**	**183.23**	**0.02**	**0.00**	**183.63**

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	0.00	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
Vendor	0.03	0.19	0.26	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	31.34	31.34	0.00	0.00	31.37
Worker	0.09	0.11	0.94	0.00	0.14	0.00	0.15	0.01	0.00	0.01	0.00	91.63	91.63	0.01	0.00	91.78
Total	**0.12**	**0.30**	**1.20**	**0.00**	**0.15**	**0.01**	**0.17**	**0.01**	**0.01**	**0.02**	**0.00**	**122.97**	**122.97**	**0.01**	**0.00**	**123.15**

3.5 Building Construction - 2014

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	0.24	1.60	1.16	0.00		0.10	0.10		0.10	0.10	0.00	183.23	183.23	0.02	0.00	183.63
Total	**0.24**	**1.60**	**1.16**	**0.00**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**183.23**	**183.23**	**0.02**	**0.00**	**183.63**

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	0.00	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
Vendor	0.03	0.19	0.26	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	31.34	31.34	0.00	0.00	31.37
Worker	0.09	0.11	0.94	0.00	0.14	0.00	0.15	0.01	0.00	0.01	0.00	91.63	91.63	0.01	0.00	91.78
Total	**0.12**	**0.30**	**1.20**	**0.00**	**0.15**	**0.01**	**0.17**	**0.01**	**0.01**	**0.02**	**0.00**	**122.97**	**122.97**	**0.01**	**0.00**	**123.15**

3.6 Paving - 2014

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	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26	1.26	0.00	0.00	1.26
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.26**	**1.26**	**0.00**	**0.00**	**1.26**

3.6 Paving - 2014

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	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26	1.26	0.00	0.00	1.26
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.26**	**1.26**	**0.00**	**0.00**	**1.26**

3.7 Architectural Coating - 2014

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	5.63					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**5.63**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.68	3.68	0.00	0.00	3.69
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.68**	**3.68**	**0.00**	**0.00**	**3.69**

3.7 Architectural Coating - 2014

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	5.63					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**5.63**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.68	3.68	0.00	0.00	3.69
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.68**	**3.68**	**0.00**	**0.00**	**3.69**

4.0 Mobile Detail

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	0.83	1.51	8.39	0.01	1.06	0.05	1.11	0.04	0.05	0.09	0.00	813.05	813.05	0.05	0.00	814.00
Unmitigated	0.83	1.51	8.39	0.01	1.06	0.05	1.11	0.04	0.05	0.09	0.00	813.05	813.05	0.05	0.00	814.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	726.18	726.18	726.18	2,003,626	2,003,626
Parking Lot	0.00	0.00	0.00		
Total	726.18	726.18	726.18	2,003,626	2,003,626

4.3 Trip Type Information

	Miles			Trip %		
Land Use	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
Congregate Care (Assisted Living)	12.30	5.90	6.40	37.50	15.00	47.50
Parking Lot	8.80	4.60	4.60	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	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						0.00	0.00		0.00	0.00	0.00	258.29	258.29	0.01	0.00	259.91
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	258.29	258.29	0.01	0.00	259.91
NaturalGas Mitigated	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	143.62	143.62	0.00	0.00	144.50
NaturalGas Unmitigated	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	143.62	143.62	0.00	0.00	144.50
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	tons/yr										MT/yr					
Congregate Care (Assisted Living)	2.69136e+006	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	143.62	143.62	0.00	0.00	144.50
Parking Lot	0	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
Total		**0.01**	**0.12**	**0.05**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**143.62**	**143.62**	**0.00**	**0.00**	**144.50**

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	tons/yr										MT/yr					
Congregate Care (Assisted Living)	2.69136e+006	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	143.62	143.62	0.00	0.00	144.50
Parking Lot	0	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
Total		**0.01**	**0.12**	**0.05**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**143.62**	**143.62**	**0.00**	**0.00**	**144.50**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Congregate Care (Assisted Living)	887854					258.29	0.01	0.00	259.91
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**258.29**	**0.01**	**0.00**	**259.91**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Congregate Care (Assisted Living)	887854					258.29	0.01	0.00	259.91
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**258.29**	**0.01**	**0.00**	**259.91**

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	2.13	0.02	1.90	0.00		0.00	0.01		0.00	0.01	0.00	3.03	3.03	0.00	0.00	3.10
Unmitigated	2.13	0.02	1.90	0.00		0.00	0.01		0.00	0.01	0.00	3.03	3.03	0.00	0.00	3.10
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	0.56					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.51					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	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
Landscaping	0.06	0.02	1.90	0.00		0.00	0.01		0.00	0.01	0.00	3.03	3.03	0.00	0.00	3.10
Total	**2.13**	**0.02**	**1.90**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**3.03**	**3.03**	**0.00**	**0.00**	**3.10**

6.2 Area by SubCategory

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	0.56					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.51					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	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
Landscaping	0.06	0.02	1.90	0.00		0.00	0.01		0.00	0.01	0.00	3.03	3.03	0.00	0.00	3.10
Total	**2.13**	**0.02**	**1.90**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**3.03**	**3.03**	**0.00**	**0.00**	**3.10**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					41.36	0.02	0.01	45.77
Unmitigated					41.36	0.02	0.01	45.77
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Congregate Care (Assisted Living)	16.093 / 10.1456					41.36	0.02	0.01	45.77
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**41.36**	**0.02**	**0.01**	**45.77**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Congregate Care (Assisted Living)	16.093 / 10.1456					41.36	0.02	0.01	45.77
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**41.36**	**0.02**	**0.01**	**45.77**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					45.75	2.70	0.00	102.53
Unmitigated					45.75	2.70	0.00	102.53
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Congregate Care (Assisted Living)	225.39					45.75	2.70	0.00	102.53
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**45.75**	**2.70**	**0.00**	**102.53**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Congregate Care (Assisted Living)	225.39					45.75	2.70	0.00	102.53
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**45.75**	**2.70**	**0.00**	**102.53**

9.0 Vegetation

Greenhouse Gas Emission Worksheet
N20 Mobile Emissions Meritage Senior Living Project

From URBEMIS 2007 Vehicle Fleet Mix Output:

Annual VMT: 2,003,626

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)**	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)**
Light Auto	46.0%	0.04	0.0184	0.04	0.0184
Light Truck < 3750 lbs	10.3%	0.05	0.00515	0.06	0.00618
Light Truck 3751-5750 lbs	23.2%	0.05	0.0116	0.06	0.01392
Med Truck 5751-8500 lbs	12.2%	0.12	0.01464	0.2	0.0244
Lite-Heavy Truck 8501-10,000 lbs	2.1%	0.12	0.00252	0.2	0.0042
Lite-Heavy Truck 10,001-14,000 lbs	0.5%	0.09	0.00045	0.125	0.000625
Med-Heavy Truck 14,001-33,000 lbs	1.0%	0.06	0.0006	0.05	0.0005
Heavy-Heavy Truck 33,001-60,000 lbs	2.9%	0.06	0.00174	0.05	0.00145
Other Bus	0.1%	0.06	0.00006	0.05	0.00005
Urban Bus	0.1%	0.06	0.00006	0.05	0.00005
Motorcycle	1.1%	0.09	0.00099	0.01	0.00011
School Bus	0.1%	0.06	0.00006	0.05	0.00005
Motor Home	0.4%	0.09	0.00036	0.125	0.0005
Total	**100.0%**		**0.05663**		**0.070435**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N20 Emissions:	0.1411	metric tons N2O	**43.75**	metric tons CO2e
		Project Total:	***43.75***	***metric tons CO2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.
** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
*** From URBEMIS 2007 results for mobile sources

Support for Use of Bay Area Air Quality Management District Greenhouse Gas Emissions Standards

This memorandum discusses factual background and justification for the County's interim reliance on thresholds of significance for GHG emissions developed and proposed by the Bay Area Air Quality Management District (BAAQMD). The County is presently working to develop an inventory of current GHG emissions and a Climate Action Strategy and Climate Action Plan based on this data. Until County-specific data becomes available and significance thresholds applicable to GHG emissions are developed and formally adopted, the County has developed interim procedures that rely on the proposed BAAQMD standards. While Santa Barbara County land use patterns differ from those in the Bay Area as a whole, Santa Barbara County is similar to certain Bay Area counties (in particular, Sonoma, Solano, and Marin) in terms of population growth, land use patterns, General Plan policies, and average commute patterns and times. Because of these similarities, the methodology used by BAAQMD to develop its GHG emission significance thresholds, as well as the thresholds themselves, have applicability to Santa Barbara County and represent the best available interim standards for Santa Barbara County.

A. Summary of BAAQMD Methodology

The BAAQMD has developed a methodology and significance thresholds for GHG emissions using the emission reduction goals of AB 32 while taking into account the emission reduction strategies outlined in the Scoping Plan. BAAQMD proposes thresholds for both land use projects (stationary and non-stationary sources) and plans. Using the emission reductions levels required to meet the goals of AB 32, BAAQMD identified two methods and thresholds for land use projects. The first threshold is based on a gap analysis and the second threshold is based on what would be considered a GHG-efficient project. The BAAQMD also established thresholds for land use plans based on the GHG-efficient method. Thresholds for stationary sources were established using a separate method specific to stationary source polluters.

1. Project-Level Thresholds

The Gap Analysis Approach

This approach focuses on a limited set of State mandates that appear to have the greatest potential to reduce land use development related GHG emissions. The BAAQMD's eight steps in determining the threshold are outlined below.

1) Determine growth in emissions attributable to land use driven sectors.

2) Estimate the anticipated GHG reductions affecting the same land use-driven emissions sectors associated with the AB 32 Scoping Plan.

3) Determine the gap between statewide inventory estimates and the estimated reductions from the adopted AB 32 Scoping Plan. The gap identified represents the additional GHG emissions reductions needed statewide from land use-driven emissions sectors, which represents new land use developments' share of the emissions reductions needed to meet the statewide reduction goals.

4) Determine the percent reduction that the gap represents in the land-use driven sectors from the BAAQMD's inventory. Identify the amount of reductions needed to meet this gap.

5) Assess historical CEQA documents to determine the frequency distribution trend of project sizes and types that have been subject to CEQA for the past several years.

6) Forecast new land use development for the Bay Area through the year 2020.

7) Estimate GHG emissions from each land use development project type and size using URBEMIS. Determine the amount of GHG emissions that can reasonable be reduced through current mitigation measures for future development projects subject to CEQA.

8) Conduct a sensitivity analysis of the GHG mass emissions threshold needed to achieve the desired reduction identified in Step 4. The mass emissions threshold is what would be needed to achieve the emissions reductions necessary by 2020 to meet the Bay Area's fare share of the statewide gap from land use-driven emissions.

Using these steps BAAQMD identified a significance threshold of 1,100 MT of CO_2e/year for non-stationary sources.

Efficiency-Based Approach

The threshold was determined by dividing the emissions inventory goal for 2020 (for land use-related sectors only) by the estimated 2020 population and employment. The number given by this calculation provides what would be considered a GHG efficient project if its emissions were to remain below that level.

This approach resulted in a significance threshold of 4.6 MT CO_2e/California Service Population/yr (residents + employees) for non-stationary sources. ~~and can be applied to both projects and plans.~~

Stationary Sources

BAAQMD determined a threshold of 10,000 MT CO_2/year for greenhouse gas emissions from stationary sources. This threshold was developed based on estimating CO_2 emissions from projects in the Air District from 2005 – 2007. Only CO_2 emissions were included as they represent the majority of GHG

emissions from stationary combustion. Emissions were estimated for the maximum permitted amount. Using this data, BAAQMD determined that a threshold of 10,000 MT CO_2/year would encompass 95% of all GHG emissions from stationary sources. While this threshold would capture 95% of emissions, only 10% of new permits would actually hit this threshold. Thus the threshold captures the large significant polluters.

2. Plan-Level Thresholds

Plans would be considered to have less than significant GHG emissions if they are:

1) Consistent with a locally adopted GHG Reduction Plan or Climate Action Plan

2) Less than the efficiency threshold identified for ~~project~~ plan level GHG impacts, 6~~4~~.6 MT CO_2e/California Service Population/yr (residents + employees). This efficiency threshold was calculated using all emissions sectors, rather than just the land use based sectors as was done for project level thresholds. This difference is due to the fact that plans are comprised of more than just land use related emissions (e.g. industrial).

B. Reasoning for Santa Barbara County Reliance on BAAQMD Standards

Until the County of Santa Barbara has formally adopted thresholds of significance for GHG emissions, the County must look to other jurisdictions with similar characteristics for guidance in the interim. A lead agency may consider thresholds of significance adopted or recommended by other public agencies, provided they are supported by substantial evidence. CEQA Guidelines Section 15064.7(c). Currently the BAAQMD is the first air quality management district to have formally adopted GHG thresholds. As described above, BAAQMD's thresholds are based on a sound, factually supported methodology. While land use patterns in Santa Barbara County are different from the Bay Area as a whole region, the BAAQMD does contain county jurisdictions very similar to Santa Barbara County. Santa Barbara County and several Bay Area counties have similar demographics, land use patterns, and behaviors, while other Bay Area counties are quite different in these characteristics. Given that the BAAQMD's adopted thresholds provide the best and most defensible significance criteria available at this time, the County proposes to refer to the BAAQMD thresholds for determinations of impact significance with respect to GHG emissions as an interim measure. Once data is available on GHG emissions for Santa Barbara County, a locally based analysis will be conducted to update the significance criteria.

To the extent that Santa Barbara County is similar to certain counties in the Bay Area with similar land use patterns and past population growth rates, Santa Barbara County can be expected to continue to grow in a similar fashion to these Bay Area in the future as well. Examining land use policies in General Plans in the two regions, which guide growth in the future, provides support for this conclusion. Given

that the two regions would be expected to have similar future growth, the forecast for future land use development in BAAQMD's gap analysis threshold methodology should also generally apply to Santa Barbara County, such that the BAAQMD thresholds would also be relevant to Santa Barbara County. It should be noted that this methodology also applies in blanket fashion to areas that are very different from Santa Barbara County.

The BAAQMD encompasses all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties as well as the southwestern portion of Solano County and southern Sonoma County. While not all of these Counties are analogous to Santa Barbara County in land use characteristics, population growth, etc., three of these counties, Sonoma, Solano, and Marin, are considered to be Benchmark Counties to Santa Barbara County.[1] Benchmark Counties are considered to have common characteristics including, but not limited to, the following: total population of more than 250,000 but less than 500,000; suburban to rural environments; do not contain a large metropolitan city and are known for their scenic beauty and environmental focus. Table 1 below summarizes the population characteristics and commuter behavior for all Bay Area counties and Santa Barbara County. Sonoma and Solano Counties present a very similar picture to that of Santa Barbara County. The other seven counties show very different characteristics, especially with respect to population size and vehicle miles travelled (VMT). Marin and Napa Counties are smaller counties with slower growth, while the remaining counties contain a much larger populations and corresponding VMT.

Table 1. Bay Area and Santa Barbara County Characteristics[2][3][4][5]

County	Population (2010)	% Change in Population (2009-2010)	Average Annual Growth Rate (2000 – 2009)	Average Household Size[6]	Average Commute Time (minutes)	Daily VMT (millions)

[1] Santa Barbara County Operating Plan for 2010-1011

[2] 2006 -2008 American Communities Survey

[3] Source Inventory of Bay Area Greenhouse Gas Emissions, BAAQMD, 2010

[4] Vision 2030: SBCAG 2008 Regional Transportation Plan

[5] California Department of Finance

[6] 2006 -2008 American Communities Survey

Santa Barbara	434,481	1	0.86	2.73	20	9.7
Napa	138,917	0.9	1.13	2.63	24	4.5
Marin	260,651	0.8	0.5	2.36	29	6.2
Solano	427,837	0.5	0.79	2.9	30	7.2
Sonoma	493,285	1.2	0.67	2.53	25	10.6
San Mateo	754,285	1.2	0.61	2.74	25	19.4
San Francisco	856,095	1.1	0.96	2.42	29	12.4
Contra Costa	1,073,005	1.1	1.24	2.76	32	25.7
Alameda	1,574,857	1.1	0.86	2.75	28	38
Santa Clara	1,880,876	1.3	1.12	2.91	24	40.1

The efficiency-based approach applies to the entire State of California since the threshold which was calculated is based upon the State's greenhouse gas emissions inventory and population growth and employment data. None of the data used to calculate this threshold was region or county-specific data.

The method used to calculate the threshold which applies to stationary sources is an industry-based threshold rather than land use-based. Some of the stationary sources represented in both regions include oil and gas industry, landfills, electric utilities, cogeneration, and food and agriculture (such as wine fermentation). Oil refineries were found to be the largest source of GHG emissions in the industrial sector in the Bay Area.[7] Data is not yet available for GHG emissions from stationary sources in Santa Barbara County, but the oil and gas industry is the most prominent industrial use in the County.

CAPCOA conducted an analysis of permitting activity to estimate the number of stationary source projects with potentially significant GHG emissions for a given threshold that could be seen in a given

[7] Source Inventory of Bay Area Greenhouse Gas Emissions, BAAQMD, 2010

year for the four largest air districts. The results of that analysis for a 10,000 MT/yr threshold is presented in Table 2 below.

Table 2. Potential Stationary Source Projects Affected a Given Threshold[8]

	BAAQMD	Sacramento Metropolitan AQMD	San Joaquin Valley Unified APCD	South Coast AQMD
Applications per year affected at threshold of:	1,499	778	1,535	1,179
10,000 MT/yr	7	5	26	8

CARB has predicted that a threshold of 25,000 MT/year would capture greater than 90% of emissions from stationary sources. If this prediction holds true, then a lower threshold of 10,000 metric tons is likely to capture an even greater percentage of emissions. BAAQMD found that a 10,000 MT/yr threshold would capture 95% of GHG emissions, while SCAQMD found that this same threshold would capture at least 90% of GHG emissions.[9] Table 2 illustrates that the 10,000 MT/yr threshold will capture greater than 90% of GHG emissions from stationary sources while only affecting a small portion of polluters for the four largest air districts. Without a GHG emissions inventory, the percentage of GHG emissions that would be captured from stationary sources in Santa Barbara County by this threshold cannot be determined with specificity.

However, insofar asSanta Barbara County is similar to the four air districts listed in Table 3, this high capture rate should hold true for Santa Barbara County as well. Santa Barbara County is located adjacent to the SCAQMD district, with that district including neighboring Ventura County. Additionally, Santa Barbara County, SCAQMD and BAAQMD are all coastal regions. As discussed above, BAAQMD contains many of the same types of stationary source polluters as Santa Barbara County. Given these factual similarities, the BAAQMD's rationale for a 10,000-metric ton significance criterion for stationary sources also applies to Santa Barbara County.

[8] CEQA & Climate Change, CAPCOA, 2008

[9] South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA GHG Significance Threshold

C. Conclusion

Given the similar population growth, land use patterns, General Plan policies, and behaviors such as average commute time that exist between these two regions, Santa Barbara County's future land use development can be shown to be similar to the Bay Area counties within the BAAQMD's jurisdiction discussed above. Relying as an interim measure on BAAQMD's gap analysis threshold methodology and significance thresholds for GHG emissions can therefore be justified. Because they are not based on region-specific data, the efficiency-based standards are applicable statewide.

Interim Procedures for Evaluating Greenhouse Gas Emissions

State Office of Planning and Research (OPR) promulgated new regulations on March 18, 2010 amending the CEQA Guidelines to address evaluation of green house gas (GHG) emissions in CEQA documents. Although the new regulations do not require lead agencies to adopt significance thresholds with respect to GHG emissions, they do require lead agencies to determine the significance of such emissions based data. CEQA Guidelines Section 15064.4. The purpose of this memorandum is to provide interim guidance on evaluating GHG emissions in CEQA documents for projects in the County. The County is presently working to develop an inventory of current GHG emissions and a Climate Action Strategy and Climate Action Plan based on this data. Until such time as County-specific data becomes available and significance thresholds applicable to GHG emissions are developed and formally adopted, some guidance is needed on how to approach GHG emissions on currently pending projects.

This guidance document applies only to projects that are subject to CEQA: (1) discretionary development projects and (2) plans (General Plan elements, community plans, etc.). For projects that fall within categorical or statutory exemptions to CEQA, GHG emissions are presumed to be less than significant.[1] This guidance document will apply to most projects subject to CEQA for which the CEQA document (ND or EIR) is circulated after March 18, 2010.

GHG Emission Analysis

For projects subject to CEQA, planners will typically prepare an Initial Study to evaluate the project's potential for significant environmental impacts, including significant impacts to air quality and climate as a result of GHG emissions. Environmental review of projects should evaluate GHG emissions applying the following steps:

Step 1: Quantify Emissions

State law defines GHGs to include seven gases or categories of gases:

Carbon dioxide (CO_2)
Methane (CH_4)
Nitrous oxide (N_2O)
Hydrofluorocarbons (HFCs)
Perfluorocarbons (PFCs)

[1] However, a limited exception to categorically exempt projects exists for cumulative impacts when the cumulative impact of successive projects of the same type in the same place over time is significant. CEQA Guidelines Section 15300.2(b).

Sulphur hexafluoride (SF_6)
Nitrogen trifluoride (NF_3)

Total GHG emissions of a project for all GHGs should be expressed as carbon dioxide equivalent (CO_2e) measured in metric tons. While the first three gases are the most common emissions, and emissions of other GHGs may be de minimis for most projects, a CO_2e conversion table for GHGs is attached for reference.

Analysis should focus solely on operational emissions, which typically represent the vast majority of GHG emissions over the life of a project. Operational emissions typically consist of direct and indirect project emissions. Direct emissions include point-source & fugitive emissions, a large reduction in reflectivity,[2] and a large reduction in sequestration,[3] and vehicle emissions. Indirect emissions occur as a result of energy use (electricity and gas).

Direct Emissions

- Use the Urban Land Use Emissions Model (URBEMIS) to quantify direct project emissions, including vehicle emissions. The URBEMIS model output is given in English tons. Figures should be converted to metric tons by multiplying by a factor of 0.91.

Indirect Emissions: Natural Gas Usage

- URBEMIS will also calculate indirect emissions for natural gas use for heating and cooking.

Indirect Emissions: Electricity Usage

- Residential land uses: If project-specific electricity usage estimates are not available, electricity usage per household can be estimated using data from the American Communities Survey and Santa Barbara County electricity usage reported by the California Energy Commission (CEC). The most current available electricity usage data is for calendar year 2007. The American Communities Survey reports that the average number of households in Santa Barbara County for 2005-2007 was 140,137 (U.S. Census Fact Finder, 2010). The CEC reports that residential electricity usage in Santa Barbara County for year 2007 was 818.20 million kilowatt-hrs (kWh) (California Energy Commission ECDMS, 2010). Average electricity usage in Santa Barbara County for calendar year 2007 was therefore 5,838.56 kWh/yr/household. This value may be used

[2] Use only for larger-scale projects (e.g., shopping centers) with large roofs and parking lots.
[3] Use only for large-scale projects that result in appreciable loss of trees.

to estimate per-household electricity usage for CEQA purposes. Between 2007 and 2009, the average household size for new single-family residences in Santa Barbara County was 3,258 square feet, based on Accela data. The average annual electrical energy usage per square foot is 1.79 kWh/sq. ft./year, which translates into GHG emissions of 0.714 kg/SF/year.

- Commercial land uses: If project-specific electricity usage estimates are not available, a generic electricity usage rate can be used. The California Commercial End-Use Survey, a study commissioned by the California Energy Commission and published in 2006, provides an annual electricity usage rate estimate of 13.63 kilowatt-hours per square foot (kWh/ft^2) of commercial space (Itron, Inc., 2006). This figure can be used in lieu of project-specific electricity usage amounts.

- Industrial land uses: If the project is an industrial facility that has industry-specific electricity requirements, electricity usage estimates should be developed for the specific project in consultation with APCD.

- *Determine the appropriate emission factor to estimate GHG emissions for the location of the subject project.* Santa Barbara County projects are generally served by either Pacific Gas & Electric (PG&E) in North County or Southern California Edison (SCE) in South County. Emission factors for carbon dioxide (CO_2) have been developed for these specific utilities and are available at the California Climate Action Registry's CARROT program website at www.climateregistry.org/CARROT/Public/Reports.aspx. For example, the user may enter the specific utility (e.g., Southern California Edison) and reporting year (most current available is 2007), generate a report for that year, and scroll to the bottom of the annual emissions report to where "Reference Documents" are provided. The user may then click on the link to the "SCE PUP for 2007," and at the bottom of this report under "Emissions Efficiency Metrics," an emission factor of 630.89 lbs CO_2 per megawatt-hour (MWh) is provided. As of this printing, the most current CO2 emission factors for electricity usage are:

    - Southern California Edison users: 286.16 kg CO_2/MWh (0.28616 kg/kWh) for reporting year 2007.

    - Pacific Gas & Electric users: 290.91 kg CO_2/MWh (0.29091 kg/kWh)

    - Consult with APCD for equipment-specific emission factors for industrial/stationary sources.

- *Calculate GHG Emissions from electricity usage* by multiplying the project characteristics by the electricity usage rate and the emission factor. For example:

    a. 100 households x 5,838.56 kWh/household x 0.28616 kg/kWh = 167,076 kg CO_2/yr, which converts to 167 metric tons/yr.

    b. 100,000 square feet (commercial) x 13.63 kWh/sf x 0.28616 kg/kWh = 390,036 kg CO_2/yr, which converts to 390 metric tons/yr.

- Based on the residential and commercial electricity usage noted above, and using the above methodology, the estimated indirect emissions from electricity usage for the average residence is 2.33 metric tons of CO_2e per year. Similarly, the indirect emissions from electricity consumption for commercial buildings is 0.521 kg of CO_2e per square foot per year.

Use the following table or the emissions calculator spreadsheet in the Digital Library to tabulate project emissions from various sources:

Estimated Annual Operational GHG Emissions

Source	***CO_2e (metric tons)***
Direct Emissions	
Point-source & fugitive emissions	
Large reduction in reflectivity	
Large reduction in sequestration	
Vehicle Miles Traveled	
Indirect Emissions	
Energy Use	
• *Natural Gas*	
• *Electricity*	
Total GHG Operational Emissions	

Although OPR recommends evaluation of water usage and construction activities, BAAQMD did not propose or adopt thresholds for emissions from these sources and this guidance document does not include these emission sources.

Step 2: Determine Significance

Given the global nature of climate change resulting from GHG emissions, GHG emission impacts are inherently cumulative in nature. The determination whether a project's GHG emissions impacts are significant depends on whether emissions would be a cumulatively considerable contribution to the significant cumulative impact.

In the absence of specific Santa Barbara County inventory data, planners should refer to the Bay Area Air Quality Management District (BAAQMD) adopted thresholds of significance for GHG emissions as a guideline in evaluating Santa Barbara County projects.[4] The following table summarizes these standards:

Interim Significance Determination Criteria	
GHG Emission Source Category	**Operational Emissions**
Other than Stationary Sources	1,100 MT CO_2e/yr OR 4.6 MT CO_2e/SP/yr (residents + employees)
Stationary Sources	10,000 MT CO_2e /yr
Plans	6.6 MT CO_2e/SP/yr (residents + employees)

As noted above, the BAAQMD does not suggest any guidelines for construction-related emissions.

If emissions fall below the stated thresholds, the project does not create the potential for significant impacts as a result of GHG emissions. If emissions exceed the stated thresholds, proceed to Step 3.

According to the BAAQMD, the 1,100 metric ton significance criteria is equivalent to approximately 60 single-family residences or average annual household GHG emissions of approximately 18.3 metric tons/household/year.[5] This is consistent with the EPA's estimate of average annual per capita GHG emissions of 16,008 lbs (7.26 metric tons) per person. Based on

[4] CEQA allows lead agencies, when adopting significance thresholds, to consider thresholds of significance previously adopted or recommended by other public agencies, where supported by substantial evidence. CEQA Guidelines Section 15064.7(c).
[5] BAAQMD Thresholds of Significance (May 2010), at 60.

this equivalency, for purposes of evaluation of GHG emissions from residential projects in Santa Barbara County during this interim period, emissions from residential developments of 10 or fewer residences are considered to be less than significant without further, more detailed justification or analysis. More detailed, factually specific analysis is only required for residential developments of above size.

Step 3: Apply Mitigation

If a project would generate emissions in excess of the BAAQMD levels, it should be considered to have a cumulatively considerable and therefore significant impact. Where a cumulative impact as a result of GHG emissions is significant, the CEQA Guidelines require consideration of feasible mitigation. Feasible mitigation measures should be applied that would, where possible, reduce GHG emissions below the level of significance.

Such mitigation may include:

- Measures in an existing County plan or program
- Implementation of project features and design
- Offsets
- Sequestering of greenhouse gases

CEQA Guidelines Section 15126.4(c).

The following standard mitigation measure may be appropriate for certain development projects. Plans and planning documents may also apply this mitigation measure by requiring it of projects constructed under the plan.

Mitigation Measure: GHG Reduction

The project will reduce operational green house gas emissions to less than significant levels through implementation of one of the following measures. The project will either:

A. Comply with the adopted Climate Action Plan, if it is approved and in place prior to permit approval, or

B. Purchase carbon offsets, or

C. Prior to permit issuance, develop a GHG reduction plan that reduces annual green house gas emissions from the project by a minimum of 1.7 MT CO_2e per person per

year for the operational life of the project. The plan will be implemented on site by the project owner and may include, but is not be limited to, the following components:

1. Alternative fuel vehicles
2. Energy conservation policies
3. Energy efficient equipment, appliances, heating and cooling
4. Energy efficient lighting
5. Green building and roofs
6. Water conservation and recycling
7. Renewable energy production
8. Trip reduction
9. Carbon sequestration

A further potential mitigation measure available to non-residential energy users is direct purchase of electrical energy from renewable energy service providers (ESP). SB 695, approved in October 2009, phases in such direct purchase. Under this law, non-residential customers may purchase electricity from an ESP up to an overall historical maximum load amount in each utility territory.

Although CEQA allows use of offsets, the County has no current program or policy with respect to their use. As with any mitigation, use of purchased offsets would be subject to monitoring and enforcement. An offset program will be included as part of the County's Climate Action Plan.

Step 4: Quantify Mitigation

To determine whether mitigation is adequate to reduce emissions to a less than significant level, the effectiveness of mitigation must be quantified and the reduction in emissions assessed against the applicable significance standard.

Depending on the mix of measures selected, emission reductions for specific reduction measures can be quantified using the Climate and Air Pollution Planning Assistant (CAPPA) tool developed by Local Governments for Sustainability (ICLEI). This tool can be found in the P&D Digital Library in the following location:

G:\GROUP\P&D\Digital Library\Protos & Templates\Planning Permit Processing\CEQA Documents\CEQA Guides

The tool allows the user to select an array of specific GHG reduction measures and then tabulates total reductions automatically based on the measures selected. The table of total reductions is shown on the last tab in the spreadsheet and follows the format below.

Mitigation Measure	*CO_2e*
Measure 1	
Measure 2	
Measure 3	
. . .	
Total GHG Emissions Reductions	

Step 5: Calculate Residual Impact

Subtract the total emissions reductions from the total GHG emissions. If the result is less than the applicable threshold, no significant residual impact exists.

If feasible mitigation measures are not adequate to reduce emissions to a less than significant level, the County can still approve a project, but must adopt a Statement of Overriding Considerations with preparation of an EIR that explains why additional mitigation is not feasible.

Attachments:

1. Support for Use of BAAQMD GHG Standards
2. Initial Study Proto
3. GHG CO_2e Conversion Table
4. CAPPA Tool

Emissions Reduction Worksheet (from ICLEI's CAPPA Tool)

Input fields shown in blue (use default CO2e reduction rates for selected measures):

Assumptions

Habitable Units	247
Floor Area (SF)	288,665
Acres	12.6
Persons/Household	

Annual CO_2e Reduction (metric tons/yr)	**Per SF**	**Per Device**	**Per Acre**	**Per kW**	**Per Daily Car Trip Avoided**	**Per Tree**
Energy Efficient Equipment, Appliances, Heating and Cooling						
ENERGY STAR Dishwasher Replacement		0.09				
ENERGY STAR Clothes Washer Replacement		0.07				
ENERGY STAR Water Heater Replacement		0.79				
Energy Efficient Room AC		0.04				
Fuel Switching, Electric to natural gas		0.32				
Geothermal heat pump		0.72				
Energy Efficient Lighting						
Efficient Lighting Retrofit	0.001					
Water Conservation and Recycling						
Faucet Replacement		0.01				
Showerhead Replacement		0.13				
Toilet Replacement		0.01				
Irrigation Control			0.27			
Low-maintenance Landscaping			0.60			
Green Roofs	0.001					
Renewable Energy						
Solar PV Energy				0.66		
Wind Energy				0.69		
Trip Reduction						
Bike Integration/Facilities					0.81	
Carbon Sequestration						
Shade Trees/Urban Forest (5 trees)						0.25
Total Emissions Reductions per Unit	**0.002**		**0.87**			
Total Emissions Reduction	**487.84**		**12.60**			

Meritage Senior Living Project - Alternative 7

Santa Barbara-North of Santa Ynez County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Low Rise	330	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.1	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	37		

1.3 User Entered Comments

Project Characteristics -

Land Use - Values based on Project Description and description for Alternative 7

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					
2013	12.02	97.68	54.71	0.10	18.33	4.59	22.27	9.94	4.59	13.88	0.00	11,051.55	0.00	1.07	0.00	11,074.13
2014	516.59	37.56	47.11	0.07	3.74	2.74	5.94	0.15	2.74	2.75	0.00	6,890.36	0.00	0.62	0.00	6,903.30
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2013	12.02	97.68	54.71	0.10	8.40	4.59	12.34	4.48	4.59	8.42	0.00	11,051.55	0.00	1.07	0.00	11,074.13
2014	516.59	37.56	47.11	0.07	3.74	2.74	5.94	0.15	2.74	2.75	0.00	6,890.36	0.00	0.62	0.00	6,903.30
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	10.81	0.33	28.23	0.00		0.00	0.15		0.00	0.15	0.00	49.62		0.05	0.00	50.73
Energy	0.15	1.30	0.55	0.01		0.00	0.10		0.00	0.10		1,657.24		0.03	0.03	1,667.33
Mobile	14.27	26.72	143.57	0.17	21.56	0.85	22.41	0.73	0.85	1.57		16,472.62		0.88		16,491.20
Total	**25.23**	**28.35**	**172.35**	**0.18**	**21.56**	**0.85**	**22.66**	**0.73**	**0.85**	**1.82**	**0.00**	**18,179.48**		**0.96**	**0.03**	**18,209.26**

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	10.81	0.33	28.23	0.00		0.00	0.15		0.00	0.15	0.00	49.62		0.05	0.00	50.73
Energy	0.15	1.30	0.55	0.01		0.00	0.10		0.00	0.10		1,657.24		0.03	0.03	1,667.33
Mobile	14.27	26.72	143.57	0.17	21.56	0.85	22.41	0.73	0.85	1.57		16,472.62		0.88		16,491.20
Total	**25.23**	**28.35**	**172.35**	**0.18**	**21.56**	**0.85**	**22.66**	**0.73**	**0.85**	**1.82**	**0.00**	**18,179.48**		**0.96**	**0.03**	**18,209.26**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2013

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					0.32	0.00	0.32	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50		7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.32**	**3.50**	**3.82**	**0.00**	**3.50**	**3.50**		**7,510.81**		**0.80**		**7,527.57**

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	0.09	0.73	0.66	0.00	0.68	0.02	0.70	0.00	0.02	0.03		112.24		0.00		112.33
Vendor	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
Worker	0.12	0.16	1.40	0.00	0.22	0.01	0.23	0.01	0.01	0.01		146.17		0.01		146.42
Total	**0.21**	**0.89**	**2.06**	**0.00**	**0.90**	**0.03**	**0.93**	**0.01**	**0.03**	**0.04**		**258.41**		**0.01**		**258.75**

3.2 Demolition - 2013

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					0.15	0.00	0.15	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50	0.00	7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.15**	**3.50**	**3.65**	**0.00**	**3.50**	**3.50**	**0.00**	**7,510.81**		**0.80**		**7,527.57**

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	0.09	0.73	0.66	0.00	0.68	0.02	0.70	0.00	0.02	0.03		112.24		0.00		112.33
Vendor	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
Worker	0.12	0.16	1.40	0.00	0.22	0.01	0.23	0.01	0.01	0.01		146.17		0.01		146.42
Total	**0.21**	**0.89**	**2.06**	**0.00**	**0.90**	**0.03**	**0.93**	**0.01**	**0.03**	**0.04**		**258.41**		**0.01**		**258.75**

3.3 Site Preparation - 2013

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					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93		7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**18.07**	**3.93**	**22.00**	**9.93**	**3.93**	**13.86**		**7,997.69**		**0.89**		**8,016.38**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.15	0.19	1.68	0.00	0.27	0.01	0.27	0.01	0.01	0.02		175.40		0.01		175.70
Total	**0.15**	**0.19**	**1.68**	**0.00**	**0.27**	**0.01**	**0.27**	**0.01**	**0.01**	**0.02**		**175.40**		**0.01**		**175.70**

3.3 Site Preparation - 2013

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					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93	0.00	7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**8.13**	**3.93**	**12.06**	**4.47**	**3.93**	**8.40**	**0.00**	**7,997.69**		**0.89**		**8,016.38**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.15	0.19	1.68	0.00	0.27	0.01	0.27	0.01	0.01	0.02		175.40		0.01		175.70
Total	**0.15**	**0.19**	**1.68**	**0.00**	**0.27**	**0.01**	**0.27**	**0.01**	**0.01**	**0.02**		**175.40**		**0.01**		**175.70**

3.4 Grading - 2013

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					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59		10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**8.67**	**4.59**	**13.26**	**3.31**	**4.59**	**7.90**		**10,856.66**		**1.06**		**10,878.90**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.17	0.21	1.87	0.00	0.30	0.01	0.30	0.01	0.01	0.02		194.89		0.02		195.22
Total	**0.17**	**0.21**	**1.87**	**0.00**	**0.30**	**0.01**	**0.30**	**0.01**	**0.01**	**0.02**		**194.89**		**0.02**		**195.22**

3.4 Grading - 2013

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					3.90	0.00	3.90	1.49	0.00	1.49						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59	0.00	10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**3.90**	**4.59**	**8.49**	**1.49**	**4.59**	**6.08**	**0.00**	**10,856.66**		**1.06**		**10,878.90**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.17	0.21	1.87	0.00	0.30	0.01	0.30	0.01	0.01	0.02		194.89		0.02		195.22
Total	**0.17**	**0.21**	**1.87**	**0.00**	**0.30**	**0.01**	**0.30**	**0.01**	**0.01**	**0.02**		**194.89**		**0.02**		**195.22**

3.5 Building Construction - 2013

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	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28		4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**		**4,040.62**		**0.46**		**4,050.31**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.45	3.48	4.11	0.01	0.20	0.10	0.30	0.02	0.10	0.11		573.42		0.02		573.91
Worker	1.97	2.54	22.20	0.02	3.54	0.09	3.63	0.13	0.09	0.22		2,319.22		0.19		2,323.16
Total	**2.42**	**6.02**	**26.31**	**0.03**	**3.74**	**0.19**	**3.93**	**0.15**	**0.19**	**0.33**		**2,892.64**		**0.21**		**2,897.07**

3.5 Building Construction - 2013

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	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28	0.00	4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**	**0.00**	**4,040.62**		**0.46**		**4,050.31**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.45	3.48	4.11	0.01	0.20	0.10	0.30	0.02	0.10	0.11		573.42		0.02		573.91
Worker	1.97	2.54	22.20	0.02	3.54	0.09	3.63	0.13	0.09	0.22		2,319.22		0.19		2,323.16
Total	**2.42**	**6.02**	**26.31**	**0.03**	**3.74**	**0.19**	**3.93**	**0.15**	**0.19**	**0.33**		**2,892.64**		**0.21**		**2,897.07**

3.5 Building Construction - 2014

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	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02		4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**		**4,040.61**		**0.42**		**4,049.51**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.42	3.19	3.74	0.01	0.20	0.09	0.29	0.02	0.09	0.10		577.91		0.02		578.35
Worker	1.81	2.31	20.17	0.02	3.54	0.09	3.63	0.13	0.09	0.22		2,271.84		0.17		2,275.44
Total	**2.23**	**5.50**	**23.91**	**0.03**	**3.74**	**0.18**	**3.92**	**0.15**	**0.18**	**0.32**		**2,849.75**		**0.19**		**2,853.79**

3.5 Building Construction - 2014

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	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02	0.00	4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**	**0.00**	**4,040.61**		**0.42**		**4,049.51**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.42	3.19	3.74	0.01	0.20	0.09	0.29	0.02	0.09	0.10		577.91		0.02		578.35
Worker	1.81	2.31	20.17	0.02	3.54	0.09	3.63	0.13	0.09	0.22		2,271.84		0.17		2,275.44
Total	**2.23**	**5.50**	**23.91**	**0.03**	**3.74**	**0.18**	**3.92**	**0.15**	**0.18**	**0.32**		**2,849.75**		**0.19**		**2,853.79**

3.6 Paving - 2014

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	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74		2,917.65		0.47		2,927.48
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.20**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**		**2,917.65**		**0.47**		**2,927.48**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.11	0.15	1.27	0.00	0.22	0.01	0.23	0.01	0.01	0.01		143.18		0.01		143.41
Total	**0.11**	**0.15**	**1.27**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**143.18**		**0.01**		**143.41**

3.6 Paving - 2014

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	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74	0.00	2,917.65		0.47		2,927.48
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.20**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**	**0.00**	**2,917.65**		**0.47**		**2,927.48**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.11	0.15	1.27	0.00	0.22	0.01	0.23	0.01	0.01	0.01		143.18		0.01		143.41
Total	**0.11**	**0.15**	**1.27**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**143.18**		**0.01**		**143.41**

3.7 Architectural Coating - 2014

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	515.78					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24		281.19		0.04		282.03
Total	**516.23**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**		**281.19**		**0.04**		**282.03**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.37	0.47	4.07	0.00	0.71	0.02	0.73	0.03	0.02	0.04		458.19		0.03		458.91
Total	**0.37**	**0.47**	**4.07**	**0.00**	**0.71**	**0.02**	**0.73**	**0.03**	**0.02**	**0.04**		**458.19**		**0.03**		**458.91**

3.7 Architectural Coating - 2014

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	515.78					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24	0.00	281.19		0.04		282.03
Total	**516.23**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**	**0.00**	**281.19**		**0.04**		**282.03**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.37	0.47	4.07	0.00	0.71	0.02	0.73	0.03	0.02	0.04		458.19		0.03		458.91
Total	**0.37**	**0.47**	**4.07**	**0.00**	**0.71**	**0.02**	**0.73**	**0.03**	**0.02**	**0.04**		**458.19**		**0.03**		**458.91**

4.0 Mobile Detail

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	14.27	26.72	143.57	0.17	21.56	0.85	22.41	0.73	0.85	1.57		16,472.62		0.88		16,491.20
Unmitigated	14.27	26.72	143.57	0.17	21.56	0.85	22.41	0.73	0.85	1.57		16,472.62		0.88		16,491.20
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,174.70	2,362.80	2003.10	6,006,787	6,006,787
Total	2,174.70	2,362.80	2,003.10	6,006,787	6,006,787

4.3 Trip Type Information

	Miles			Trip %		
Land Use	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
Apartments Low Rise	12.30	5.90	6.40	37.50	15.00	47.50

5.0 Energy Detail

5.1 Mitigation Measures Energy

	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	0.15	1.30	0.55	0.01		0.00	0.10		0.00	0.10		1,657.24		0.03	0.03	1,667.33
NaturalGas Unmitigated	0.15	1.30	0.55	0.01		0.00	0.10		0.00	0.10		1,657.24		0.03	0.03	1,667.33
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	14086.6	0.15	1.30	0.55	0.01		0.00	0.10		0.00	0.10		1,657.24		0.03	0.03	1,667.33
Total		**0.15**	**1.30**	**0.55**	**0.01**		**0.00**	**0.10**		**0.00**	**0.10**		**1,657.24**		**0.03**	**0.03**	**1,667.33**

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	lb/day										lb/day					
Apartments Low Rise	14.0866	0.15	1.30	0.55	0.01		0.00	0.10		0.00	0.10		1,657.24		0.03	0.03	1,667.33
Total		**0.15**	**1.30**	**0.55**	**0.01**		**0.00**	**0.10**		**0.00**	**0.10**		**1,657.24**		**0.03**	**0.03**	**1,667.33**

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	10.81	0.33	28.23	0.00		0.00	0.15		0.00	0.15	0.00	49.62		0.05	0.00	50.73
Unmitigated	10.81	0.33	28.23	0.00		0.00	0.15		0.00	0.15	0.00	49.62		0.05	0.00	50.73
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	2.83					0.00	0.00		0.00	0.00						0.00
Consumer Products	7.06					0.00	0.00		0.00	0.00						0.00
Hearth	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
Landscaping	0.92	0.33	28.23	0.00		0.00	0.15		0.00	0.15		49.62		0.05		50.73
Total	**10.81**	**0.33**	**28.23**	**0.00**		**0.00**	**0.15**		**0.00**	**0.15**	**0.00**	**49.62**		**0.05**	**0.00**	**50.73**

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	2.83					0.00	0.00		0.00	0.00						0.00
Consumer Products	7.06					0.00	0.00		0.00	0.00						0.00
Hearth	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
Landscaping	0.92	0.33	28.23	0.00		0.00	0.15		0.00	0.15		49.62		0.05		50.73
Total	**10.81**	**0.33**	**28.23**	**0.00**		**0.00**	**0.15**		**0.00**	**0.15**	**0.00**	**49.62**		**0.05**	**0.00**	**50.73**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Meritage Senior Living Project - Alternative 7

Santa Barbara-North of Santa Ynez County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Low Rise	330	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.1	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	37		

1.3 User Entered Comments

Project Characteristics -

Land Use - Values based on Project Description and description for Alternative 7

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					
2013	1.09	6.65	6.58	0.01	0.57	0.37	0.94	0.12	0.37	0.49	0.00	879.36	879.36	0.09	0.00	881.19
2014	5.57	2.23	2.68	0.00	0.17	0.14	0.31	0.01	0.14	0.15	0.00	343.21	343.21	0.03	0.00	343.91
Total	**6.66**	**8.88**	**9.26**	**0.01**	**0.74**	**0.51**	**1.25**	**0.13**	**0.51**	**0.64**	**0.00**	**1,222.57**	**1,222.57**	**0.12**	**0.00**	**1,225.10**

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					
2013	1.09	6.65	6.58	0.01	0.44	0.37	0.81	0.06	0.37	0.43	0.00	879.36	879.36	0.09	0.00	881.19
2014	5.57	2.23	2.68	0.00	0.17	0.14	0.31	0.01	0.14	0.15	0.00	343.21	343.21	0.03	0.00	343.91
Total	**6.66**	**8.88**	**9.26**	**0.01**	**0.61**	**0.51**	**1.12**	**0.07**	**0.51**	**0.58**	**0.00**	**1,222.57**	**1,222.57**	**0.12**	**0.00**	**1,225.10**

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	1.89	0.03	2.54	0.00		0.00	0.01		0.00	0.01	0.00	4.05	4.05	0.00	0.00	4.14
Energy	0.03	0.24	0.10	0.00		0.00	0.02		0.00	0.02	0.00	623.18	623.18	0.02	0.01	627.04
Mobile	2.48	4.54	25.16	0.03	3.19	0.14	3.33	0.12	0.14	0.26	0.00	2,437.48	2,437.48	0.14	0.00	2,440.35
Waste						0.00	0.00		0.00	0.00	30.81	0.00	30.81	1.82	0.00	69.06
Water						0.00	0.00		0.00	0.00	0.00	55.25	55.25	0.03	0.02	61.15
Total	**4.40**	**4.81**	**27.80**	**0.03**	**3.19**	**0.14**	**3.36**	**0.12**	**0.14**	**0.29**	**30.81**	**3,119.96**	**3,150.77**	**2.01**	**0.03**	**3,201.74**

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	1.89	0.03	2.54	0.00		0.00	0.01		0.00	0.01	0.00	4.05	4.05	0.00	0.00	4.14
Energy	0.03	0.24	0.10	0.00		0.00	0.02		0.00	0.02	0.00	623.18	623.18	0.02	0.01	627.04
Mobile	2.48	4.54	25.16	0.03	3.19	0.14	3.33	0.12	0.14	0.26	0.00	2,437.48	2,437.48	0.14	0.00	2,440.35
Waste						0.00	0.00		0.00	0.00	30.81	0.00	30.81	1.82	0.00	69.06
Water						0.00	0.00		0.00	0.00	0.00	55.25	55.25	0.03	0.02	61.15
Total	**4.40**	**4.81**	**27.80**	**0.03**	**3.19**	**0.14**	**3.36**	**0.12**	**0.14**	**0.29**	**30.81**	**3,119.96**	**3,150.77**	**2.01**	**0.03**	**3,201.74**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2013

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					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.71	0.43	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.27
Total	**0.09**	**0.71**	**0.43**	**0.00**	**0.00**	**0.04**	**0.04**	**0.00**	**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.27**

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	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	1.02	1.02	0.00	0.00	1.02
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	1.28	0.00	0.00	1.28
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.30**	**2.30**	**0.00**	**0.00**	**2.30**

3.2 Demolition - 2013

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					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.71	0.43	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.27
Total	**0.09**	**0.71**	**0.43**	**0.00**	**0.00**	**0.04**	**0.04**	**0.00**	**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.27**

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	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	1.02	1.02	0.00	0.00	1.02
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	1.28	0.00	0.00	1.28
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.30**	**2.30**	**0.00**	**0.00**	**2.30**

3.3 Site Preparation - 2013

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					0.09	0.00	0.09	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.40	0.23	0.00		0.02	0.02		0.02	0.02	0.00	36.27	36.27	0.00	0.00	36.35
Total	**0.05**	**0.40**	**0.23**	**0.00**	**0.09**	**0.02**	**0.11**	**0.05**	**0.02**	**0.07**	**0.00**	**36.27**	**36.27**	**0.00**	**0.00**	**36.35**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.77	0.00	0.00	0.77
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**	**0.77**	**0.00**	**0.00**	**0.77**

3.3 Site Preparation - 2013

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					0.04	0.00	0.04	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.40	0.23	0.00		0.02	0.02		0.02	0.02	0.00	36.27	36.27	0.00	0.00	36.35
Total	**0.05**	**0.40**	**0.23**	**0.00**	**0.04**	**0.02**	**0.06**	**0.02**	**0.02**	**0.04**	**0.00**	**36.27**	**36.27**	**0.00**	**0.00**	**36.35**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.77	0.00	0.00	0.77
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**	**0.77**	**0.00**	**0.00**	**0.77**

3.4 Grading - 2013

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					0.13	0.00	0.13	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.18	1.46	0.79	0.00		0.07	0.07		0.07	0.07	0.00	147.69	147.69	0.01	0.00	148.00
Total	**0.18**	**1.46**	**0.79**	**0.00**	**0.13**	**0.07**	**0.20**	**0.05**	**0.07**	**0.12**	**0.00**	**147.69**	**147.69**	**0.01**	**0.00**	**148.00**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56	2.56	0.00	0.00	2.57
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.56**	**2.56**	**0.00**	**0.00**	**2.57**

3.4 Grading - 2013

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					0.06	0.00	0.06	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.18	1.46	0.79	0.00		0.07	0.07		0.07	0.07	0.00	147.69	147.69	0.01	0.00	148.00
Total	**0.18**	**1.46**	**0.79**	**0.00**	**0.06**	**0.07**	**0.13**	**0.02**	**0.07**	**0.09**	**0.00**	**147.69**	**147.69**	**0.01**	**0.00**	**148.00**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56	2.56	0.00	0.00	2.57
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.56**	**2.56**	**0.00**	**0.00**	**2.57**

3.5 Building Construction - 2013

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	0.52	3.47	2.34	0.00		0.23	0.23		0.23	0.23	0.00	366.46	366.46	0.04	0.00	367.34
Total	**0.52**	**3.47**	**2.34**	**0.00**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**366.46**	**366.46**	**0.04**	**0.00**	**367.34**

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	0.00	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
Vendor	0.05	0.34	0.47	0.00	0.02	0.01	0.03	0.00	0.01	0.01	0.00	51.85	51.85	0.00	0.00	51.89
Worker	0.21	0.26	2.26	0.00	0.31	0.01	0.32	0.01	0.01	0.02	0.00	203.34	203.34	0.02	0.00	203.70
Total	**0.26**	**0.60**	**2.73**	**0.00**	**0.33**	**0.02**	**0.35**	**0.01**	**0.02**	**0.03**	**0.00**	**255.19**	**255.19**	**0.02**	**0.00**	**255.59**

3.5 Building Construction - 2013

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	0.52	3.47	2.34	0.00		0.23	0.23		0.23	0.23	0.00	366.46	366.46	0.04	0.00	367.34
Total	**0.52**	**3.47**	**2.34**	**0.00**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**366.46**	**366.46**	**0.04**	**0.00**	**367.34**

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	0.00	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
Vendor	0.05	0.34	0.47	0.00	0.02	0.01	0.03	0.00	0.01	0.01	0.00	51.85	51.85	0.00	0.00	51.89
Worker	0.21	0.26	2.26	0.00	0.31	0.01	0.32	0.01	0.01	0.02	0.00	203.34	203.34	0.02	0.00	203.70
Total	**0.26**	**0.60**	**2.73**	**0.00**	**0.33**	**0.02**	**0.35**	**0.01**	**0.02**	**0.03**	**0.00**	**255.19**	**255.19**	**0.02**	**0.00**	**255.59**

3.5 Building Construction - 2014

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	0.24	1.60	1.16	0.00		0.10	0.10		0.10	0.10	0.00	183.23	183.23	0.02	0.00	183.63
Total	**0.24**	**1.60**	**1.16**	**0.00**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**183.23**	**183.23**	**0.02**	**0.00**	**183.63**

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	0.00	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
Vendor	0.02	0.16	0.22	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	26.12	26.12	0.00	0.00	26.14
Worker	0.09	0.12	1.02	0.00	0.16	0.00	0.16	0.01	0.00	0.01	0.00	99.58	99.58	0.01	0.00	99.74
Total	**0.11**	**0.28**	**1.24**	**0.00**	**0.17**	**0.00**	**0.17**	**0.01**	**0.00**	**0.02**	**0.00**	**125.70**	**125.70**	**0.01**	**0.00**	**125.88**

3.5 Building Construction - 2014

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	0.24	1.60	1.16	0.00		0.10	0.10		0.10	0.10	0.00	183.23	183.23	0.02	0.00	183.63
Total	**0.24**	**1.60**	**1.16**	**0.00**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**183.23**	**183.23**	**0.02**	**0.00**	**183.63**

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	0.00	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
Vendor	0.02	0.16	0.22	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	26.12	26.12	0.00	0.00	26.14
Worker	0.09	0.12	1.02	0.00	0.16	0.00	0.16	0.01	0.00	0.01	0.00	99.58	99.58	0.01	0.00	99.74
Total	**0.11**	**0.28**	**1.24**	**0.00**	**0.17**	**0.00**	**0.17**	**0.01**	**0.00**	**0.02**	**0.00**	**125.70**	**125.70**	**0.01**	**0.00**	**125.88**

3.6 Paving - 2014

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	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26	1.26	0.00	0.00	1.26
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.26**	**1.26**	**0.00**	**0.00**	**1.26**

3.6 Paving - 2014

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	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26	1.26	0.00	0.00	1.26
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.26**	**1.26**	**0.00**	**0.00**	**1.26**

3.7 Architectural Coating - 2014

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	5.16					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**5.16**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.02	4.02	0.00	0.00	4.02
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.02**	**4.02**	**0.00**	**0.00**	**4.02**

3.7 Architectural Coating - 2014

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	5.16					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**5.16**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.02	4.02	0.00	0.00	4.02
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.02**	**4.02**	**0.00**	**0.00**	**4.02**

4.0 Mobile Detail

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	2.48	4.54	25.16	0.03	3.19	0.14	3.33	0.12	0.14	0.26	0.00	2,437.48	2,437.48	0.14	0.00	2,440.35
Unmitigated	2.48	4.54	25.16	0.03	3.19	0.14	3.33	0.12	0.14	0.26	0.00	2,437.48	2,437.48	0.14	0.00	2,440.35
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,174.70	2,362.80	2003.10	6,006,787	6,006,787
Total	2,174.70	2,362.80	2,003.10	6,006,787	6,006,787

4.3 Trip Type Information

	Miles			Trip %		
Land Use	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
Apartments Low Rise	12.30	5.90	6.40	37.50	15.00	47.50

5.0 Energy Detail

5.1 Mitigation Measures Energy

	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						0.00	0.00		0.00	0.00	0.00	348.81	348.81	0.02	0.01	350.99
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	348.81	348.81	0.02	0.01	350.99
NaturalGas Mitigated	0.03	0.24	0.10	0.00		0.00	0.02		0.00	0.02	0.00	274.38	274.38	0.01	0.01	276.04
NaturalGas Unmitigated	0.03	0.24	0.10	0.00		0.00	0.02		0.00	0.02	0.00	274.38	274.38	0.01	0.01	276.04
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	tons/yr										MT/yr					
Apartments Low Rise	5.14159e+006	0.03	0.24	0.10	0.00		0.00	0.02		0.00	0.02	0.00	274.38	274.38	0.01	0.01	276.04
Total		**0.03**	**0.24**	**0.10**	**0.00**		**0.00**	**0.02**		**0.00**	**0.02**	**0.00**	**274.38**	**274.38**	**0.01**	**0.01**	**276.04**

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	tons/yr										MT/yr					
Apartments Low Rise	5.14159e+006	0.03	0.24	0.10	0.00		0.00	0.02		0.00	0.02	0.00	274.38	274.38	0.01	0.01	276.04
Total		**0.03**	**0.24**	**0.10**	**0.00**		**0.00**	**0.02**		**0.00**	**0.02**	**0.00**	**274.38**	**274.38**	**0.01**	**0.01**	**276.04**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	1.19902e+006					348.81	0.02	0.01	350.99
Total						**348.81**	**0.02**	**0.01**	**350.99**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	1.19902e+006					348.81	0.02	0.01	350.99
Total						**348.81**	**0.02**	**0.01**	**350.99**

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	1.89	0.03	2.54	0.00		0.00	0.01		0.00	0.01	0.00	4.05	4.05	0.00	0.00	4.14
Unmitigated	1.89	0.03	2.54	0.00		0.00	0.01		0.00	0.01	0.00	4.05	4.05	0.00	0.00	4.14
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	0.52					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.29					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	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
Landscaping	0.08	0.03	2.54	0.00		0.00	0.01		0.00	0.01	0.00	4.05	4.05	0.00	0.00	4.14
Total	**1.89**	**0.03**	**2.54**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**4.05**	**4.05**	**0.00**	**0.00**	**4.14**

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	0.52					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.29					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	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
Landscaping	0.08	0.03	2.54	0.00		0.00	0.01		0.00	0.01	0.00	4.05	4.05	0.00	0.00	4.14
Total	**1.89**	**0.03**	**2.54**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**4.05**	**4.05**	**0.00**	**0.00**	**4.14**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					55.25	0.03	0.02	61.15
Unmitigated					55.25	0.03	0.02	61.15
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	21.5008 / 13.5549					55.25	0.03	0.02	61.15
Total						**55.25**	**0.03**	**0.02**	**61.15**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	21.5008 / 13.5549					55.25	0.03	0.02	61.15
Total						**55.25**	**0.03**	**0.02**	**61.15**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					30.81	1.82	0.00	69.06
Unmitigated					30.81	1.82	0.00	69.06
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	151.8					30.81	1.82	0.00	69.06
Total						**30.81**	**1.82**	**0.00**	**69.06**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	151.8					30.81	1.82	0.00	69.06
Total						**30.81**	**1.82**	**0.00**	**69.06**

9.0 Vegetation

Greenhouse Gas Emission Worksheet

N20 Mobile Emissions Meritage Senior Living Project - Alternative 7

From URBEMIS 2007 Vehicle Fleet Mix Output:

Annual VMT: 6,006,787

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)**	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)**
Light Auto	46.0%	0.04	0.0184	0.04	0.0184
Light Truck < 3750 lbs	10.3%	0.05	0.00515	0.06	0.00618
Light Truck 3751-5750 lbs	23.2%	0.05	0.0116	0.06	0.01392
Med Truck 5751-8500 lbs	12.2%	0.12	0.01464	0.2	0.0244
Lite-Heavy Truck 8501-10,000 lbs	2.1%	0.12	0.00252	0.2	0.0042
Lite-Heavy Truck 10,001-14,000 lbs	0.5%	0.09	0.00045	0.125	0.000625
Med-Heavy Truck 14,001-33,000 lbs	1.0%	0.06	0.0006	0.05	0.0005
Heavy-Heavy Truck 33,001-60,000 lbs	2.9%	0.06	0.00174	0.05	0.00145
Other Bus	0.1%	0.06	0.00006	0.05	0.00005
Urban Bus	0.1%	0.06	0.00006	0.05	0.00005
Motorcycle	1.1%	0.09	0.00099	0.01	0.00011
School Bus	0.1%	0.06	0.00006	0.05	0.00005
Motor Home	0.4%	0.09	0.00036	0.125	0.0005
Total	**100.0%**		**0.05663**		**0.070435**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N20 Emissions:	0.4231	metric tons N2O	**131.16**	metric tons CO2e
		Project Total:	***131.16***	***metric tons CO2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.
** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
*** From URBEMIS 2007 results for mobile sources

Meritage Senior Living Project - Alternative 8

Santa Barbara-North of Santa Ynez County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Regional Shopping Center	290	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.1	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	37		

1.3 User Entered Comments

Project Characteristics -

Land Use - Values based on Project Description and description for Alternative 8

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					
2013	0.99	6.62	5.38	0.01	0.38	0.37	0.75	0.11	0.37	0.48	0.00	774.73	774.73	0.08	0.00	776.36
2014	3.72	2.22	2.11	0.00	0.08	0.14	0.22	0.00	0.14	0.14	0.00	289.82	289.82	0.03	0.00	290.42
Total	**4.71**	**8.84**	**7.49**	**0.01**	**0.46**	**0.51**	**0.97**	**0.11**	**0.51**	**0.62**	**0.00**	**1,064.55**	**1,064.55**	**0.11**	**0.00**	**1,066.78**

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					
2013	0.99	6.62	5.38	0.01	0.26	0.37	0.63	0.05	0.37	0.42	0.00	774.73	774.73	0.08	0.00	776.36
2014	3.72	2.22	2.11	0.00	0.08	0.14	0.22	0.00	0.14	0.14	0.00	289.82	289.82	0.03	0.00	290.42
Total	**4.71**	**8.84**	**7.49**	**0.01**	**0.34**	**0.51**	**0.85**	**0.05**	**0.51**	**0.56**	**0.00**	**1,064.55**	**1,064.55**	**0.11**	**0.00**	**1,066.78**

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	1.47	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
Energy	0.00	0.04	0.03	0.00		0.00	0.00		0.00	0.00	0.00	1,024.75	1,024.75	0.05	0.02	1,031.17
Mobile	8.47	12.96	80.13	0.07	7.73	0.37	8.10	0.30	0.37	0.66	0.00	6,106.49	6,106.49	0.40	0.00	6,114.92
Waste						0.00	0.00		0.00	0.00	61.81	0.00	61.81	3.65	0.00	138.52
Water						0.00	0.00		0.00	0.00	0.00	54.82	54.82	0.03	0.02	60.71
Total	**9.94**	**13.00**	**80.16**	**0.07**	**7.73**	**0.37**	**8.10**	**0.30**	**0.37**	**0.66**	**61.81**	**7,186.06**	**7,247.87**	**4.13**	**0.04**	**7,345.32**

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	1.47	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
Energy	0.00	0.04	0.03	0.00		0.00	0.00		0.00	0.00	0.00	1,024.75	1,024.75	0.05	0.02	1,031.17
Mobile	8.47	12.96	80.13	0.07	7.73	0.37	8.10	0.30	0.37	0.66	0.00	6,106.49	6,106.49	0.40	0.00	6,114.92
Waste						0.00	0.00		0.00	0.00	61.81	0.00	61.81	3.65	0.00	138.52
Water						0.00	0.00		0.00	0.00	0.00	54.82	54.82	0.03	0.02	60.71
Total	**9.94**	**13.00**	**80.16**	**0.07**	**7.73**	**0.37**	**8.10**	**0.30**	**0.37**	**0.66**	**61.81**	**7,186.06**	**7,247.87**	**4.13**	**0.04**	**7,345.32**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2013

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					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.71	0.43	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.27
Total	**0.09**	**0.71**	**0.43**	**0.00**	**0.00**	**0.04**	**0.04**	**0.00**	**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.27**

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	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	1.02	1.02	0.00	0.00	1.02
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	1.28	0.00	0.00	1.28
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.30**	**2.30**	**0.00**	**0.00**	**2.30**

3.2 Demolition - 2013

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					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.71	0.43	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.27
Total	**0.09**	**0.71**	**0.43**	**0.00**	**0.00**	**0.04**	**0.04**	**0.00**	**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.27**

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	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	1.02	1.02	0.00	0.00	1.02
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	1.28	0.00	0.00	1.28
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.30**	**2.30**	**0.00**	**0.00**	**2.30**

3.3 Site Preparation - 2013

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					0.09	0.00	0.09	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.40	0.23	0.00		0.02	0.02		0.02	0.02	0.00	36.27	36.27	0.00	0.00	36.35
Total	**0.05**	**0.40**	**0.23**	**0.00**	**0.09**	**0.02**	**0.11**	**0.05**	**0.02**	**0.07**	**0.00**	**36.27**	**36.27**	**0.00**	**0.00**	**36.35**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.77	0.00	0.00	0.77
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**	**0.77**	**0.00**	**0.00**	**0.77**

3.3 Site Preparation - 2013

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					0.04	0.00	0.04	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.40	0.23	0.00		0.02	0.02		0.02	0.02	0.00	36.27	36.27	0.00	0.00	36.35
Total	**0.05**	**0.40**	**0.23**	**0.00**	**0.04**	**0.02**	**0.06**	**0.02**	**0.02**	**0.04**	**0.00**	**36.27**	**36.27**	**0.00**	**0.00**	**36.35**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.77	0.00	0.00	0.77
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**	**0.77**	**0.00**	**0.00**	**0.77**

3.4 Grading - 2013

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					0.13	0.00	0.13	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.18	1.46	0.79	0.00		0.07	0.07		0.07	0.07	0.00	147.69	147.69	0.01	0.00	148.00
Total	**0.18**	**1.46**	**0.79**	**0.00**	**0.13**	**0.07**	**0.20**	**0.05**	**0.07**	**0.12**	**0.00**	**147.69**	**147.69**	**0.01**	**0.00**	**148.00**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56	2.56	0.00	0.00	2.57
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.56**	**2.56**	**0.00**	**0.00**	**2.57**

3.4 Grading - 2013

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					0.06	0.00	0.06	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.18	1.46	0.79	0.00		0.07	0.07		0.07	0.07	0.00	147.69	147.69	0.01	0.00	148.00
Total	**0.18**	**1.46**	**0.79**	**0.00**	**0.06**	**0.07**	**0.13**	**0.02**	**0.07**	**0.09**	**0.00**	**147.69**	**147.69**	**0.01**	**0.00**	**148.00**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56	2.56	0.00	0.00	2.57
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.56**	**2.56**	**0.00**	**0.00**	**2.57**

3.5 Building Construction - 2013

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	0.52	3.47	2.34	0.00		0.23	0.23		0.23	0.23	0.00	366.46	366.46	0.04	0.00	367.34
Total	**0.52**	**3.47**	**2.34**	**0.00**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**366.46**	**366.46**	**0.04**	**0.00**	**367.34**

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	0.00	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
Vendor	0.07	0.47	0.65	0.00	0.02	0.01	0.04	0.00	0.01	0.02	0.00	71.10	71.10	0.00	0.00	71.17
Worker	0.08	0.10	0.88	0.00	0.12	0.00	0.13	0.01	0.00	0.01	0.00	79.46	79.46	0.01	0.00	79.60
Total	**0.15**	**0.57**	**1.53**	**0.00**	**0.14**	**0.01**	**0.17**	**0.01**	**0.01**	**0.03**	**0.00**	**150.56**	**150.56**	**0.01**	**0.00**	**150.77**

3.5 Building Construction - 2013

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	0.52	3.47	2.34	0.00		0.23	0.23		0.23	0.23	0.00	366.46	366.46	0.04	0.00	367.34
Total	**0.52**	**3.47**	**2.34**	**0.00**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**366.46**	**366.46**	**0.04**	**0.00**	**367.34**

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	0.00	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
Vendor	0.07	0.47	0.65	0.00	0.02	0.01	0.04	0.00	0.01	0.02	0.00	71.10	71.10	0.00	0.00	71.17
Worker	0.08	0.10	0.88	0.00	0.12	0.00	0.13	0.01	0.00	0.01	0.00	79.46	79.46	0.01	0.00	79.60
Total	**0.15**	**0.57**	**1.53**	**0.00**	**0.14**	**0.01**	**0.17**	**0.01**	**0.01**	**0.03**	**0.00**	**150.56**	**150.56**	**0.01**	**0.00**	**150.77**

3.5 Building Construction - 2014

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	0.24	1.60	1.16	0.00		0.10	0.10		0.10	0.10	0.00	183.23	183.23	0.02	0.00	183.63
Total	**0.24**	**1.60**	**1.16**	**0.00**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**183.23**	**183.23**	**0.02**	**0.00**	**183.63**

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	0.00	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
Vendor	0.03	0.22	0.30	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	35.82	35.82	0.00	0.00	35.85
Worker	0.04	0.05	0.40	0.00	0.06	0.00	0.06	0.00	0.00	0.00	0.00	38.91	38.91	0.00	0.00	38.97
Total	**0.07**	**0.27**	**0.70**	**0.00**	**0.07**	**0.01**	**0.08**	**0.00**	**0.01**	**0.01**	**0.00**	**74.73**	**74.73**	**0.00**	**0.00**	**74.82**

3.5 Building Construction - 2014

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	0.24	1.60	1.16	0.00		0.10	0.10		0.10	0.10	0.00	183.23	183.23	0.02	0.00	183.63
Total	**0.24**	**1.60**	**1.16**	**0.00**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**183.23**	**183.23**	**0.02**	**0.00**	**183.63**

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	0.00	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
Vendor	0.03	0.22	0.30	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	35.82	35.82	0.00	0.00	35.85
Worker	0.04	0.05	0.40	0.00	0.06	0.00	0.06	0.00	0.00	0.00	0.00	38.91	38.91	0.00	0.00	38.97
Total	**0.07**	**0.27**	**0.70**	**0.00**	**0.07**	**0.01**	**0.08**	**0.00**	**0.01**	**0.01**	**0.00**	**74.73**	**74.73**	**0.00**	**0.00**	**74.82**

3.6 Paving - 2014

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	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26	1.26	0.00	0.00	1.26
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.26**	**1.26**	**0.00**	**0.00**	**1.26**

3.6 Paving - 2014

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	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26	1.26	0.00	0.00	1.26
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.26**	**1.26**	**0.00**	**0.00**	**1.26**

3.7 Architectural Coating - 2014

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	3.36					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**3.36**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.59	1.59	0.00	0.00	1.59
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.59**	**1.59**	**0.00**	**0.00**	**1.59**

3.7 Architectural Coating - 2014

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	3.36					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**3.36**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.59	1.59	0.00	0.00	1.59
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.59**	**1.59**	**0.00**	**0.00**	**1.59**

4.0 Mobile Detail

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	8.47	12.96	80.13	0.07	7.73	0.37	8.10	0.30	0.37	0.66	0.00	6,106.49	6,106.49	0.40	0.00	6,114.92
Unmitigated	8.47	12.96	80.13	0.07	7.73	0.37	8.10	0.30	0.37	0.66	0.00	6,106.49	6,106.49	0.40	0.00	6,114.92
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Regional Shopping Center	12,452.60	14,491.30	7319.60	14,545,499	14,545,499
Total	12,452.60	14,491.30	7,319.60	14,545,499	14,545,499

4.3 Trip Type Information

	Miles			Trip %		
Land Use	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
Regional Shopping Center	8.80	4.60	4.60	16.30	64.70	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	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						0.00	0.00		0.00	0.00	0.00	986.22	986.22	0.04	0.02	992.40
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	986.22	986.22	0.04	0.02	992.40
NaturalGas Mitigated	0.00	0.04	0.03	0.00		0.00	0.00		0.00	0.00	0.00	38.53	38.53	0.00	0.00	38.77
NaturalGas Unmitigated	0.00	0.04	0.03	0.00		0.00	0.00		0.00	0.00	0.00	38.53	38.53	0.00	0.00	38.77
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	tons/yr										MT/yr					
Regional Shopping Center	722100	0.00	0.04	0.03	0.00		0.00	0.00		0.00	0.00	0.00	38.53	38.53	0.00	0.00	38.77
Total		**0.00**	**0.04**	**0.03**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**38.53**	**38.53**	**0.00**	**0.00**	**38.77**

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	tons/yr										MT/yr					
Regional Shopping Center	722100	0.00	0.04	0.03	0.00		0.00	0.00		0.00	0.00	0.00	38.53	38.53	0.00	0.00	38.77
Total		**0.00**	**0.04**	**0.03**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**38.53**	**38.53**	**0.00**	**0.00**	**38.77**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Regional Shopping Center	3.3901e+006					986.22	0.04	0.02	992.40
Total						**986.22**	**0.04**	**0.02**	**992.40**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Regional Shopping Center	3.3901e+006					986.22	0.04	0.02	992.40
Total						**986.22**	**0.04**	**0.02**	**992.40**

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	1.47	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
Unmitigated	1.47	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
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	0.34					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.13					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	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
Total	**1.47**	**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**

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	0.34					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.13					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	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
Total	**1.47**	**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**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					54.82	0.03	0.02	60.71
Unmitigated					54.82	0.03	0.02	60.71
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Regional Shopping Center	21.481 / 13.1658					54.82	0.03	0.02	60.71
Total						**54.82**	**0.03**	**0.02**	**60.71**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Regional Shopping Center	21.481 / 13.1658					54.82	0.03	0.02	60.71
Total						**54.82**	**0.03**	**0.02**	**60.71**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					61.81	3.65	0.00	138.52
Unmitigated					61.81	3.65	0.00	138.52
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Regional Shopping Center	304.5					61.81	3.65	0.00	138.52
Total						**61.81**	**3.65**	**0.00**	**138.52**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Regional Shopping Center	304.5					61.81	3.65	0.00	138.52
Total						**61.81**	**3.65**	**0.00**	**138.52**

9.0 Vegetation

Meritage Senior Living Project - Alternative 8

Santa Barbara-North of Santa Ynez County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Regional Shopping Center	290	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.1	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	37		

1.3 User Entered Comments

Project Characteristics -

Land Use - Values based on Project Description and description for Alternative 8

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					
2013	12.02	97.68	54.71	0.10	18.33	4.59	22.27	9.94	4.59	13.88	0.00	11,051.55	0.00	1.07	0.00	11,074.13
2014	336.34	37.34	36.21	0.06	1.66	2.74	3.84	0.07	2.74	2.75	0.00	5,720.91	0.00	0.52	0.00	5,731.82
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2013	12.02	97.68	54.71	0.10	8.40	4.59	12.34	4.48	4.59	8.42	0.00	11,051.55	0.00	1.07	0.00	11,074.13
2014	336.34	37.34	36.21	0.06	1.66	2.74	3.84	0.07	2.74	2.75	0.00	5,720.91	0.00	0.52	0.00	5,731.82
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	8.05	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.02	0.19	0.16	0.00		0.00	0.01		0.00	0.01		232.75		0.00	0.00	234.16
Mobile	54.81	84.42	485.42	0.46	58.05	2.44	60.49	1.96	2.44	4.40		45,847.40		2.75		45,905.06
Total	**62.88**	**84.61**	**485.58**	**0.46**	**58.05**	**2.44**	**60.50**	**1.96**	**2.44**	**4.41**		**46,080.15**		**2.75**	**0.00**	**46,139.22**

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	8.05	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.02	0.19	0.16	0.00		0.00	0.01		0.00	0.01		232.75		0.00	0.00	234.16
Mobile	54.81	84.42	485.42	0.46	58.05	2.44	60.49	1.96	2.44	4.40		45,847.40		2.75		45,905.06
Total	**62.88**	**84.61**	**485.58**	**0.46**	**58.05**	**2.44**	**60.50**	**1.96**	**2.44**	**4.41**		**46,080.15**		**2.75**	**0.00**	**46,139.22**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2013

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					0.32	0.00	0.32	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50		7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.32**	**3.50**	**3.82**	**0.00**	**3.50**	**3.50**		**7,510.81**		**0.80**		**7,527.57**

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	0.09	0.73	0.66	0.00	0.68	0.02	0.70	0.00	0.02	0.03		112.24		0.00		112.33
Vendor	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
Worker	0.12	0.16	1.40	0.00	0.22	0.01	0.23	0.01	0.01	0.01		146.17		0.01		146.42
Total	**0.21**	**0.89**	**2.06**	**0.00**	**0.90**	**0.03**	**0.93**	**0.01**	**0.03**	**0.04**		**258.41**		**0.01**		**258.75**

3.2 Demolition - 2013

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					0.15	0.00	0.15	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50	0.00	7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.15**	**3.50**	**3.65**	**0.00**	**3.50**	**3.50**	**0.00**	**7,510.81**		**0.80**		**7,527.57**

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	0.09	0.73	0.66	0.00	0.68	0.02	0.70	0.00	0.02	0.03		112.24		0.00		112.33
Vendor	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
Worker	0.12	0.16	1.40	0.00	0.22	0.01	0.23	0.01	0.01	0.01		146.17		0.01		146.42
Total	**0.21**	**0.89**	**2.06**	**0.00**	**0.90**	**0.03**	**0.93**	**0.01**	**0.03**	**0.04**		**258.41**		**0.01**		**258.75**

3.3 Site Preparation - 2013

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					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93		7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**18.07**	**3.93**	**22.00**	**9.93**	**3.93**	**13.86**		**7,997.69**		**0.89**		**8,016.38**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.15	0.19	1.68	0.00	0.27	0.01	0.27	0.01	0.01	0.02		175.40		0.01		175.70
Total	**0.15**	**0.19**	**1.68**	**0.00**	**0.27**	**0.01**	**0.27**	**0.01**	**0.01**	**0.02**		**175.40**		**0.01**		**175.70**

3.3 Site Preparation - 2013

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					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93	0.00	7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**8.13**	**3.93**	**12.06**	**4.47**	**3.93**	**8.40**	**0.00**	**7,997.69**		**0.89**		**8,016.38**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.15	0.19	1.68	0.00	0.27	0.01	0.27	0.01	0.01	0.02		175.40		0.01		175.70
Total	**0.15**	**0.19**	**1.68**	**0.00**	**0.27**	**0.01**	**0.27**	**0.01**	**0.01**	**0.02**		**175.40**		**0.01**		**175.70**

3.4 Grading - 2013

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					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59		10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**8.67**	**4.59**	**13.26**	**3.31**	**4.59**	**7.90**		**10,856.66**		**1.06**		**10,878.90**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.17	0.21	1.87	0.00	0.30	0.01	0.30	0.01	0.01	0.02		194.89		0.02		195.22
Total	**0.17**	**0.21**	**1.87**	**0.00**	**0.30**	**0.01**	**0.30**	**0.01**	**0.01**	**0.02**		**194.89**		**0.02**		**195.22**

3.4 Grading - 2013

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					3.90	0.00	3.90	1.49	0.00	1.49						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59	0.00	10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**3.90**	**4.59**	**8.49**	**1.49**	**4.59**	**6.08**	**0.00**	**10,856.66**		**1.06**		**10,878.90**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.17	0.21	1.87	0.00	0.30	0.01	0.30	0.01	0.01	0.02		194.89		0.02		195.22
Total	**0.17**	**0.21**	**1.87**	**0.00**	**0.30**	**0.01**	**0.30**	**0.01**	**0.01**	**0.02**		**194.89**		**0.02**		**195.22**

3.5 Building Construction - 2013

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	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28		4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**		**4,040.62**		**0.46**		**4,050.31**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.62	4.77	5.63	0.01	0.28	0.13	0.41	0.02	0.13	0.16		786.40		0.03		787.08
Worker	0.77	0.99	8.67	0.01	1.38	0.03	1.42	0.05	0.03	0.09		906.25		0.07		907.79
Total	**1.39**	**5.76**	**14.30**	**0.02**	**1.66**	**0.16**	**1.83**	**0.07**	**0.16**	**0.25**		**1,692.65**		**0.10**		**1,694.87**

3.5 Building Construction - 2013

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	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28	0.00	4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**	**0.00**	**4,040.62**		**0.46**		**4,050.31**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.62	4.77	5.63	0.01	0.28	0.13	0.41	0.02	0.13	0.16		786.40		0.03		787.08
Worker	0.77	0.99	8.67	0.01	1.38	0.03	1.42	0.05	0.03	0.09		906.25		0.07		907.79
Total	**1.39**	**5.76**	**14.30**	**0.02**	**1.66**	**0.16**	**1.83**	**0.07**	**0.16**	**0.25**		**1,692.65**		**0.10**		**1,694.87**

3.5 Building Construction - 2014

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	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02		4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**		**4,040.61**		**0.42**		**4,049.51**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.57	4.37	5.13	0.01	0.28	0.12	0.40	0.02	0.12	0.14		792.56		0.03		793.17
Worker	0.71	0.90	7.88	0.01	1.38	0.03	1.42	0.05	0.03	0.09		887.74		0.07		889.14
Total	**1.28**	**5.27**	**13.01**	**0.02**	**1.66**	**0.15**	**1.82**	**0.07**	**0.15**	**0.23**		**1,680.30**		**0.10**		**1,682.31**

3.5 Building Construction - 2014

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	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02	0.00	4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**	**0.00**	**4,040.61**		**0.42**		**4,049.51**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.57	4.37	5.13	0.01	0.28	0.12	0.40	0.02	0.12	0.14		792.56		0.03		793.17
Worker	0.71	0.90	7.88	0.01	1.38	0.03	1.42	0.05	0.03	0.09		887.74		0.07		889.14
Total	**1.28**	**5.27**	**13.01**	**0.02**	**1.66**	**0.15**	**1.82**	**0.07**	**0.15**	**0.23**		**1,680.30**		**0.10**		**1,682.31**

3.6 Paving - 2014

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	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74		2,917.65		0.47		2,927.48
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.20**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**		**2,917.65**		**0.47**		**2,927.48**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.11	0.15	1.27	0.00	0.22	0.01	0.23	0.01	0.01	0.01		143.18		0.01		143.41
Total	**0.11**	**0.15**	**1.27**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**143.18**		**0.01**		**143.41**

3.6 Paving - 2014

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	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74	0.00	2,917.65		0.47		2,927.48
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.20**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**	**0.00**	**2,917.65**		**0.47**		**2,927.48**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.11	0.15	1.27	0.00	0.22	0.01	0.23	0.01	0.01	0.01		143.18		0.01		143.41
Total	**0.11**	**0.15**	**1.27**	**0.00**	**0.22**	**0.01**	**0.23**	**0.01**	**0.01**	**0.01**		**143.18**		**0.01**		**143.41**

3.7 Architectural Coating - 2014

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	335.75					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24		281.19		0.04		282.03
Total	**336.20**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**		**281.19**		**0.04**		**282.03**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.14	0.18	1.61	0.00	0.28	0.01	0.29	0.01	0.01	0.02		181.37		0.01		181.65
Total	**0.14**	**0.18**	**1.61**	**0.00**	**0.28**	**0.01**	**0.29**	**0.01**	**0.01**	**0.02**		**181.37**		**0.01**		**181.65**

3.7 Architectural Coating - 2014

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	335.75					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24	0.00	281.19		0.04		282.03
Total	**336.20**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**	**0.00**	**281.19**		**0.04**		**282.03**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.14	0.18	1.61	0.00	0.28	0.01	0.29	0.01	0.01	0.02		181.37		0.01		181.65
Total	**0.14**	**0.18**	**1.61**	**0.00**	**0.28**	**0.01**	**0.29**	**0.01**	**0.01**	**0.02**		**181.37**		**0.01**		**181.65**

4.0 Mobile Detail

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	54.81	84.42	485.42	0.46	58.05	2.44	60.49	1.96	2.44	4.40		45,847.40		2.75		45,905.06
Unmitigated	54.81	84.42	485.42	0.46	58.05	2.44	60.49	1.96	2.44	4.40		45,847.40		2.75		45,905.06
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Regional Shopping Center	12,452.60	14,491.30	7319.60	14,545,499	14,545,499
Total	12,452.60	14,491.30	7,319.60	14,545,499	14,545,499

4.3 Trip Type Information

	Miles			Trip %		
Land Use	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
Regional Shopping Center	8.80	4.60	4.60	16.30	64.70	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	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	0.02	0.19	0.16	0.00		0.00	0.01		0.00	0.01		232.75		0.00	0.00	234.16
NaturalGas Unmitigated	0.02	0.19	0.16	0.00		0.00	0.01		0.00	0.01		232.75		0.00	0.00	234.16
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Regional Shopping Center	1978.36	0.02	0.19	0.16	0.00		0.00	0.01		0.00	0.01		232.75		0.00	0.00	234.16
Total		**0.02**	**0.19**	**0.16**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**		**232.75**		**0.00**	**0.00**	**234.16**

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	lb/day										lb/day					
Regional Shopping Center	1.97836	0.02	0.19	0.16	0.00		0.00	0.01		0.00	0.01		232.75		0.00	0.00	234.16
Total		**0.02**	**0.19**	**0.16**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**		**232.75**		**0.00**	**0.00**	**234.16**

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	8.05	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	8.05	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	1.84					0.00	0.00		0.00	0.00						0.00
Consumer Products	6.21					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**8.05**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

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	1.84					0.00	0.00		0.00	0.00						0.00
Consumer Products	6.21					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**8.05**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Greenhouse Gas Emission Worksheet

N20 Mobile Emissions Meritage Senior Living Project - Alternative 7

From URBEMIS 2007 Vehicle Fleet Mix Output:

Annual VMT: 14,545,499

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)**	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)**
Light Auto	46.0%	0.04	0.0184	0.04	0.0184
Light Truck < 3750 lbs	10.3%	0.05	0.00515	0.06	0.00618
Light Truck 3751-5750 lbs	23.2%	0.05	0.0116	0.06	0.01392
Med Truck 5751-8500 lbs	12.2%	0.12	0.01464	0.2	0.0244
Lite-Heavy Truck 8501-10,000 lbs	2.1%	0.12	0.00252	0.2	0.0042
Lite-Heavy Truck 10,001-14,000 lbs	0.5%	0.09	0.00045	0.125	0.000625
Med-Heavy Truck 14,001-33,000 lbs	1.0%	0.06	0.0006	0.05	0.0005
Heavy-Heavy Truck 33,001-60,000 lbs	2.9%	0.06	0.00174	0.05	0.00145
Other Bus	0.1%	0.06	0.00006	0.05	0.00005
Urban Bus	0.1%	0.06	0.00006	0.05	0.00005
Motorcycle	1.1%	0.09	0.00099	0.01	0.00011
School Bus	0.1%	0.06	0.00006	0.05	0.00005
Motor Home	0.4%	0.09	0.00036	0.125	0.0005
Total	**100.0%**		**0.05663**		**0.070435**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N20 Emissions:	1.0245	metric tons N2O	**317.60**	metric tons CO2e
		Project Total:	***317.60***	***metric tons CO2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.
** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
*** From URBEMIS 2007 results for mobile sources

Appendix D

Geotechnical Studies

Pacific
Materials
Laboratory
of Santa Barbara, Inc.

35 S. La Patera Ln.
P.O. Box 96
Goleta, CA 93116
Ph: (805) 964-6901

Santa Ynez
Ph: (805) 688-7587

FAX No: (805) 964-6239

FOUNDATION EXPLORATION

Proposed Factory Outlet Stores

Jonata Park Road

City of Buellton

County of Santa Barbara

California

Sid Goldstien, Civil Engineer, Inc.
650 Alamo Pintado Road, Suite 302
Solvang, CA 93463

December 8, 1994
Lab No: 5279-6
File No: 94-1430-6

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INTRODUCTION

This report presents the results of a Soil and Foundation Study for the proposed cut slope and retaining walls at the proposed factory outlet stores, "The Oaks", to be located on Jonata Park Road, in Buellton, California, APN: 99-400-64 & 65. The location of the site is shown on Plate 1. Presently the natural slopes in the area of the proposed retaining wall slope towards the west at angles of 20 to 25%. The natural slopes to the west of the proposed retaining wall increase to 30%.

The proposed grading plan indicates approximately 20 to 25 feet of soil will be removed to establish the grade at the base of the proposed retaining wall. The natural slope to the west of the proposed retaining wall will be excavated to a slope of two horizontal to one vertical. The grading will result in vertical excavations to be retained by retaining walls ranging in heights from 6 to 16½ feet.

SCOPE OF WORK

It is the purpose of this exploration to provide sufficient information concerning the characteristics of the soils in the natural slope to determine the slope stability due to the effects of the proposed grading and provide soil design parameters for the proposed retaining walls.

The scope of this investigation does not include the analyses of geologic structures and their associated features such as faults, fractures, bedding planes, strike and dip angles, landslides, or other sources of potential instability which relate to the geologic conditions, as these items are being addressed by Engineering Geologist, Rick Hoffman. This exploration was conducted in accordance with presently accepted soils engineering procedures currently applied in the local community.

LIMITATIONS

This Laboratory's basic assumption is that the soil borings presented herein are representative of the entire footprint of the proposed retaining wall and graded slope, however, no warranty is implied. If during the course of construction soil conditions are encountered which vary from those presented herein, please contact this Laboratory immediately so appropriate field modifications may be expeditiously proposed.

FIELD INVESTIGATION

The subsurface soil conditions were explored by two truck mounted auger borings which were drilled to depths of up to 25 feet. Representative relatively "undisturbed" tube soil samples were obtained during the drilling operation by the drive-cylinder sampling tube

method (ASTM D-2937). Laboratory tests and analyses of representative soil samples, obtained during the drilling operation, were performed to estimate the engineering properties and determine the soil classification of earth materials encountered. The location of the borings are shown on Plate 2. The boring log data is presented in Appendix A, "Field Investigation", while the results of the laboratory tests are provided in Appendix B, "Laboratory Tests".

SOIL CONDITIONS

1. No free groundwater was encountered in the borings.

2. The bore holes were maintained open for three days after the drilling operation. Water from seepage did not accumulate in the bore holes.

3. The predominate soil type encountered in the borings extended from the approximate depth of 5 feet to a depth of 20 to 24 feet below the present ground elevation. This soil was found to be a clayey sand and clayey silt and sand. The entire soil profile contains interbedded gravel layers of increased and decreased amounts.

4. An existing cut slope is located south of the proposed cut slope. The slope angle is approximately 28°. The toe of the slope concentrates the runoff to a single location where deep erosion channels have occurred. The face of the cut has been protected from erosion by the cobble size rocks (which occur naturally) exposed in the face of the cut.

SOIL SHEAR STRENGTH

The strength parameters of the clayey silt and sand were determined by performing direct shear tests, unconfined compression tests and unconsolidated undrained triaxial tests. The results of the direct shear tests (under flooded conditions) were difficult to interpret due to gravel intersecting the forced shear plane. The combined results of these tests indicate a cohesion of 500 psf and an internal angle of friction of 37° for the short term stability or "total stress" analysis and a cohesion of 300 psf with an internal angle of friction of 27° for the long term stability or "effective stress" analysis. A summary of the results of the shear tests are presented below.

ESTIMATED SOIL STRENGTH PROPERTIES

BORING NO.	DEPTH (ft.)	DIRECT SHEAR	UNCONFINED COMPRESSION	UNCONSOLIDATED UNDRAINED TRIAXIAL
1	10	$\varphi' = 27°$ $C' = 300$ psf	$q_u = 1860$ $C_u = 930$	$\varphi = 39°$ $C = 500$ psf
1	15	$\varphi' = 38°$ $C' = 400$ psf	$q_u = 2306$ $C_u = 1100$	—
1	20	$\varphi' = 30°$ $C' = 500$ psf	$q_u = 2200$ $C_u = 1100$	$\varphi = 42°$ $C = 500$ psf
1	24	—	$q_u = 1950$ $C_u = 975$	$\varphi = 37°$ $C = 450$ psf

Selected Strength Values:	Effective Stress (Long Term)	Total Stress (Short Term)
	$\varphi' = 27°$ $C' = 300$ psf	$\varphi = 37°$ $C = 450$ psf

SLOPE STABILITY

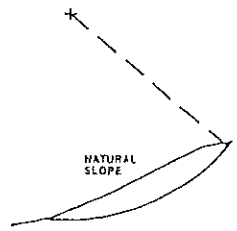
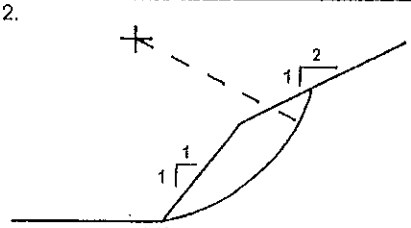
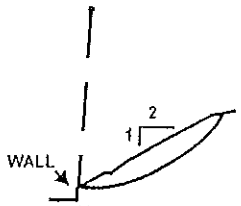
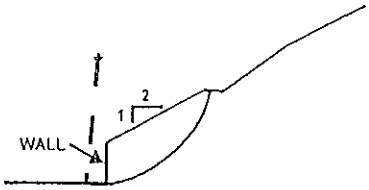
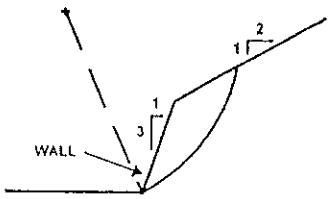
Section 4.3 on page 5 and 6 of the geology report by Rick Hoffman and Associates, states significant landslides or other forms of preexisting slope failures were not encountered on the subject property. The report further states the potential for slope instability is in the form of surface erosion and soil creep. This potential was deemed to be low provided proper grading and draining control are implemented. Based on the geologic study which stated that the bedding planes were nonplanar, the stability analysis focused on circular type failures.

A slope stability analysis based on circular failures was performed for the geometry of the cross section shown as A-A on Plate 2. The analysis considered five different slope geometries including the natural slope condition, the temporary 1:1 cut slope and the completed final cut condition. A critical failure plane was investigated above and below the proposed retaining wall. A Loffelstein wall without geogrid reinforcement was also investigated.

The analysis involves calculating limits of equilibrium. The forces driving the slope toward failure are compared to the soil's shear strength resistance. The ratio of the resisting forces to the driving forces is considered to be the factor of safety (F.S.). The minimum allowable F.S. for this project is 1.5, or the resisting forces for stability must be 1.5 times larger than the forces driving the soil to slope failure.

The analysis was computer aided utilizing the GEOSYSTEM Slope Stability Analysis program SB-SLOPE 3.0. The data prepared for the computation of the stability of the five slope conditions presented below are provided in Appendix C. The results of the analysis are presented below:

SLOPE STABILITY CHART

SECTION A-A	CONDITION	SOIL PROPERTIES		CENTER OF ROTATION Center Coordinates(ft)		Radius(ft)	minimum factor of safety
		φ (Deg.)	C (psf)	X	Y	Radius	F.S.
1. 	LONG TERM	27	300	74	279	220.2	1.59
2.  1:1 Temporary Cut	SHORT TERM	37	450	40	95	45.4	1.85
3.  Stability above wall	LONG TERM	27	300	61	279	215	1.50
4.  Stability below wall	LONG TERM	27	300	44	92.1	42.3	1.52
5.  Loffelstein wall	LONG TERM	27	300	26	93	47.8	0.96

Based on the results of the slope stability analysis it is the opinion of the undersigned, the proposed grading of the natural slopes to a slope of two horizontal to one vertical utilizing retaining walls and drainage swells as shown on the preliminary grading plan is feasible.

LOFFELSTEIN WALL

A Loffelstein or Loffelblock wall has been proposed for the tallest section of the retaining wall. This type of interlocking block wall is basically intended to support clayey slopes of less than 5 to 6 feet high or competent bedrock (with favorably dipping bedding planes) cut slopes up to 22 feet high. The block systems are typically designed with a 1:3 backward batter. Where the cut slope exposes soil having an effective angle of friction less than 35° and where the soil is not a competent bedrock, the use of loffelblock wall must be designed as a "mechnically stabilized embankment" or MSE.

The long term stability analysis of a 1:3 slope with a 22 foot high face was performed at cross section A-A as shown on Plate 2. The resulting factor of safety was 0.96 (see number 5 under section A-A) which is a state of failure and reinforces the recommendation that a stacked masonry block facing be designed only with geogrid mats creating a MSE.

Soil values for the design of a MSE are provided below:

		C,(psf)	φ,(Deg.)	γ,(pcf)
1.	Backfill soil	0	27	125
2.	Foundation soil	300	27	125

RETAINING WALL RECOMMENDATIONS

Cantilevered

1. The cantilevered retaining wall shall be designed assuming an active soil pressure equivalent to a fluid (E.F.P.) whose weight is 60 pcf for backfill slopes which are constructed at an angle of 2 (horizontal) to 1 (vertical) (The E.F.P. is based on a free draining backfill condition and soil type 3 as contained in Figure 1). A passive soil pressure equivalent to a fluid whose weight is 333 pcf and a coefficient of friction against sliding of 0.34 may also be assumed.

Soil type 3 = Residual soil with stones, fine silty sand, and granular materials with conspicuous clay content.

β = Slope of retained earth

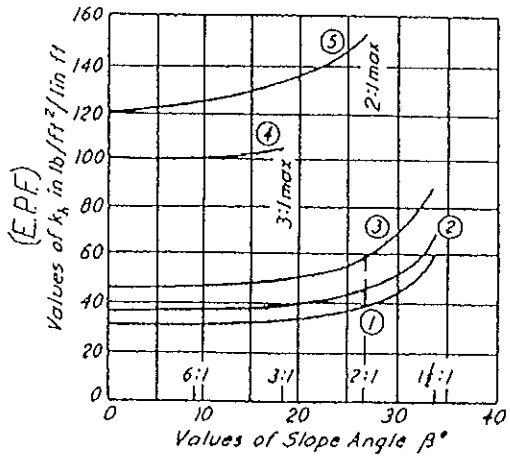


Figure 1 - Estimating retaining wall backfill pressure chart

2. The use of equipment to compact soil within the wedge of backfill defined by a 1:1 line projected up from behind the retaining wall to the surface, shall be limited to handheld rammer plate compactors such as a Wacker BS 45Y. A string line shall be placed along the top of the wall to monitor possible rotation of the wall due to the compaction surcharge. If the wall begins to bow or lean away from the backfilling operations, the compaction process shall stop and the Soils Engineer shall be notified immediately such that modified compaction recommendations can be given at that time.

3. The retaining wall footing shall extend a minimum distance of 24 inches below the lowest adjacent grade for walls 10 feet in height or less and 36 inches below the lowest adjacent grade for walls over 10 feet in height. A soil bearing value of 2000 and 2400 psf may be assumed for the 24 inch and 36 inch deep footings respectively with a 20% increase for each additional foot of width over 3 feet up to a mximum soil bearing value of 2 times the initial value.

4. Retaining wall backfill shall consist of a 12 inch thick continuous column of 3/8 to 1 inch gravel placed from the top of the wall to 3 inches below the bottom of a 4 inch perforated rigid p.v.c. drain pipe or appropriately placed weep holes. A geo-drain board such as Miradrain, Hydroduct or Enkadrain may replace the gravel column.

5. It is assumed that the rough grade excavation behind the retaining wall is to be cut at temporary slope angles of 1(H) to 1(V) in order to comply with Cal-OSHA safety requirements. The on-site soils may be used to backfill the temporary cut slope provided the backfill soil behind the gravel layer or geo-drain board is the select granular, free draining, nonexpansive sand or silty sand. The lower quality on-site backfill materials, which are clayey sands and sandy clays, may be utilized outside a triangular wedge defined by a line which extends upwards from the inside bottom edge of the retaining wall footing and is a minimum width of 1/2 the wall height at ground surface. (See Figure 2)

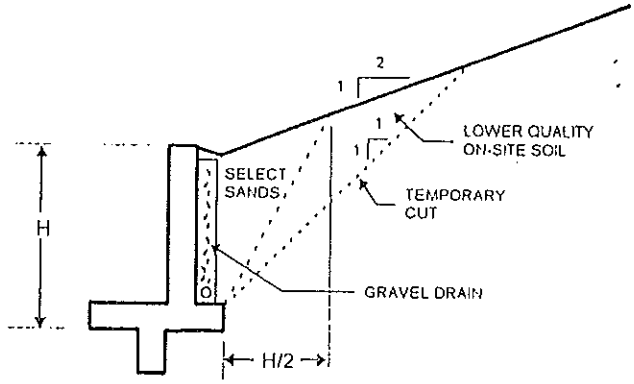


Figure 2 - Retaining wall backfill

EROSION

Slope erosion measures shall be implemented immediately after the start of the excavation in order to protect the newly exposed slope from the high velocity impacts of raindrops. The most common method of dissipating the energy on the newly exposed soils is by mulching. The mulch absorbs the impact energy and breaks up the raindrops. The most reliable type of mulch can now be obtained as a geotextile. An example of this type of geotextile is a product named "Landlok" which is an erosion mat manufactured by Synthetic Industries.

If natural drainage is allowed to concentrate, the slopes will easily erode. The top-of-slope ditches are important preventative measures and shall be installed promptly as the slope is most vulnerable immediately after construction. The side slopes must be maintained as flat as possible in order to insure that as the drainage water arrives on the slope it does so in a sheet flow. The slope shall be graded such that it maintains the drainage in a sheet flow as long as possible until it is deposited in an intercepting drainage ditch. The establishment of a dense growth of vegetation shall be implemented as soon as possible. Vegetation slows down the water and lowers the erodibility of the slopes surface. Mulching protects the slope and the seed or seedlings until the vegetation takes hold.

CLOSURE

The recommendations contained herein are provided for the sole use of our client and are based upon this Laboratory's understanding of the project which has been described herein. If the project scope, location, or conceptual design is subsequently altered or if the conditions change, this Laboratory shall be requested to modify as necessary the recommendations contained herein as is appropriate for the new development concept. If the recommendations of this report are not implemented within one year we recommend an update and review of the contents of this report be performed by this Laboratory. Additionally,

the recommendations contained herein are based upon the assumption that Pacific Materials Laboratory, Inc. shall be requested to perform the testing and inspection services which will be required during the grading operation in order to verify that the actual soil conditions encountered and the construction procedures are consistent with the recommendations contained herein. If the service is performed by others, only the technical correctness of the actual analytical soil tests described herein are attested to by this Laboratory.

Thank you for the opportunity of providing this service. If you have any question please do not hesitate to call.

Respectfully submitted,

PACIFIC MATERIALS LABORATORY, INC.

R Pike

Ronald J. Pike, R. E. 42788

RJP:kfb

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1. Von Gunten, Michael W. (1991), GEOSYSTEM slope stability analysis program SB-SLOPE 3.0, Von Gunten Engineering Software.

2. Huang, Y.H. (1983), "Stability Analysis of Earth Slopes", Van Nostrand Reinhold Company, Inc.

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4. Hoffman, Rick (1994), "Geologic Investigation Report, The Oaks Factory Outlet Stores Project", Rick Hoffman and Associates.

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6. Transportation Research Board (1990), "Guide to Earthwork Construction", State of the Art Report #8.

7. Slosson, James E., Keene, Arthur G., and Johnson, Jeffrey A. (1992), "Landslides/Landslide Mitigation", The Geological Society of America.

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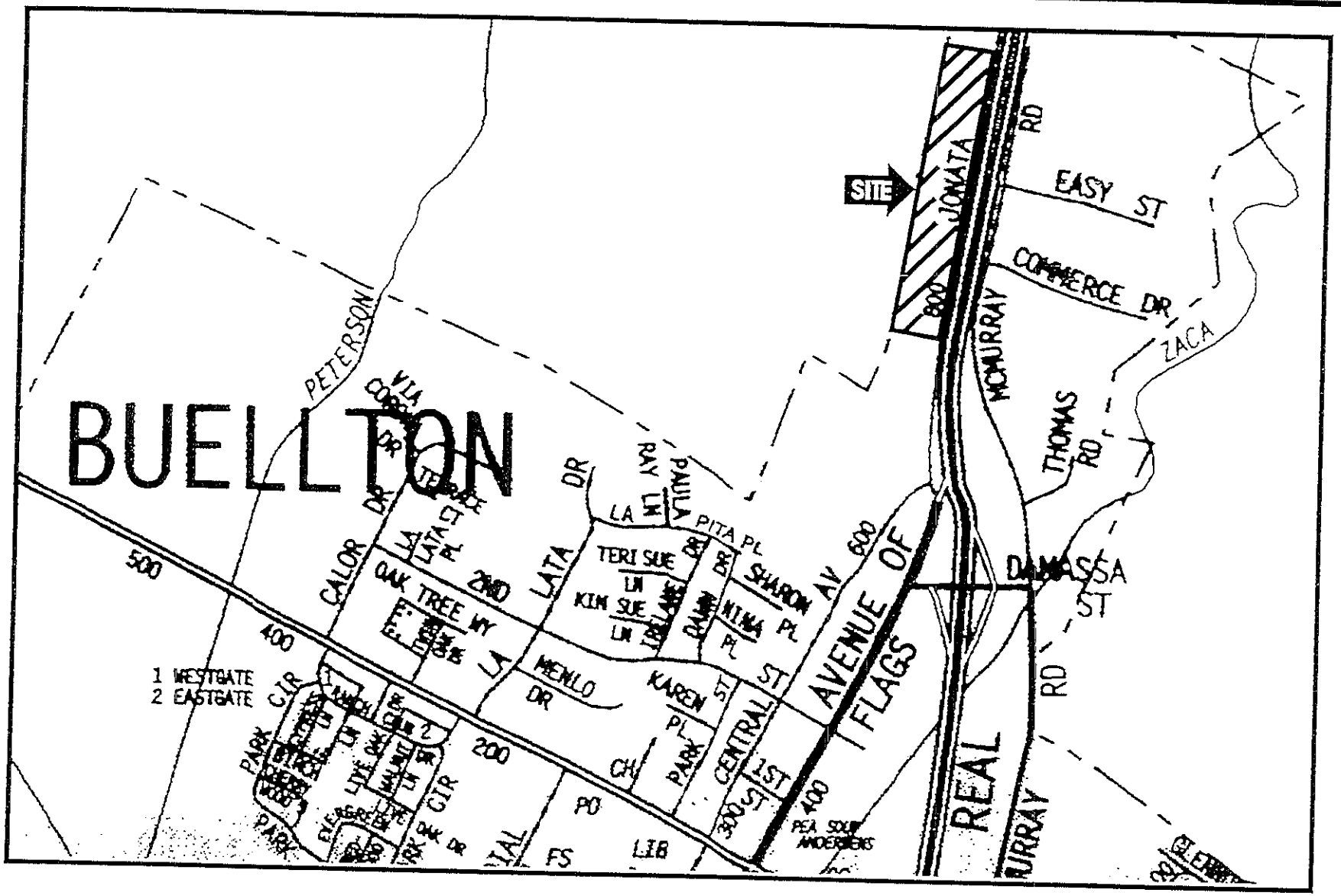
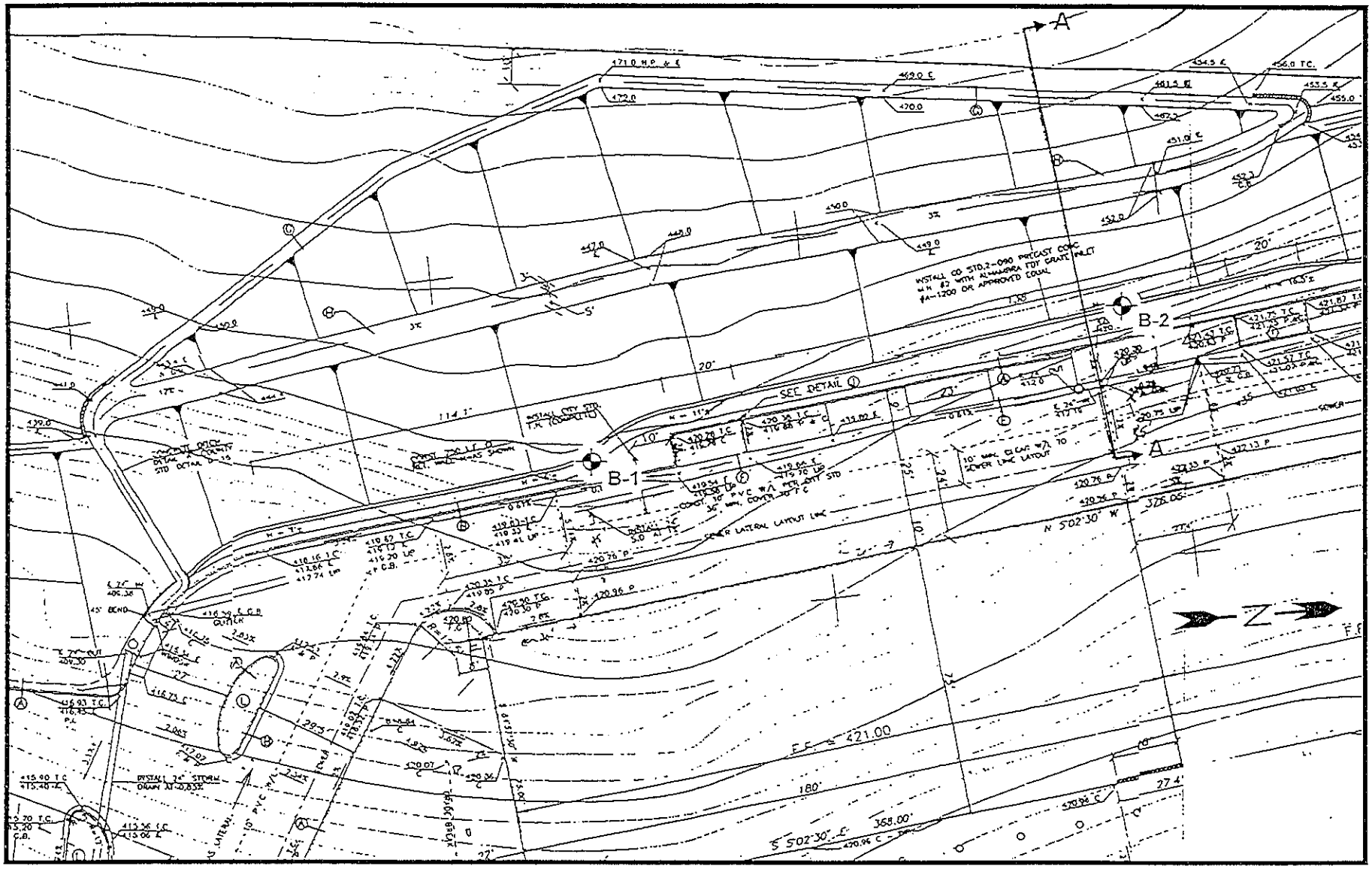


VICINITY MAP

"The Oaks" Factory Outlet Stores
Jonata Park Road
Buellton, California

Pacific Materials Laboratory, Inc.

Scale: none	Plate 1 Lab # 5279-6 File # 94-1430-6 December 8, 1994



Site Plan

"The Oaks" Factory Outlet Stores
Jonata Park Road
Buellton, California

Pacific Materials Laboratory, Inc.

Scale: none	Plate 2 Lab # 5279-6 File # 94-1430-6 December 8, 1994

APPENDIX A

FIELD INVESTIGATION

December 8, 1994

Lab No: 5279-6

File No: 94-1430-6

Lab No: 5279-6
File No: 94-1430-6

BORING LOG DATA

BORING NO. 1

Drill Rig Operator: Chris DeMarsh Date Drilled: 11/8/94

Dry Density (pcf)	Moisture Content (%)	Depth (ft.)	Soil Log		Soil Description
		0.0			Dark brown silty fine sand w/clay and gravel, moist, firm
		1.0			
111.0	10.0	2.0			
		3.0			
		4.0			
105.3	11.0	5.0		SC	Dark brown silty sand w/fractured gravel, medium firm
		6.0			
		7.0			
	13.5	8.0			Increase in moisture content
		9.0			Sandy clay, soft
105.2	16.5	10.0			Sand and clay, dense, very moist
		11.0			Silty clay w/gravel, soft
		12.0			
	14.9	13.0			
		14.0			
110.1	17.6	15.0		SC	Brown sandy clay/clayey sand, very moist
		16.0			
		17.0			
		18.0			
		19.0			
104.0	18.5	20.0		SC	Tan silty sand and gravel w/trace clay, moist, firm
		21.0			
		22.0			
		23.0			
104.0	17.0	24.0			Brown tan silty sand and gravel, less clay, moist firm
		25.0			
		25.5			

LEGEND

■ - Modified Drive-Cylinder sample ASTM D-2937

BORING LOG DATA

BORING NO. 2

Drill Rig Operator: Chris DeMarsh Date Drilled: 11/8/94

Dry Density (pcf)	Moisture Content (%)	Depth (ft.)	Soil Log		Soil Description
		0.0			Dark brown fine sand and silt w/clay and gravel, dry
		1.0			
116.5	9.3	2.0			Brown silty clay w/trace fine sand and pea gravel, moist, firm
		3.0			
		4.0			
113.7	13.4	5.0		SC	Orange brown fine sand and clay w/pea gravel, moist, mod. firm
		6.0			
		7.0			
		8.0			
		9.0			Brown fine sandy clay w/pea gravel, moist
113.1	15.7	10.0			Tan brown silty fine sandy clay w/small gravel, moist to very moist, firm
		11.0			
		12.0			
		13.0			
		14.0			
104.9	17.3	15.0		SC	Tan silty clay w/fine sand and gravel, moist to very moist, firm
		16.0			
		17.0			
		18.0			
		19.0			
105.9	14.1	20.0		SC	Tan orange clayey fine to coarse sand w/gravel, moist, firm
		21.0			
		22.0			
		23.0			
111.8	14.9	24.0 24.5			Tan orange fine to coarse sand w/trace clay, moist, firm

LEGEND

■ - Modified Drive-Cylinder sample ASTM D-2937

APPENDIX B

LABORATORY TESTS

December 8, 1994

Lab No: 5279-6

File No: 94-1430-6

MECHANICAL ANALYSES (Values in Percent Passing ASTM D-422)

SIEVE SIZE	B-1 @ 10'	B-1 @ 15'	B-1 @ 20'
3/4 Inch	100	100	94.8
1/2 Inch	92.8	97.6	87.6
3/8 Inch	88.2	95.4	85.4
No. 4	78.9	90.3	77.8
No. 8	72.1	86.3	71.6
No. 16	67.8	83.0	68.3
No. 30	63.1	79.3	64.8
No. 50	51.1	69.2	52.7
No. 100	37.3	55.6	35.6
No. 200	28.9	44.8	25.2

SAND-SILT-CLAY (By Hydrometer ASTM D 422)

BORING NO.	DEPTH (ft.)	SAND %	SILT %	CLAY %	SOIL DESCRIPTION
B-1	10.0	48	22	30	Clayey silt and sand
B-1	15.0	42	30	28	Clayey silt and sand
B-1	20.0	56	20	24	Clayey sand

ATTERBERG LIMITS (ASTM D-4318)

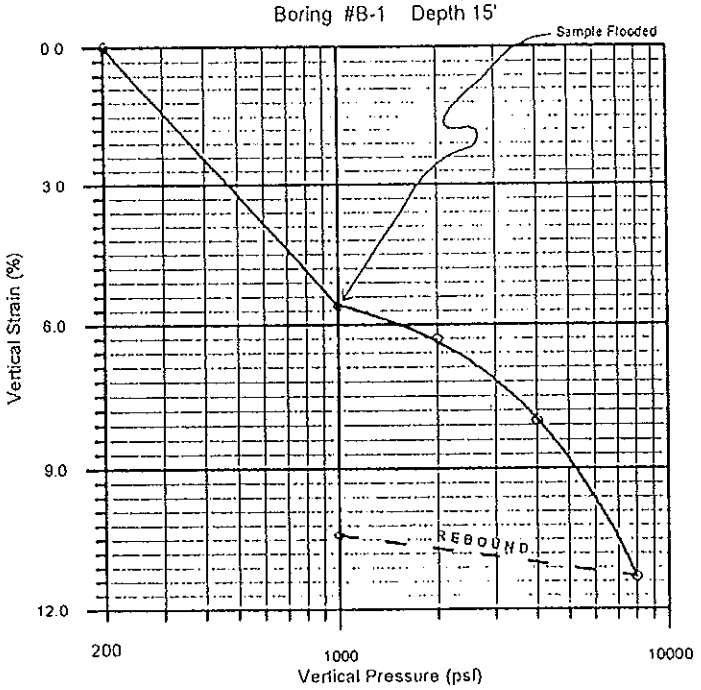
BORING NO.	DEPTH (ft.)	SOIL TYPE	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX
B-1	10.0	SC	29	16	13
B-1	15.0	SC	26	16	10
B-1	20.0	SC-SM	24	20	4

CONSOLIDATION TESTS (ASTM D-2435)

Two consolidation tests were performed on representative in-place tube soil samples in both the natural field and at increased moisture contents. The results of the consolidation tests are presented graphically below.

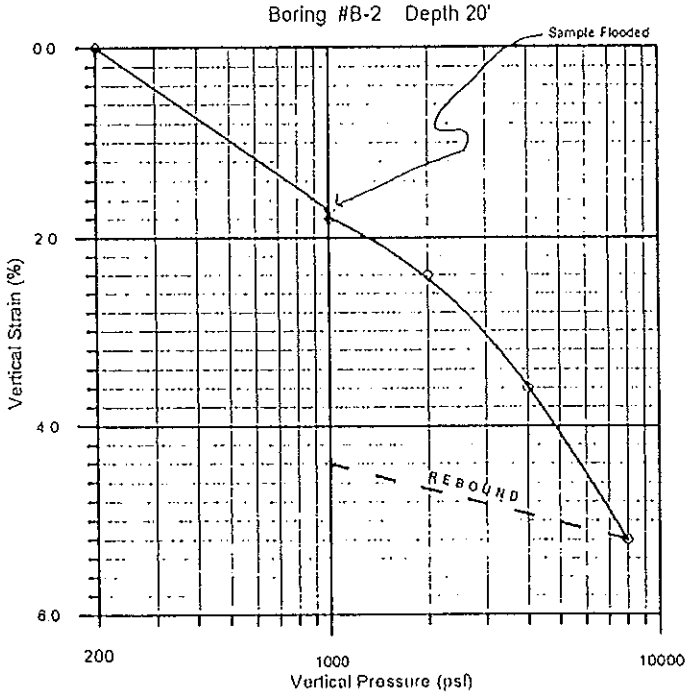
Consolidation Test Data

"Undisturbed" Sample
Boring #B-1 Depth 15'



Consolidation Test Data

"Undisturbed" Sample
Boring #B-2 Depth 20'

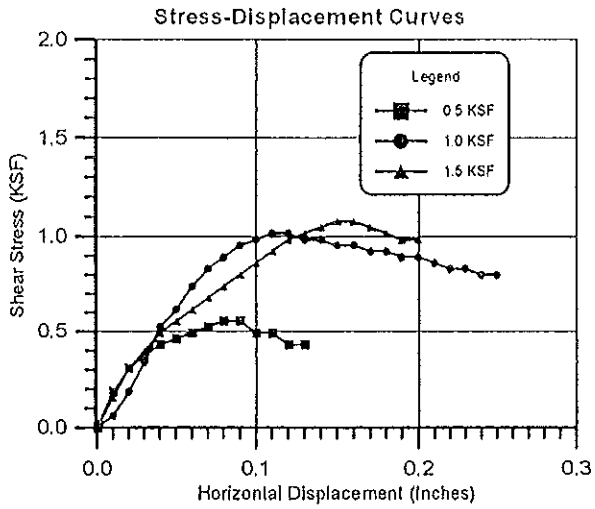


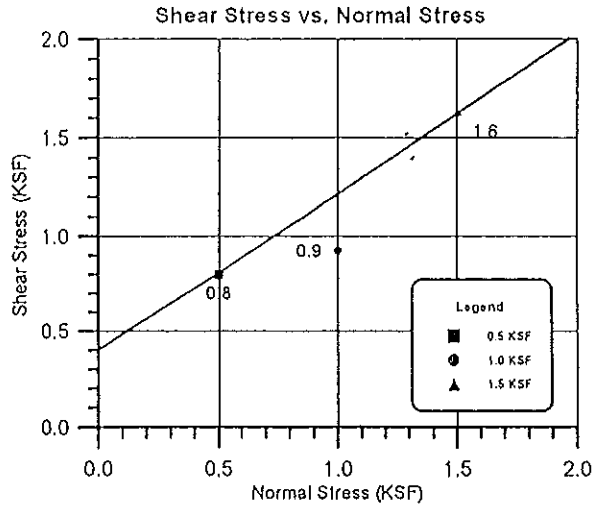
DIRECT SHEAR TESTS (ASTM D-3080)

Three direct shear tests were performed on representative "undisturbed" soil samples which were 2.365 inches in diameter and 1 inch thick. The tests were performed under flooded conditions. The results are tabulated and shown graphically below:

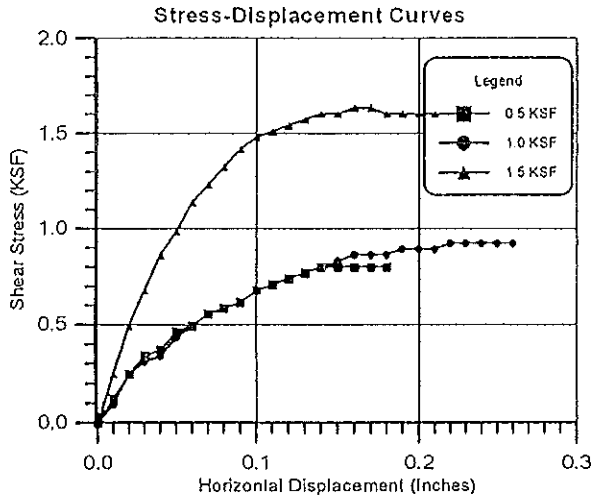
BORING NO.	DEPTH (ft.)	INTERNAL ANGLE OF FRICTION (degrees)	COHESION (psf)
B-1	10.0	27	300
B-1	15.0	38	400
B-1	20.0	30	500

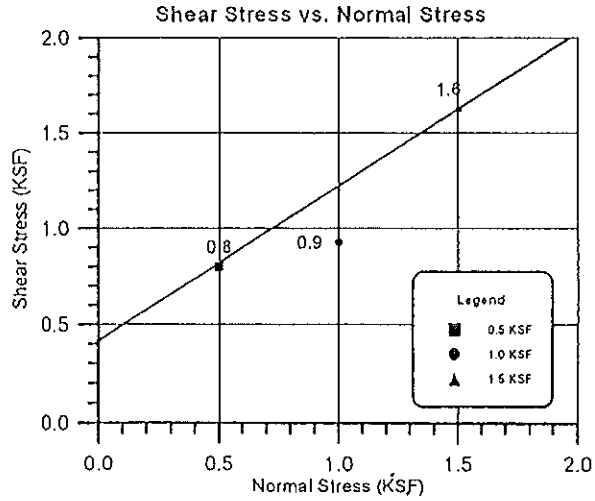
B-1 @ 10' - (Brown gravelly clay w/fine to coarse sand and silt)



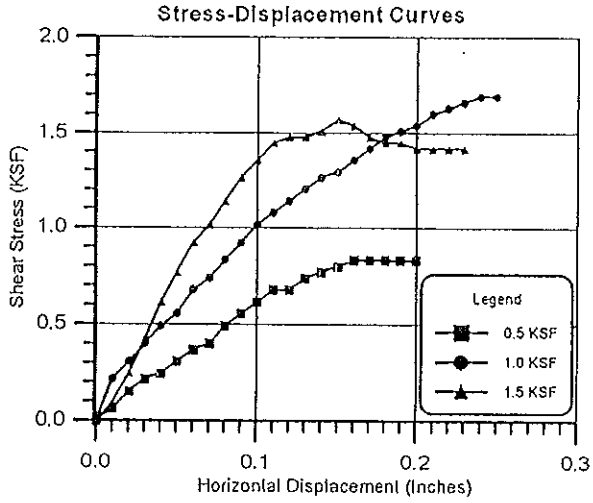


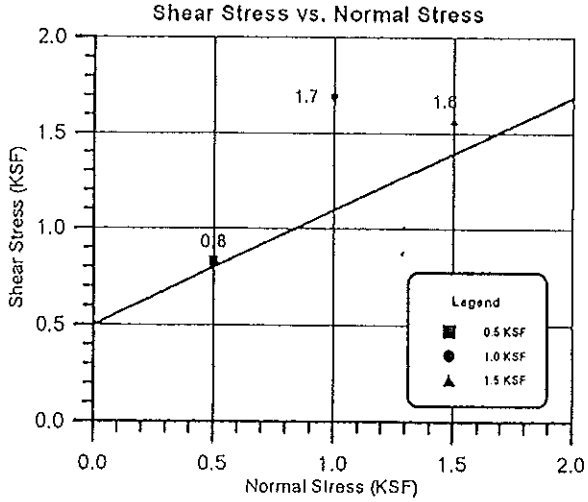
B-1 @ 15' - (Brown clayey fine to coarse sand w/silt and gravel)





B-1 @ 20' (Brown fine to medium sandy clay w/some gravel



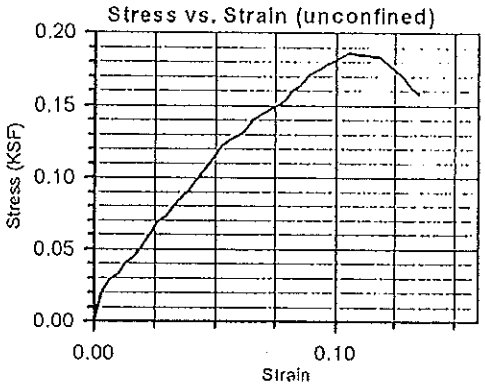


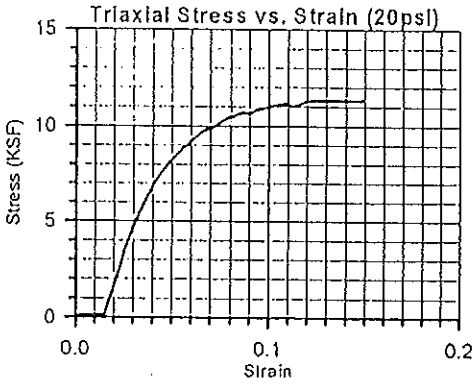
UNCONSOLIDATED UNDRAINED SHEAR TESTS (Unconfined ASTM D-2166, Triaxial ASTM D-2850)

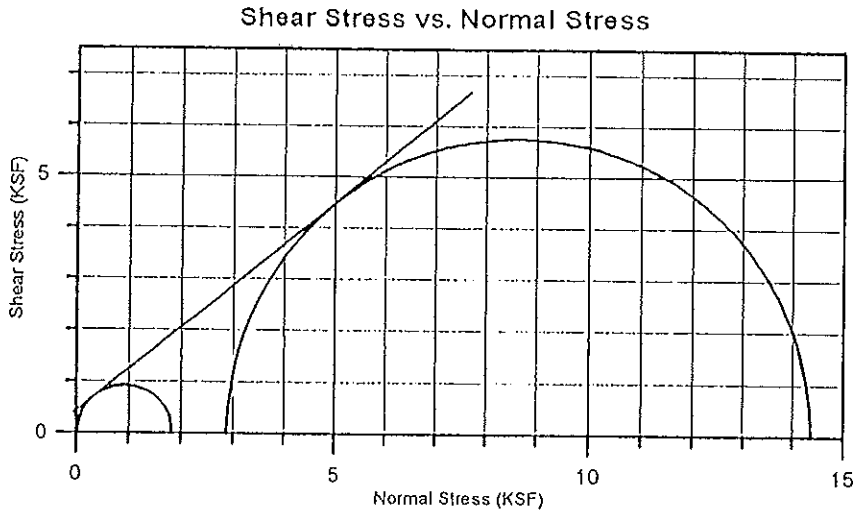
Three unconsolidated undrained shear tests were performed on representative "undisturbed" unsaturated soil samples to determine the total strength parameters. One unconfined compression test and one triaxial test were performed on relatively identical samples taken at the depths reported below. The results are tabulated and shown graphically below:

BORING NO.	DEPTH (ft.)	INTERNAL ANGLE OF FRICTION (degrees)	COHESION (psf)
B-1	10.0	39	500
B-1	20.0	42	500
B-1	24.0	37	450

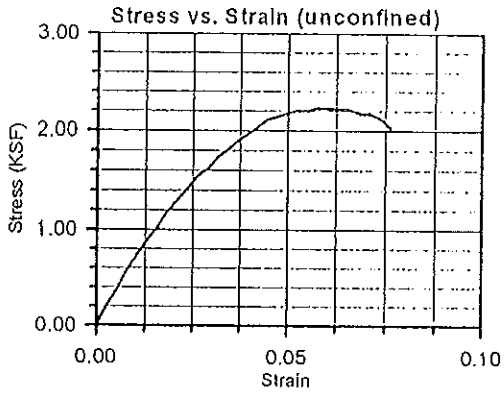
B-1 @ 10' - (Brown gravelly clay w/fine to coarse sand and silt)

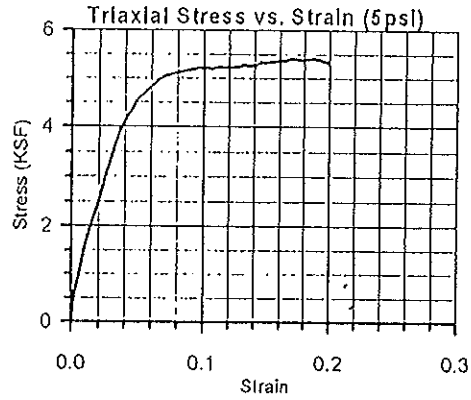


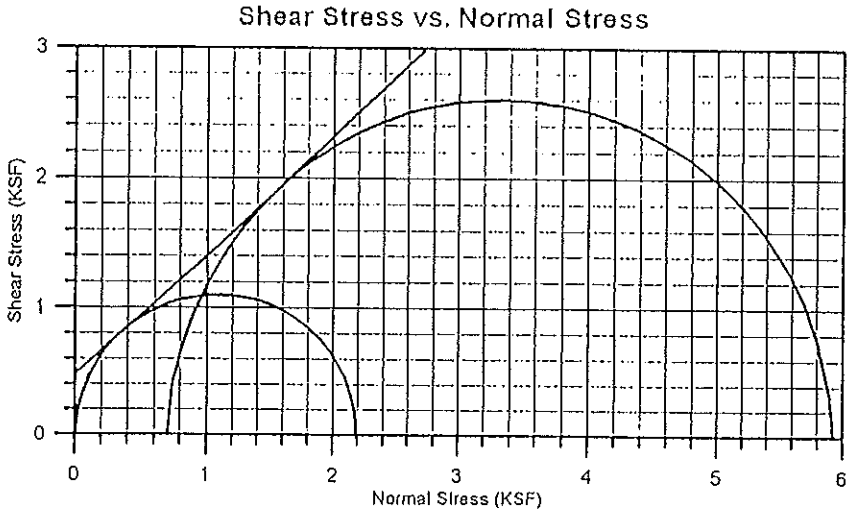




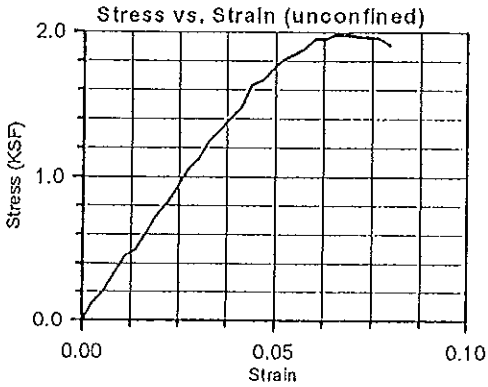
B-1 @ 20' - (Brown fine to medium sandy clay w/some gravel)

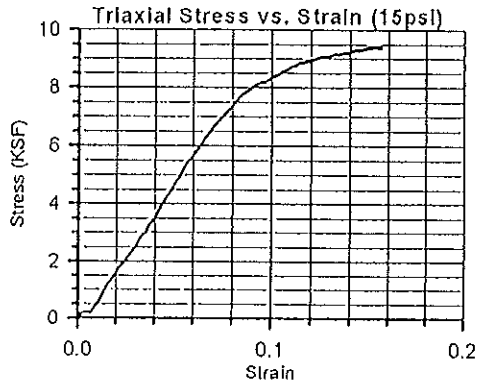


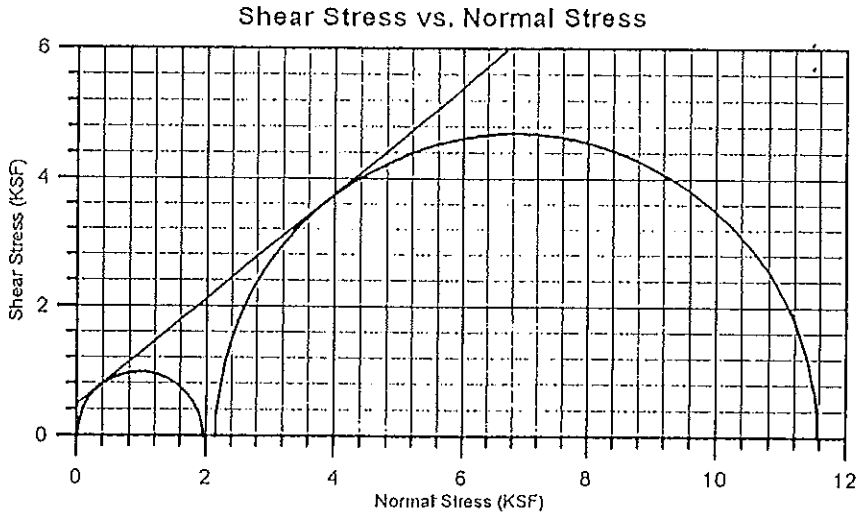




B-1 @ 24' - (Brown tan silty sand and gravel w/trace clay)







APPENDIX C

SLOPE STABILITY DATA

December 8, 1994

Lab No: 5279-6

File No: 94-1430-6

Pacific Materials Laboratory

SB-SLOPE

Simplified Bishop Slope Stability Analysis

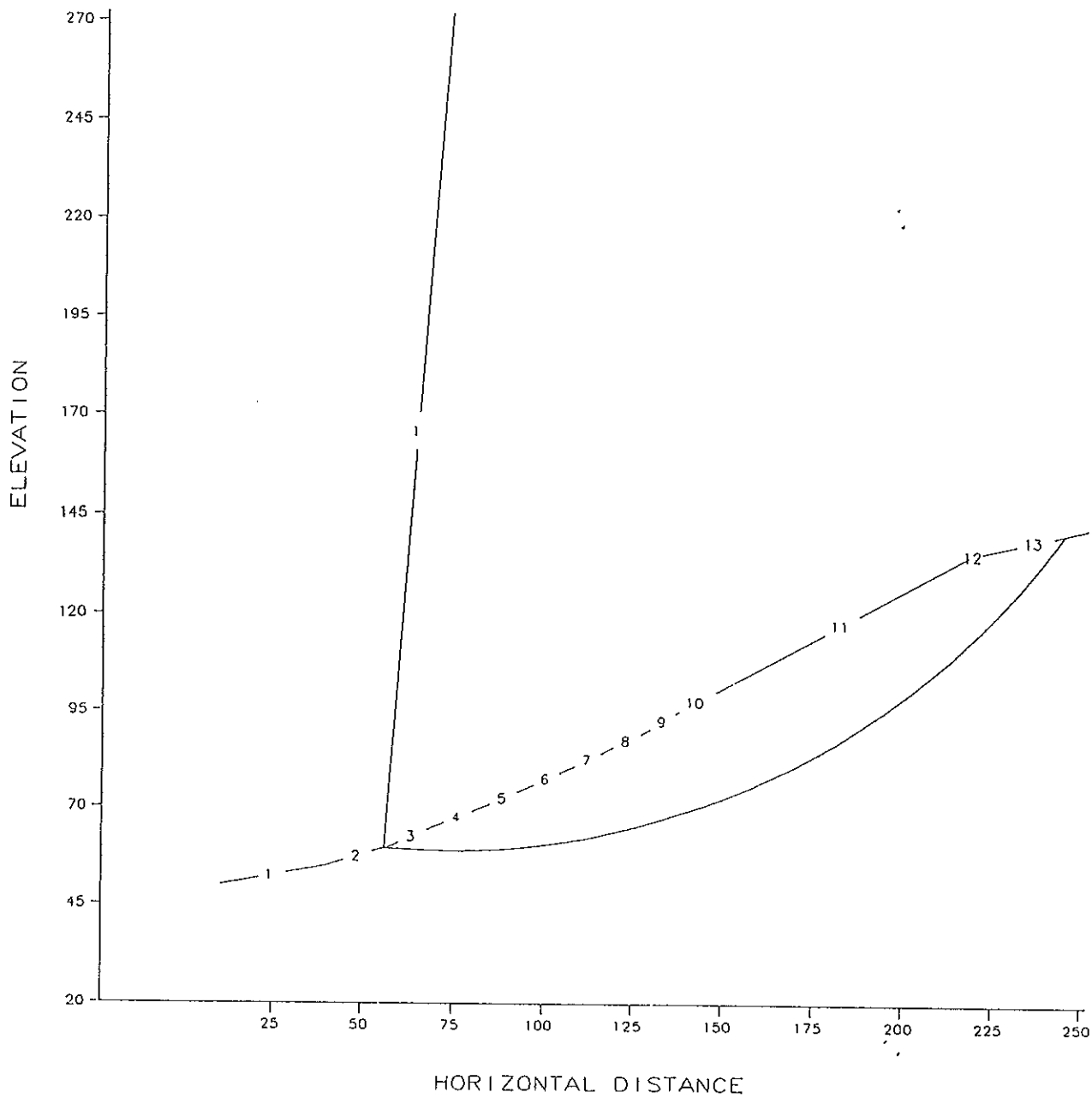
PROJECT: Oak

LOCATION: Buellton

FILE: OAKNAT

COMPLETE SLOPE CROSS SECTION

CIRCLE	X	Y	RADIUS	FS
1	74.0	279.0	220.2	1.59



Pacific Materials Laboratory, Inc.

File: OAKNAT - Naturalslope check for stability
SINGLE CENTER ANALYSIS
Approximately 20 slices selected
Circle center at X= 74.0, Y= 279.0
FS= 1.586 at R= 220.2

X= 74.0 Y= 279.0 R= 220.2

SLICE	X-LEFT	DX	TAN THETA	TAN PHI	COHESION	VERTICAL FORCE	RESISTING TERM	DRIVING TERM
1	56.3	1.7	-0.077	0.510	300	67	573	-5
2	58.0	12.0	-0.045	0.510	300	5086	6290	-231
3	70.0	4.0	-0.009	0.510	300	3476	2980	-32
4	74.0	9.0	0.020	0.510	300	10549	8024	216
5	83.0	12.0	0.068	0.510	300	19659	13356	1340
6	95.0	12.0	0.124	0.510	300	25432	16047	3120
7	107.0	11.0	0.178	0.510	300	27825	16793	4866
8	118.0	11.0	0.231	0.510	300	31611	18542	7108
9	129.0	9.0	0.281	0.510	300	28640	16476	7740
10	138.0	10.0	0.330	0.510	300	34430	19559	10792
11	148.0	10.0	0.384	0.510	300	36214	20457	12996
12	158.0	10.0	0.442	0.510	300	37298	21067	15080
13	168.0	10.0	0.504	0.510	300	37638	21374	16927
14	178.0	10.0	0.570	0.510	300	37179	21349	18410
15	188.0	10.0	0.643	0.510	300	35850	20954	19381
16	198.0	10.0	0.723	0.510	300	33563	20132	19670
17	208.0	10.0	0.814	0.510	300	30202	18799	19073
18	218.0	4.0	0.886	0.510	300	10659	6896	7068
19	222.0	11.7	0.978	0.510	300	22611	15985	15807
20	233.7	11.7	1.141	0.510	300	8001	8411	6018

GEOSYSTEM SLOPE STABILITY PROGRAM
SB-SLOPE

PROJECT DATA:
Project: Oak
Location: Buellton
Filename: OAKNAT Description: Naturalslope check for stability

ANALYSIS DATA:

Point No.	Coordinates X	Y	Line No.	Left Point	Right Point	Soil No.
1	10.0	50.0	1	1	2	1
2	40.0	55.0	2	2	3	1
3	58.0	60.0	3	3	4	1
4	70.0	65.0	4	4	5	1
5	83.0	70.0	5	5	6	1
6	95.0	75.0	6	6	7	1
7	107.0	80.0	7	7	8	1
8	118.0	85.0	8	8	9	1
9	129.0	90.0	9	9	10	1
10	138.0	95.0	10	10	11	1
11	148.0	100.0	11	11	12	1
12	218.0	135.0	12	12	13	1
13	222.0	136.0	13	13	14	1
14	252.0	142.0				

Soil No.	Density pcf	Cohesion psf	Phi Deg
1	125.0	300	27.0

SB-SLOPE

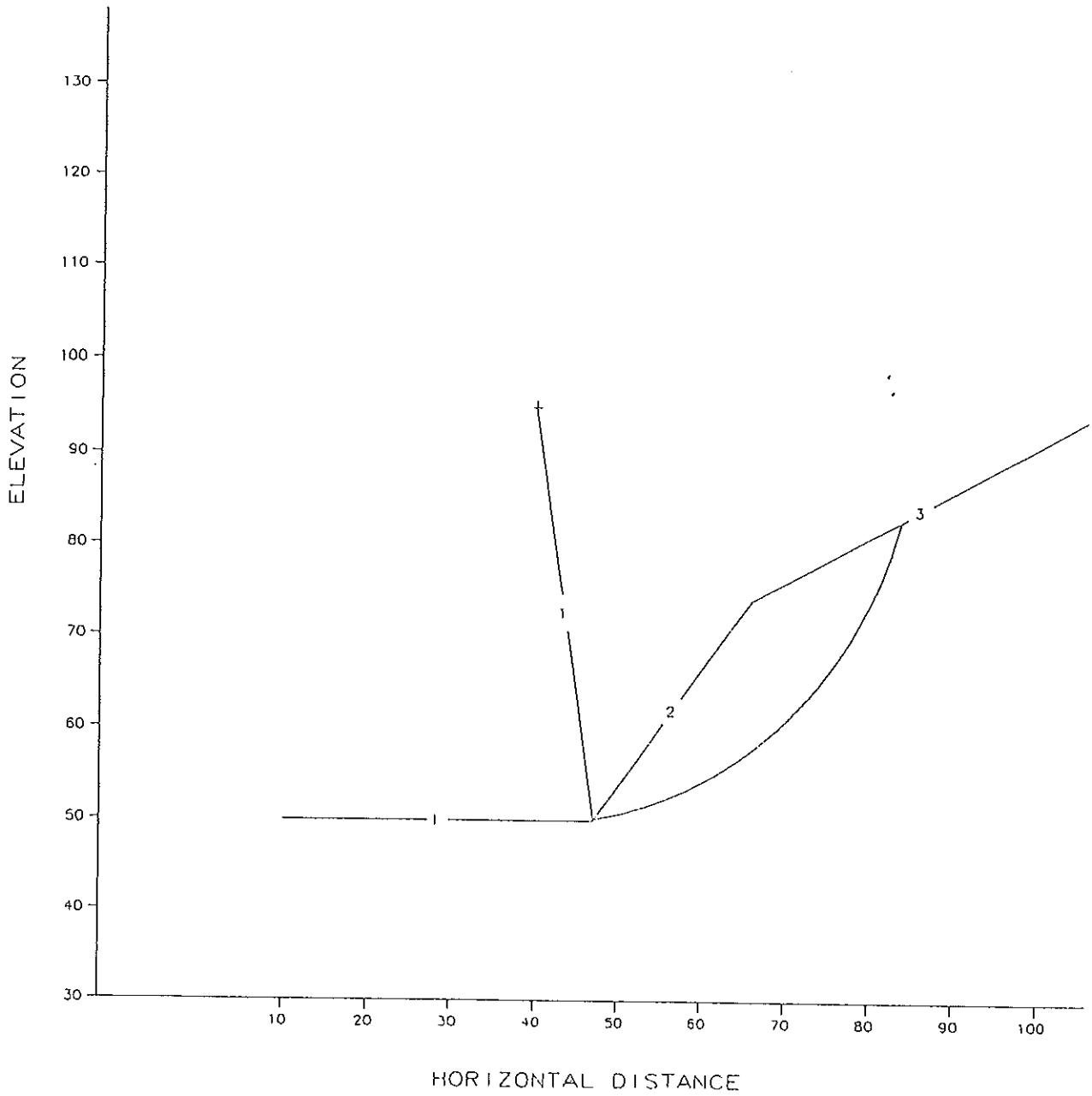
Simplified Bishop Slope Stability Analysis

PROJECT: Oaks Mall

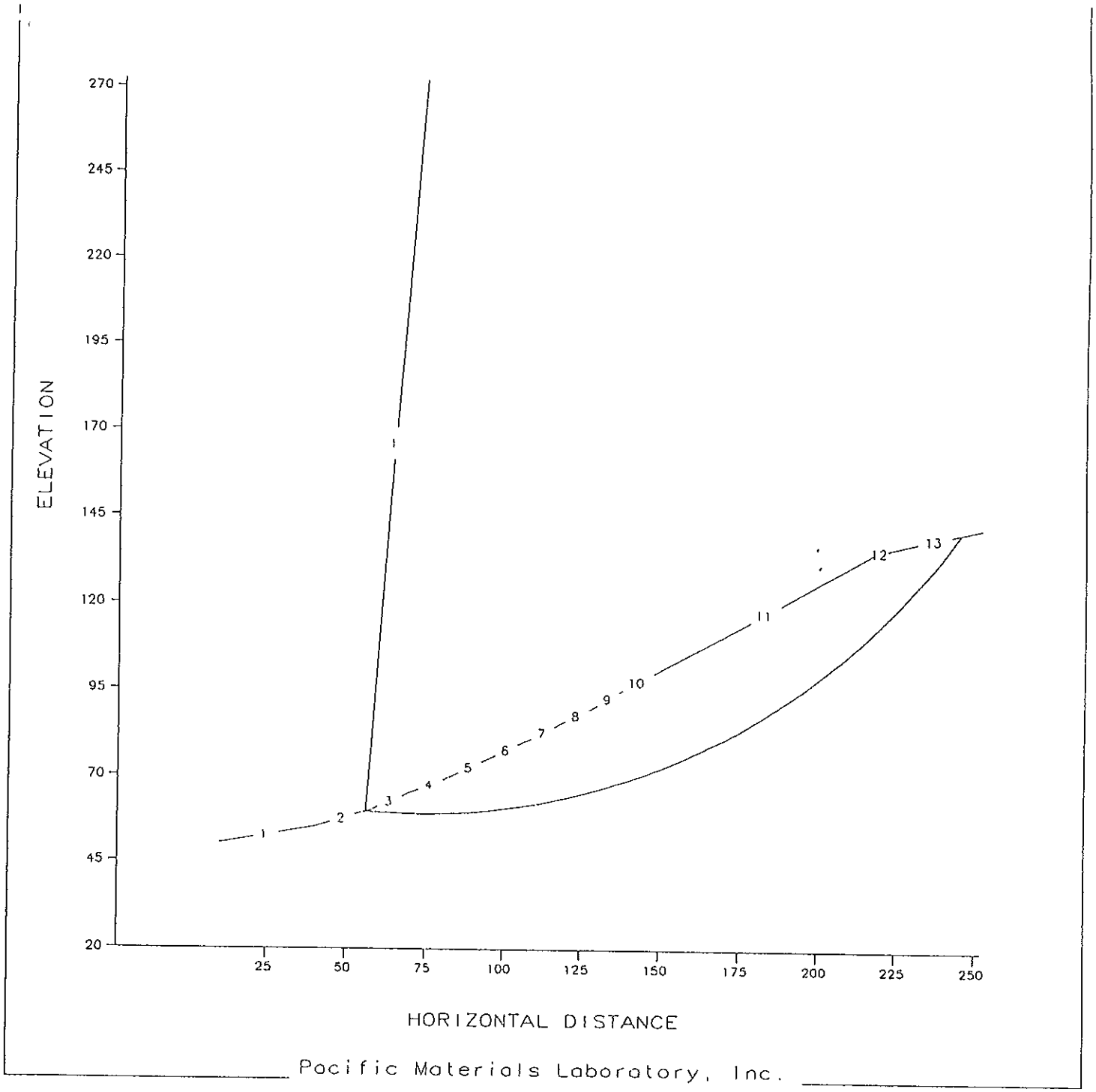
LOCATION: Buellton

FILE: 1T010AK COMPLETE SLOPE CROSS SECTION

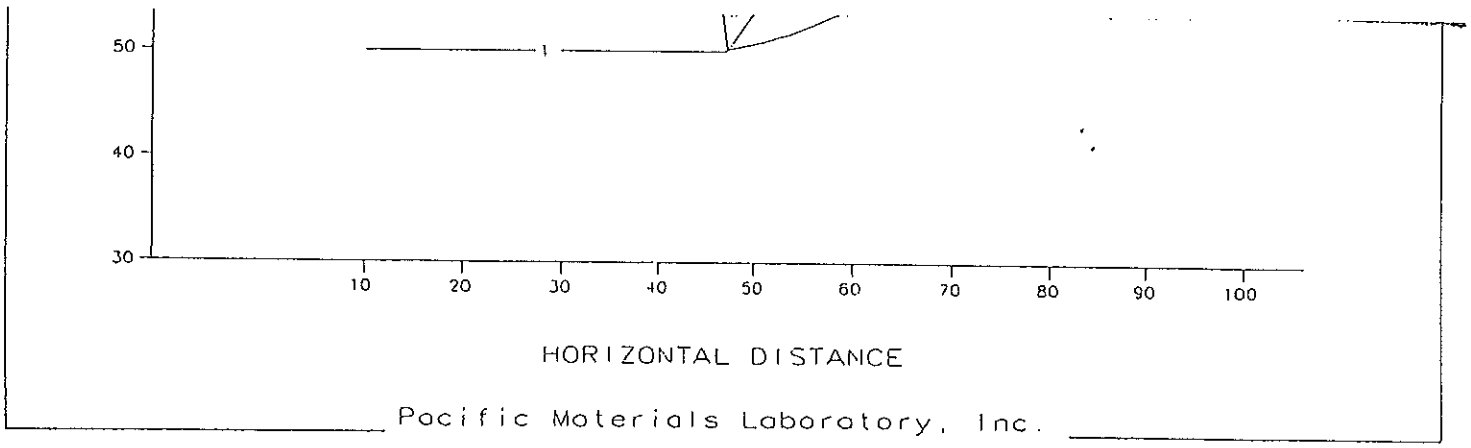
CIRCLE	X	Y	RADIUS	FS
1	40.0	95.0	45.4	1.85



Pacific Materials Laboratory, Inc.



Pacific Materials Laboratory, Inc.



Pacific Materials Laboratory, Inc.

File: 1TO1OAK - cut slope 1to1 oak Buelton
SINGLE CENTER ANALYSIS
Approximately 20 slices selected
Circle center at X= 40.0, Y= 95.0
FS= 1.850 at R= 45.4

X= 40.0 Y= 95.0 R= 45.4

SLICE	X-LEFT	DX	TAN THETA	TAN PHI	COHESION	VERTICAL FORCE	RESISTING TERM	DRIVING TERM
1	47.1	1.9	0.181	0.754	450	241	976	43
2	49.0	1.9	0.225	0.754	450	713	1302	156
3	50.9	1.9	0.270	0.754	450	1165	1612	304
4	52.8	1.9	0.317	0.754	450	1596	1907	483
5	54.7	1.9	0.367	0.754	450	2006	2188	691
6	56.6	1.9	0.418	0.754	450	2394	2457	923
7	58.5	1.9	0.473	0.754	450	2758	2715	1179
8	60.3	1.9	0.531	0.754	450	3097	2963	1452
9	62.2	1.9	0.594	0.754	450	3409	3201	1740
10	64.1	1.9	0.662	0.754	450	3692	3430	2038
11	66.0	1.8	0.737	0.754	450	3695	3454	2192
12	67.8	1.8	0.820	0.754	450	3576	3418	2267
13	69.7	1.8	0.914	0.754	450	3419	3365	2307
14	71.5	1.8	1.024	0.754	450	3219	3290	2303
15	73.4	1.8	1.156	0.754	450	2968	3188	2244
16	75.2	1.8	1.319	0.754	450	2653	3048	2114
17	77.1	1.8	1.534	0.754	450	2258	2855	1891
18	78.9	1.8	1.841	0.754	450	1751	2575	1539
19	80.8	1.8	2.344	0.754	450	1072	2137	986
20	82.6	1.1	3.113	0.000	0	206	0	196

GEOSYSTEM SLOPE STABILITY PROGRAM
SB-SLOPE

PROJECT DATA:
Project: Oaks Mall
Location: Buellton
Filename: 1TO1OAK Description: cut slope 1to1 oak Buelton

ANALYSIS DATA:

Point No.	Coordinates X	Y	Line No.	Left Point	Right Point	Soil No.
1	10.0	50.0	1	1	2	1
2	47.0	50.0	2	2	3	1
3	66.0	74.0	3	3	4	1
4	106.0	94.0				

Soil No.	Density pcf	Cohesion psf	Phi Deg
1	125.0	450	37.0

Depth of tension crack = 3.5

SB-SLOPE

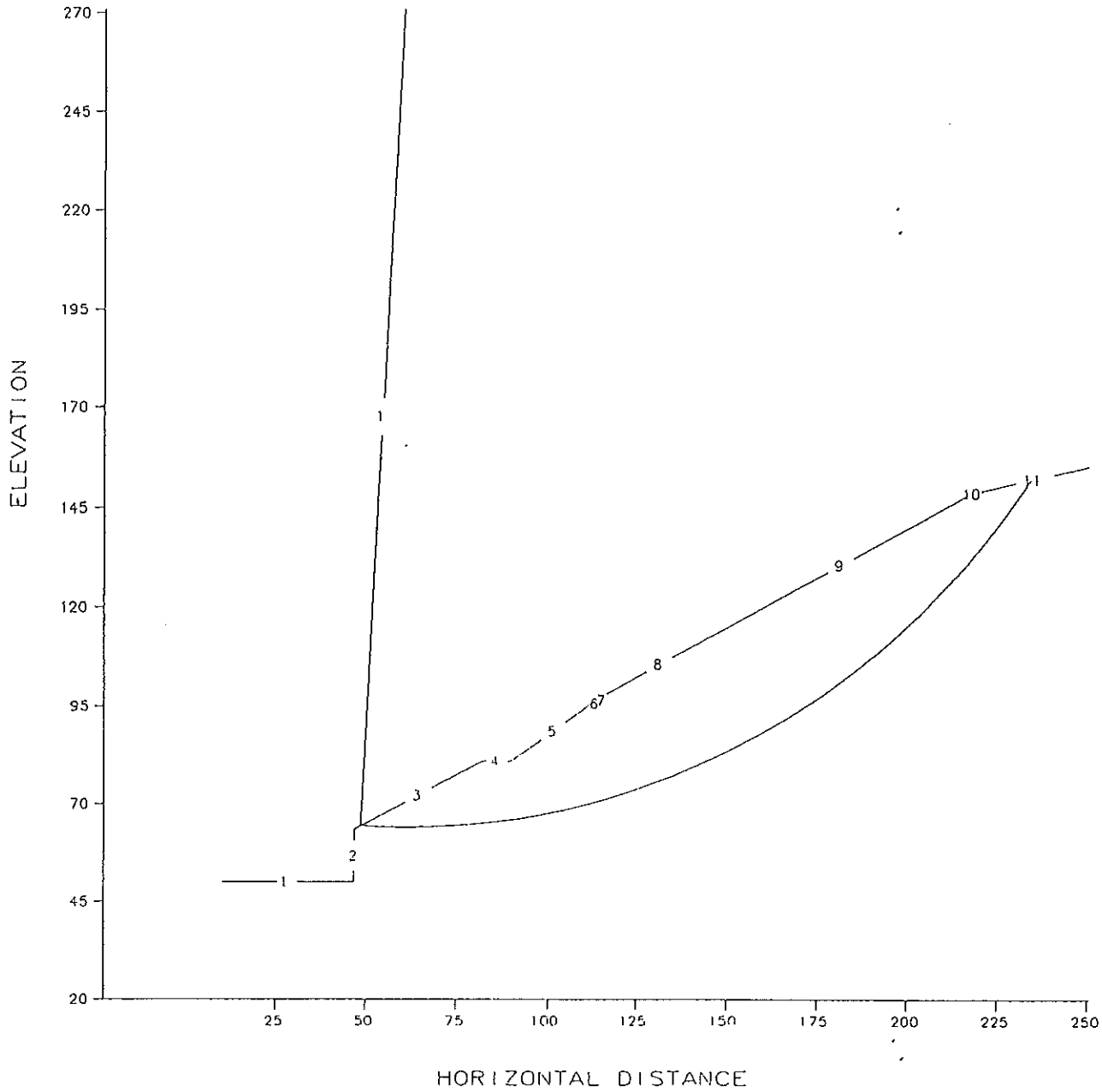
Simplified Bishop Slope Stability Analysis

PROJECT: Oak Mall

LOCATION: Buellton

FILE: OAKB-B COMPLETE SLOPE CROSS SECTION

CIRCLE	X	Y	RADIUS	FS
1	61.0	279.0	215.0	1.49



Pacific Materials Laboratory, Inc.

File: OAKB-B - Cut Slope Stability check
SINGLE CENTER ANALYSIS
Approximately 20 slices selected
Circle center at X= 61.0, Y= 279.0
FS= 1.486 at R= 215.0

X= 61.0 Y= 279.0 R= 215.0

SLICE	X-LEFT	DX	TAN THETA	TAN PHI	COHESION	VERTICAL FORCE	RESISTING TERM	DRIVING TERM
1	48.9	12.1	-0.028	0.510	300	4847	6167	-137
2	61.0	10.6	0.025	0.510	300	11818	9127	291
3	71.6	10.6	0.074	0.510	300	18146	12151	1342
4	82.2	7.8	0.118	0.510	300	15106	9715	1764
5	90.0	11.5	0.164	0.510	300	25739	15893	4162
6	101.5	11.5	0.220	0.510	300	33525	19547	7214
7	113.0	1.3	0.252	0.510	300	3919	2252	959
8	114.3	2.3	0.261	0.510	300	7174	4108	1814
9	116.5	10.0	0.293	0.510	300	34683	19574	9763
10	126.5	10.0	0.347	0.510	300	36930	20637	12113
11	136.5	10.0	0.404	0.510	300	38485	21417	14414
12	146.5	10.0	0.464	0.510	300	39309	21903	16552
13	156.5	10.0	0.529	0.510	300	39351	22073	18401
14	166.5	10.0	0.599	0.510	300	38548	21897	19819
15	176.5	10.0	0.677	0.510	300	36820	21328	20644
16	186.5	10.0	0.764	0.510	300	34061	20299	20683
17	196.5	10.0	0.864	0.510	300	30134	18712	19701
18	206.5	10.0	0.981	0.510	300	24851	16419	17405
19	216.5	4.0	1.076	0.510	300	7911	5613	5796
20	220.5	13.8	1.226	0.510	300	12227	11554	9476

GEOSYSTEM SLOPE STABILITY PROGRAM
SB-SLOPE

PROJECT DATA:
Project: Oak Mall
Location: Buellton
Filename: OAKB-B Description: Cut Slope Stability check

ANALYSIS DATA:

Point No.	Coordinates X	Coordinates Y	Line No.	Left Point	Right Point	Soil No.
1	10.0	50.0	1	1	2	1
2	47.0	50.0	2	2	3	1
3	47.2	63.5	3	3	4	1
4	82.2	81.0	4	4	5	1
5	90.0	81.0	5	5	6	1
6	113.0	96.3	6	6	7	1
7	114.3	95.0	7	7	8	1
8	116.5	98.0	8	8	9	1
9	146.5	113.0	9	9	10	1
10	216.5	148.0	10	10	11	1
11	220.5	149.0	11	11	12	1
12	250.5	155.0				

Soil No.	Density pcf	Cohesion psf	Phi Deg
1	125.0	300	27.0

SB-SLOPE

Simplified Bishop Slope Stability Analysis

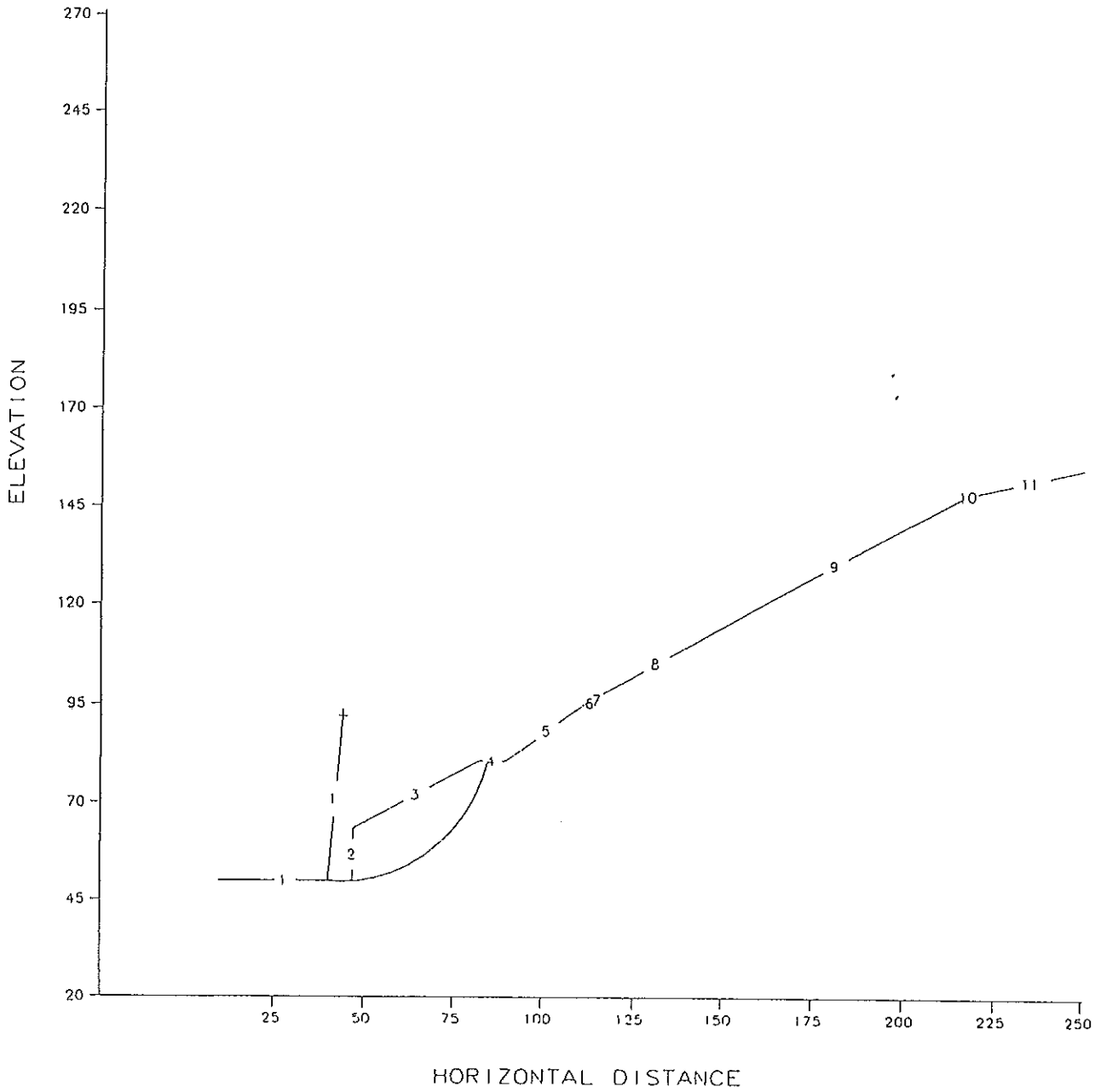
PROJECT: Oak Mall

LOCATION: Buellton

FILE: OAKB-B

COMPLETE SLOPE CROSS SECTION

CIRCLE	X	Y	RADIUS	FS
1	44.0	92.1	42.3	1.52



Pacific Materials Laboratory, Inc.

File: OAKB-B - Cut Slope Stability check
SINGLE CENTER ANALYSIS
Approximately 20 slices selected
Circle center at X= 44.0, Y= 92.1
FS= 1.521 at R= 42.3

X= 44.0 Y= 92.1 R= 42.3

SLICE	X-LEFT	DX	TAN THETA	TAN PHI	COHESION	VERTICAL FORCE	RESISTING TERM	DRIVING TERM
1	39.9	4.1	-0.049	0.510	300	51	1281	-2
2	44.0	3.0	0.036	0.510	300	55	918	2
3	47.0	0.2	0.073	0.510	300	171	144	13
4	47.2	2.3	0.104	0.510	300	4095	2707	423
5	49.5	2.3	0.160	0.510	300	4346	2801	689
6	51.9	2.3	0.219	0.510	300	4557	2882	974
7	54.2	2.3	0.279	0.510	300	4728	2952	1271
8	56.5	2.3	0.342	0.510	300	4857	3010	1574
9	58.9	2.3	0.410	0.510	300	4941	3057	1874
10	61.2	2.3	0.482	0.510	300	4978	3093	2162
11	63.5	2.3	0.562	0.510	300	4963	3116	2430
12	65.9	2.3	0.650	0.510	300	4891	3126	2665
13	68.2	2.3	0.750	0.510	300	4755	3119	2853
14	70.5	2.3	0.867	0.510	300	4545	3093	2978
15	72.9	2.3	1.010	0.510	300	4246	3041	3017
16	75.2	2.3	1.191	0.510	300	3837	2952	2939
17	77.5	2.3	1.440	0.510	300	3283	2805	2696
18	79.9	2.3	1.825	0.510	300	2512	2557	2203
19	82.2	2.2	2.554	0.510	300	1167	1846	1087
20	84.4	0.4	3.426	0.000	0	41	0	39

GEOSYSTEM SLOPE STABILITY PROGRAM
SB-SLOPE

PROJECT DATA:
Project: Oak Mall
Location: Buellton
Filename: OAKB-B Description: Cut Slope Stability check

ANALYSIS DATA:

Point No.	Coordinates X	Coordinates Y	Line No.	Left Point	Right Point	Soil No.
1	10.0	50.0	1	1	2	1
2	47.0	50.0	2	2	3	1
3	47.2	63.5	3	3	4	1
4	82.2	81.0	4	4	5	1
5	90.0	81.0	5	5	6	1
6	113.0	96.3	6	6	7	1
7	114.3	95.0	7	7	8	1
8	116.5	98.0	8	8	9	1
9	146.5	113.0	9	9	10	1
10	216.5	148.0	10	10	11	1
11	220.5	149.0	11	11	12	1
12	250.5	155.0				

Soil No.	Density pcf	Cohesion psf	Phi Deg
1	125.0	300	27.0

Depth of tension crack = 1.5

SB-SLOPE

Simplified Bishop Slope Stability Analysis

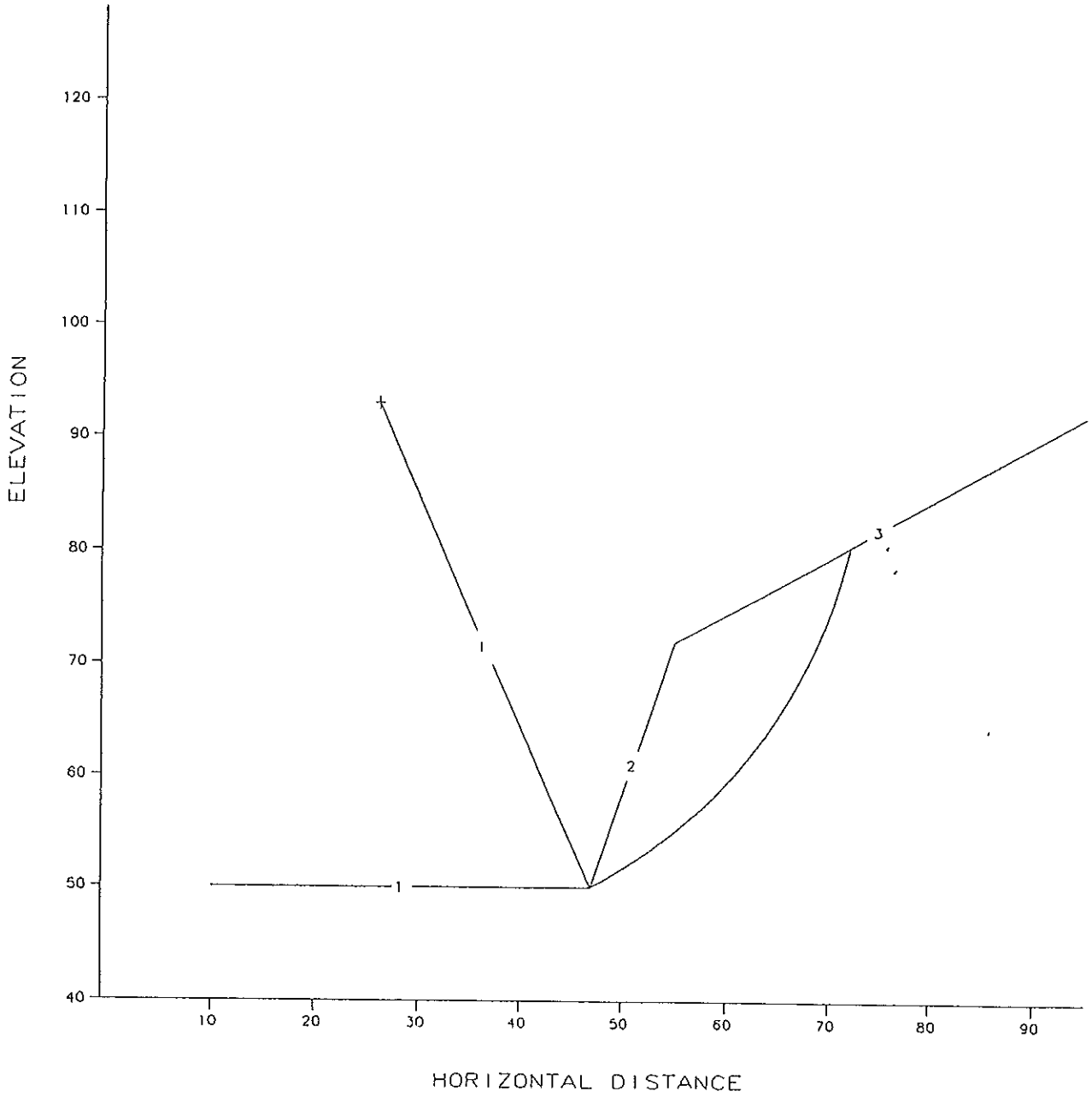
PROJECT: Oak Mall

LOCATION: Buellton

FILE: OAKLOF

COMPLETE SLOPE CROSS SECTION

CIRCLE	X	Y	RADIUS	FS
1	26.0	93.0	47.8	0.96



Pacific Materials Laboratory, Inc.

File: OAKLOF - loffelstein wall
SINGLE CENTER ANALYSIS
Approximately 20 slices selected
Circle center at X= 26.0, Y= 93.0
FS= 0.962 at R= 47.8

X= 26.0 Y= 93.0 R= 47.8

SLICE	X-LEFT	DX	TAN THETA	TAN PHI	COHESION	VERTICAL FORCE	PORE WATER FORCE	RESISTING TERM	DRIVING TERM
1	47.0	1.3	0.509	0.510	300	247	0	464	112
2	48.4	1.3	0.550	0.510	300	738	0	684	355
3	49.7	1.3	0.592	0.510	300	1219	0	902	621
4	51.0	1.3	0.637	0.510	300	1690	0	1117	908
5	52.3	1.3	0.685	0.510	300	2151	0	1329	1215
6	53.7	1.3	0.736	0.510	300	2601	0	1540	1542
7	55.0	1.3	0.790	0.510	300	2682	0	1572	1663
8	56.3	1.3	0.848	0.510	300	2617	0	1553	1693
9	57.6	1.3	0.911	0.510	300	2539	0	1530	1710
10	58.8	1.3	0.981	0.510	300	2449	0	1503	1715
11	60.1	1.3	1.059	0.510	300	2343	0	1471	1703
12	61.4	1.3	1.147	0.510	300	2220	0	1433	1673
13	62.7	1.3	1.248	0.510	300	2078	0	1388	1622
14	63.9	1.3	1.367	0.510	300	1914	0	1334	1545
15	65.2	1.3	1.511	0.510	300	1723	0	1269	1437
16	66.5	1.3	1.690	0.510	300	1499	0	1188	1290
17	67.8	1.3	1.925	0.510	300	1233	0	1086	1094
18	69.0	1.3	2.256	0.510	300	909	0	951	831
19	70.3	1.8	2.982	0.000	0	528	0	0	501

GEOSYSTEM SLOPE STABILITY PROGRAM
SB-SLOPE

PROJECT DATA:
Project: Oak Mall
Location: Buellton
Filename: OAKLOF Description: loffelstein wall

ANALYSIS DATA:

Point No.	Coordinates X	Y	Line No.	Left Point	Right Point	Soil No.
1	10.0	50.0	1	1	2	1
2	47.0	50.0	2	2	3	1
3	55.0	72.0	3	3	4	1
4	95.0	92.0				

Soil No.	Density pcf	Cohesion psf	Phi Deg	Ru
1	125.0	300	27.0	0.00

Depth of tension crack = 5.5

Pacific
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E-mail: pml@pml.sbcoxmail.com

PRELIMINARY GEOTECHNICAL INVESTIGATION

Proposed Meritage Senior Living Complex

Jonata Park Road (APN 99-400-64/65)

City of Buellton

County of Santa Barbara

California

CLIENT
Buellton Oaks L.P.
c/o Mark Edwards, Agent
922 Laguna Street
Santa Barbara, CA 93101-1405

June 6, 2012
Lab No: 8841-6
File No: 12-1430-6

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APPENDIX B - Laboratory Tests

INTRODUCTION

This report presents the results of a preliminary geotechnical investigation performed at Meritage Senior Living complex, Jonata Park Road (APN 99-400-64/65), City of Buellton in the County of Santa Barbara, California. It is proposed to develop the site with paved driveways and parking lots surrounding several structures. Most of the area is undeveloped with the exception of a couple of residential structures, which will be removed. Most of the terrain is nearly level located between Jonata Park Road on the east and gently rising hills on the west.

SCOPE OF WORK

It is the purpose of this investigation to update and supplement the report completed by our firm in 1992 (PML Lab No. 4843-6). The purpose of the additional borings was to classify the soil disclosed by the exploratory borings and excavations by observation and tests on selected samples. In addition, this study includes laboratory tests to evaluate expansiveness of the soil. Based upon this information, we will provide preliminary grading and foundation recommendations for the proposed Meritage Senior Living complex.

The scope of this investigation does not include the analysis of the corrosive potential of the soil, previous site construction, or analysis of geologic structures and their associated features, such as faults, fractures, bedding planes, strike and dip angles, ancient landslides, potential for earth movement in undisturbed or natural soil formations sloped or level, or other sources of potential instability which relate to the geologic conditions, as these items were addressed by an Engineering Geologist, Rick Hoffman, in 1992.

This exploration was conducted in accordance with presently accepted geotechnical engineering procedures currently applied in the local community in order to provide the appropriate geotechnical design characteristics of the foundations soils and of the proposed fill soils in order to properly evaluate the proposed structure with respect to differential settlement based upon the anticipated soil characteristics at the time of construction.

LIMITATIONS

This Laboratory's basic assumption is that the soil borings presented herein are representative of the entire footprint of the proposed development, however, no warranty is implied. If, during the course of construction, soil conditions are encountered which vary from those presented herein, please contact this Laboratory immediately so appropriate field modifications may be expeditiously proposed.

It is your responsibility to contact our office, providing at least 48 hours of notice for grading or footing excavation observations and testing. The observation of excavations during the construction phase represents an opportunity by our firm to either confirm soil conditions estimated by the exploratory borings or to discover soil conditions which have not been

addressed. When such undisclosed conditions are encountered, opinions and recommendations addressing these conditions will be rendered at that time.

This report is considered preliminary and no person should consider the recommendations or soil conditions described herein as conclusive. The recommendations and conclusions of this report are considered preliminary until all excavations have been observed during the construction phase, after which a final report will be issued stating that the grading and foundation works accomplished and installed are appropriate for the soil conditions encountered.

FIELD INVESTIGATION

The subsurface soil conditions were explored by five hand auger borings, which were drilled to depths of up to 7 feet. The locations of the borings were selected as appropriate and representative. Representative relatively "undisturbed" tube soil samples were obtained during the drilling operation by the thin-walled sampling tube method (ASTM D-1587). Laboratory tests and analysis of representative soil samples, obtained during the drilling operation, were performed to estimate the engineering properties and determine the soil classification. The locations of the borings are shown on Plate 1; these locations are approximate and have not been located by surveyed measurements. The boring log data is presented in Appendix A, "Field Investigation", while the results of the laboratory tests are provided in Appendix B, "Laboratory Tests".

In 1992, four borings were drilled to depths of up to 25 feet.

SOIL CONDITIONS

1. No groundwater was encountered in the exploratory borings which extended to depths of up to 25 feet. Based on the geology report, groundwater is estimated to be over 100 feet below the existing ground surface. It should be recognized that water table elevations, even seasonal perched water tables, might fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

2. Most of the supporting soils were found to be soils having a very low potential for expansion. During the original soil investigation in 1993, some expansive soils were encountered; however, the amount of expansive soil appears to be comparatively small, such that it can be removed during the grading operation.

3. The top 36 inches of surface soils are estimated to be compressible and sensitive to collapse when subjected to increased moisture content.

4. The soil profile at this site is judged to be stiff soil corresponding to a Site Class D as defined by Table 1613.5.2 of the California Building Code (CBC). This estimate is based on the borings, which encountered the geologic formation known as the Older Alluvium which is widely regarded as a Type D soil profile since the Standard Penetration Resistance typically results in blow counts having a range of between 15 to 50.

5. The potential for liquefaction is considered to be very low.

PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS

It is the opinion of this Laboratory the proposed grading and construction are feasible from a soil-engineering perspective provided the recommendations contained in this soil engineering report are incorporated into the design and implemented during construction.

It is the understanding of this Laboratory the proposed Meritage Senior Living complex will be a one-, two-, and/or three-story structures with concrete slab-on-grade floors. Based upon this understanding, we present the following preliminary recommendations:

GRADING

1. The area to be graded shall be cleared of surface vegetation, including roots and root structures.

2. If, during the removal and scarification process, excessive root structures are encountered, these areas shall be deep ripped in two directions to the depth of the root structure, after which the disturbed soils and the roots shall be completely removed, and the resulting cavities shall be scarified and processed to receive fill in accordance with recommendations contained in this section.

3. If, during the grading operations, previously placed undocumented fill material is encountered, this fill material shall be removed under the direction of this Laboratory prior to commencement of the filling operations.

4. During the grading operation, a dark gray to brown silty clay with tan-white sand pieces may be encountered. These soils were found to be very expansive an, therefore, unsuitable for placement underneath structures or parking lots. During the grading operation, these soils will be excavated under the direction of this Laboratory and wasted in landscape portions of the project.

5. The footings of the proposed structures (such as buildings and retaining walls) shall be supported completely by a **uniform** thickness of non-expansive soil. **The structures shall not be supported over a cut/fill transition unless the foundation is engineered to account for the transition.**

6. Beneath the proposed structures and for a minimum distance of 5 feet beyond the exterior perimeters, the loose topsoil and compressible surface soils shall be removed and observed by a representative of our firm. Upon approval of excavation, the exposed ground surface shall be scarified an additional 6 to 8 inches, moistened or dried to near the optimum moisture content, and compacted to 90% of the relative compaction. We anticipate the depth of the surface soil removal to be approximately 36 inches below the existing grade. The minimum depth of removal shall be at least 12 inches below the bottom of the proposed footings.

7. The removed surface soils and/or imported approved fill may then be placed in loose lifts of approximately 6 inches, thoroughly mixed, moistened or dried to near optimum moisture content, and compacted to a minimum of 90% relative compaction.

8. Rocks greater than 6 inches in size shall be removed from the soil being spread for compaction.

9. Import soils, if required for compacted fill, shall be granular, non-expansive soils which are equal to, or superior in quality to, the on-site soils as determined by this Laboratory prior to importation of the fill material to the site. This is not referring to retaining wall backfill. See the RETAINING WALLS section of this report for retaining wall backfill requirements.

10. The compaction standard shall be the latest adoption of the ASTM D-1557 method of compaction.

11. Positive surface drainage shall direct water away from all slopes and away from the foundation system of the proposed structure.

FOUNDATIONS

1. These recommendations assume a uniform thickness of compacted soil will support the proposed footings.

2. For portions of the structure which rest upon compacted fill soil, all continuous exterior footings for one-story portions of the structure shall extend a minimum of 18 inches and all continuous interior one-story footings shall extend a minimum distance of 12 inches below compacted ground surface.

3. Footings below two-story portions of the structure shall extend 18 inches below compacted ground surface.

4. Footings below three-story portions of the structure shall extend 24 inches below compacted ground surface.

5. All footings shall contain a minimum of two No. 4 horizontal rebar placed one in the base and one in the stem of the footing. The Project Civil or Structural Engineer shall specify the foundation steel reinforcement.

6. Isolated piers may be utilized and shall extend a minimum of 18 inches below compacted ground surface.

7. Concrete slab-on-grade floors shall be placed over a subgrade soil conforming to the GRADING recommendations of this report.

8. As a minimum, concrete slabs on grade shall be a full 4 inches thick and shall contain No. 3 rebar spaced 24 inches on center each way. The steel reinforcement shall be placed near the center of the slab. Concrete slabs on grade shall be doweled into all adjacent footings using No. 3 rebar spaced 24 inches on center. The traditional or conventional subgrade preparation below a concrete slab-on-grade floor is some variation of the following: A minimum 4-inch coarse washed concrete sand layer is placed over the soil subgrade in which a 10-mil or heavier impervious membrane is embedded at the lower quarter of the sand blanket, creating at least a 3-inch cover of sand. These concrete slab-on-grade and sand layer recommendations shall be modified as needed by the designers for surcharge loads, wheel loads, concentrated loads, or for moisture control. The floor covering supplier or manufacturer should be contacted for their specifications for design features which will result in a successful bond between the concrete slab and floor covering. Floor flatness and shrinkage crack control must be addressed by a competent contractor experienced in the skill of concrete placement. The owners or their agents shall inform those designing, building, and installing the concrete slab on grade and flooring of the performance and aesthetics expected. It is the sole purpose of the recommendations contained in this report to analyze the mechanical properties of the soil with respect to achieving a stable soil subgrade. By stable, we refer to the settlement or heave properties of the subgrade soil.

9. If footings are to be located on, adjacent to, or within 10 feet of the top of a slope, these footings shall extend to such a depth so that the horizontal distance between the bottom outside edge of the footing and the face of the adjacent slope is a minimum distance of 10 feet. The slope setback required by the CBC, Figure 1805.3.1, shall also apply.

10. This Laboratory shall be requested to inspect the footing excavation prior to placement of reinforcing steel and timber form boards.

11. Based upon compliance with the above recommendations, an allowable soil bearing value for compacted soil of 1,300 psf for 12-inch deep footings, 1,500 psf for 18-inch deep footings, and 2,000 psf for 24-inch deep footings with a one-third increase when considering wind or seismic forces may be assumed.

12. Floor or crawl space elevations located lower than the surrounding exterior grades are recommended to be protected from moisture intrusion. Please consult the building designer for details, such as waterproofing and French drains.

RESISTANCE TO LATERAL LOADS

Lateral loads may be resisted by frictional resistance along the foundation base and passive earth pressures along the foundation sides. An allowable friction coefficient of 0.35 may be used. The passive pressures of 350 pcf of footing may be used. A triangular distribution should be used. The frictional resistance and the passive pressure may be combined without reduction. The resistance may be increased by one-third for wind or seismic loading.

RETAINING WALLS

Cantilevered - For cantilevered retaining walls, such as site walls and garden walls, which do not form part of the structure, we recommend the following:

1. The cantilevered retaining wall shall be designed assuming an active soil pressure equivalent to a fluid (E.F.P.) whose weight is 35 pcf for level backfill conditions and 52 pcf for backfill slopes, which are constructed at an angle of up to 27 degrees. These values are based on Coulomb's Equation and the following assumed backfill soil values: internal angle of friction equal to 34 degrees, cohesion equal to 0, and a total unit weight of soil equal to 125 pcf. The E.F.P. value does not include surcharge loads and is based on a free-draining condition. The free-draining condition must be created by placing the backfill specified in this section of the report.

2. Retaining walls may be designed using pseudostatic analyses based on the Mononobe Okabe approach. The need to apply the lateral seismic load is to be determined by the Project Structural Engineer or by the building code. We have estimated the seismic earth pressures using the Mononobe Okabe method, assuming a horizontal ground acceleration of 0.498g, and assuming drained backfill conditions. The peak horizontal ground acceleration (PGA) was determined from the 0 period on the design response spectrum obtained from the USGS Seismic Hazard Calculator using the ASCE 7 option with a soil site Class D. The probabilistic seismic hazard analysis utilizes the 2005 ASCE 7 standard data edition, seismic-hazard source models, attenuation relationships, and probabilistic calculations to determine the probabilistic PGA at the input site. The location of the site is identified by entering the latitude and longitude corresponding to the site. The return period for this analysis is 475 years, based on a 10% probability of exceedence in 50 years. The seismic earth pressure (ΔP_{AE}), resulting from seismic loads acting on retaining walls, may be estimated as $\Delta P_{AE} = 23H^2$, in pounds per lineal foot of wall, for an inverted triangular pressure distribution with the resultant force acting 0.6H above the base of the wall.

3. The bottom of the retaining wall footing shall extend a minimum distance of 24 inches below the lowest adjacent undisturbed natural grade, or 12 inches into firm undisturbed original ground (whichever is deeper), and shall be designed assuming an allowable soil bearing value of 2,000 psf. For footings placed on slopes, the base of the toe or keyway placed at the toe shall extend to such a depth that there exists 10 horizontal feet between the bottom of the footing and the daylight line of the adjacent slope. It should be noted the key may be placed adjacent to the downhill edge of the retaining wall footing in order to attain the recommended downhill grade footing embedment. The slope setback required by the CBC, Figure 1805.3.1, shall also apply.

4. A passive soil pressure equivalent to a fluid whose weight is 350 pcf and a coefficient of friction against sliding of 0.35 may be assumed for the footing excavation described in the recommendation above.

5. The use of equipment to compact soil within the wedge of backfill defined by a 1:1 line projected up from behind the retaining wall to the surface shall be limited to handheld rammer plate compactors, such as a Wacker BS 45Y. A string line shall be placed along the top of the wall to monitor possible rotation of the wall due to the compaction surcharge. If the wall begins to bow or lean away from the backfilling operations, the compaction process shall stop and the Geotechnical Engineer shall be notified immediately such that modified compaction recommendations can be given at that time.

6. The finish covering on the face of the wall, such as stucco or paint, may be adversely affected by moisture intrusion from the backfill through the back of the wall. To prevent this, you should consider waterproofing the back of the wall and footing. All waterproofing and application of waterproofing shall be in accordance with the specifications of the product supplier.

7. Retaining wall backfill shall be a clean coarse sand or gravel wrapped in a filter fabric. The gravel shall be separated from adjacent native soil by a filter fabric, such as Mirafi 140N™. The retaining wall shall be serviced by appropriately placed weep holes or a perforated drain. This drainage feature must include at least 2 cubic feet of gravel wrapped in filter fabric. Lower quality native backfill material may be utilized outside the triangular wedge which extends upwards from the inside edge of the retaining wall and is a minimum width of 60% of the wall height at ground surface. The sand between the wall and native soil shall have a Sand Equivalent of 20 or greater and an Expansion Index equal to 0. To avoid excessive amounts of sand and gravel backfill, do not allow the excavation contractor to cut a vertical excavation 2 to 4 feet beyond the back of the retaining wall footing or stem. Cut only to the point needed to install the drainpipe and slope the excavation back as specified.

8. It is assumed that the rough grade excavation behind the retaining wall is to be cut at a temporary slope angle of 1 horizontal to 1 vertical in order to comply with Cal-OSHA safety requirements.

9. All soil backfill shall be compacted to a minimum of 90% relative compaction. It should be noted retaining walls designed assuming active soil conditions are anticipated to deflect seasonally. In addition, surface features which obtain their support from retaining wall backfill materials are anticipated to express differential movement with respect to the retaining wall as the wall may be resting upon a thinner depth of fill or undisturbed original ground and the surface features may be resting upon a considerable thickness of compacted fill which has settlement characteristics differing from that of original ground. The differential movement between the wall and slab patio may be undesirable. In order to hide or prevent such differential movement, an alternate design may be required, such as but not limited to placing a planter between the wall and slab or connecting the slab to the wall, creating a retaining wall which is pinned at the top, not cantilevered.

Partially Restrained - For restrained or partially restrained retaining walls or cantilevered retaining walls which form a portion of the foundation system of the structure, we recommend the wall be designed as a braced wall utilizing at-rest pressures in accordance with the following recommendations:

1. The retaining wall shall be designed assuming an at-rest soil pressure equivalent to a fluid (E.F.P.) whose weight is 60 pcf for level backfill conditions and 73 pcf for backfill slopes, which are constructed at an angle of up to 27 degrees. These values are based on the same assumed conditions stated in Recommendation No. 1 under the Cantilevered section. The at-rest condition for a level backfill is based on the following equation: E.F.P.=$K_{0\gamma}$ where K_0=1-sin ϕ, γ is the total unit weight of soil, and ϕ is the internal angle of friction.

2. Retaining walls may be designed using pseudostatic analyses based on the Mononobe Okabe approach. The need to apply the lateral seismic load is to be determined by the Project Structural Engineer or by the building code. We have estimated the seismic earth pressures using the Mononobe Okabe method, assuming a horizontal ground acceleration of 0.498g, and assuming drained backfill conditions. The peak horizontal ground acceleration (PGA) was determined from the 0 period on the design response spectrum obtained from the USGS Seismic Hazard Calculator using the ASCE 7 Option with a soil site Class D. The probabilistic seismic hazard analysis utilizes the 2005 ASCE 7 standard data edition, seismic-hazard source models, attenuation relationships, and probabilistic calculations to determine the probabilistic PGA at the input site. The location of the site is identified by entering the latitude and longitude corresponding to the site. The return period for this analysis is 475 years, based on a 10% probability of exceedence in 50 years. The seismic earth pressure (ΔP_{AE}), resulting from seismic loads acting on retaining walls, may be estimated as $\Delta P_{AE} = 23H^2$, in pounds per lineal foot of wall, for an inverted triangular pressure distribution with the resultant force acting 0.6H above the base of the wall.

3. The retaining wall footing shall conform to the FOUNDATIONS recommendations and may be designed assuming an allowable soil bearing value of 2,000 psf. For footings placed on or adjacent to slopes, the base of the toe or keyway placed at the toe shall extend to such a depth that there exists 10 horizontal feet between the bottom of the footing and the daylight line of the adjacent slope.

4. A passive soil pressure equivalent to a fluid whose weight is 350 pcf and a coefficient of friction against sliding of 0.35 may be assumed for the footing excavation described in the recommendation above.

5. The retaining wall shall be serviced by a perforated drain which is located a minimum of 12 inches below top of the adjacent interior concrete slab-on-grade floor.

6. Walls, foundations, and connections between walls and foundations forming interior finished rooms of the structure shall be waterproofed by the proper application of a moisture barrier. All waterproofing products should be applied in strict conformance with the manufacturer's recommendations. The selection of a waterproofing product and the observation of proper installation will not involve Pacific Materials Laboratory. We recognize the need for waterproofing; however, it is not in our purview to know the optimum product for application to the retaining wall or to confirm proper installation.

7. It is assumed that the rough grade excavation behind the retaining wall is to be cut at a temporary slope angle of 1 horizontal to 1 vertical in order to comply with Cal-OSHA safety requirements.

8. Footings located near the retaining wall stem shall extend through any retaining wall backfill and shall be supported on the firm underlying ground surface and behind a 1 horizontal to 1 vertical line projected upward from the base of the wall. As an alternative, this footing can be designed to span across the backfill area and tie into the retaining wall for support.

9. Retaining wall backfill shall include 2 cubic feet per linear foot of wall of 3/8- to 1-inch gravel placed around a 4-inch perforated rigid PVC drainpipe. The perforations of the pipe shall be placed down at the positions of 5 and 7 o'clock. A filter fabric shall separate the gravel from the other backfill soils.

10. Retaining wall backfill above the drainpipe shall be a clean coarse sand or gravel, creating an inverted triangular wedge. Lower quality native backfill material may be utilized outside the triangular wedge which extends upwards from the outside edge of the pipe/gravel at the base of the retaining wall and is a minimum width of 60% of the wall height at ground surface. Coarse clean sand is acceptable when the Sand Equivalent is greater than 20 and the Expansion Index equals 0. To avoid excessive amounts of sand and gravel backfill, do not allow the excavation contractor to cut a vertical excavation 2 to 4 feet beyond the

back of the retaining wall footing or stem. Cut only to the point needed to install the drainpipe and slope the excavation back as specified.

11. The use of equipment to compact soil within the wedge of backfill defined by a 1:1 line projected up from behind the retaining wall to the surface shall be limited to handheld rammer plate compactors, such as a Wacker BS 45Y. A string line shall be placed along the top of the wall to monitor possible rotation of the wall due to the compaction surcharge. If the wall begins to bow or lean away from the backfilling operations, the compaction process shall stop and the Geotechnical Engineer shall be notified immediately such that modified compaction recommendations can be given at that time.

12. The engineer designing the retaining wall shall address the following conditions:

    A. When a retaining wall is backfilled without a top restraint, such as a wood floor diaphragm, the stem of the retaining wall acts as a cantilever.

    B. Depending on the rigidity of the top restraint, the wall may act as a beam spanning between the top and bottom points, reversing the tension side of the stem to the front of the wall as opposed to the back as in the case of a cantilever condition.

    C. Structure members deflect when loaded. The users guide to the widely used computer program RetainPro recommends the deflection of the wall be checked because the program does not calculate deflection. Refer to Section 9 titled "Related Design Considerations" in the manual titled "Basics of Retaining Wall Design", Page 50. As an estimate, the Concrete Reinforcing Steel Institute (CRSI) manual estimates concrete reinforced stems of cantilevered retaining walls will deflect a horizontal distance at the top of the wall equal to the height of the wall divided by 240. We recommend the appropriate deflection equation and values corresponding to load, condition, and material be employed to determine the deflection corresponding to the lateral loads recommended herein such that appropriate connections, tiebacks, bracing, or construction joints can be placed within the structural design to properly account for the deflection. The total deflection may not occur during the backfilling operation, but rather sometime after the frame structure is built over and adjacent to the retaining wall.

PAVEMENT

1. Beneath the proposed parking areas, we recommend the top loose surface soils be removed, moistened or dried to at or near the optimum moisture content and compacted to 90% relative compaction, the top 9 inches being compacted to 95% relative compaction where pavement will be subject to vehicle travel or parking. The subgrade area shall be check rolled in order to detect isolated soft

spots. Any areas found to be yielding under the wheel loads of the equipment shall be stabilized by removal and compaction.

2. The Class 2 aggregate base shall be recompacted to a minimum of 95% relative compaction in accordance with the ASTM D-1557 test method. Asphalt concrete shall be placed only after the Class 2 aggregate base has been demonstrated to be firm and unyielding.

3. It is not known at this time what R-value will control the on-site parking pavement design. Preparation of the finished parking and driveway elevations will involve substantial cutting and filling. The on-site soils vary from clayey silts to clayey sands, all containing varying amounts of gravel. Therefore, we recommend R-values be performed when the subgrade elevations have been established. Until such time and for purposes of providing estimated costs to the owner, we recommend the parking lot be designed based on an estimated R-value of 35. The pavement sections corresponding to Traffic Indices of 4 and 5 and the estimated R-value of 35 are provided below:

Traffic Index	Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
4	2.5	4
5	2.5	6

4. Maintenance to assist in reducing the potential for rapid deterioration of the asphalt paved areas is recommended to include surface treatment approximately six months to one year after construction and approximately three years or less from the first treatment. Pavement conditions should be reviewed at least once a year for cracks, puddling of surface water, and overall appearance. If possible, this review should be done in the fall such that cracks may be repaired which may otherwise allow moisture to pass through the pavement and weaken the subgrade.

ADJACENT LOADS

Where footings are placed at varying elevations, the effect of adjacent loads may be calculated using the widely published Formulas for Stresses in Semi-infinite Elastic Foundations or the Boussinesq figures and equations for both vertical and horizontal surcharge loads.

SETTLEMENT

It is the intent of the recommendations contained in this report to achieve angular distortions[1] of approximately 1/480. A total settlement of approximately 1 inch or less is anticipated for foundations supported on the undisturbed native soil and approximately 1% to 1.5% of the fill height is the anticipated total settlement at areas where compacted fill soil is placed in accordance with the GRADING recommendations provided in this soil engineering report. The soil bearing values and estimated settlements contained in this report are preliminary and may need to be modified after the foundation and grading plans are substantially complete.

CONSTRUCTION OBSERVATION

The owner or his agent shall request the Project Geotechnical Engineer to observe all excavations prior to placement of compacted soil, gravel backfill, or rebar and concrete.

PLAN REVIEW

We request the grading and foundation plans be submitted to our office for a general review to verify substantial compliance to the recommendations contained in this report.

CLOSURE

The recommendations contained herein are for the sole use of our client and are based upon this Laboratory's understanding of the project which has been described herein. If the project scope, location, or conceptual design is subsequently altered, this Laboratory shall be requested to modify, as necessary, the recommendations contained herein as is appropriate for the new development concept. If the recommendations of this report are not implemented within one year, we recommend an update and review of the contents of this report be performed by this Laboratory.

The recommendations contained herein are based upon the assumption that Pacific Materials Laboratory shall be requested to perform the testing and observation services which will be required during the grading and foundation operations in order to verify that the actual soil conditions encountered and the construction procedures are consistent with the recommendations contained herein. If this service is performed by others, only the technical correctness of the actual analytical soil tests described here is attested to by this Laboratory.

[1] Angular distortion is the ratio of the vertical differential settlement divided by the horizontal distance over which the vertical differential is measured.

Thank you for the opportunity of providing this service. If you have any questions regarding this matter, please do not hesitate to call.

Respectfully submitted,

PACIFIC MATERIALS LABORATORY, INC.

Ronald J. Pike
Geotechnical Engineer, G. E. 2291

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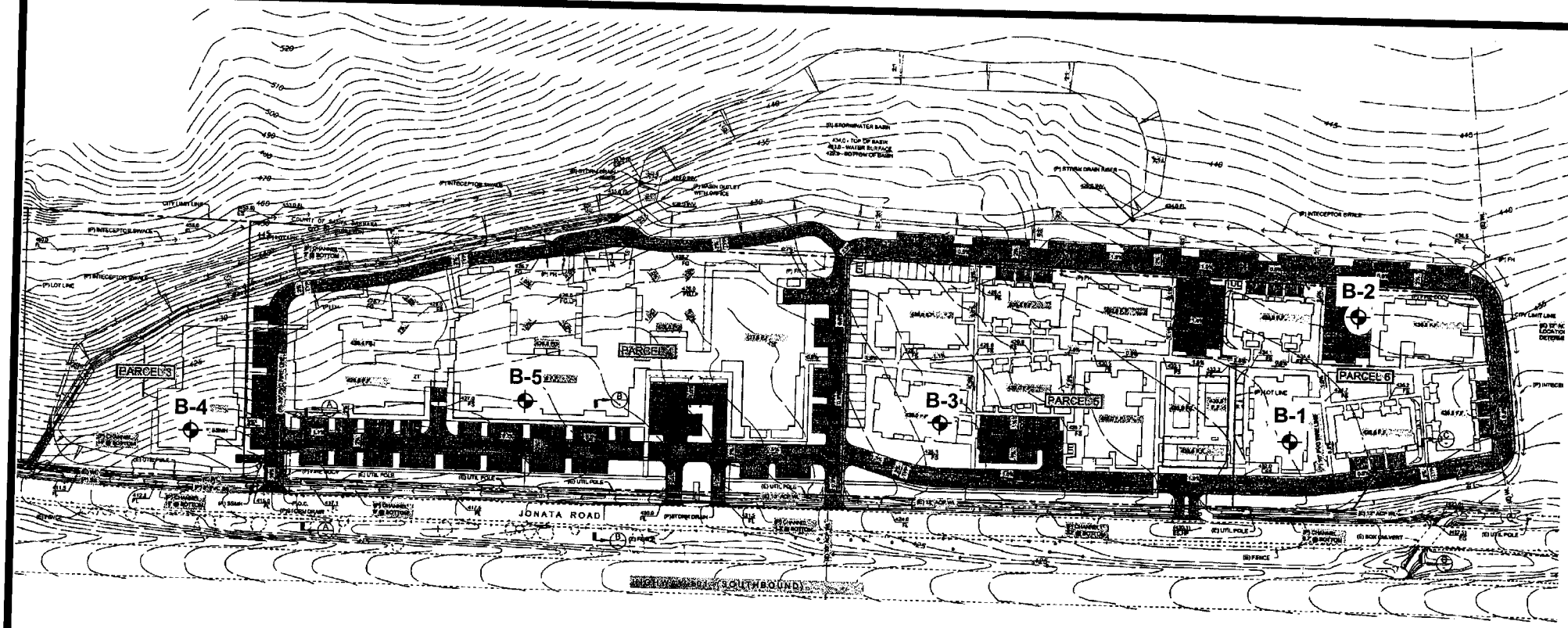


LEGEND

B-1 – BORING LOCATION

SITE PLAN

Meritage Senior Living Complex
Jonata Park Road (APN 99-400-64/65)
Buellton, California

Pacific Materials Laboratory, Inc.

Scale: none	Plate 1 Lab No: 8841-6 File No: 12-1430-6 June 6, 2012

APPENDIX A

FIELD INVESTIGATION

June 6, 2012

Lab No: 8841-6

File No: 12-1430-6

June 6, 2012

Lab No: 8841-6
File No: 12-1430-6

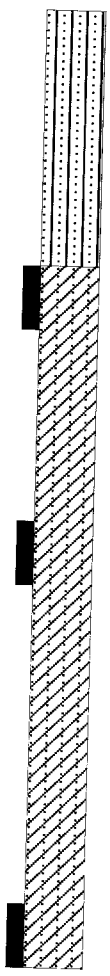
BORING LOG DATA

BORING NO. B-1

Drill Rig Operator: Kump/Kump

Date Drilled: 5/22/12

Dry Density (pcf)	Moisture Content (%)	Depth (ft)	Soil Log	Soil Description
		0		SW-SM Brown silty SAND, moist
		1		
102.8	5.6	2		CL-SC Brown sandy CLAY, moist
		3		
110.5	14.9	4		
		5		
		6		
110.2	14.0	7		



LEGEND
- Thin-Walled Tube Sample ASTM D-1587

June 6, 2012

Lab No: 8841-6
File No: 12-1430-6

BORING LOG DATA

BORING NO. B-2

Drill Rig Operator: Kump/Kump

Date Drilled: 5/22/12

Dry Density (pcf)	Moisture Content (%)	Depth (ft)	Soil Log	Soil Description
		0		SW-SM Brown silty SAND, moist
		1		
115.8	4.0	2		
		3		
110.0	13.6	4		SM-SC Brown sandy CLAY, moist
		5		
		6		
109.0	12.3	7		

LEGEND
- Thin-Walled Tube Sample ASTM D-1587

June 6, 2012

Lab No: 8841-6
File No: 12-1430-6

BORING LOG DATA

BORING NO. B-3

Drill Rig Operator: Kump/Kump

Date Drilled: 5/22/12

Dry Density (pcf)	Moisture Content (%)	Depth (ft)	Soil Log	Soil Description
		0		SM Dark brown sandy SILT with sandstone cobbles and gravel, moist
		1		
100.4	13.2	2		
		3		
89.5	10.9	4		
		5		
		6		
95.7	9.8	7		

LEGEND
- Thin-Walled Tube Sample ASTM D-1587

June 6, 2012

Lab No: 8841-6
File No: 12-1430-6

BORING LOG DATA

BORING NO. B-4

Drill Rig Operator: Kump/Kump

Date Drilled: 5/22/12

Dry Density (pcf)	Moisture Content (%)	Depth (ft)	Soil Log	Soil Description
		0		SM-SC Brown sandy SiLT with sandstone cobbles and gravel, dry
		1		
97.1	6.3	2		
		3		
92.4	9.9	4		
		5		
		6		Brown clayey SILT with sandstone cobbles and gravel, most
99.5	14.2	7		

LEGEND
- Thin-Walled Tube Sample ASTM D-1587

June 6, 2012

Lab No: 8841-6
File No: 12-1430-6

BORING LOG DATA

BORING NO. B-5

Drill Rig Operator: Kump/Kump

Date Drilled: 5/22/12

Dry Density (pcf)	Moisture Content (%)	Depth (ft)	Soil Log	Soil Description
		0		ML-CL Brown sandy SILT with sandstone cobbles and gravel, dry
		1		
95.5	6.7	2		
		3		
94.1	9.4	4		
		5		
		6		Brown clayey SILT with sandstone cobbles and gravel
96.6	9.6	7		

LEGEND
- Thin-Walled Tube Sample ASTM D-1587

APPENDIX B

LABORATORY TESTS

June 6, 2012

Lab No: 8841-6

File No: 12-1430-6

MECHANICAL ANALYSES (Values in Percent Passing ASTM D 422)

SIEVE SIZE	B-2 @ 4'	B-4 @ 2'	B-4 @ 4'	B-5 @ 2'
1/2 Inch	100.0	100.0	100.0	100.0
3/8 Inch	100.0	96.2	99.0	98.4
No. 4	99.8	89.7	94.0	93.8
No. 8	99.7	85.8	89.1	90.1
No. 16	98.5	82.7	85.7	87.6
No. 30	96.1	78.8	81.4	84.7
No. 50	79.3	66.4	68.3	77.1
No. 100	36.4	48.7	50.6	64.0
No. 200	23.0	37.0	38.8	52.2

SAND-SILT-CLAY (By Hydrometer ASTM D 422)

SAMPLE LOCATION	DEPTH (ft.)	SAND %	SILT %	CLAY %	SOIL DESCRIPTION
B-2	4	84	8	8	SAND
B-4	2	64	24	12	Silty SAND
B-4	4	62	24	14	Silty SAND
B-5	2	50	30	20	Clayey SILT and SAND

EXPANSION TESTS (ASTM D 4829)

The Expansive Soil Index was determined by the present ASTM D 4829 Expansion Test Method. The results are tabulated below:

SAMPLE LOCATION	DEPTH (ft.)	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	EXPANSION INDEX	POTENTIAL FOR EXPANSION
B-2	4	117.8	8.0	0	Very low
B-4	2	112.1	9.2	0	Very low
B-4	4	113.7	8.7	0	Very low
B-5	2	114.5	8.5	0	Very low

Lab No: 8841-6
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ATTERBERG LIMITS (ASTM D 4318)

SAMPLE LOCATION	DEPTH (ft.)	SOIL TYPE	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	DEGREE OF EXPANSION
B-2	4	SM-SC	18	16	2	Very low
B-4	2	SM-SC	19	20	0	Very low
B-4	4	SM-SC	20	18	2	Very low
B-5	2	ML-CL	19	17	2	Very low

Appendix E

Hydrology Study

PRELIMINARY DRAINAGE REPORT

FOR

WILLIAMS SENIOR HOUSING

BUELLTON, CALIFORNIA

DATE: MARCH 15, 2012

PREPARED BY:

ENGINEERING DEVELOPMENT ASSOCIATES
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EDA Job Number: 2.3646.000

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REGISTERED PROFESSIONAL ENGINEER
BLAINE T. REELY
No. 46,806
Expires 6/30/13
CIVIL
STATE OF CALIFORNIA
PRELIMINARY
NOT FOR CONSTRUCTION

RECEIVED
MAR 22 2012
CITY OF BUELLTON
Planning Department

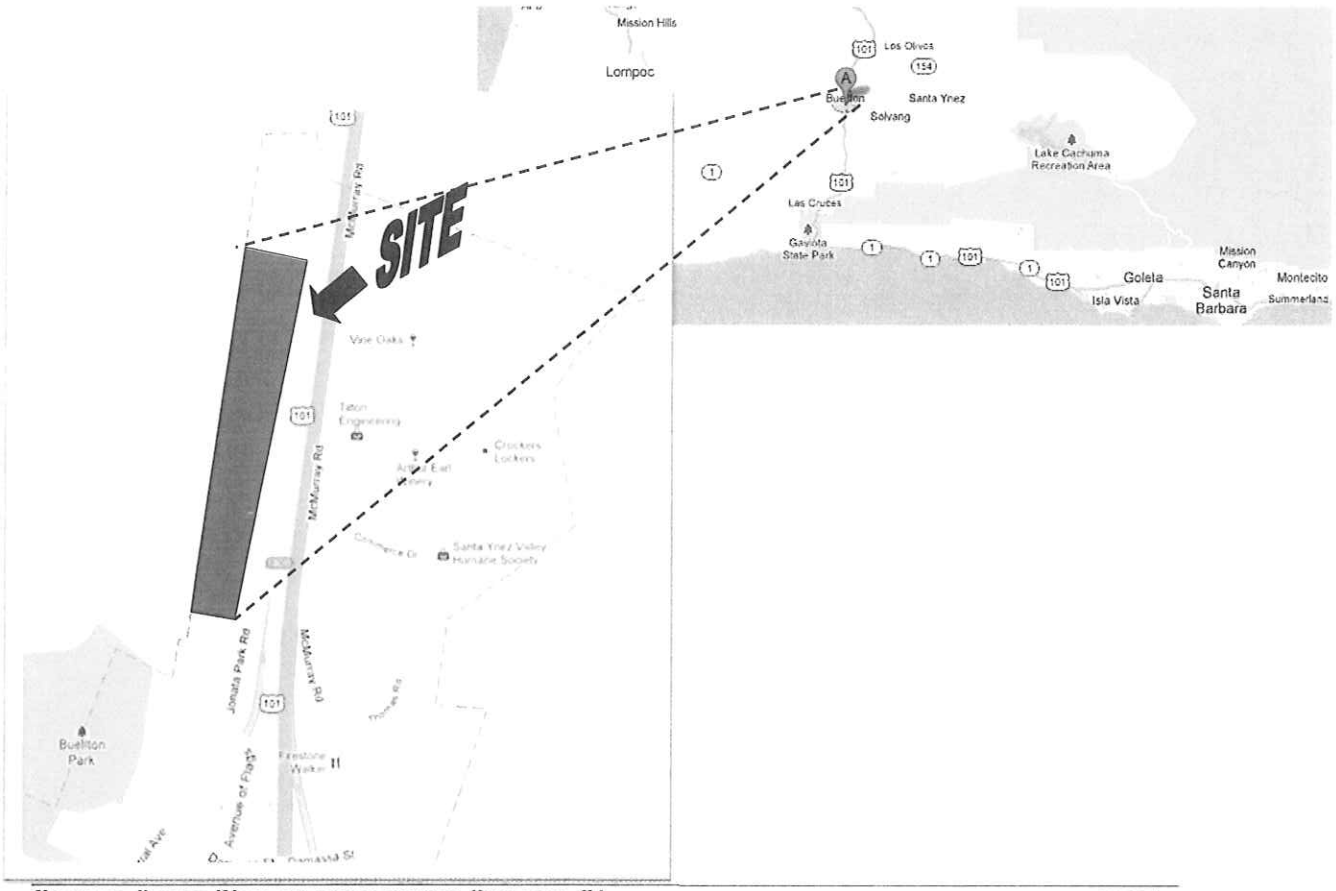
INTRODUCTION:

The proposed project consists of a full-functional senior housing complex on a 14.09-acre parcel of undeveloped land located on Jonata Park Road in Buellton, California (see Figure 1). The proposed site will be located on the west side of Jonata Park near the north end of Buellton. According to the USDA's Web Soil Survey, the site is mainly made up of gravelly fine sandy loam soil. The land cover is made up of natural grasses sloping upward with distinct elevation changes. The natural drainage area is from the top of the hillside down to the edge of the property at Jonata Road where water is diverted under the road near a culvert at the southern edge of the property.

The purpose of this study was to analyze the drainage effects that may happen as a result of adding the proposed development. The total existing drainage area includes the site as well as the hilltop to the west of the site. The land to the west of the site is outside of the City of Buellton limits and is therefore located within Santa Barbara County.

The drainage study was done in compliance of the Santa Barbara County Flood Control and Water Conservation District's Standard Conditions of Project Plan Approval. The goal of the study was to come up with a solution to control the post developed flow in a way so that the 2-year through 100-year storms discharged the same or less flow at the outflow as the existing drainage area.

FIGURE 1: VICINITY MAP



METHOD OF ANALYSIS:

The Santa Barbara County Flood Control and Water Conservation District states in the Standard Conditions of Project Plan Approval in section *Design 9-c* that the post-development peak storm runoff discharge rate shall not exceed the pre-development rate for the 2-year through 100-year storm events. The site will include full development of the 14.09-acre site with no room for a detention basin on the developed site. In order to meet the design discharge requirement, a detention basin is needed to the west of the developed site that will capture runoff from the existing hillside. The hydrologic/hydraulic analysis was done to follow the standards set forth in the Condition of Project Plan Approval. The standards call for the use of the Santa Barbara Urban Hydrograph (SBUH) method which includes the following parameters:

- ***Runoff Method:*** SBUH
- ***Pond Routing Method:*** Storage-Indication
- ***Rainfall Distribution:*** SCS 24-hour, Type I distribution
- ***Antecedent Moisture Condition:*** AMC II
- ***Hydrograph ordinate time increment:*** 0.10 hour
- ***Rainfall Amounts, 24-hour totals:***

Buellton/Santa Ynez	
2-year	2.83 in
5-year	4.10 in
10-year	4.93 in
25-year	5.97 in
50-year	6.72 in
100-year	7.45 in

The soil groups in this area are types B and D which were found from the USDA's web soil survey. From this point, the curve numbers could be found using the TR-55, Urban Hydrology for Small Watersheds manual published by USDA NRCS. Tables 2-2A through 2-2D were used to obtain the curve numbers based on the soil groups. Soil B is a herbaceous soil with a fair hydrologic condition while soil D is a bare fallow soil. The developed site fell into soil group B but once developed the hydrologic condition used was a residential district with 1/8 acre or less of town houses. The curve numbers were calculated based on TR-55 and the "Low-Impact Development Hydrologic Analysis" given in the Standard Conditions of Project Plan Approval.

All the areas were found using AutoCAD Civil 3D 2011 and the calculations were done using Microsoft Excel. The entire analysis was modeled using the hydrograph extension of AutoCAD Civil 3D. The hydrograph extension uses the SCS method and analyzes the system based on subareas established in the Proposed Drainage Map (see Appendix I).

The flow rate in the undeveloped site was established using the SBUH method using the area located in the Existing Drainage Map (see Appendix I). The proposed site was sized with a detention basin that captured subareas 2 through 5. The basin was sized to hold the 2-year through 100-year storm and released an outflow through an orifice and then into a storm drain to be discharge near the southern culvert.

RESULTS:

Using the runoff coefficient spreadsheet, the curve numbers for the pre-developed and post-developed sites were found (see Appendix III). The average Curve Number represents the two soil groups within an area averaged together using the area of each soil type.

PRE-DEVELOPED OVERALL					
Area	Soil Type	Cover Type	Hydro Cond	CN	Area (ac)
1	B	Herbaceous	Fair	71	29.863
	D	Fallow	Good	94	18.537
			TOTAL	***80***	***48.4***

Table 1: Overall Pre-Developed Curve Number

PRE-DEVELOPED SITE							
Area	Soil Type	Cover Type	Hydro Cond	CN	Area (ac)	Area (ac)	CN avg
SITE	B	Herbaceous	Fair	71	**14.09**	13.829	**71**
	D	Fallow	Good	94		0.261	

Table 2: Pre-Developed Site Curve Number

POST-DEVELOPED OVERALL							
Area	Hydro Soil	Cover Type	Hydro Cond	CN	Total Area (ac)	Area (ac)	CN avg
OPEN SPACE 1	B	Herbaceous	Fair	71	**7.06**	2.740	**85**
	D	Fallow	Good	94		4.320	
OPEN SPACE 2	B	Herbaceous	Fair	71	**2.76**	1.414	**82**
	D	Fallow	Good	94		1.346	
OPEN SPACE 3	B	Herbaceous	Fair	71	**4.46**	1.338	**87**
	D	Fallow	Good	94		3.122	
OPEN SPACE 4	B	Herbaceous	Fair	71	**9.74**	4.645	**83**
	D	Fallow	Good	94		5.095	
OPEN SPACE 5	B	Herbaceous	Fair	71	**12.09**	6.940	**81**
	D	Fallow	Good	94		5.150	
SITE	B	1/8 acre	Fair	85	**14.09**	13.829	**85**
	D	Fallow	Good	94		0.261	
				84		***50.2***	***TOTAL***

Table 3: Overall Post-Developed Curve Numbers

POST-DEVELOPED SITE							
Area	Hydro Soil	Cover Type	Hydro Cond	CN	Total Area (ac)	Area (ac)	CN avg
OPEN SPACE 1	B	1/8 acre	Fair	85	**2.18**	2.180	**85**
	D	Fallow	Good	94		0.000	
OPEN SPACE 2	B	1/8 acre	Fair	85	**3.30**	3.300	**85**
	D	Fallow	Good	94		0.000	
OPEN SPACE 3	B	1/8 acre	Fair	85	**1.94**	1.940	**85**
	D	Fallow	Good	94		0.000	
OPEN SPACE 4	B	1/8 acre	Fair	85	**6.665**	6.400	**85**
	D	Fallow	Good	94		0.265	
				85		***14.09***	***TOTAL***

Table 4: Post-Developed Site Curve Numbers

The runoff flow rates for the undeveloped and developed conditions were calculated using the SCS method in the Hydrograph Extension and are summarized in Table 5. The basinThe full Hydrograph Results can be found in Appendix III.

Storm	Pre-Developed Flow (cfs)	Post-Developed Flow (cfs)
2-year	18.57	17.96
5-year	38.4	33.94
10-year	52.44	44.72
25-year	70.68	57.84
50-year	84.08	67.04
100-year	97.25	75.81

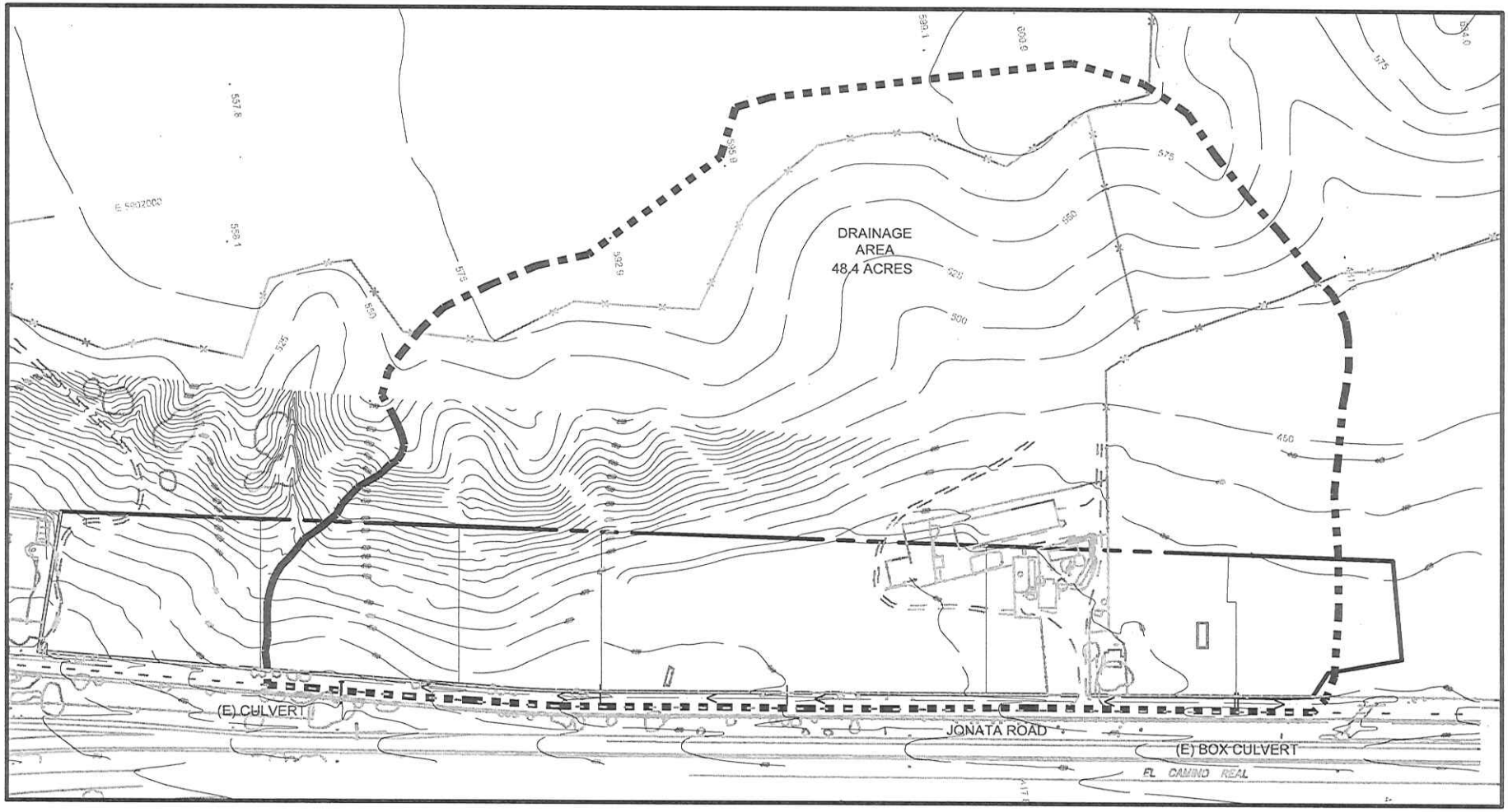
Table 5: Pre and Post-Developed Flow Rates

SUMMARY:

The methodology used is in conformance with the Santa Barbara County Flood Control and Water Conservation District and the Standard Conditions of Project Plan Approval. The proposed basin will handle impacts caused by the reduction of pervious area and will ensure the flow rate into the southern culvert will remain unchanged.

APPENDIX I

EXISTING DRAINAGE MAP
PROPOSED DRAINAGE MAP



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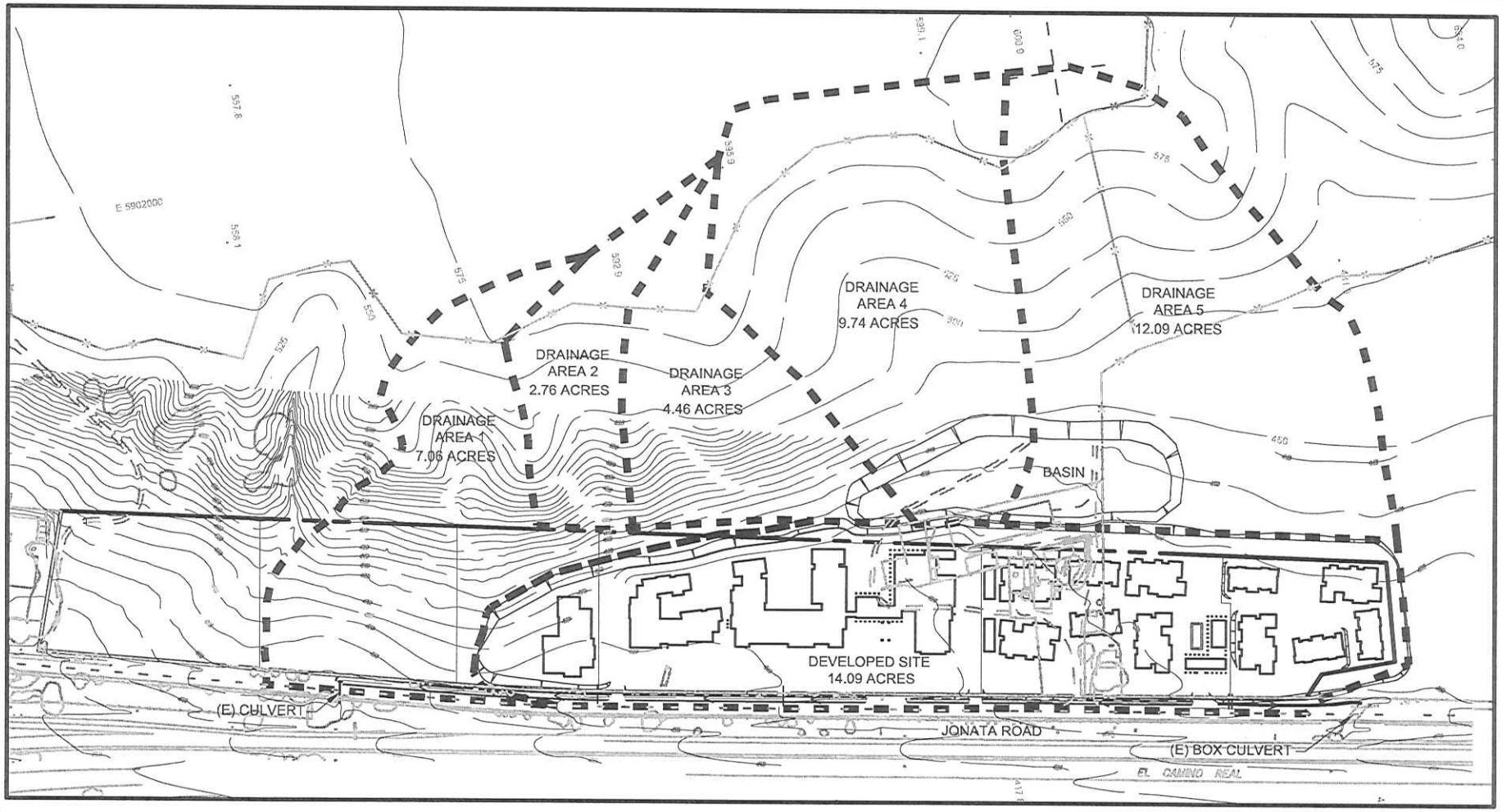
SCALE: 1"=300'

EXISTING DRAINAGE MAP

MERITAGE - SENIOR CARE
JONATA ROAD, BUELLTON, CA
03.15.2012

K:\23646000 Williams Senior Housing\2-Design\H&H\exhibit\REPORT-DRAINAGE AREA EXHIBIT.dwg 3/15/12 11:46 AM DavidP



1 2 3 4 5 6

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SCALE: 1"=300'

PROPOSED DRAINAGE MAP

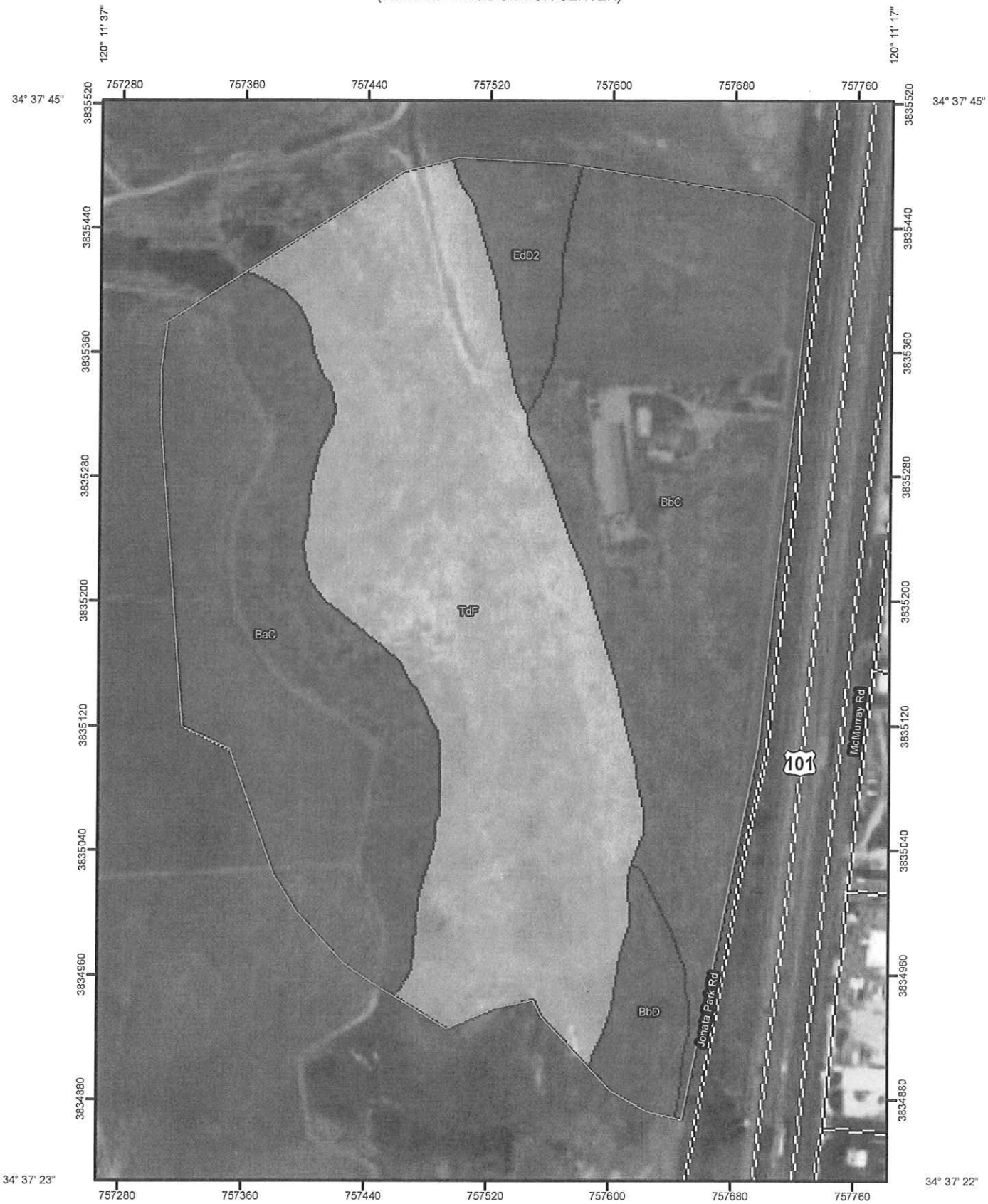
MERITAGE - SENIOR CARE
JONATA ROAD, BUELLTON, CA
03.15.2012

K:\23646000 Williams Senior Housing\2-Design\H&H\exhibit\REPORT-DRAINAGE AREA EXHIBIT.dwg 3/15/12 11:48 AM DavidP

APPENDIX II

USDA NRCS WEB SOIL SURVEY
USDA NRCS TR-55 REFERENCE TABLES

Hydrologic Soil Group—Northern Santa Barbara Area, California
(WILLIAMS BROS SENIOR CENTER)



Map Scale: 1:3,310 if printed on A size (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Soil Ratings

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Political Features

Cities

Water Features

Oceans

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

MAP INFORMATION

Map Scale: 1:3,310 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 10N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Northern Santa Barbara Area, California
Survey Area Data: Version 7, Aug 31, 2009

Date(s) aerial images were photographed: 6/6/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Northern Santa Barbara Area, California				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
BaC	Ballard fine sandy loam, 2 to 9 percent slopes	B	11.6	24.1%
BbC	Ballard gravelly fine sandy loam, 2 to 9 percent slopes	B	14.8	30.7%
BbD	Ballard gravelly fine sandy loam, 9 to 15 percent slopes	B	1.5	3.2%
EdD2	Elder sandy loam, 9 to 15 percent slopes, eroded	B	1.8	3.7%
TdF	Terrace escarpments, loamy		18.4	38.3%
Totals for Area of Interest			**48.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Table 2-2a Runoff curve numbers for urban areas [1]

Cover description: Cover type and hydrologic condition	Average percent impervious area [2]	Curve numbers for hydrologic soil group: A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

1 Average runoff condition, and $I_a = 0.2S$.

2 The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

3 CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

4 Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

5 Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Table 2-2b Runoff curve numbers for cultivated agricultural lands [1]

Cover description			Curve numbers for hydrologic soil group			
Cover type	Treatment [2]	Hydrologic condition [3]	A	B	C	D
Fallow	Bare soil	—	77	86	91	94
	Crop residue cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight row (SR)	Poor	72	81	88	91
		Good	67	78	85	89
	SR + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	C + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & terraced (C&T)	Poor	66	74	80	82
		Good	62	71	78	81
	C&T+ CR	Poor	65	73	79	81
		Good	61	70	77	80
Small grain	SR	Poor	65	76	84	88
		Good	63	75	83	87
	SR + CR	Poor	64	75	83	86
		Good	60	72	80	84
	C	Poor	63	74	82	85
		Good	61	73	81	84
	C + CR	Poor	62	73	81	84
		Good	60	72	80	83
	C&T	Poor	61	72	79	82
		Good	59	70	78	81
	C&T+ CR	Poor	60	71	78	81
		Good	58	69	77	80
Close-seeded or broadcast legumes or rotation meadow	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C&T	Poor	63	73	80	83
		Good	51	67	76	80

1 Average runoff condition, and I_a=0.2S

2 Crop residue cover applies only if residue is on at least 5% of the surface throughout the year.

3 Hydraulic condition is based on combination factors that affect infiltration and runoff, including (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes, (d) percent of residue cover on the land surface (good ≥ 20%), and (e) degree of surface roughness.

Poor: Factors impair infiltration and tend to increase runoff.

Good: Factors encourage average and better than average infiltration and tend to decrease runoff.

Table 2-2c Runoff curve numbers for other agricultural lands [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. [2]	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	78
Brush—brush-weed-grass mixture with brush the major element. [3]	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30 [4]	48	65	73
Woods—grass combination (orchard or tree farm). [5]	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. [6]	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30 [4]	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

1 Average runoff condition, and $I_a = 0.2S$.

2 *Poor:* <50%) ground cover or heavily grazed with no mulch.
Fair: 50 to 75% ground cover and not heavily grazed.
Good: > 75% ground cover and lightly or only occasionally grazed.

3 *Poor:* <50% ground cover.
Fair: 50 to 75% ground cover.
Good: >75% ground cover.

4 Actual curve number is less than 30; use CN = 30 for runoff computations.

5 CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

6 *Poor:* Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
Fair: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

APPENDIX III

HYDROGRAPH EXTENSION RESULTS
RUNOFF COEFFICIENT CALCULATIONS

Table 2-2d Runoff curve numbers for arid and semiarid rangelands [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition [2]	A [3]	B	C	D
Herbaceous—mixture of grass, weeds, and low-growing brush, with brush the minor element.	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen—mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush.	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper—pinyon, juniper, or both; grass understory.	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sagebrush with grass understory.	Poor		67	80	85
	Fair		51	63	70
	Good		35	47	55
Desert shrub—major plants include saltbush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus.	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

1 Average runoff condition, and I_a, = 0.2S. For range in humid regions, use table 2-2c.
2 Poor: <30% ground cover (litter, grass, and brush overstory).
Fair: 30 to 70% ground cover.
Good: > 70% ground cover.
3 Curve numbers for group A have been developed only for desert shrub.

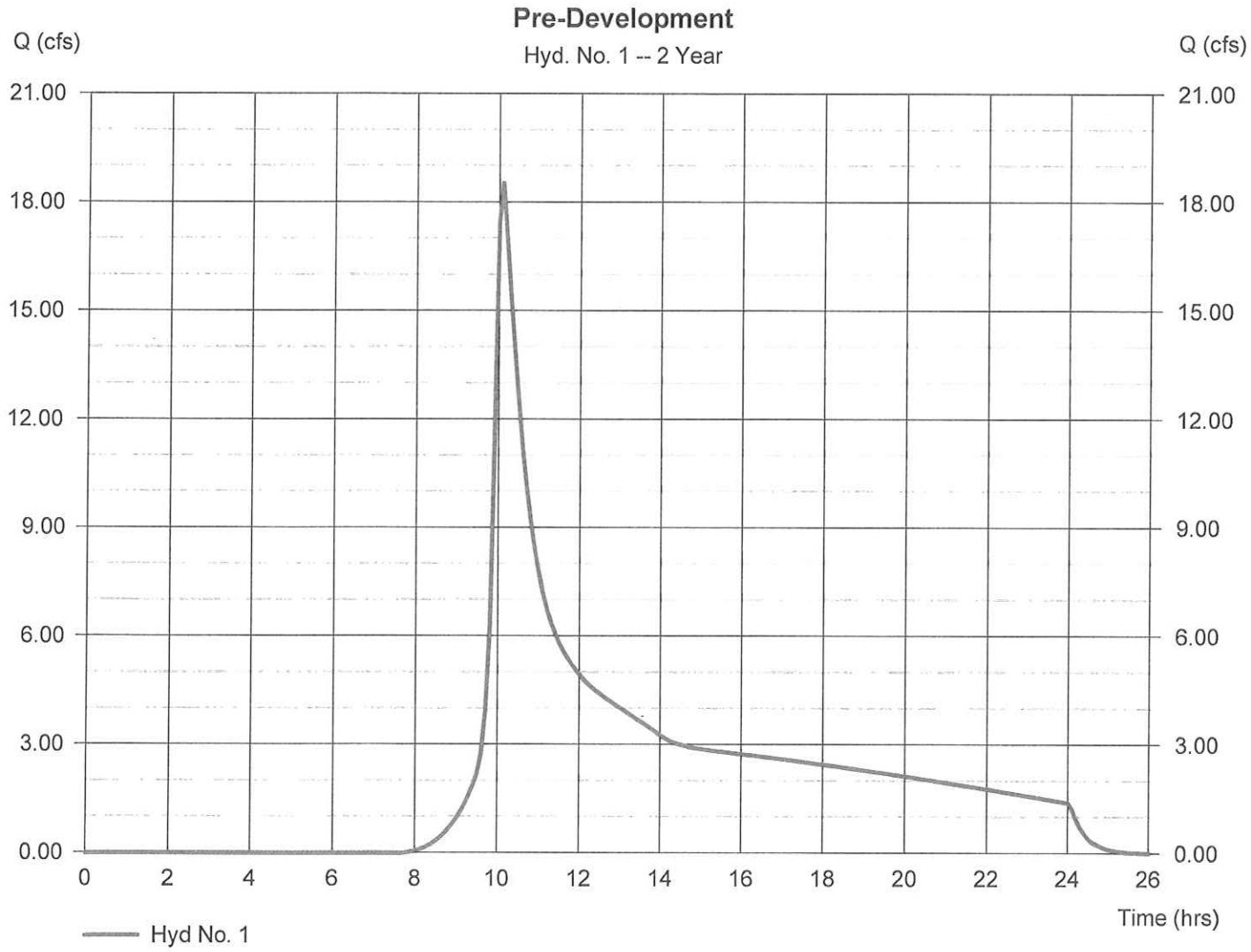
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 1

Pre-Development

Hydrograph type	= SBUH Runoff	Peak discharge	= 18.57 cfs
Storm frequency	= 2 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 197,477 cuft
Drainage area	= 48.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 22.80 min
Total precip.	= 2.83 in	Distribution	= Type I
Storm duration	= 24 hrs	Shape factor	= n/a



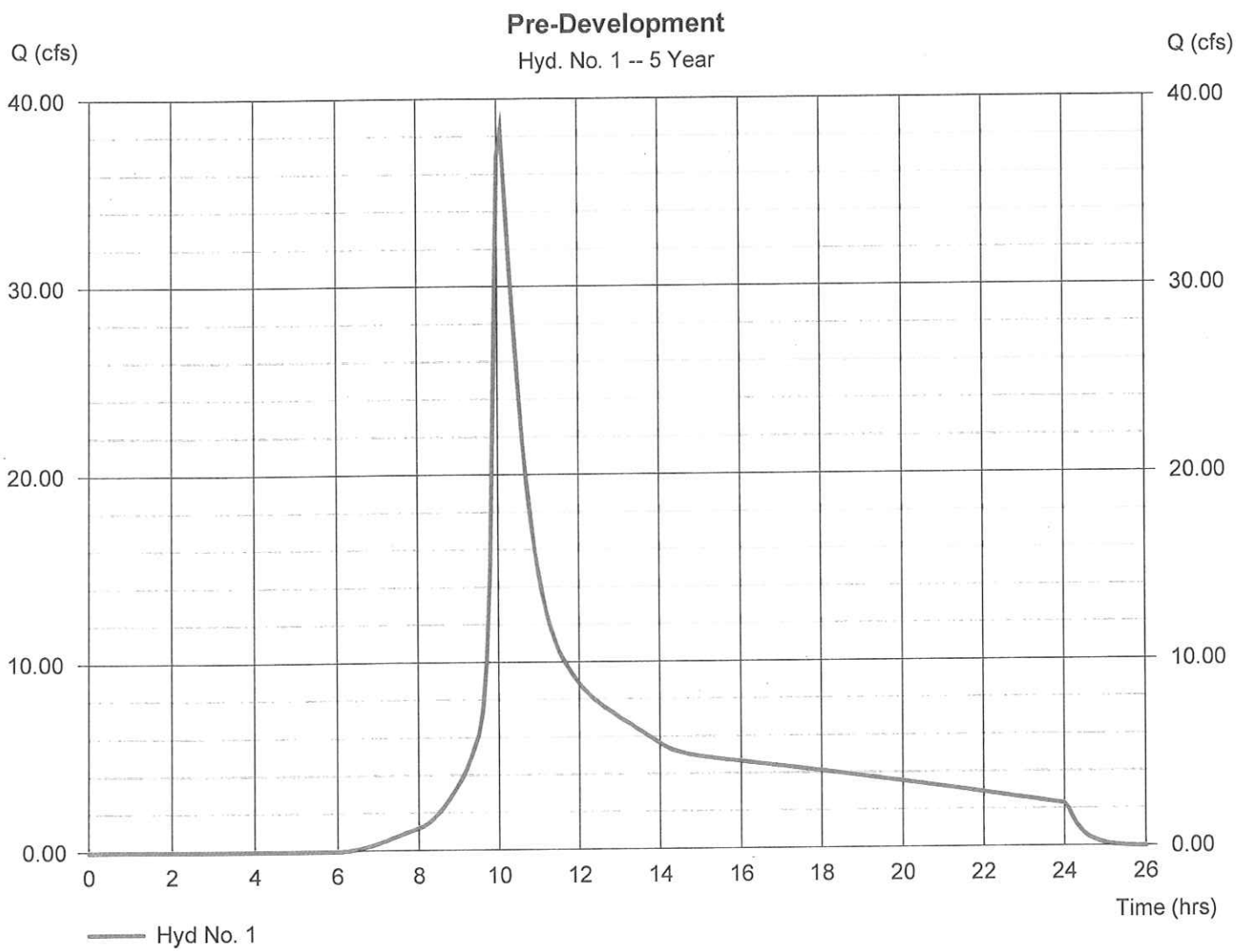
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 — Thursday, Mar 15, 2012

Hyd. No. 1

Pre-Development

Hydrograph type	= SBUH Runoff	Peak discharge	= 38.40 cfs
Storm frequency	= 5 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 373,273 cuft
Drainage area	= 48.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 22.80 min
Total precip.	= 4.10 in	Distribution	= Type I
Storm duration	= 24 hrs	Shape factor	= n/a



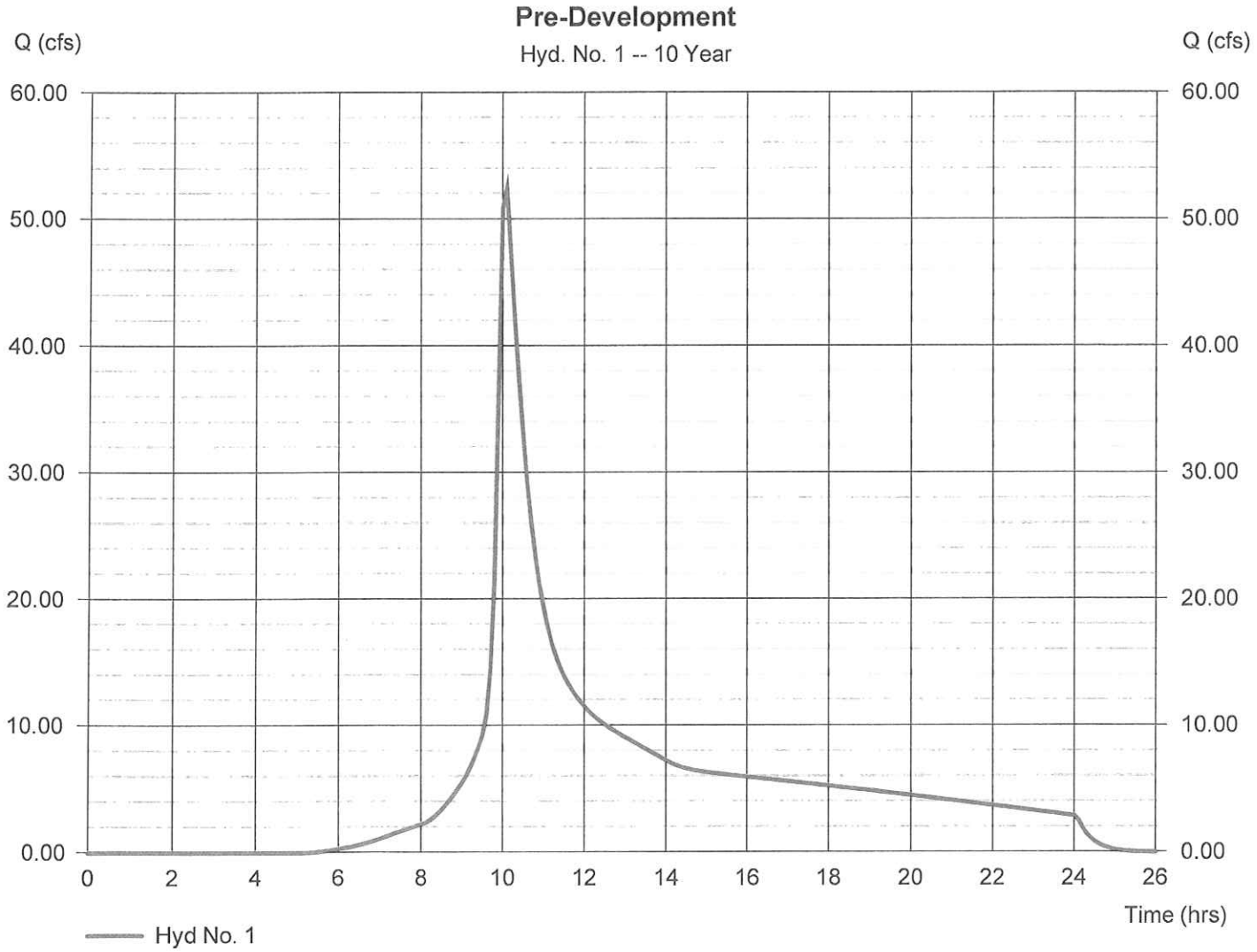
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 — Thursday, Mar 15, 2012

Hyd. No. 1

Pre-Development

Hydrograph type	= SBUH Runoff	Peak discharge	= 52.44 cfs
Storm frequency	= 10 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 497,538 cuft
Drainage area	= 48.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 22.80 min
Total precip.	= 4.93 in	Distribution	= Type I
Storm duration	= 24 hrs	Shape factor	= n/a



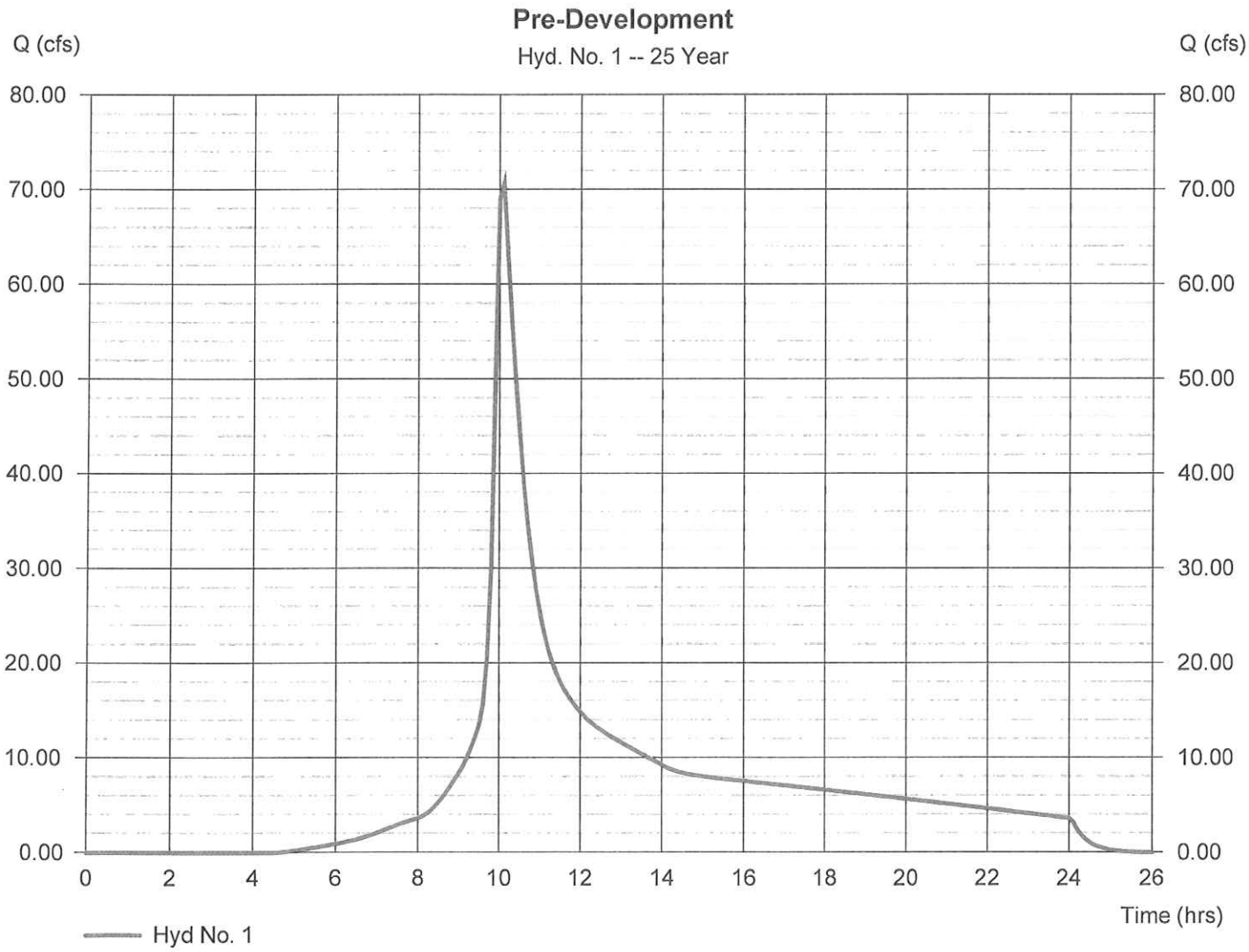
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 — Thursday, Mar 15, 2012

Hyd. No. 1

Pre-Development

Hydrograph type	= SBUH Runoff	Peak discharge	= 70.68 cfs
Storm frequency	= 25 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 659,581 cuft
Drainage area	= 48.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 22.80 min
Total precip.	= 5.97 in	Distribution	= Type I
Storm duration	= 24 hrs	Shape factor	= n/a



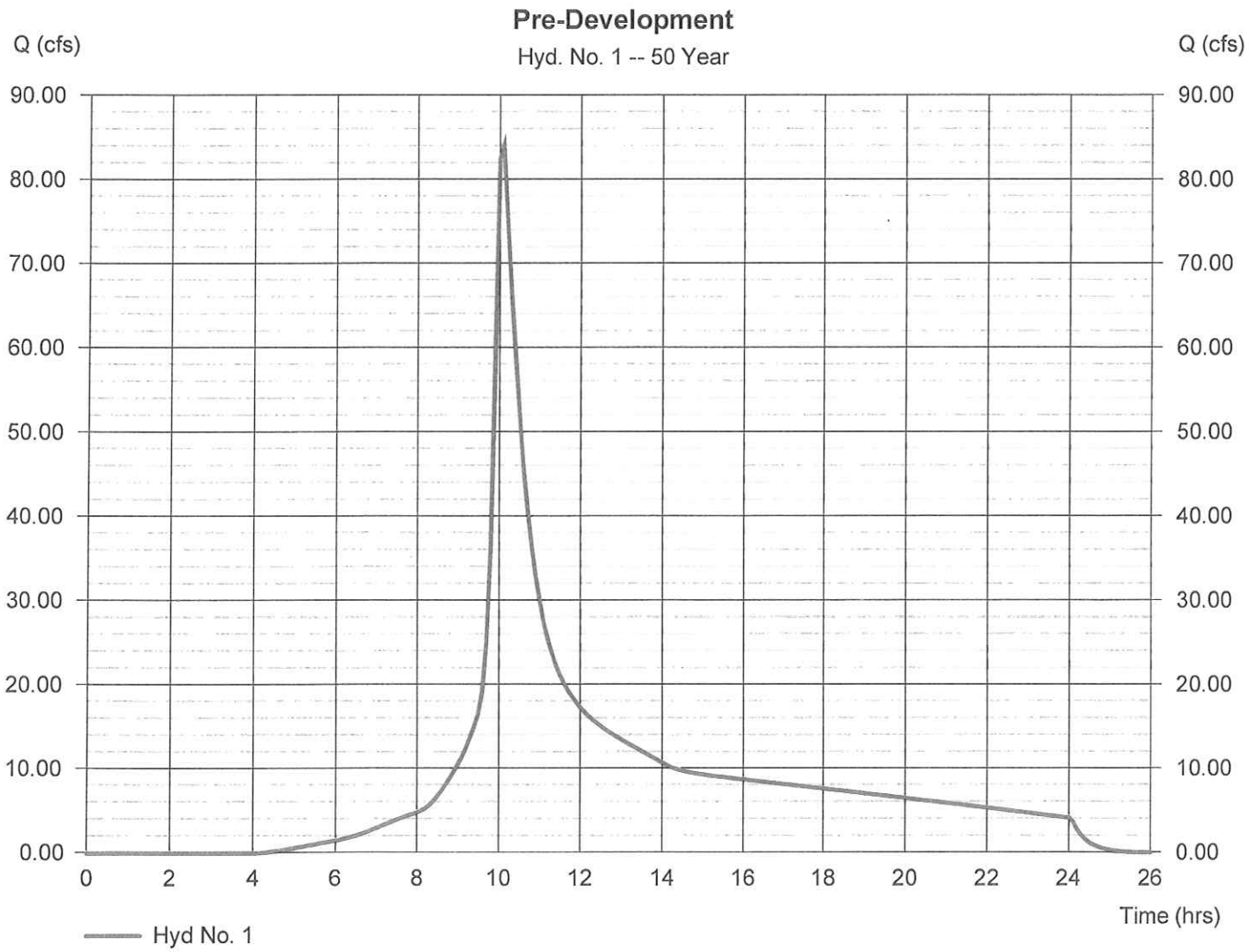
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 — Thursday, Mar 15, 2012

Hyd. No. 1

Pre-Development

Hydrograph type	= SBUH Runoff	Peak discharge	= 84.08 cfs
Storm frequency	= 50 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 779,500 cuft
Drainage area	= 48.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 22.80 min
Total precip.	= 6.72 in	Distribution	= Type I
Storm duration	= 24 hrs	Shape factor	= n/a



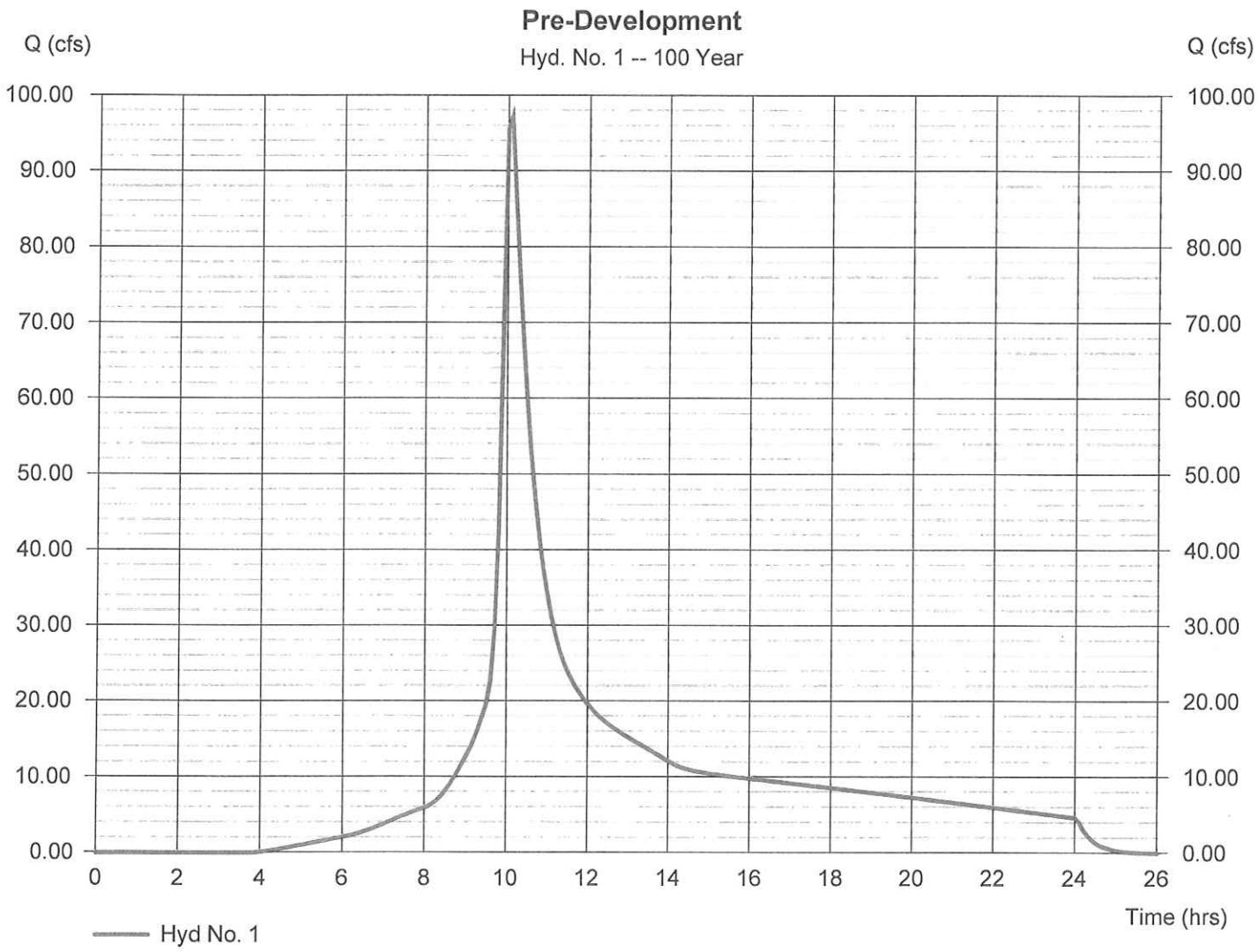
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 — Thursday, Mar 15, 2012

Hyd. No. 1

Pre-Development

Hydrograph type	= SBUH Runoff	Peak discharge	= 97.25 cfs
Storm frequency	= 100 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 898,028 cuft
Drainage area	= 48.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 22.80 min
Total precip.	= 7.45 in	Distribution	= Type I
Storm duration	= 24 hrs	Shape factor	= n/a



Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 — Thursday, Mar 15, 2012

Pond No. 9 - LARGE POND W/ RISER

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	429.00	n/a	0	0
1.00	430.00	n/a	78,386	78,386
2.00	431.00	n/a	78,386	156,772
3.00	432.00	n/a	78,386	235,158
4.00	433.00	n/a	78,386	313,544
5.00	434.00	n/a	78,386	391,930

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	12.00	0.00	Inactive
Span (in)	= 18.00	12.00	0.00	0.00
No. Barrels	= 1	1	0	1
Invert El. (ft)	= 429.00	429.00	0.00	0.00
Length (ft)	= 900.00	1.00	0.00	0.00
Slope (%)	= 0.50	0.50	0.00	n/a
N-Value	= .010	.010	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

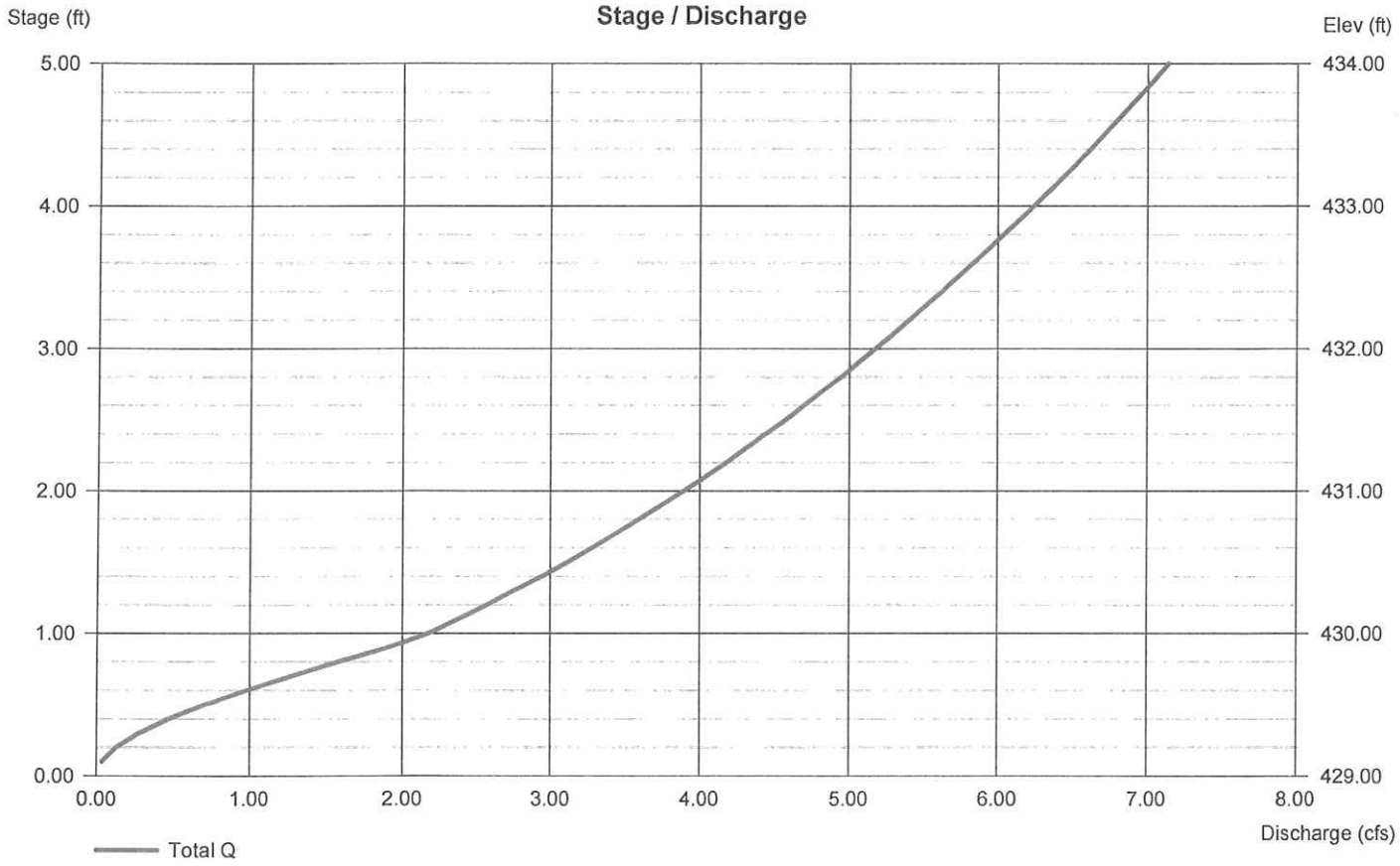
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	Inactive	0.00	0.00	0.00
Crest El. (ft)	= 432.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

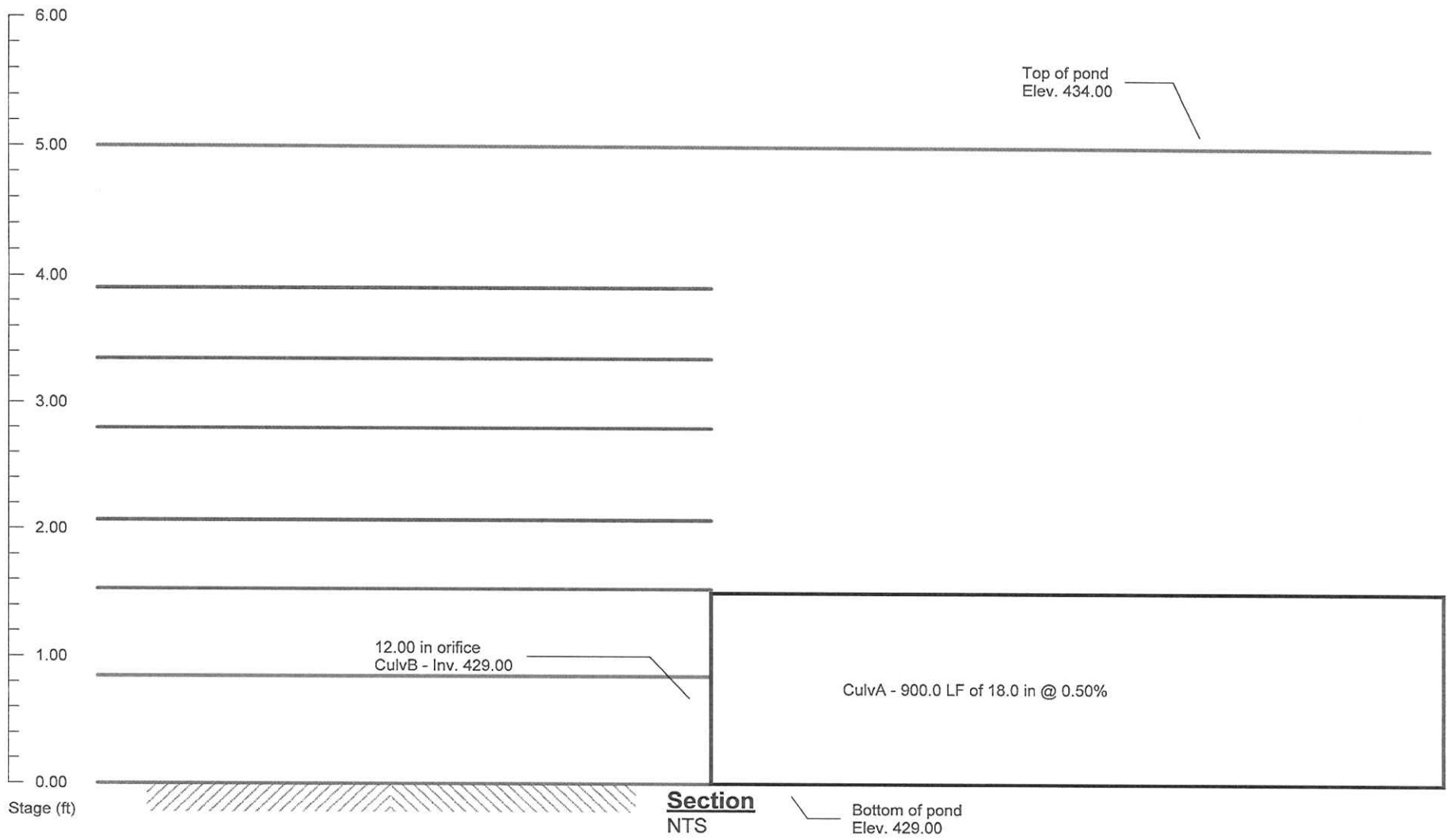
TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond No. 9 - LARGE POND W/ RISER

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8



Inflow hydrograph = 18. Combine - <no description>

Project: 2012.03.13 POST DEVELOPED.gpw

Thursday, Mar 15, 2012

Hydrograph Report

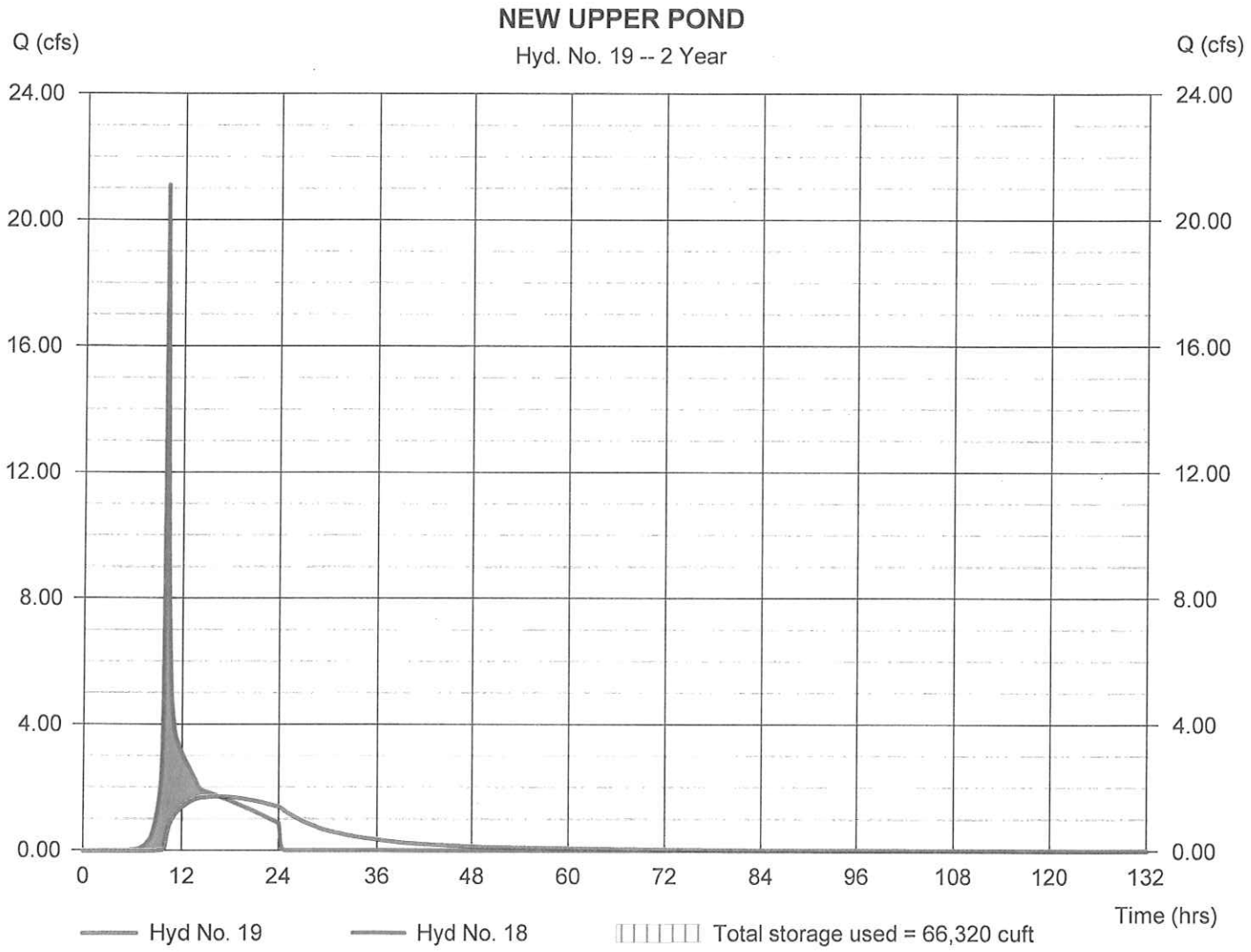
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 19

NEW UPPER POND

Hydrograph type	= Reservoir	Peak discharge	= 1.726 cfs
Storm frequency	= 2 yrs	Time to peak	= 16.50 hrs
Time interval	= 6 min	Hyd. volume	= 136,179 cuft
Inflow hyd. No.	= 18 - <no description>	Max. Elevation	= 429.85 ft
Reservoir name	= LARGE POND W/ RISER	Max. Storage	= 66,320 cuft

Storage Indication method used.



Hydrograph Report

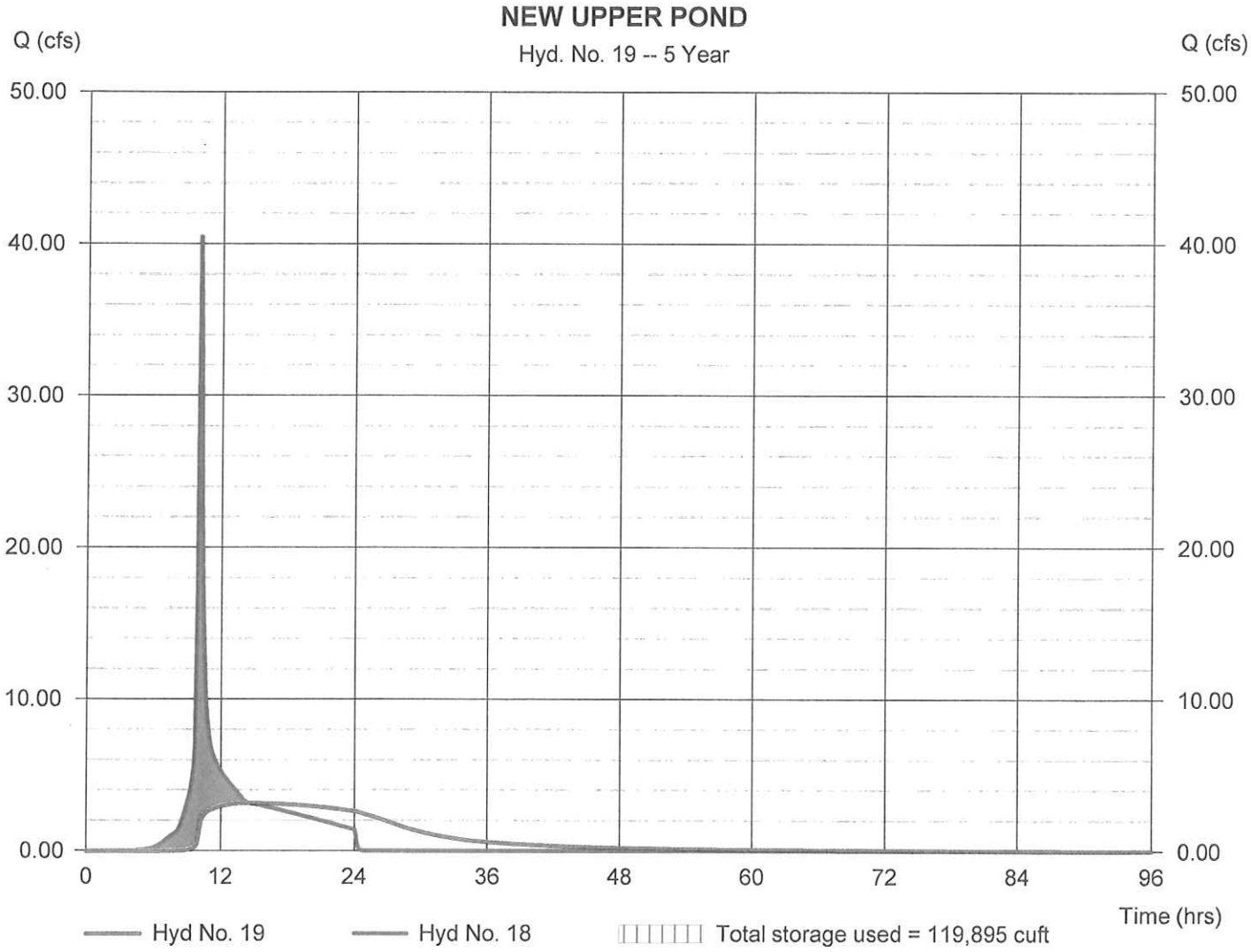
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 19

NEW UPPER POND

Hydrograph type	= Reservoir	Peak discharge	= 3.158 cfs
Storm frequency	= 5 yrs	Time to peak	= 14.60 hrs
Time interval	= 6 min	Hyd. volume	= 247,386 cuft
Inflow hyd. No.	= 18 - <no description>	Max. Elevation	= 430.53 ft
Reservoir name	= LARGE POND W/ RISER	Max. Storage	= 119,895 cuft

Storage Indication method used.



Hydrograph Report

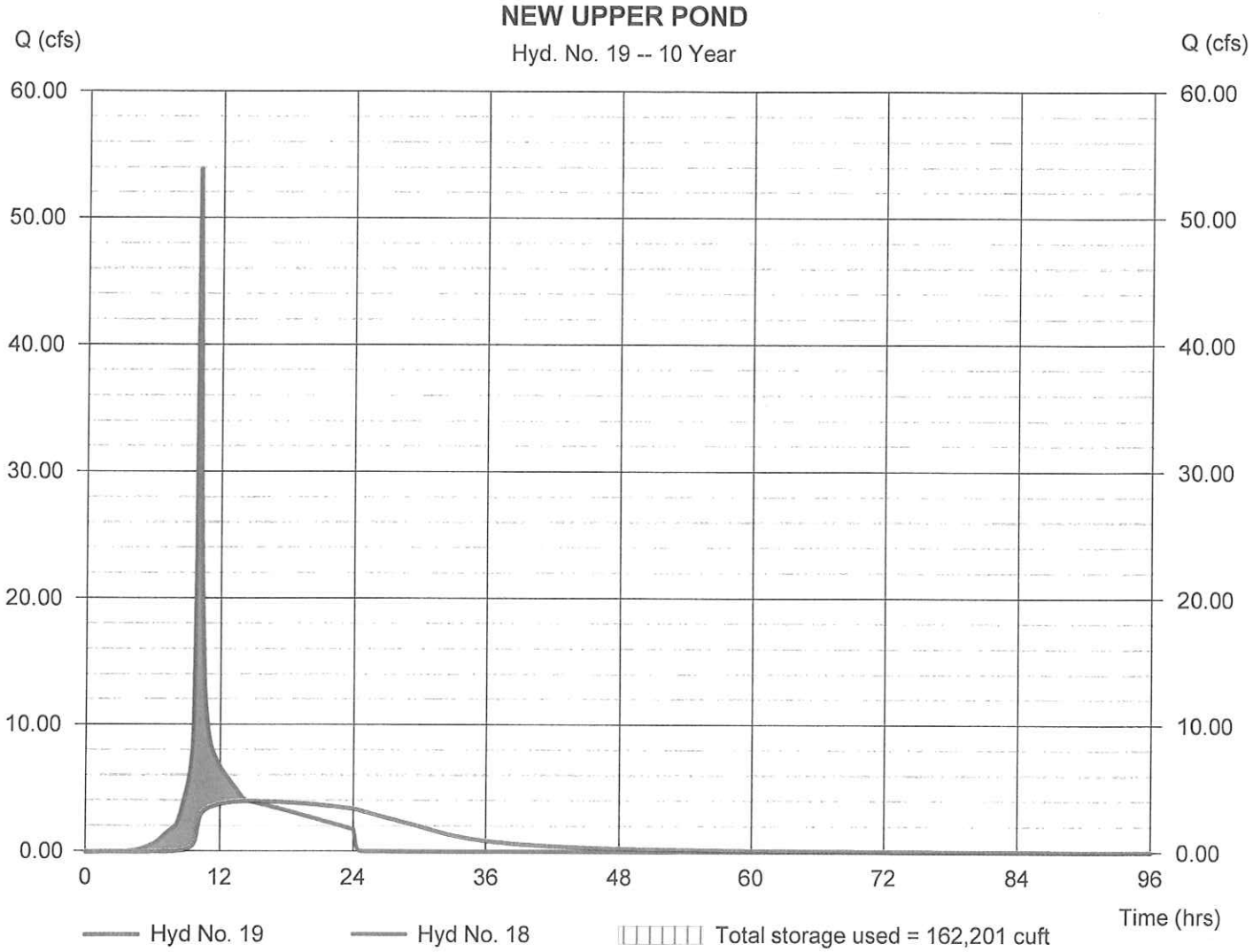
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 19

NEW UPPER POND

Hydrograph type	= Reservoir	Peak discharge	= 3.991 cfs
Storm frequency	= 10 yrs	Time to peak	= 14.60 hrs
Time interval	= 6 min	Hyd. volume	= 324,749 cuft
Inflow hyd. No.	= 18 - <no description>	Max. Elevation	= 431.07 ft
Reservoir name	= LARGE POND W/ RISER	Max. Storage	= 162,201 cuft

Storage Indication method used.



Hydrograph Report

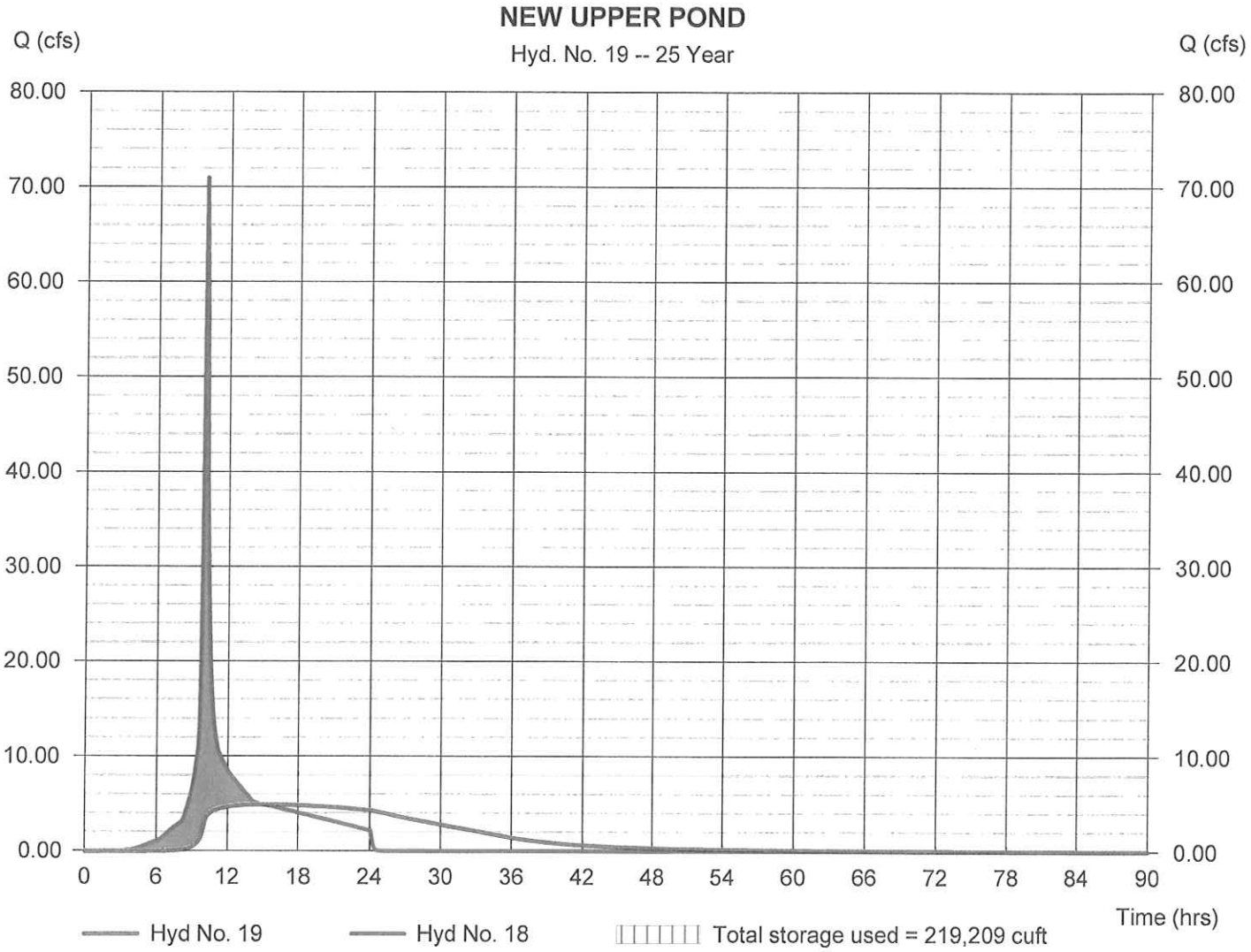
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 19

NEW UPPER POND

Hydrograph type	= Reservoir	Peak discharge	= 4.939 cfs
Storm frequency	= 25 yrs	Time to peak	= 14.90 hrs
Time interval	= 6 min	Hyd. volume	= 424,778 cuft
Inflow hyd. No.	= 18 - <no description>	Max. Elevation	= 431.80 ft
Reservoir name	= LARGE POND W/ RISER	Max. Storage	= 219,209 cuft

Storage Indication method used.



Hydrograph Report

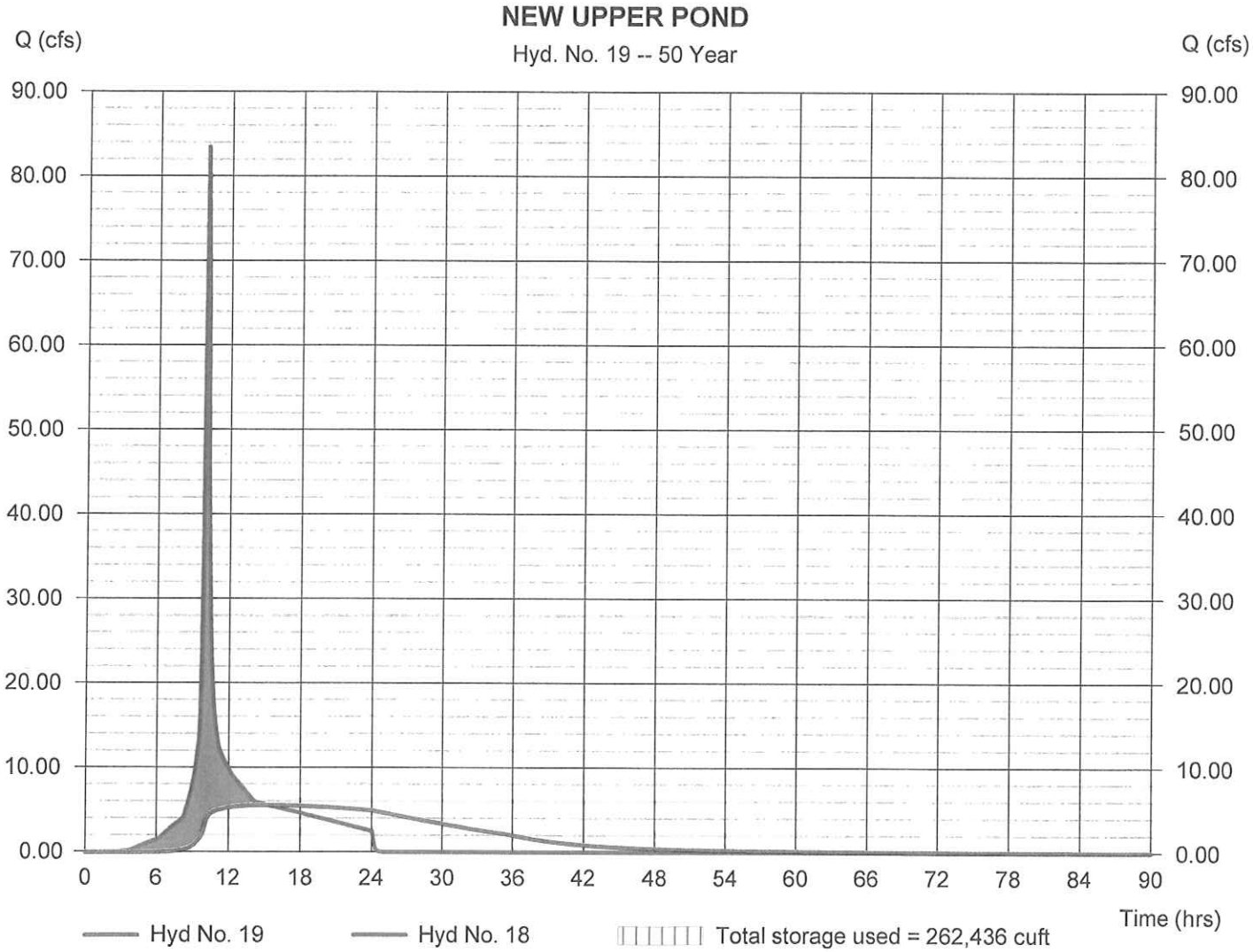
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 19

NEW UPPER POND

Hydrograph type	= Reservoir	Peak discharge	= 5.563 cfs
Storm frequency	= 50 yrs	Time to peak	= 15.20 hrs
Time interval	= 6 min	Hyd. volume	= 498,384 cuft
Inflow hyd. No.	= 18 - <no description>	Max. Elevation	= 432.35 ft
Reservoir name	= LARGE POND W/ RISER	Max. Storage	= 262,436 cuft

Storage Indication method used.



Hydrograph Report

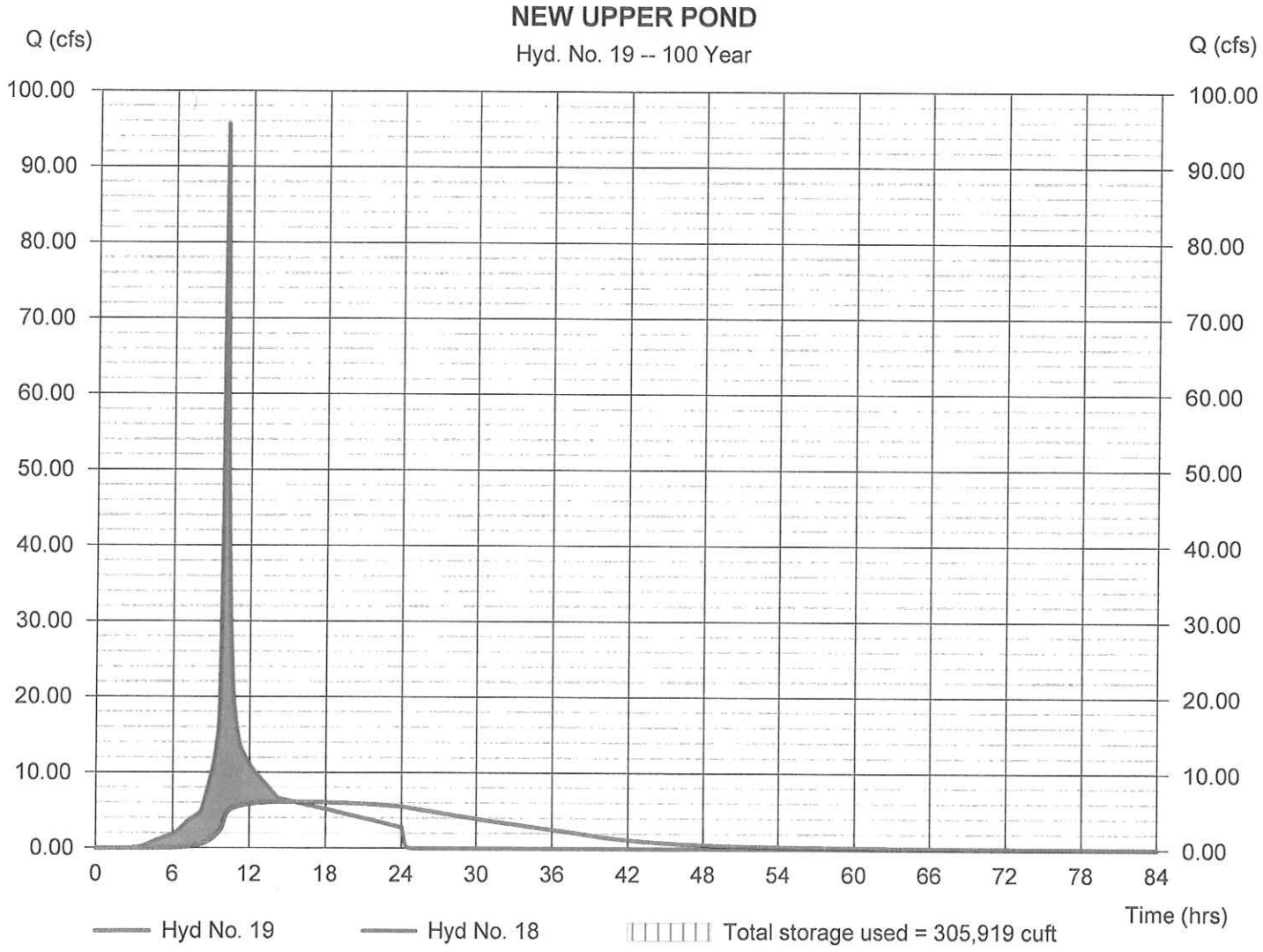
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 19

NEW UPPER POND

Hydrograph type	= Reservoir	Peak discharge	= 6.134 cfs
Storm frequency	= 100 yrs	Time to peak	= 15.50 hrs
Time interval	= 6 min	Hyd. volume	= 570,887 cuft
Inflow hyd. No.	= 18 - <no description>	Max. Elevation	= 432.90 ft
Reservoir name	= LARGE POND W/ RISER	Max. Storage	= 305,919 cuft

Storage Indication method used.



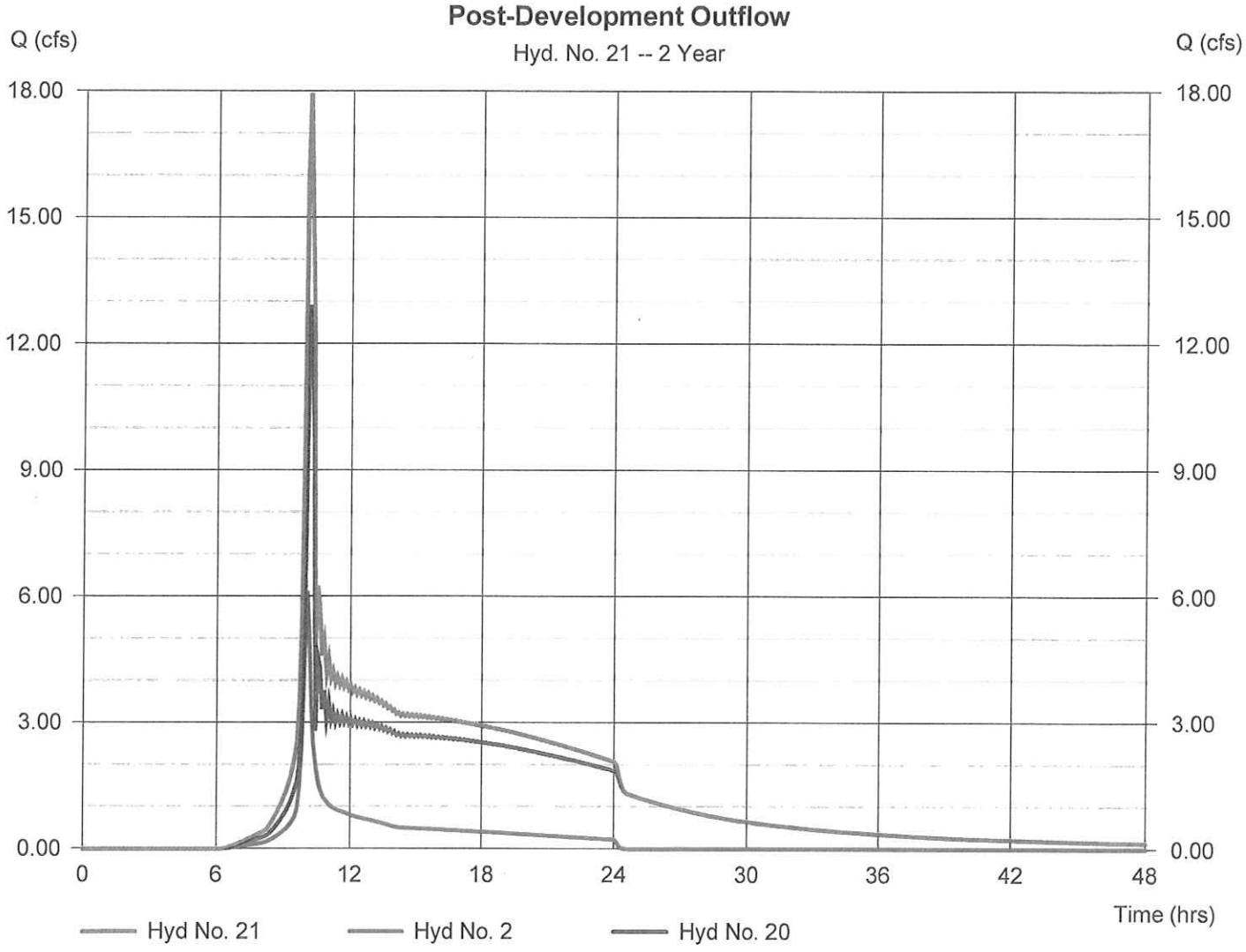
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 21

Post-Development Outflow

Hydrograph type	= Combine	Peak discharge	= 17.96 cfs
Storm frequency	= 2 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 247,230 cuft
Inflow hyds.	= 2, 20	Contrib. drain. area	= 7.060 ac



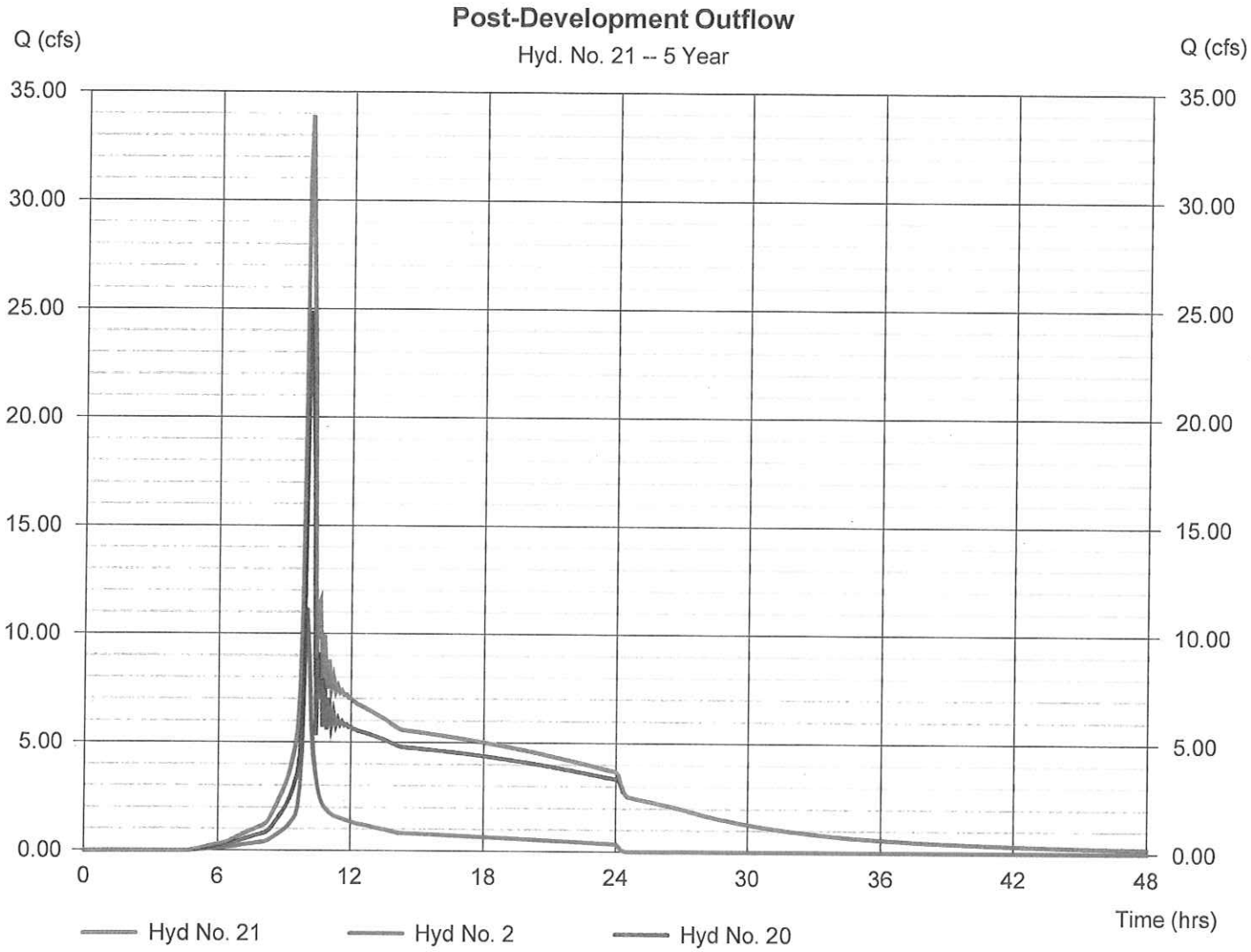
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 21

Post-Development Outflow

Hydrograph type	= Combine	Peak discharge	= 33.94 cfs
Storm frequency	= 5 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 442,944 cuft
Inflow hyds.	= 2, 20	Contrib. drain. area	= 7.060 ac



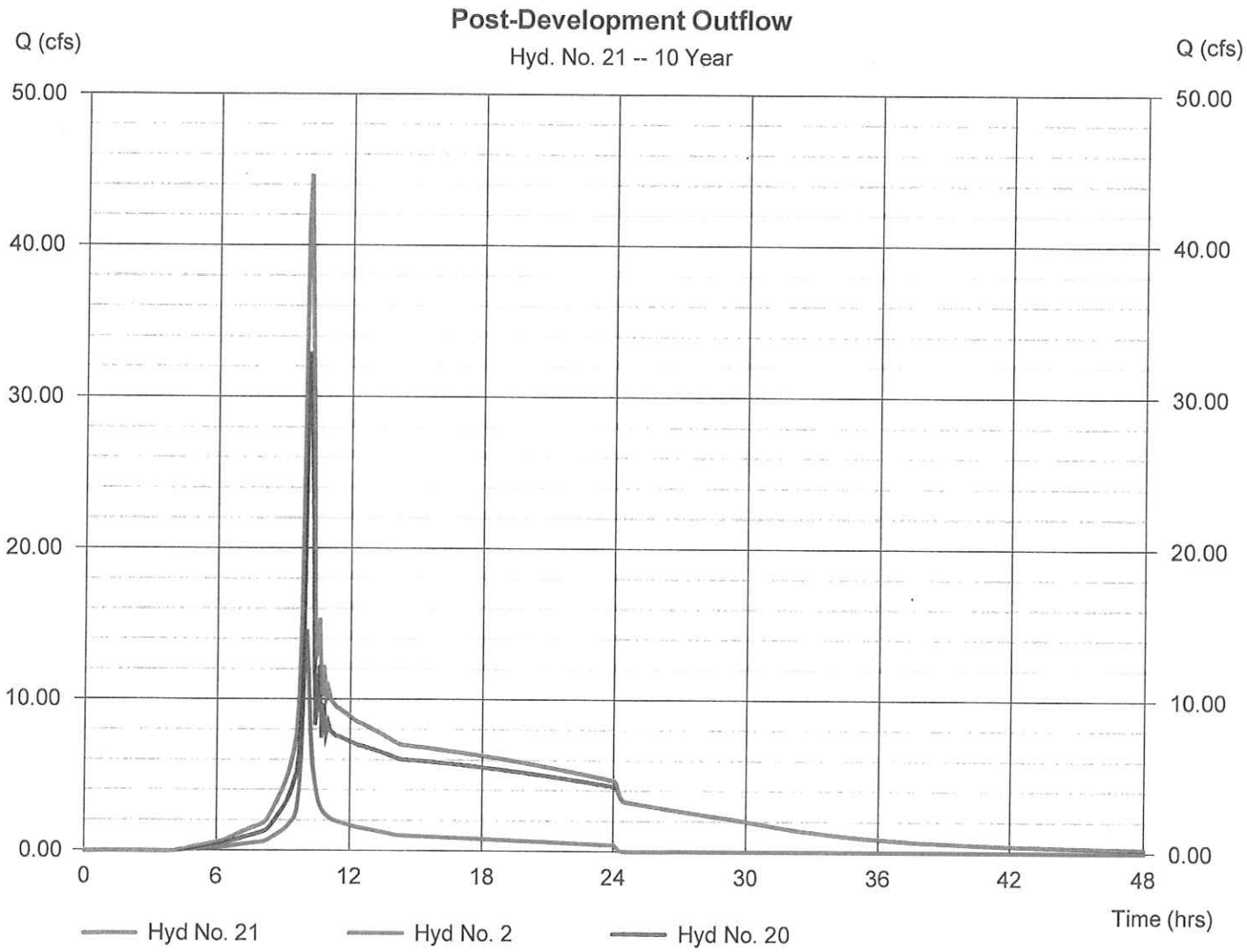
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 21

Post-Development Outflow

Hydrograph type	= Combine	Peak discharge	= 44.72 cfs
Storm frequency	= 10 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 578,343 cuft
Inflow hyds.	= 2, 20	Contrib. drain. area	= 7.060 ac



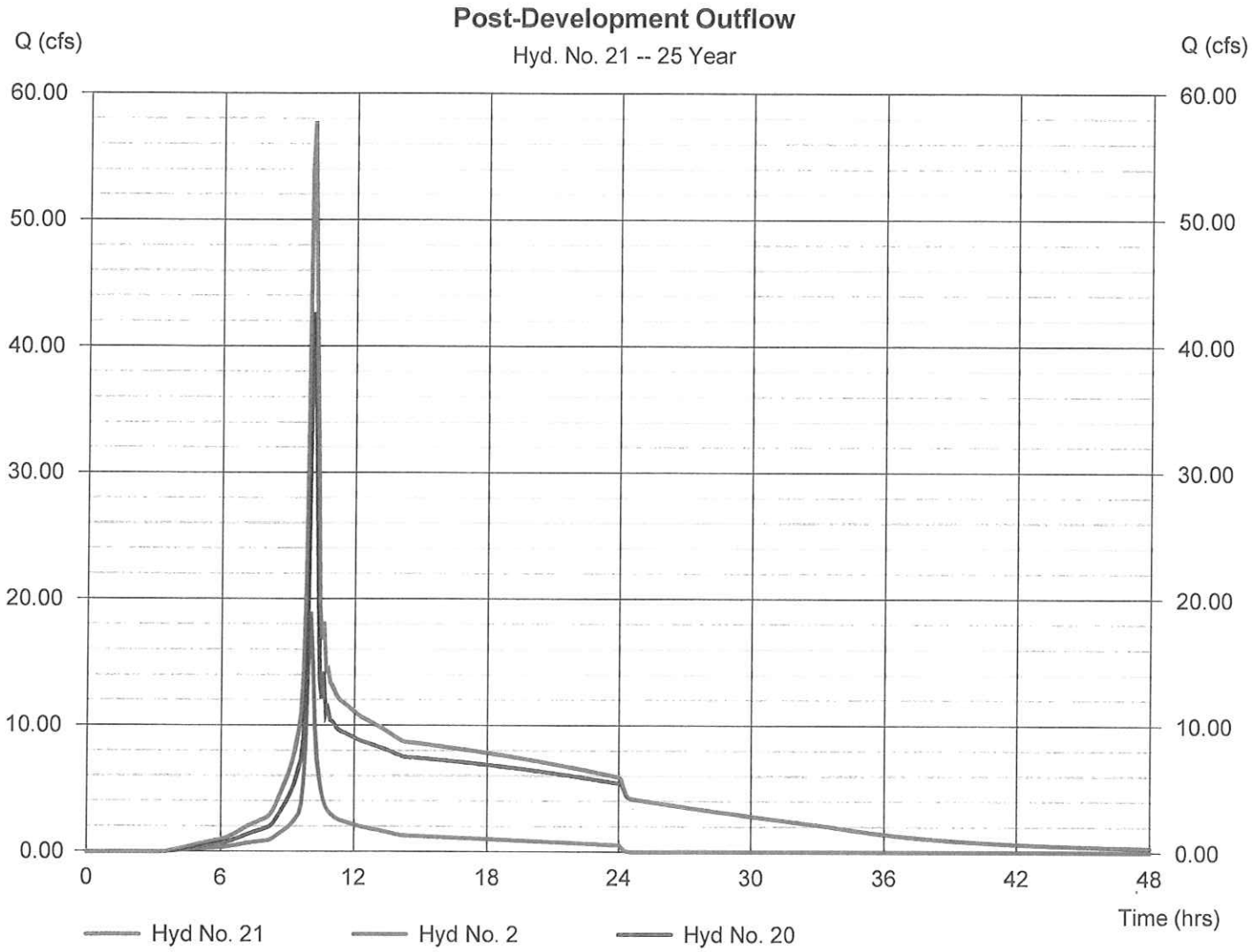
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 21

Post-Development Outflow

Hydrograph type	= Combine	Peak discharge	= 57.84 cfs
Storm frequency	= 25 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 752,881 cuft
Inflow hyds.	= 2, 20	Contrib. drain. area	= 7.060 ac



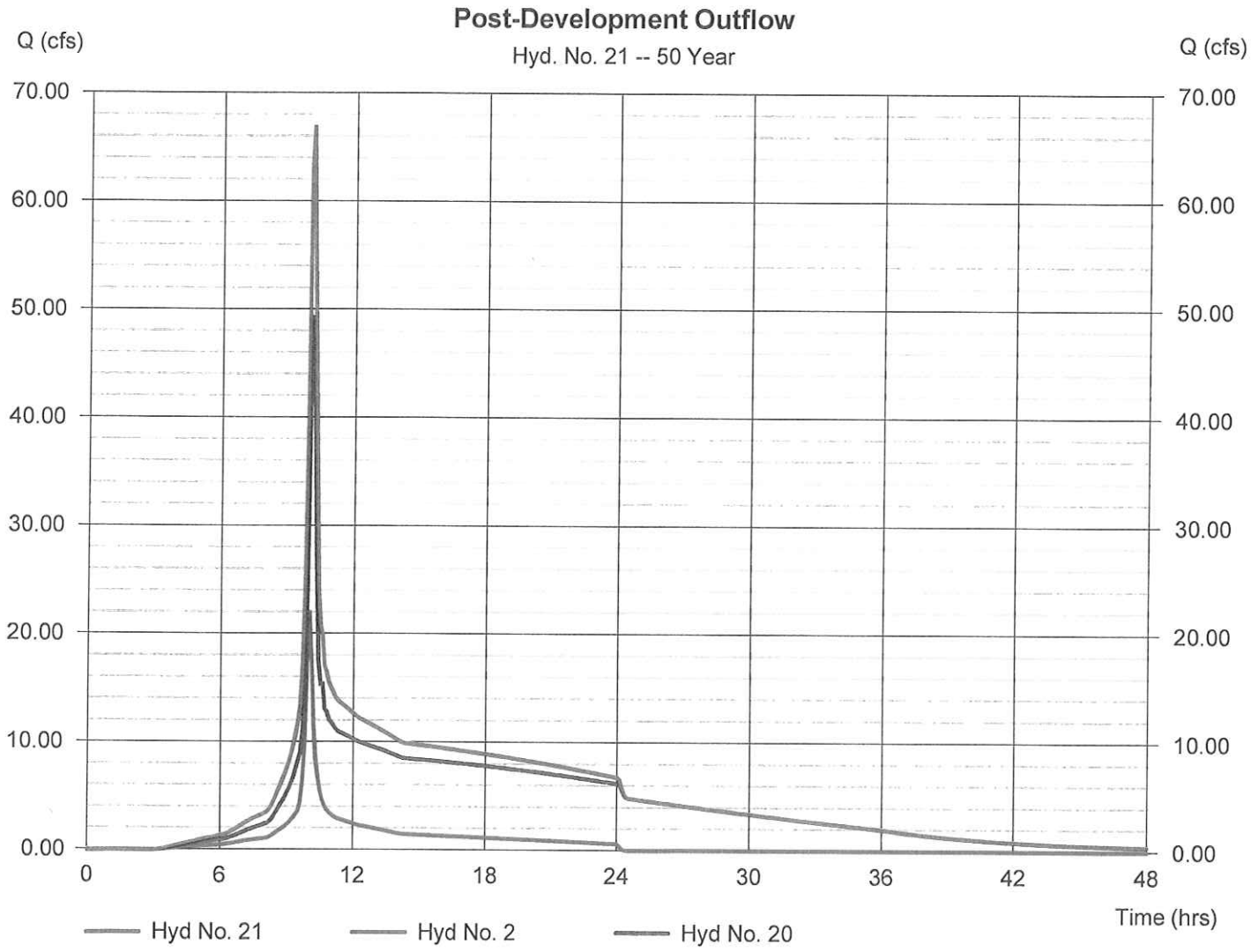
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 21

Post-Development Outflow

Hydrograph type	= Combine	Peak discharge	= 67.04 cfs
Storm frequency	= 50 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 881,053 cuft
Inflow hyds.	= 2, 20	Contrib. drain. area	= 7.060 ac



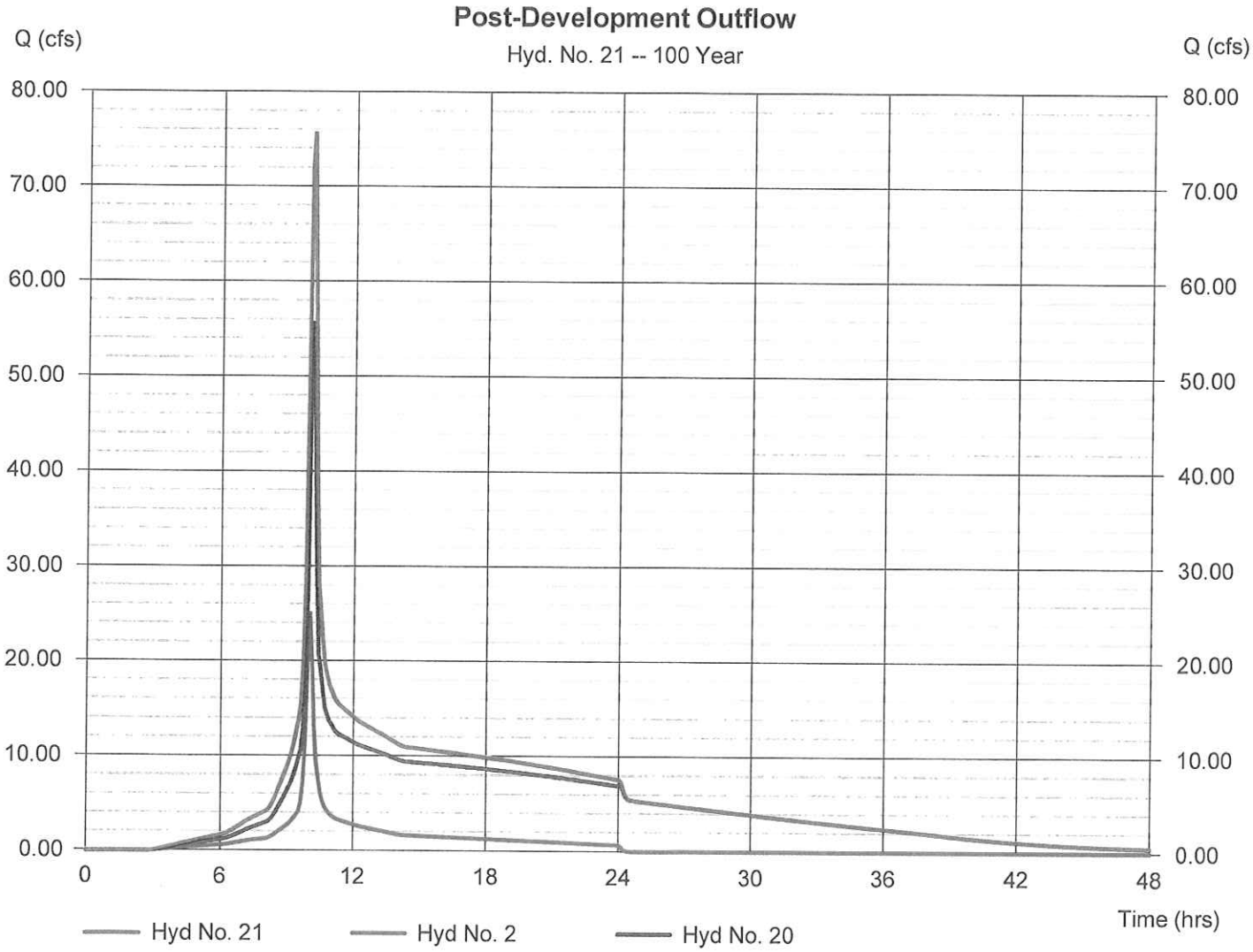
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. v8 Thursday, Mar 15, 2012

Hyd. No. 21

Post-Development Outflow

Hydrograph type	= Combine	Peak discharge	= 75.81 cfs
Storm frequency	= 100 yrs	Time to peak	= 10.10 hrs
Time interval	= 6 min	Hyd. volume	= 1,007,153 cuft
Inflow hyds.	= 2, 20	Contrib. drain. area	= 7.060 ac



PRE-DEVELOPED OVERALL

Area	Soil Type	Cover Type	Hydro Cond	CN	Area	
1	B	Herbaceous	Fair	71	29.863	
	D	Fallow	Good	94	18.537	
				80	***48.4***	***TOTAL***
					48.400	

PRE-DEVELOPED SITE

Area	Soil Type	Cover Type	Hydro Cond	CN	Area	Area	CN avg
SITE	B	Herbaceous	Fair	71	14.09	13.829	71
	D	Fallow	Good	94		0.261	
						14.090	

POST-DEVELOPED

Area	Hydro Soil	Cover Type	Hydro Cond	CN	Total Area	Area	CN avg
OPEN SPACE 1	B	Herbaceous	Fair	71	7.06	2.740	85
	D	Fallow	Good	94		4.320	
OPEN SPACE 2	B	Herbaceous	Fair	71	2.76	1.414	82
	D	Fallow	Good	94		1.346	
OPEN SPACE 3	B	Herbaceous	Fair	71	4.46	1.338	87
	D	Fallow	Good	94		3.122	
OPEN SPACE 4	B	Herbaceous	Fair	71	9.74	4.645	83
	D	Fallow	Good	94		5.095	
OPEN SPACE 5	B	Herbaceous	Fair	71	12.09	6.940	81
	D	Fallow	Good	94		5.150	
SITE	B	1/8 acre	Fair	85	14.09	13.829	85
	D	Fallow	Good	94		0.261	
				84		***50.2***	***TOTAL***
					50.2	50.200	

POST-DEVELOPED SITE

Area	Hydro Soil	Cover Type	Hydro Cond	CN	Total Area	Area	CN avg
OPEN SPACE 1	B	1/8 acre	Fair	85	2.18	2.180	85
	D	Fallow	Good	94		0.000	
OPEN SPACE 2	B	1/8 acre	Fair	85	3.30	3.300	85
	D	Fallow	Good	94		0.000	
OPEN SPACE 3	B	1/8 acre	Fair	85	1.94	1.940	85
	D	Fallow	Good	94		0.000	
OPEN SPACE 4	B	1/8 acre	Fair	85	6.665	6.400	85
	D	Fallow	Good	94		0.265	
				85		***14.09***	***TOTAL***
					14.09	14.09	

Appendix F

Noise Technical Data

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Avenue of the Flags - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	217.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	12.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	12.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	61.1

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Avenue of the Flags - Existing plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	278.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	15.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	15.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	62.1

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Avenue of the Flags - Cumulative

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	301.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	17.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	17.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	62.6

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Avenue of the Flags - Cumulative plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	332.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	18.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	18.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	62.9

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa west - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	335.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	19.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	19.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	63.1

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa west - Existing plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	356.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	20.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	20.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	63.3

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa west - Cumulative

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	420.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	23.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	23.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	64.0

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa west - Cumulative plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	440.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	24.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	24.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	64.1

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa east - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	302.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	17.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	17.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	62.6

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa east - Existing plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	313.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	17.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	17.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	62.7

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa east - Cumulative

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	428.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	24.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	24.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	64.1

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa east - Cumulative plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	439.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	24.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	24.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	64.1

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Avenue of the Flags Alt 7 - Existing plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	402.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	22.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	22.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	63.8

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Avenue of the Flags Alt 7 - Cumulative plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	395.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	22.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	22.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	63.7

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa west Alt 7 - Existing plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	399.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	22.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	22.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	63.8

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa west Alt 7 - Cumulative plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	481.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	27.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	27.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	64.6

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa east Alt 7 - Existing plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	335.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	19.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	19.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	63.1

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa east Alt 7 - Cumulative plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	461.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	26.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	26.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	64.4

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Avenue of the Flags Alt 8 - Existing plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	1276.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	71.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	71.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	68.8

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Avenue of the Flags Alt 8 - Cumulative plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	838.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	47.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	47.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	67.0

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa west Alt 8 - Existing plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	706.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	39.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	39.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	66.2

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa west Alt 8 - Cumulative plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	771.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	43.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	43.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	66.6

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa east Alt 8 - Existing plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	488.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	27.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	27.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	64.6

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

Damassa east Alt 8 - Cumulative plus Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	614.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	34.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	34.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	65.6