

**ADDENDUM #2 TO FINAL ENVIRONMENTAL IMPACT REPORT-
SAN MATEO RAIL CORRIDOR PLAN AND
BAY MEADOWS SPECIFIC PLAN AMENDMENT
(Certified by the San Mateo City Council on April 18, 2005, June 6, 2005 and November 7,
2005)**

1.0 INTRODUCTION

The California Environmental Quality Act (CEQA) requires public agencies to analyze and consider the environmental consequences of their decisions to approve development projects over which they exercise discretion. CEQA achieves this objective by requiring agencies to prepare Environmental Impact Reports (EIRs) for projects with the potential to cause significant impacts on the physical environment. EIRs are public documents that assess environmental effects related to the planning, construction, and operation of a project, and indicate ways to reduce or avoid possible environmental damage. An EIR also discloses growth-inducing impacts, effects found not to be significant, significant cumulative impacts, and significant impacts that cannot be avoided, if any. The purpose of an EIR is to inform. EIRs are not policy documents that recommend project approval or denial.

As lead agency, the City of San Mateo prepared an EIR for the San Mateo Rail Corridor Transit-Oriented Development Plan and the Bay Meadows II Specific Plan Amendment (Specific Plan Amendment), in compliance with the California Environmental Quality Act (CEQA) (Public Resources Code, section 21000 *et seq.*) and the State CEQA Guidelines (California Code of Regulations, Section 15000 *et seq.*, as amended). The City Council certified the final EIR (Final EIR) for the San Mateo Rail Corridor Transit-Oriented Development Plan & Bay Meadows II Specific Plan Amendment at a public hearing on April 18, 2005, approved the San Mateo Rail Corridor Transit-Oriented Development Plan, re-certified the Final EIR for that Plan, and adopted the findings and statement of overriding considerations at a public hearing on June 6, 2005 and approved the Specific Plan Amendment, re-certified the Final EIR for that project, and adopted the findings and statement of overriding considerations at a public hearing on November 7, 2005. As noted at page 1-6 of the Final EIR, the analysis in the Final EIR was at a “project” level of detail, which anticipated the potential impacts of future discretionary approvals to implement the project. The Final EIR expressly states that applications for subsequent Site Plan and Architectural Review (SPAR) would not require preparation of subsequent environmental documentation, unless otherwise required by CEQA Section 21166 and CEQA Guidelines Section 15162.¹

¹ Public Resources Code Section 21166 and CEQA Guidelines Section 15162 limit the ability of an agency to require an additional EIR, once one has been certified for a project. Section 21166 and Section 15162 provide that when an environmental impact report has been prepared for a project, no subsequent or supplemental environmental impact report will be required unless certain specified events occur. These events include (a) substantial changes are proposed in the project which will require major revisions of the environmental impact report; (b) substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the environmental impact report; or (c) new information, which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available, and the

Where a subsequent or supplemental EIR is not required under Section 21166, CEQA Guidelines Section 15164 explains when an addendum to an EIR might be required:

15164. Addendum to an EIR or Negative Declaration.
- "(a) The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.
 - (b) An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred.
 - (c) An addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.
 - (d) The decision-making body shall consider the addendum with the final EIR or adopted negative declaration prior to making a decision on the project.
 - (e) A brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR, the lead agency's required findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence."

For the reasons explained in Section 4.0 hereof, the City has determined that the subject SPAR Application described in Section 2.0 hereof requires preparation of this Addendum.

2.0 PROJECT IMPLEMENTATION AND BACKGROUND

[Footnote continued from previous page]

new information shows that (i) the project will have one or more significant effects not discussed in the previous EIR or negative declaration; (ii) significant effects previously examined will be substantially more severe than shown in the previous EIR; (iii) mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or (iv) mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

For the reasons described in Section 3.2 hereof, the City has determined that none of the circumstances requiring preparation of a subsequent or supplemental EIR are present for the subject SPAR application.

The project applicant has submitted a Site Plan and Architectural Review (“SPAR”) planning application for development of a private high school on Bay Meadows Phase II Block MU-1. As required in the Specific Plan Amendment (page V-22), projects within the Specific Plan Amendment area must obtain approval of a SPAR planning application in accordance with the City’s Municipal Code. Section 27.08.030 of the Municipal Code provides that in considering a SPAR application, the application shall be approved if the Zoning Administrator or Commission finds all of the following to exist:

- (1) The structures, site plan, and landscaping are in scale and harmonious with the character of the neighborhood;
- (2) The development will not be detrimental to the harmonious and orderly growth of the City;
- (3) The development will not impair the desirability of investment or occupation in the vicinity, and otherwise is in the best interests of the public health, safety, or welfare;
- (4) The development meets all applicable standards as adopted by the Planning Commission and City Council, conforms with the General Plan, and will correct any violations of the zoning ordinance, building code, or other municipal codes that exist on the site;
- (5) The development will not adversely affect matters regarding police protection, crime prevention, and security.”

In addition, under the Specific Plan Amendment, the City must find that the proposed application is consistent with the Specific Plan Amendment and the Design Guidelines and Development Standards.

Table IV-5 of the Specific Plan Amendment, on page IV-21, sets forth the Commercial standards that are applicable to MU-1, as specified by the project applicant. Permitted uses include all permitted uses in the E2 District, with certain exceptions and additions. As expressly indicated in Table IV-5, Section 27.048.020 the City’s Municipal Code provides that schools and day care facilities are expressly (as opposed to conditionally) permitted uses within the E2 District.

The project described in the Final EIR involved the implementation of the Specific Plan Amendment, including a framework that would guide the location of land uses. The EIR (p. 3-13) provides as follows:

“[r]ather than mandate a particular site plan or development, the Specific Plan Amendment sets limits on the nature and extent of the development that could occur on the site and mandates a road network, infrastructure improvements, public open space dedications and design standards and guidelines for that development. Specific site plans would be subject to City approval as the project is built out over the requested 20-year entitlement period.

For the purposes of this EIR, illustrative plans are provided as examples of the type of development that could occur based upon the limits set forth in the Specific Plan Amendment.⁸

⁸The plans provided in this document represent the best understanding to date of what would be expected to be constructed if the proposed project were approved and implemented. However, these plans are solely meant as a representative example of what could be constructed and will not be finalized until completion of the City's Site Plan and Architectural Review process. The amount and general nature of development that would occur as a result of the project would not exceed that studied here without potentially requiring additional environmental review. Therefore, unless otherwise noted, the analysis in this report would also apply to alternative site plan and building configurations.

The proposed SPAR application involves a private high school use that is permitted under the Specific Plan Amendment on Block MU-1. The proposed amount of development as set forth in the SPAR application fits within the overall development envelope permitted under the Special Area Plan Amendment. Although a private high school use was not specifically included in the illustrative plans described in the EIR, or in assumptions upon which the traffic study was based, it is similar to many other potential uses, such as hotel or religious institutions, in that the use was known and contemplated in the approved Specific Plan Amendment but not specifically analyzed as part of the illustrative plan. Nevertheless, the EIR project description is clear that the impact analysis is based on a maximum limit on the general type and extent of development set forth in the Specific Plan Amendment, not the specific illustrative plans set forth in the EIR. Therefore, unless the proposed SPAR application would exceed the maximum level of development described in the EIR or would involve new significant environmental effects or a substantial increase in the severity of previously identified significant effects, the mere fact that the proposed use is different from the illustrative plan described in the EIR would not require preparation of a new EIR.

The purpose of this Addendum is to review the parameters of the proposed school use, and determine whether they fall within the previously analyzed envelope of impacts specified in the EIR. In reviewing the proposed SPAR application for the school under the 21166 and 15162 standards, City staff has identified three issue areas that merit further discussion. These are: (1) traffic; (2) air quality; and (3) noise.

After reviewing the facts and analyzing the circumstances, the San Mateo City staff has determined that for the reasons discussed below, a new EIR is not required because none of the circumstances described in CEQA Section 21166 as implemented by CEQA Guidelines Section 15162 is present. Staff has prepared this Addendum to discuss these issues and the basis for this determination.

3.0 PROJECT IMPACTS RELATED TO TRAFFIC, AIR QUALITY AND NOISE

3.1 Description of the Issue

The Specific Plan Amendment as analyzed in the Final EIR anticipated a base program of 1,250,000 square feet of office uses, 1,250 residential units and 150,000 square feet of retail uses. A minimum of 1,000 units and 500,000 square feet of office are required to be provided at

build-out of the project under the Specific Plan Amendment. (The Final EIR studied the impacts of a range of development intensity within the Bay Meadows project and the larger San Mateo Rail Corridor that informed the City of the impacts that would result at this level of development.)

The proposed SPAR application contemplates development of a private school, consisting of approximately 133,000 square feet of commercial development on Block MU-1. As expressly indicated in Table IV-5, Section 27.048.020 of the City's Municipal Code provides that schools and day care facilities are permitted uses within the E2 District. The floor area ratio ("FAR") will be required to comply with the 2.5 maximum sub-Block/parcel FAR if no residential uses are located on the parcel, the 55' height limit, and the setbacks and other building design standards set forth in the Design Guidelines and Development Standards.

Staff has identified only three potential impacts related to the proposed school use that warrant further discussion in this Addendum: traffic, air quality and noise. The issues presented are (1) whether traffic generated by the proposed school use would cause the overall project to exceed the trip generation studied in the EIR, and as a result, create new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects related to traffic; (2) whether an increase in traffic would cause the overall project to exceed the trip generation studied in the EIR, and as a result, create new significant air quality impacts or result in a substantial increase in the severity of previously identified significant impacts related to air quality; and (3) whether the inclusion of an auditorium as part of the school use would create new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects related to noise.

3.2 Application of CEQA Guideline Section 15162

Is there substantial evidence in the record revealing that there have been substantial changes proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects as a result of the development of a school use on Block MU-1?

No, there is no evidence suggesting that any changes to the project have been proposed. As noted above, the previous EIR analyzed the impacts of the Specific Plan Amendment authorizing a range of development between a base program of 1,250,000 square feet of office uses, 1,250 residential units, and 150,000 square feet of retail uses, and a minimum of 500,000 square feet of office and 1,000 units of office at build out. The proposed SPAR would authorize the construction of approximately 133,000 square feet of school use.

Although school use was not specifically included within the illustrative plans described in the EIR, the project involved approval of the Specific Plan Amendment that permits development of a school on Block MU-1 at the proposed intensity. Furthermore, the proposed school will be subject to the final conditions of approval for the Specific Plan Amendment that created a "trip budget" to limit the amount of development that could be constructed depending upon the construction of the required grade separated crossings over the Caltrain tracks. The proposed use is therefore consistent with the Specific Plan Amendment that was analyzed in the EIR and

remains consistent with the minimum and maximum development limits analyzed in the Final EIR.

The *Bay Meadows II Traffic Management Plan* prepared by Kimley-Horn and Associates, Inc., dated December 4, 2012 (attached as Attachment 1 hereto) established the trip budget for each individual block at the Bay Meadows II project site (including Block MU1) and identifies how the trip generation of the project for each phase of development and at full build-out is expected to stay within the applicable trip caps and meet applicable trip reduction goals established in the Conditions of Approval #40 of the Specific Plan Amendment.

A *Nueva High School Transportation Management Plan* prepared by Kimley-Horn and Associates, Inc. dated November 26, 2012, attached as Attachment 2 (the "TMP") identifies the PM peak hour trip generation (and thereby in turn the PM peak hour trip budget which is included in the "Bay Meadows II Traffic Management Plan") for Nueva High School (only) and the Transportation Demand Management program that will be implemented by the school to ensure that the trip cap is met and also that the parking demand does not exceed the supply of 125 spaces. Page 8 of the "Nueva High School Transportation Management Plan" states: "This study helps identify the appropriate trip budget for the project site and based on the results of this report, the trip budget for the high school on MU-1 is set at 95 PM trips for all phases of Bay Meadows II.1". With implementation of these measures, the Nueva High School project would not cause the overall Bay Meadows Phase II project to exceed than 2,569 PM peak hour trips at full build-out, the number of peak hour trips analyzed in the EIR. With implementation of the measures set forth in the TMP, the level of vehicular trips generated by the proposed school use would fit within the EIR analysis and therefore would not involve new significant traffic or transportation impacts or a substantial increase in the severity of previously identified significant traffic or transportation impacts above that analyzed in the EIR.

This analysis is further supported by the October 19, 2012 analysis prepared by Hexagon Transportation Consultants, attached as Attachment 3 (the "Hexagon Study"). The Hexagon Study finds that the number of trips generated by the high school in conjunction with the current program for development of Bay Meadows Phase II fall within the range that was analyzed in the EIR and that transportation conditions have not changed in the area since the 2004 EIR. Therefore, the Hexagon Study concludes that the Nueva High School proposal is covered by the 2004 EIR.

In a separate Memorandum, dated October 19, 2012, Hexagon also concluded that the site access for the project with the 28th Avenue driveway east of Kyne Street provides good site access and circulation and school traffic is not expected to cause any back-ups or disruption to traffic flow on 28th Avenue or on Delaware Street. This Hexagon Memorandum is attached as Attachment 4.

Because air quality impacts may be exacerbated by increased traffic or idling cars and buses related to the school use, based on the trip generation numbers set forth in the Transportation Report, City staff also requested that an air quality consultant analyze the potential air quality impacts of the proposed school use for consistency with the EIR and whether emissions from the vehicles dropping off and picking up students at the proposed high school have the potential to create a carbon monoxide (CO) hotspot. The Air Quality Consistency Analysis prepared by Michael Brandman Associates, dated August 7, 2012, as updated with the Carbon Monoxide

Hotspot Assessment, dated September 27, 2012, is attached as Attachment 5 (the “Air Quality Consistency Analysis”). Based on the conclusion that the project would not result in increased trips beyond levels studied in the Final EIR, the Air Quality Consistency Analysis concludes that (1) the proposed school project would not result in new significant air quality impacts effects or a substantial increase in the severity of previously identified air quality impacts above that analyzed in the EIR, and (2) the proposed project would not result in new or significantly increased potential for CO hotspot generation through onsite idling and queuing.

At the City’s request, Charles M. Salter Associates has prepared a noise study, dated June 25, 2012, analyzing noise impacts related to the proposed school auditorium, and a supplemental report that addresses the noise regulation requirements promulgated by the City of San Mateo that apply to the project. The noise study and supplemental report are attached as Attachment 6 (the “Noise Study”). The Noise Study concludes that the proposed school project would not result in new significant noise impacts or a substantial increase in the severity of previously identified noise impacts above that analyzed in the EIR. Mitigation measures are included in the study to reduce interior noise levels to meet the project acoustical requirements and address potential noise impacts.

Is there substantial evidence in the record revealing that there have been substantial changes with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects?

There is no evidence suggesting that there have been substantial changes with respect to the circumstances under which the project is undertaken which will require major revisions to the previous EIR. Issues related to the grade separations and global climate change have already been addressed in the Addendum prepared for the Bay Meadows Phase II Site Plan and Architectural Review # 1 adopted by the City Council on April 21, 2008, , which Addendum is incorporated by reference herein. Information related to traffic, air quality and noise have been addressed in the attached TMP, Air Quality Consistency Analysis and Noise Study described above.

Is there substantial evidence in the record revealing that there is new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified that shows: (1) the project will have one or more significant effects not discussed in the EIR, (2) significant effects previously shown will be substantially more severe than shown in the previous EIR, (3) mitigation measure or alternatives previously found to be infeasible would in fact be feasible, or (4) there are considerably different mitigation measure or alternatives from those analyzed in the previous EIR that would substantially reduce one or more significant effects?

No, there is no evidence suggesting that there is new information of substantial importance relating to new significant effects or the severity of previously identified significant effects, or new alternatives or mitigation measures or the efficacy of previously considered alternatives or mitigation measures. The Project is a permitted use under the Specific Plan and fits within the general nature and extent of development that was considered in the EIR. Therefore, the development of a private high school within Bay Meadows is not new information, but constitutes information that was known at the time of the EIR certification.

4.0 BASIS FOR DECISION TO PREPARE AN ADDENDUM

Although there have been no changes to the project studied in the EIR, an addendum is appropriate because some changes or additions are necessary to discuss the particular traffic, air quality and noise issues surrounding the use of the site for a school, but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred. More specifically, even though the project will consist of less than the maximum development intensity contemplated by the Specific Plan Amendment, the EIR did not specifically discuss a school use and City staff have determined that further analysis should be performed to ensure that the use of the site for a school fits within the impact analysis set forth in the EIR. This does not constitute a substantial change to the project or the circumstances due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

Similarly, the use of the site for a school was contemplated in the Specific Plan Amendment and does not constitute new information that would show new effects or substantially more severe effects. Likewise, there are no known mitigation measures that would in fact be feasible or that would substantially reduce significant effects, that the project proponent has declined to adopt. Furthermore, there have been no other changes, evidence or new information which would require revisions to the previous EIR. Because none of the criteria in section 15162 have been met, an addendum is appropriate.

Attachment 1: Bay Meadows II Traffic Management Plan [Kimley-Horn and Associates, Inc., dated December 4, 2012]

Attachment 2: Nueva High School Transportation Management Plan [Kimley-Horn and Associates, Inc., dated November 26, 2012]

Attachment 3: Nueva High School Consistency with Rail Corridor Development Plan and Bay Meadows [Hexagon Transportation Consultants, Inc., dated October 19, 2012]

Attachment 4: Memorandum to Darcy Forsell re: New Nueva High School Circulation Plan [Hexagon Transportation Consultants, Inc., dated October 19, 2012]

Attachment 5: Air Quality Consistency Analysis, [Michael Brandman Associates, dated August 7, 2012] and Air Quality Consistency Analysis: Carbon Monoxide Hotspot Assessment [Michael Brandman Associates, dated September 27, 2012]

Attachment 6: Preliminary Environmental Noise Study, [Charles M. Salter Associates Inc., dated June 25, 2012] and Letter to LMS Architects re: City Noise Regulation Requirements [Charles M. Salter Associates Inc., dated August 1, 2012]

**Attachment 1: Bay Meadows II Traffic Management
Plan [Kimley-Horn and Associates, Inc., dated
December 4, 2012]**

FINAL

**BAY MEADOWS II
TRAFFIC MANAGEMENT PLAN**

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Prepared By:



**Original: March 17, 2008
Updated: December 4, 2012**



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Executive Summary

UPDATED October 8, 2012

The majority of the content of the original Traffic Management Plan dated March 17, 2008, is retained in this update dated October 8, 2012. This update is primarily being completed to update the land use information to the current development plan for the Bay Meadows II development. These updates specifically include changes to the square footage and dwelling unit development details currently planned on a block-by-block basis, and a reporting of the updated trip generation for the Bay Meadows II development.

PURPOSE

This report documents a Traffic Management Plan for the Bay Meadows II project as required under the project's Conditions of Approval. The purpose of this Plan is to:

1. Estimate the trip generation for the Bay Meadows II project for each phase of development at the time of development of that phase and at full build-out
2. Establish a trip budget for each individual Block, based on the applicable pre-grade separation, short-term, mid-term and long-term trip reduction goals for the project, as established by the Conditions of Approval.
3. Demonstrate how the trip generation of the project for each phase of development and at full build-out is expected to stay within the applicable trip caps and meet applicable trip reduction goals established in the Conditions of Approval.
4. Identify a Transportation Demand Management Strategy that will be implemented with the project as required by the Conditions of Approval.
5. Describe a traffic monitoring plan, as required in the Conditions of Approval that will allow the City to monitor and verify whether the project is meeting its trip reduction goals and evaluate the effectiveness of any TDM measures that are implemented.

BACKGROUND

In 2005, the City of San Mateo adopted the San Mateo Rail Corridor Transit Oriented Development Plan (Corridor Plan). The Corridor Plan includes a framework for creation of Transit Oriented Development (TOD), implementation of a Transportation Demand Management program with a goal of achieving an overall reduction in new vehicle trips of at least 25 percent corridor-wide, establishment of trip generation thresholds, establishment of parking standards, and monitoring of trip generation.

The Corridor Plan called for the amendment of the Bay Meadows Specific Plan to achieve the TOD and other policies of the Corridor Plan. The City implemented these



policies through its approval in 2005 of the Bay Meadows Specific Plan Amendment and associated Conditions of Approval and the Bay Meadows Development Agreement. The Specific Plan Amendment, Conditions of Approval and Development Agreement set forth all of the relevant land use, TDM, trip reduction, parking and monitoring standards and conditions applicable to Bay Meadows.

The Corridor Plan and Bay Meadows Specific Plan Amendment were designed to take advantage of the potential for the expanded CalTrain commuter line linking San Francisco to San Jose and Gilroy. However, recognizing that the Peninsula Corridor Joint Powers Board ("JPB") improvements to the Hillsdale Station and the expanded CalTrain service were independent of the Corridor Plan and Specific Plan, the Conditions of Approval set different "trip budgets" depending upon the status of the adjacent rail improvements. In other words, the Bay Meadows Specific Plan amendment anticipated the potential for future rail improvements but was not dependent upon it.

As part of the Final EIR for the Specific Plan Amendment, the City prepared a phasing analysis that determined the level of a development that could be sustained, without impact, prior to the completion of the proposed grade separations at 28th and 31st Avenues. The context for the analysis was the 2020 scenario, which means that the traffic volumes included not only anticipated growth in the Bay Meadows and Corridor Plan areas, but also growth throughout the City of San Mateo and substantial growth throughout San Mateo County. This analysis yielded a "trip budget" of 1,127 net new trips, or 1,562 total trips (assuming a credit for the existing racing uses), before any grade separation was required to mitigate traffic.

The City's environmental analysis also concluded that a substantial amount of development could occur at Bay Meadows, including full development of the residential portion of the project (1,250 dwelling units), and 580,000 square feet of office, with the understanding that retail development might be deferred until such time as the grade separations were in place, and/or additional development could be achieved if TDM and interim Hillsdale CalTrain improvements resulted in overall trip reductions. The project approvals recognized that the precise mix of development would be left open until the Site Plan and Architectural Review (SPAR) process.

The findings of the City's environmental analysis were incorporated into Conditions of Approval Nos. 40 through 44 for the project. These conditions implement the Transportation Demand Management policies and goals of the Corridor Plan by providing the specific parameters for the Bay Meadows Phase II site. Condition 40 establishes overall project trip budget for each of four phases determined by the commencement and completion of a grade separation at 28th and/or 31st Avenues, and completion of a particular portion of development of the Bay Meadows site. The same condition also establishes trip reduction goals for the project, again dependent upon the amount of overall development completed. Condition 41 describes the monitoring methods to be used by the City to keep track of the individual trip budgets for each Block. Conditions 42 and 43 describe how Bay Meadows project will participate in a transportation management association (TMA) and implement a transportation demand



management (TDM) plan. Condition 43 also specifies the method for monitoring and enforcing the TDM goals for the project.

PROPOSED LAND USES

The Bay Meadows II project is subdivided into two primary districts, the Station/Mixed-Use district, and the Residential district. These districts are further subdivided into 18 development Blocks. The pre-grade separation development program, as of October 2012, is proposed to be a total of 771,713 square feet of office¹, 22,898 square feet of retail, 14,808 square feet of restaurant, 1,066 residential dwelling units and 450-student high school. At full build-out after grade separation, the proposed development program, as of October 2012, includes a total of 805,199 square feet of office, 74,771 square feet of retail, 17,808 square feet of restaurant, 1,116 residential dwelling units, and a 450 student high school. In addition to these land uses, the project site includes a parcel of land that may be developed into a 500 space parking structure by the JPB, which is also not included. **Table 1** of this Plan sets forth the summary of land uses in detail.

CONCLUSION

In satisfaction of the Conditions of Approval, the projected trips to be generated by the project will be within the applicable trip caps and trip reduction goals for the project. Compliance is based upon estimated trip generation of the project by phase and at full build-out, with the implementation of the Level I and Level II TDM strategies during applicable phases.

¹ All square footage values identified in this report and used in the trip generation analysis are in terms of gross building square footage.



1 Introduction

UPDATED October 8, 2012

The majority of the content of the original Traffic Management Plan dated March 17, 2008, is retained in this update dated October 8, 2012. This update is primarily being completed to update the land use information to the current development plan for the Bay Meadows II development. These updates specifically include changes to the square footage and dwelling unit development details currently planned on a block-by-block basis, and a reporting of the updated trip generation for the Bay Meadows II development.

1.1 Purpose of Study

This report documents a Traffic Management Plan (the "Plan") for the Bay Meadows II project as required under Conditions 40 through 43 of the project's Conditions of Approval. The purpose of the Plan is to:

1. Estimate the trip generation for the Bay Meadows II project for each phase of development at the time of development of that phase and at full build-out
2. Establish a trip budget for each individual Block, based on the applicable pre-grade separation, short-term, mid-term and long-term trip reduction goals for the project, as established by the Conditions of Approval.
3. Demonstrate how the trip generation of the project for each phase of development and at full build-out is expected to stay within the applicable trip caps and meet applicable trip reduction goals established in the Conditions of Approval.
4. Identify a Transportation Demand Management Strategy that will be implemented with the project as required by the Conditions of Approval.
5. Describe a traffic monitoring plan, as required in the Conditions of Approval that will allow the City to monitor and verify whether the project is meeting its trip reduction goals and evaluate the effectiveness of any TDM measures that are implemented.

1.2 Organization

Section 1 of this Plan describes the study area of the Plan. It also provides an overview of the City's applicable transportation policies set forth in the San Mateo Rail Corridor Plan and the Bay Meadows Specific Plan Amendment, as implemented through the Bay Meadows Development Agreement and Specific Plan Amendment Conditions of Approval.



Section 2 describes the proposed land uses on a block by block basis, including square feet of commercial uses and number of dwelling units.

Section 3 sets forth the trip generation analysis. It describes in detail the trip reduction requirements, sets forth the base trip rates and trip reduction assumptions for transit and mixed-use internal capture, establishes the trip budgets project-wide and per block, and estimates the trip generation for each phase of project development.

Section 4 describes the Transportation Demand Management strategies that may be considered for achieving the trip reduction goals.

Section 5 sets forth the Traffic Monitoring Plan required to monitor trip generation and determine compliance with trip reduction goals at a given point in time.

1.3 Background

In 2005, the City of San Mateo adopted the San Mateo Rail Corridor Transit Oriented Development Plan (Corridor Plan). The stated goal of the Corridor Plan was to allow, encourage and provide guidance for the creation of world class transit-oriented development (TOD) within a half-mile radius of the Hillsdale and Hayward Park Caltrain station areas, while maintaining and improving the quality of life for those who already live and work in the area. The Corridor Plan includes a framework for creation of TOD, implementation of a Transportation Demand Management program with a goal of achieving an overall reduction in new vehicle trips of at least 25 percent corridor-wide, establishment of trip generation thresholds, establishment of parking standards, and monitoring of trip generation (Corridor Plan Policy 7.17).

In June, 2005, the City Council certified the San Mateo Rail Corridor Plan & Bay Meadows Specific Plan Amendment Final Environmental Impact Report (the "FEIR"), approved the Corridor Plan, and adopted associated revisions to the City's General Plan consistent with the policies of the Corridor Plan.

As part of the Corridor Plan implementation for Bay Meadows, the Corridor Plan called for the amendment of the Bay Meadows Specific Plan to achieve the TOD and other policies of the Corridor Plan. The City implemented these policies through its approval of the Bay Meadows Specific Plan Amendment (the "Specific Plan Amendment") and Conditions of Approval adopted on November 7, 2005, and the Bay Meadows Development Agreement between the City of San Mateo and Bay Meadows Land Company, dated as of November 21, 2005 (the "Development Agreement"). The City found these actions were consistent with the Corridor Plan and the City's General Plan.

The Specific Plan Amendment, Conditions of Approval and Development Agreement set forth all of the relevant land use, TDM, trip reduction, parking and monitoring standards and conditions applicable to Bay Meadows. Implementation of the applicable Corridor Plan and Specific Plan Amendment parking policies are set forth in the Bay Meadows II Parking Management Plan, submitted by the applicant to the City concurrently with this Plan.



The Corridor Plan and Bay Meadows Specific Plan Amendment were designed to take advantage of the potential for the expanded CalTrain commuter line linking San Francisco to San Jose and Gilroy. However, recognizing that the Peninsula Corridor Joint Powers Board ("JPB") improvements to the Hillsdale Station and the expanded CalTrain service were independent of the Corridor Plan and Specific Plan, the Conditions of Approval set different "trip budgets" depending upon the status of the adjacent rail improvements. In other words, the Bay Meadows Specific Plan amendment anticipated the potential for future rail improvements but was not dependent upon it.

As part of the Final EIR for the Specific Plan Amendment, the City prepared a phasing analysis that determined the level of a development that could be sustained, without impact, prior to the completion of the proposed grade separations at 28th Avenue and 31st. The context for the analysis was the 2020 scenario, which means that the traffic volumes included not only anticipated growth in the Bay Meadows and Corridor Plan areas, but also growth throughout the City of San Mateo and substantial growth throughout San Mateo County. This analysis yielded a "trip budget" of 1,127 net new trips, or 1,562 total trips (assuming a credit for the existing racing uses), before any grade separation was required to mitigate traffic.

The City's environmental analysis also concluded that a substantial amount of development could occur at Bay Meadows, including full development of the residential portion of the project (1,250 dwelling units), and 580,000 square feet of office, with the understanding that retail development might be deferred until such time as the grade separations were in place, and/or additional development could be achieved if TDM and interim Hillsdale CalTrain improvements resulted in overall trip reductions. The project approvals recognized that the precise mix of development would be left open until the Site Plan and Architectural Review (SPAR) process.

The findings of the City's environmental analysis were incorporated into Conditions of Approval Nos. 40 through 44 for the project. These conditions implement the Transportation Demand Management policies and goals of the Corridor Plan by providing the specific parameters for the Bay Meadows Phase II site. Condition 40 establishes overall project trip budget for each of four phases determined by the commencement and completion of a grade separation at 28th and/or 31st, and completion of a particular portion of development of the Bay Meadows site. The same condition also establishes trip reduction goals for the project, again dependent upon the amount of overall development completed. Condition 41 describes the monitoring methods to be used by the City to keep track of the individual trip budgets for each Block. Conditions 42 and 43 describe how Bay Meadows project will participate in a transportation management association (TMA) and implement a transportation demand management (TDM) plan. Condition 43 also specifies the method for monitoring and enforcing the TDM goals for the project.



1.4 Study Area

The project site is bounded by the San Mateo County Exposition Center to the north, CalTrain rail tracks to the west, the Franklin Campus / Saratoga Drive to the east, and existing residential land uses to the south. Regional access to the project site is provided by US-101 and SR-92, accessed via the Hillsdale Boulevard and Delaware Street interchanges. Regional transit access is provided by SamTrans bus routes and CalTrain. The CalTrain Hillsdale station is located at the southwest corner of the project site.

Major transportation improvements associated with the development of the project site includes; the extension of Delaware Street through the project site to Pacific Boulevard, the extension of Franklin Boulevard as 31st Avenue from its current terminus to the JPB right-of-way, the construction of 28th Avenue from Saratoga Avenue to the JPB right-of-way, and the construction of a grid of internal local streets. 31st and/or 28th Avenues will be connected to El Camino Real when the CalTrain tracks are raised and grade-separations are implemented as planned by the JPB. The timing of this JPB project is unknown at this time. For purposes of this Plan, conditions prior to constructing one or both of the 28th or 31st Avenue grade-separations is considered the “pre-grade separation” stage, and afterwards the “post-grade-separation” stage.

1.5 Definitions

Vehicle Trip Generation – a vehicle “trip” is defined as “a single or one direction vehicle movement with either the origin or destination inside a study area”. Trip generation, as it refers to new development is the number of trips that the development produces and attracts during a given time period.

Trip Generation Rates – is the ratio of automobile trips to an independent variable of land use in a given period of time. For example, a residential land use may have a trip generation rate of 0.55 trips per dwelling unit in the afternoon peak hour. Rates are applied to the total land use program to estimate trips. The primary source of trip generation rates is the Institute of Transportation Engineers’ (ITE) *Trip Generation* manual.

Mode share – is the method of travel selected by a person. The common modes of travel include walking, bicycling, using transit, carpooling, and driving alone. Mode share of new development is often measured as the number of person trips by each mode of travel as a percentage of the total person trips produced or attracted by the development.

Mixed-Use and Internal Capture (Internalization) – Mixed-use development, as published by the Urban Land Institute is defined as “three or more significant revenue-producing uses, with significant functional and physical integration of the project components, and development in conformance with a coherent plan.” Mixed-use can be a single building, or a site with multiple buildings such as Bay Meadows. ITE defines mixed-use development as “a single real-estate project that consists of two or more ITE



land use classifications between which trips can be made without using the off-site road system.” The definition of internal capture is encapsulated in this definition.

Transit-Oriented Development (TOD) – According to the *Statewide Transit-Oriented Development Study: Factors for Success in California*² TOD is transportation-related land use strategy, in coordination with bus, rail and/or ferry systems to provide communities with an alternative to the predominant pattern of low-density sprawl and automobile dependency. The study’s advisory committee defined TOD as “a moderate to higher-density development, located within an easy walk of a major transit stop, with a mix of residential, employment and shopping opportunities designed for pedestrians without excluding the auto.”

² California Department of Transportation, California Business, Transportation and Housing Agency, Final Report, September 2002.

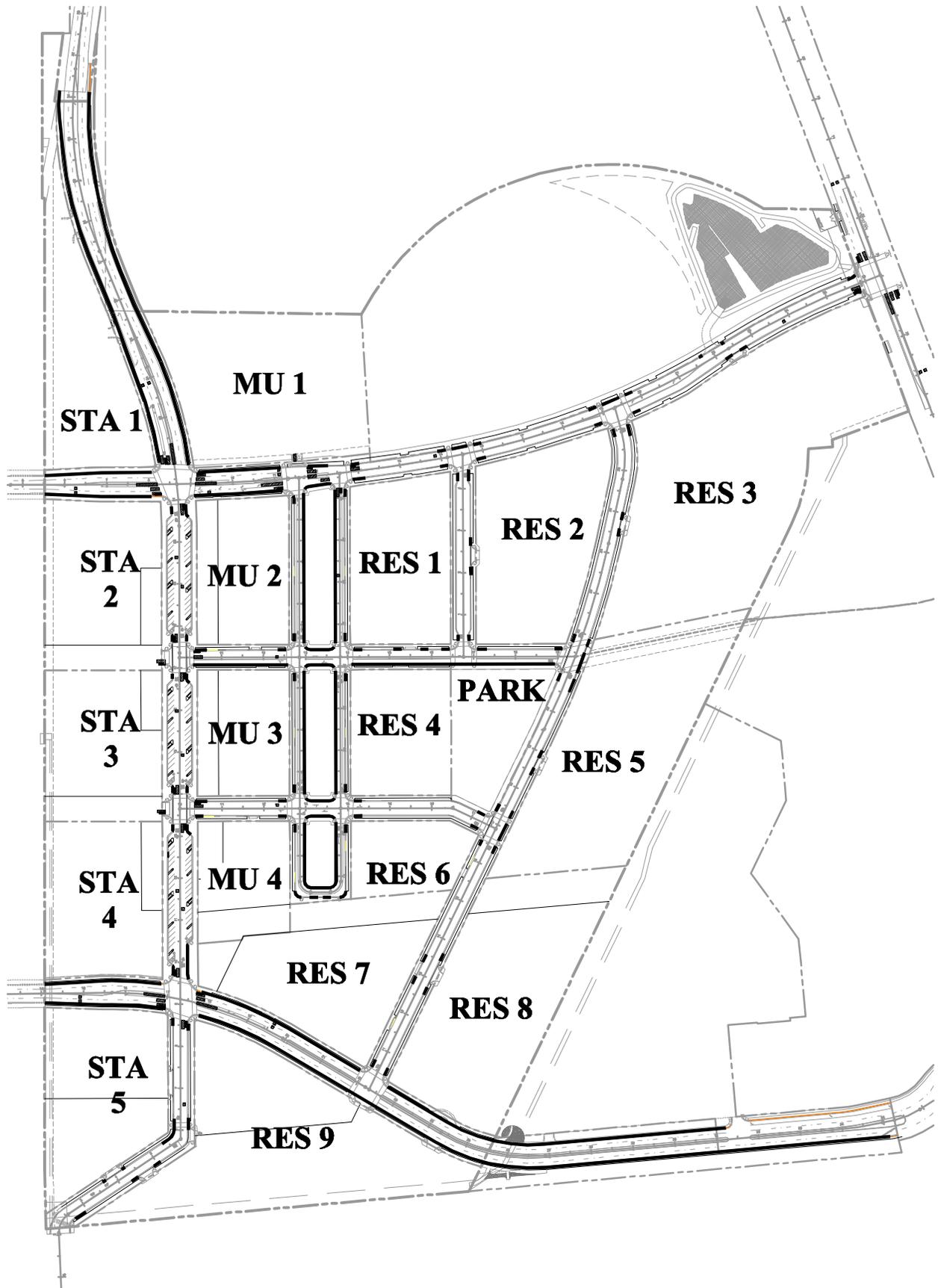


FIGURE 1: BAY MEADOWS II BLOCK NUMBERING



2 Proposed Land Uses

The Bay Meadows II project is subdivided into two primary districts, the Station/Mixed-Use district, and the Residential district. These districts are further subdivided into 18 development Blocks. There are five (5) Station Blocks, four (4) Mixed-Use Blocks, and nine (9) Residential Blocks. As of October 2012, the pre-grade separation development program is proposed to be a total of 771,713 square feet of office³, 22,898 square feet of retail, 14,808 square feet of restaurant, 1,066 residential dwelling units, and a 450-student high school. At full build-out after grade separation, the proposed development program includes a total of 805,199 square feet of office, 74,771 square feet of retail, 17,808 square feet of restaurant, 1,116 residential dwelling units, and a 450-student high school. In addition to these land uses, the project site includes a parcel of land that may be developed into a 500 space parking structure by the JPB, which is also not included. The Bay Meadows project site and the block numbering system are shown in **Figure 1. Table 1** of this Plan sets forth the summary of land uses in detail.

³ All square footage values identified in this report and used in the trip generation analysis are in terms of gross building square footage.



Table 1: Summary of Land Use by Blocks at Full Build-out

Block	Land Use	Quantity	Units
STATION BLOCKS			
Station Block 1 (STA 1)	Office	92,267	Square Feet
	Retail	5,794	Square Feet
	Restaurant	0	Square Feet
	Subtotal	98,061	Square Feet
Station Block 2 (STA 2)	Office	190,235	Square Feet
	Retail	10,889	Square Feet
	Restaurant	3,050	Square Feet
	Subtotal	204,174	Square Feet
Station Block 3 (STA 3)	Office	174,445	Square Feet
	Retail	8,769	Square Feet
	Restaurant	3,281	Square Feet
	Subtotal	186,495	Square Feet
Station Block 4 (STA 4)	Office	216,428	Square Feet
	Retail	8,627	Square Feet
	Restaurant	3,477	Square Feet
	Subtotal	228,532	Square Feet
Station Block 5 (STA 5)	Office	98,338	Square Feet
	Retail	4,098	Square Feet
	Restaurant	0	Square Feet
	Subtotal	102,436	Square Feet
Total Station Blocks	Office	771,713	Square Feet
	Retail	38,177	Square Feet
	Restaurant	9,808	Square Feet
	Total	819,698	Square Feet



Table 1: Summary of Land Use by Blocks at Full Build-out (Cont.)

Block	Land Use	Quantity	Units
MIXED-USE BLOCKS			
Mixed-Use Block 1 (MU 1)	High School Residential ⁴	450 50	Students Dwelling Units
Mixed-Use Block 2 (MU 2)	Office	15,509	Square Feet
	Retail	11,814	Square Feet
	Restaurant	3,000	Square Feet
	Residential	88	Dwelling Units
	Subtotal	30,323 88	Square Feet Dwelling Units
Mixed-Use Block 3 (MU 3)	Office	12,906	Square Feet
	Retail	12,361	Square Feet
	Restaurant	0	Square Feet
	Residential	76	Dwelling Units
	Subtotal	25,267 76	Square Feet Dwelling Units
Mixed-Use Block 4 (MU 4)	Office	5,071	Square Feet
	Retail	8,947	Square Feet
	Restaurant	5,000	Square Feet
	Residential	70	Dwelling Units
	Subtotal	19,018 70	Square Feet Dwelling Units
Total Mixed-Use Blocks	Office	33,486	Square Feet
	Retail	33,122	Square Feet
	Restaurant	8,000	Square Feet
	Residential	284	Dwelling Units
	High School	450	Students

⁴ Includes the 50 Below Market Rate (BMR) units proposed to be developed by the City on Block MU-1 which is included in the post-grade separation analysis.



Table 1: Summary of Land Use by Blocks at Full Build-out (Cont.)

Block	Land Use	Quantity	Units
RESIDENTIAL BLOCKS			
Residential Block 1 (RES 1)	Residential	108	Dwelling Units
Residential Block 2 (RES 2)	Residential	80	Dwelling Units
Residential Block 3 (RES 3)	Residential	156	Dwelling Units
Residential Block 4 (RES 4)	Residential	71	Dwelling Units
Residential Block 5 (RES 5)	Residential	76	Dwelling Units
Residential Block 6 (RES 6)	Residential	54	Dwelling Units
Residential Block 7 (RES 7)	Residential	158	Dwelling Units
	Retail	3,472	Square Feet
Residential Block 8 (RES 8)	Residential	74	Dwelling Units
Residential Block 9 (RES 9)	Residential	55	Dwelling Units
Total Residential Blocks	Residential Retail	832 3,472	Dwelling Units Square Feet
Total All Blocks	Office Retail Restaurant Residential High School	805,199 74, 771 17,808 1,116 450	Square Feet Square Feet Square Feet Dwelling Units Students



3 Trip Generation Analysis

This section describes in detail, the trip reduction requirements, base trip rates, trip budgets for the project overall and individual blocks, trip reduction assumptions for transit and mixed-use internal capture, and the trip generation estimates for each phase of the project development.

3.1 Trip Budget and Trip Reduction Requirements Established in Conditions of Approval

As described earlier, Conditions 40 and 41 establish trip reduction goals for the project. Condition 41 requires that a trip budget must be established for the entire project as well as for each Block, in order to measure the project's success in meeting the applicable trip reduction goals. These goals are set at a 10% (short-term), 16% (mid-term) and 25% (long-term) reduction. Trip reduction is measured against standard ITE rates applicable to the actual commercial/retail square footage of development or dwelling unit size (the methodology used in the FEIR) without regard to TOD or mixed-use internalization, as more particularly described in Condition 40 and summarized the following sections. Condition 40 also provides that even if an individual Block generates trips in excess of its trip budget, the overall project will be in compliance so long as the project as a whole is below the applicable trip caps and is meeting the applicable trip reduction goals.

For purposes of conforming to the conditions, the project development is divided into four stages; one stage reflecting pre-grade separation conditions and three stages post-grade separation reflecting short-term (Phase I), mid-term (Phase II), and long-term (Phase III) conditions. The trip reduction goal varies at different stages of development and is dependent on completion of the 28th and/or 31st Avenue grade-separations. Each stage and its trip reduction goal are described below.

3.1.1 Pre-Grade Separation Trip Budget and Trip Reduction Goals

Condition 40 restricts the amount of p.m. peak hour traffic the project may generate prior to the commencement of construction of the 28th and/or the 31st Avenue grade-separations to 1,562 trips.

3.1.2 Post-Grade Separation Trip Budget and Trip Reduction Goals

Once construction at either or both the 28th and 31st Avenue grade-separations has been completed and a minimum of site development has been completed and occupied, the Conditions of Approval establish increased trip reduction goals. The trip reduction goals are measured in two ways, 1) in the SPAR approval process the project is required to estimate the maximum number of trips allowed under the trip reduction goal in each stage (i.e., trip budget), and 2) after completion and occupancy, the actual number of trips generated are monitored and compared to the maximum number of trips allowed. This Plan represents the estimates described in (1) above and provides a monitoring plan for (2).



3.1.3 Short-Term Conditions (Phase I) Threshold (Post-Grade Separation)

When applicable: Until the later of any of the following conditions a) completion and occupancy of at least 50% of the collective amount of development approved for the first three blocks to be developed in Phase I, and b) completion of grade separated crossings at either or both of 28th and 31st Avenues.

Overall trip cap: Not to exceed 1,562 PM peak hour trips

Trip reduction goal: 10% off the total p.m. peak hour trip generation calculated using the trip generation methodology established in the FEIR, excluding reductions for mixed-use internalization or transit-oriented development or TDM measures.

3.1.4 Mid-Term Conditions (Phase II) Threshold (Post-Grade Separation)

When applicable: From and after the following conditions a) completion and occupancy of at least 50% of the collective amount of development approved for the first three blocks of Phase II to be developed, and b) completion of grade separated crossings at either or both of 28th and 31st Avenues.

Overall trip cap: Not to exceed 2,878 PM peak hour trips

Trip reduction goal: 16% off the total p.m. peak hour trip generation (including the blocks approved in Phase I) calculated using the trip generation methodology established in the FEIR, excluding reductions for mixed-use internalization or transit-oriented development or TDM measures.

3.1.5 Long-Term Conditions (Phase III) Threshold (Post-Grade Separation)

When applicable: From and after the later to occur of a) approval of a SPAR for each block in the project, b) completion and occupancy of 75% of the collective amount of development approved in the Station/Mixed-Use Parcels, c) completion and occupancy of 75% of the collective amount of development approved in the Residential Parcels, and d)



completion of grade separated crossings at either or both of 28th and 31st Avenues.

Overall trip cap: Not to exceed 2,569 PM peak hour trips

Trip reduction goal: 25% off the total p.m. peak hour trip generation (including the blocks approved in Phases I and II) calculated using the trip generation methodology established in the FEIR, excluding reductions for mixed-use internalization or transit-oriented development or TDM measures.

The Conditions of Approval provide that even if an individual Block generates trips in excess of its trip budget, the overall project will be in compliance so long as the project as a whole is below the applicable trip budget and the overall development is meeting the applicable trip reduction goals.

3.2 Trip Generation Rates

3.2.1 Base Rates

In accordance with the Conditions of Approval, trip generation estimates for all conditions were initially estimated using standard rates published in the Institute of Transportation Engineers (ITE) 7th Edition of *Trip Generation*, 2003. This is the source of rates used to develop the initial trip generation estimates in the Final Environmental Impact Report (FEIR) for the Bay Meadows II Specific Plan. The unadjusted base trip rates are summarized in **Table 2**.

Table 2: Unadjusted Base Trip Rates for Bay Meadows Land Uses

Land Use	AM Peak Hour (Trips/Unit)			PM Peak Hour (Trips/Unit)		
	In	Out	Total	In	Out	Total
Residential – Flats/Townhomes(units)	0.08	0.43	0.51	0.42	0.20	0.62
Residential – Cluster Detached (units)	0.39	0.19	0.58	0.72	0.42	1.14
Retail (KSF)	0.63	0.40	1.03	1.80	1.94	3.74
Restaurant (KSF)[1]	3.76	3.48	7.24	5.82	3.73	9.55
Office (KSF)	1.37	0.19	1.56	0.25	1.24	1.49

[1] 60% of the restaurants usage for the project was assumed to be “high-turnover (sit-down)” restaurants and the remaining 40% was assumed to be “quality” restaurants as defined by ITE. The base trip rate for restaurants was calculated using the weighted average of these two restaurant types.
Note: According to the ITE Trip Generation manual, overall gross floor area for restaurants does not include outdoor seating areas. While the rates account for the traffic generated by outdoor seating, the calculation of trips does not include its floor area.
KSF = 1,000’s of square feet.



3.2.2 Trip Budget Calculations

Condition 41 requires that a trip budget must be established for the entire project as well as for each Block, in order to measure the project's success in meeting the applicable trip reduction goals. The trip budgets established in this Plan will ultimately be reflected in CC&R's imposed against individual parcels. On-going monitoring pursuant to the monitoring plan described in Section 4 below will allow the City to review whether the project as a whole is meeting its trip reduction goals. If the project is not meeting the trip reduction goals, then the monitoring can be adjusted to identify individual Blocks that are contributing excess trips. The Transportation Demand Management strategy set forth in Section 5 requires the use of additional levels of TDM measures until further monitoring shows that the project is meeting the applicable trip reduction goals overall as reflected in the trip budget. The trip budgets for each Block were calculated based upon the estimated trip reductions achievable on the Block, whether due to TDM, proximity to transit, mixed use interaction, or site design. It is expected that based upon the results of project monitoring, the trip Budgets for an individual Block might be modified by the project developer to reflect the actual trip reduction results. The CC&Rs will contain a mechanism for such an amendment.

The trip budget for each Block was calculated for pre-grade separation conditions and post-grade separation conditions. **Table 3** and **Table 4** show the trip budget for the entire project as well as for each Block under the pre-grade separation and post-grade separation conditions.

Note: Since the p.m. peak hour is the higher peak hour, the tables show trip budget calculations for the p.m. peak hour only.

Table 3 Trip Budget - Pre-Grade Separation Conditions

Unadjusted PM peak Hour Trip Generation by Block

Block	Land Use	Size	Units	PM Peak Hour	
				Trip Generation Rate	Unadjusted Trips
RES 1	Townhomes	108	DUs	0.62	67
RES 2	Townhomes	80	DUs	0.62	50
RES 3	Townhomes	156	DUs	0.62	97
RES 4	Flats	71	DUs	0.62	44
RES 5	Townhomes	76	DUs	0.62	47
RES 6	Flats	54	DUs	0.62	33
RES 7	Flats	158	DUs	0.62	98
RES 7	Retail	3.472	KSF	3.74	13
Total RES 7					111
RES 8	Townhomes	74	DUs	0.62	46
RES 9	Detached	55	DUs	1.14	63
Total Residential Blocks	Residential	3,472	KSF		557
	Retail	832	DUs		
STA 1	Office	92.267	KSF	1.49	137
STA 1	Retail	5.794	KSF	3.74	22
STA 1	Restaurant	0.000	KSF	9.55	0
Total STA 1					159
STA 2	Office	190.235	KSF	1.49	283
STA 2	Retail	3.049	KSF	3.74	11
STA 2	Restaurant	3.050	KSF	9.55	29
Total STA 2					324
STA 3	Office	174.445	KSF	1.49	260
STA 3	Retail	3.280	KSF	3.74	12
STA 3	Restaurant	3.281	KSF	9.55	31
Total STA 3					304
STA 4	Office	216.428	KSF	1.49	322
STA 4	Retail	0.000	KSF	3.74	0
STA 4	Restaurant	3.477	KSF	9.55	33
Total STA 4					356
STA 5	Office	98.338	KSF	1.49	147
STA 5	Retail	4.098	KSF	3.74	15
STA 5	Restaurant	0.000	KSF	9.55	0
Total STA 5					162
Total Station Blocks	Office	771.713	KSF		1,304
	Retail	16.221	KSF		
	Restaurant	9.808	KSF		
MU 1 (High School)	High School	450	Students	Custom	95
MU 1 (Residential)	Residential	0	DUs	0.62	0
Total MU1					95
MU 2 (Office)	Office	0.000	KSF	1.49	0
MU 2 (Retail)	Retail	0.000	KSF	3.74	0
MU 2 (Restaurant)	Restaurant	0.000	KSF	9.55	0
MU 2 (Residential)	Residential	88	DUs	0.62	55
Total MU2					55
MU 3 (Office)	Office	0.000	KSF	1.49	0
MU 3 (Retail)	Retail	0.000	KSF	3.74	0
MU 3 (Restaurant)	Restaurant	0.000	KSF	9.55	0
MU 3 (Residential)	Residential	76	DUs	0.62	47
Total MU3					47
MU 4 (Office)	Office	0.000	KSF	1.49	0
MU 4 (Retail)	Retail	3.205	KSF	3.74	12
MU 4 (Restaurant)	Restaurant	5.000	KSF	9.55	48
MU 4 (Residential)	Residential	70	DUs	0.62	43
Total MU4					103
Total Mixed-Use Blocks	Office	0.000	KSF		300
	Retail	3.205	KSF		
	Restaurant	5.000	KSF		
	Residential	234	DUs		
	High School	450	Students		
Total All Blocks					2,161

PM Peak Hour Trip Generation Budgets by Block

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I and Level II % Reduction	Net Trips
STA - 1				
Retail	22	37.60%	5.90%	12
Restaurant	0	29.80%	5.90%	0
Office	137	19.90%	10.60%	96
Subtotal	159			108
		Total % Reduction		32.27%
STA - 2				
Retail	11	37.60%	5.90%	6
Restaurant	29	29.80%	5.90%	19
Office	283	19.90%	10.60%	197
Subtotal	324			222
		Total % Reduction		31.42%
STA - 3				
Retail	12	37.60%	5.90%	7
Restaurant	31	29.80%	5.90%	20
Office	260	19.90%	10.60%	181
Subtotal	304			208
		Total % Reduction		31.56%
STA - 4				
Retail	0	37.60%	5.90%	0
Restaurant	33	29.80%	5.90%	21
Office	322	19.90%	10.60%	224
Subtotal	356			245
		Total % Reduction		30.99%
STA - 5				
Retail	15	37.60%	5.90%	9
Restaurant	0	29.80%	5.90%	0
Office	147	19.90%	10.60%	102
Subtotal	162			110
		Total % Reduction		31.73%

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I and Level II % Reduction	Net Trips
MU-1				
Retail	0	37.60%	5.90%	0
Restaurant	0	29.80%	5.90%	0
High School	95	0.00%	0.00%	95
Residential	0	29.55%	4.10%	0
Subtotal	95			95
		Total % Reduction		0.00%
MU-2				
Retail	0	37.60%	5.90%	0
Restaurant	0	29.80%	5.90%	0
Office	0	19.90%	10.60%	0
Residential	55	29.55%	4.10%	36
Subtotal	55			36
		Total % Reduction		33.65%
MU-3				
Retail	0	37.60%	5.90%	0
Restaurant	0	29.80%	5.90%	0
Office	0	19.90%	10.60%	0
Residential	47	29.55%	4.10%	31
Subtotal	47			31
		Total % Reduction		33.65%
MU-4				
Retail	12	37.60%	5.90%	7
Restaurant	48	29.80%	5.90%	31
Office	0	19.90%	10.60%	0
Residential	43	29.55%	4.10%	29
Subtotal	103			66
		Total % Reduction		35.74%

Total All Blocks		
Unadjusted Trips	Net Trips	% Reduction
2,161	1,498	30.7%

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I % Reduction [1]	Net Trips
Res-1				
Residential	67	29.55%	2.80%	45
Subtotal	67			45
		Total % Reduction		32.35%
Res-2				
Residential	50	29.55%	2.80%	34
Subtotal	50			34
		Total % Reduction		32.35%
Res-3				
Residential	97	29.55%	2.80%	65
Subtotal	97			65
		Total % Reduction		32.35%
Res-4				
Residential	44	29.55%	2.80%	30
Subtotal	44			30
		Total % Reduction		32.35%
Res-5				
Residential	47	29.55%	2.80%	32
Subtotal	47			32
		Total % Reduction		32.35%
Res-6				
Residential	33	29.55%	2.80%	23
Subtotal	33			23
		Total % Reduction		32.35%
Res-7				
Residential	98	29.55%	2.80%	66
Retail	13	37.60%	4.10%	8
Subtotal	111			74
		Total % Reduction		33.44%
Res-8				
Residential	46	29.55%	2.80%	31
Subtotal	46			31
		Total % Reduction		32.35%
Res-9				
Residential	63	29.55%	2.80%	42
Subtotal	63			42
		Total % Reduction		32.35%

Notes:

[1] This column represents the reductions in trip generations expected from implementation of Level I and II Transportation Demand Management measures as described in Sect Source of trip generation rates: Bay Meadows II Phasing Analysis, Hexagon Transportation Consultants, and Institute of Transportation Engineers Trip Generation, 7th Edition

Table 4 Trip Budget - Post-Grade Separation Conditions

Unadjusted PM peak Hour Trip Generation by Block

Block	Land Use	Size	Units	PM Peak Hour	
				Trip Generation Rate	Unadjusted Trips
RES 1	Townhomes	108	DUs	0.62	67
RES 2	Townhomes	80	DUs	0.62	50
RES 3	Townhomes	156	DUs	0.62	97
RES 4	Flats	71	DUs	0.62	44
RES 5	Townhomes	76	DUs	0.62	47
RES 6	Flats	54	DUs	0.62	33
RES 7	Flats	158	DUs	0.62	98
RES 7	Retail	3,472	KSF	3.74	13
Total RES 7					111
RES 8	Townhomes	74	DUs	0.62	46
RES 9	Detached	55	DUS	1.14	63
Total Residential Blocks	Residential	3,472	KSF		557
	Retail	832	DUs		
STA 1	Office	92,267	KSF	1.49	137
STA 1	Retail	5,794	KSF	3.74	22
STA 1	Restaurant	0,000	KSF	9.55	0
Total STA 1					159
STA 2	Office	190,235	KSF	1.49	283
STA 2	Retail	10,889	KSF	3.74	41
STA 2	Restaurant	3,050	KSF	9.55	29
Total STA 2					353
STA 3	Office	174,445	KSF	1.49	260
STA 3	Retail	8,769	KSF	3.74	33
STA 3	Restaurant	3,281	KSF	9.55	31
Total STA 3					324
STA 4	Office	216,428	KSF	1.49	322
STA 4	Retail	8,627	KSF	3.74	32
STA 4	Restaurant	3,477	KSF	9.55	33
Total STA 4					388
STA 5	Office	98,338	KSF	1.49	147
STA 5	Retail	4,098	KSF	3.74	15
STA 5	Restaurant	0,000	KSF	9.55	0
Total STA 5					162
Total Station Blocks	Office	771,713	KSF		1,386
	Retail	38,177	KSF		
	Restaurant	9,808	KSF		
MU 1 (High School)	High School	450	Students	Custom	95
MU 1 (Residential)	Residential	50	DUs	0.62	31
Total MU1					126
MU 2 (Office)	Office	15,509	KSF	1.49	23
MU 2 (Retail)	Retail	11,814	KSF	3.74	44
MU 2 (Restaurant)	Restaurant	3,000	KSF	9.55	29
MU 2 (Residential)	Residential	88	DUs	0.62	55
Total MU2					150
MU 3 (Office)	Office	12,906	KSF	1.49	19
MU 3 (Retail)	Retail	12,361	KSF	3.74	46
MU 3 (Restaurant)	Restaurant	0,000	KSF	9.55	0
MU 3 (Residential)	Residential	76	DUs	0.62	47
Total MU3					113
MU 4 (Office)	Office	5,071	KSF	1.49	8
MU 4 (Retail)	Retail	8,947	KSF	3.74	33
MU 4 (Restaurant)	Restaurant	5,000	KSF	9.55	48
MU 4 (Residential)	Residential	70	DUs	0.62	43
Total MU4					132
Total Mixed-Use Blocks	Office	33,486	KSF		521
	Retail	33,122	KSF		
	Restaurant	8,000	KSF		
	Residential	284	DUs		
	High School	450	Students		
Total All Blocks					2,465

PM Peak Hour Trip Generation Budgets by Block

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I and Level II % Reduction	Net Trips
STA - 1				
Retail	22	30.40%	5.90%	14
Restaurant	0	37.90%	5.90%	0
Office	137	15.20%	10.60%	102
Subtotal	159			116
		Total % Reduction		27.23%
STA - 2				
Retail	41	30.40%	5.90%	26
Restaurant	29	37.90%	5.90%	16
Office	283	15.20%	10.60%	210
Subtotal	353			253
		Total % Reduction		28.49%
STA - 3				
Retail	33	30.40%	5.90%	21
Restaurant	31	37.90%	5.90%	18
Office	260	15.20%	10.60%	193
Subtotal	324			231
		Total % Reduction		28.60%
STA - 4				
Retail	32	30.40%	5.90%	21
Restaurant	33	37.90%	5.90%	19
Office	322	15.20%	10.60%	239
Subtotal	388			278
		Total % Reduction		28.21%
STA - 5				
Retail	15	30.40%	5.90%	10
Restaurant	0	37.90%	5.90%	0
Office	147	15.20%	10.60%	109
Subtotal	162			118
		Total % Reduction		26.79%

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I and Level II % Reduction	Net Trips
MU-1				
Retail	0	30.40%	5.90%	0
Restaurant	0	37.90%	5.90%	0
High School	95	0.00%	0.00%	95
Residential	31	32.85%	4.10%	20
Subtotal	126			115
		Total % Reduction		9.09%
MU-2				
Retail	44	30.40%	5.90%	28
Restaurant	29	37.90%	5.90%	16
Office	23	15.20%	10.60%	17
Residential	55	32.85%	4.10%	34
Subtotal	150			96
		Total % Reduction		36.35%
MU-3				
Retail	46	30.40%	5.90%	29
Restaurant	0	37.90%	5.90%	0
Office	19	15.20%	10.60%	14
Residential	47	32.85%	4.10%	30
Subtotal	113			73
		Total % Reduction		34.78%
MU-4				
Retail	33	30.40%	5.90%	21
Restaurant	48	37.90%	5.90%	27
Office	8	15.20%	10.60%	6
Residential	43	32.85%	4.10%	27
Subtotal	132			81
		Total % Reduction		38.62%

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I and Level II % Reduction	Net Trips
Res-1				
Residential	67	32.85%	4.10%	42
Subtotal	67			42
		Total % Reduction		36.95%
Res-2				
Residential	50	32.85%	4.10%	31
Subtotal	50			31
		Total % Reduction		36.95%
Res-3				
Residential	97	32.85%	4.10%	61
Subtotal	97			61
		Total % Reduction		36.95%
Res-4				
Residential	44	32.85%	4.10%	28
Subtotal	44			28
		Total % Reduction		36.95%
Res-5				
Residential	47	32.85%	4.10%	30
Subtotal	47			30
		Total % Reduction		36.95%
Res-6				
Residential	33	32.85%	4.10%	21
Subtotal	33			21
		Total % Reduction		36.95%
Res-7				
Residential	98	32.85%	4.10%	62
Retail	13	30.40%	5.90%	8
Subtotal	111			70
		Total % Reduction		36.87%
Res-8				
Residential	46	32.85%	4.10%	29
Subtotal	46			29
		Total % Reduction		36.95%
Res-9				
Residential	63	32.85%	4.10%	39
Subtotal	63			39
		Total % Reduction		36.95%

Total All Blocks		
Unadjusted Trips	Net Trips	% Reduction
2,465	1,713	30.5%

Notes:

[1] This column represents the reductions in trip generations expected from implementation of Level I and II Transportation Demand Management measures as described in Sect Source of trip generation rates: Bay Meadows II Phasing Analysis, Hexagon Transportation Consultants, and Institute of Transportation Engineers Trip Generation, 7th Edition

Prepared by Kimley-Horn and Associates, Inc.



Prepared: March 17, 2008

Updated: October 8, 2012



3.2.3 Trip Adjustments

Because the project is a transit-oriented development and contains a mix of land use types, a portion of project trips are expected to remain internal to the project site (via walk, bike or auto), or be external transit trips. The trip budgets therefore reflect internal capture for mixed-use, for transit use, and for Level I and Level II TDM Measures.

3.2.3.1 Internal Capture Adjustment for Mixed-Use

Trip reduction for the internal capture for mixed-use is based on ITE’s ‘Multi-Use Internalization Methodology’ published in its Trip Generation Handbook (ITE, October 1998). The trip reductions for the different land use types and for the different project phases are shown in **Table 5**. Since internal capture is a function of the amount of each land use type the mixed-use adjustment varies between pre-grade separation conditions (reflecting partial buildout) and post-grade separation conditions (reflecting full buildout).

Table 5: Trip Reduction for Internal Capture for Mixed-Use

Land Use	Pre-Grade Separation Conditions		Post-Grade Separation Conditions	
	AM Peak	PM Peak	AM Peak	PM Peak
Residential	5.4%	5.4%	8.7%	8.7%
Retail	32.6%	32.6%	25.4%	25.4%
Restaurant	24.8%	24.8%	32.9%	32.9%
Office	1.2%	6.5% [1]	1.8%	1.8%

[1] The p.m. peak hour office internal capture factor was increased over that determined with the ITE mixed-use internalization method based on research of mixed-use activity centers that shows a significantly higher internal capture between office, retail and restaurant uses. This was only applied under the pre-grade separation scenario. See (Hooper), *Travel Characteristics of Large-Scale Suburban Activity Centers*.

Note: Although it is proposed that additional office square footage and a school be added to Bay Meadows II as described in this report, the effect on internal capture percentages is negligible (i.e. change of 0.1% or less). Therefore, the same internal capture percentages used in the 2008 Bay Meadows II report are also used in this report update.

3.2.3.2 Adjustment for Transit Use

The source of trip reduction adjustments for transit use is research on the travel characteristics of transit-oriented development in California from educational institutions and the San Francisco Bay Area Metropolitan Transportation Commission (MTC). The trip reductions for the different land use types and for the different project phases are shown in **Table 6**. Since the level of transit use is highly dependent on the type of trip, the transit adjustment factors are divided into those for work trips and those for non-work trips, except for restaurant and retail uses for which travel data is published only for all types of trips.

Transit adjustment factors for residential uses (work-related trips) is based on data from both the CalTrain and BART systems because these two systems are connected at the Millbrae Station, so Bay Meadows residents have access to the BART system. However, the adjustments are weighted to reflect that CalTrain will be the predominant mode of transit.



Table 6: Trip Reductions for Transit Use

Land Use	Pre-Grade Separation		Post-Grade Separation	
	AM Peak	PM Peak	AM Peak	PM Peak
Residential				
Work Trips	18.85%	18.85%	18.85%	18.85%
Non-Work Trips	5.30%	5.30%	5.30%	5.30%
Retail	5.00%	5.00%	5.00%	5.00%
Restaurant	5.00%	5.00%	5.00%	5.00%
Office				
Work Trips	12.70%	12.70%	12.70%	12.70%
Non-Work Trips	0.70%	0.70%	0.70%	0.70%

Source of Transit Adjustments:
Office: Cervero, Robert. Ridership Impacts of Transit-Focused Development in California, Institute of Urban and Regional Development, 1993.
Work trips: 12.70%
Non-work trips: 0.70%

Residential: Average of CalTrain and BART commute mode share. Cervero, Robert; Lund, Wilson, Travel Characteristics of Transit-Oriented Development in California, Caltrans 2004.
Work Trips: [CalTrain: Rail = 15.7%, Bus = 1.7%] [BART: Rail = 44.3%, Bus = 0.6%] Based on a weighted average assuming a 93% CalTrain share and a 7% BART share, results in 17.7% + average of bus riders (1.15%) gives 18.85% trip reduction for work trips. Sources: Caltrain Planning Division and BART (2008), Cervero, Robert; Lund, Wilson, Travel Characteristics of Transit-Oriented Development in California.
Non-Work Trips: Rail/Bus = 5.3%
Percent of Home-Based trips that are work trips = 56% in AM peak and 51% in PM peak.
Source: Metropolitan Transportation Commission.

Retail and Restaurant: 50% of El Cerrito Plaza (BART) retail center transit mode share. Cervero, Robert; Lund, Wilson, Travel Characteristics of Transit-Oriented Development in California, Caltrans 2004.

3.2.3.3 Adjustment for Level I and Level II TDM Measures

The TDM strategies were divided into four levels; Levels I through IV contain increasingly stringent TDM measures applied at different phases of the project. The strategies at each level are described in Section 4 of the Plan. For the trip generation analysis under pre-grade separation conditions, TDM adjustments are based on Level I and Level II measures. Under post-grade separation conditions, TDM adjustments are based on Level I and Level II measures. **Table 7** lists the Level I and Level II measures and the percent adjustment applied to the trip generation analysis. See Section 4 for a detailed explanation of TDM measure effectiveness. In accordance with the Conditions of Approval, should monitoring demonstrate that the trip budgets are being exceeded, the Level III and Level IV measures could be required until the trips from the project are reduced.



Table 7: Trip Reductions for Level I and Level II TDM Measures

TDM Strategies	Percent (%) Reduction
Level I	
<ul style="list-style-type: none"> ▪ Mandatory membership in Transportation Management Association (TMA) with basic services <ul style="list-style-type: none"> ○ Try Transit Free program ○ Guaranteed Ride Home ○ Rebates for new vanpool participants ○ Encouraging employers to sponsor new vanpools ○ Carpool Incentive Program (fuel card incentive) ○ Carpool to College program (fuel card incentive) ○ School Pool program (fuel card incentive) ○ The Bike and Pedestrian Safety Program (education program) ○ Commute Benefits Program (employer based program planning assistance) ○ Develop and implement an employee and resident travel survey annually or every other year 	1.5 – 3.5%
<ul style="list-style-type: none"> ▪ Secure bicycle parking, locker/changing rooms, and showers provided in commercial buildings as part of the development program 	0.5 – 0.6%
<ul style="list-style-type: none"> ▪ New tenant/resident orientation of transportation alternatives and TMA services 	0.5%
<ul style="list-style-type: none"> ▪ Provide space for a transportation demand management office (located within the property management office or dedicated office space within the ground floor program) 	0.5%
<ul style="list-style-type: none"> ▪ Reserve portion of the 1-bedroom unit parking spaces in RES blocks 1 and 7 as flex spaces 	
<ul style="list-style-type: none"> ▪ Encourage commercial building owners to: <ul style="list-style-type: none"> ○ Install a publicly available ATM machine or encourage a bank branch tenant ○ Seek a health club tenant 	0.2 – 0.3%
<ul style="list-style-type: none"> ▪ Encourage/advise employers to offer the following services: <ul style="list-style-type: none"> ○ New employee commute options orientation program ○ Pre-tax transit fare purchases (CommuterCheck with direct value load to TransLink cards) ○ Commute services website and/or link to TMA website on employer's intranet ○ Co-sponsor (with BM II Property Owner Association) a commuter/transportation fair (potentially in conjunction with another community event) ○ On-site vanpool promotion 	0.1 – 0.3%
<ul style="list-style-type: none"> ▪ Work with Home Owners Associations to offer the following services: <ul style="list-style-type: none"> ○ Provide link to TMA website on HOA website ○ Co-sponsor (with BM II employers) a commuter/transportation fair (potentially in conjunction with another community event) ○ Provide a transportation-alternatives information package to every new household ○ Provide on-site sales of transit passes (or TransLink cards) 	0.1%
Total Level I Trip Reduction	4.2 – 6.6%



Level II	
This menu of measures that would be considered as (1) new services or measures in addition to those provided by the TMA, and (2) additional services provided by the TMA.	
Near-Term (10% Trip Reduction Goal)	
▪ Reserve garage and on-street spaces for carshare vehicles	0.5%
▪ Additional TMA Services:	
○ Encourage private carshare enterprise (TMA to contact and promote)	
○ Provide rideshare matching service specific to BM II employees and residents	0.1%
Mid-Term (16% Trip Reduction Goal)	
▪ Establish preferential parking spaces for carpools and vanpools	2.1 – 2.5%
▪ Additional TMA Services:	
○ Shuttle to downtown (shared cost with other TMA members)	1%
○ Establish a “Commuter Club” providing cash drawings and other incentives for using alternative modes and completing travel diaries	0.1%
Long-Term (25% Trip Reduction Goal)	
▪ Additional TMA Services	
○ Bicycle purchase subsidy	0.1%
○ Electric bike purchase subsidy	
Total Level II Trip Reduction	3.9 – 4.3%

3.2.3.4 Exclusions for Non-Project Uses

The trip generation analysis only reflects traffic generated by the Bay Meadows Specific Plan “project”. Land uses on land being dedicated to the City or offered for sale to the JPB are excluded from the total trip generation estimates. This Plan includes the residential land use (50 dwelling units) in block MU-1 (which will be a city-sponsored Below Market Rate housing development) only in the post-grade separated condition. This plan does not include the recreation playfields or other improvements to be constructed in the Community Park (which will be dedicated to and operated by the City’s Parks and Recreation Department), and a garage which could be potentially constructed by the JPB.

3.3 Trip Generation Estimates by Phase

Trip generation estimates are prepared under two scenarios, 1) pre-grade separation conditions, and 2) buildout (post-grade separation) of the entire project. The trip reduction goals would be applied to the project and measured as each development threshold is reached. The objective of this analysis is to determine whether the project can achieve the trip generation goals under the two scenarios and, if not, what measures need to be taken to ensure the goals can be achieved.



3.3.1 Pre-Grade Separation Conditions

Under this scenario, to stay within the pre-grade separation trip cap (1,562 p.m. peak hour trips), the full land use program will not be built, and it is anticipated that an average trip reduction (project-wide) of nearly 30.7% will be achieved.⁵ **Table 8** identifies the land uses within each Block group being proposed in the pre-grade separation condition.

Table 8: Pre-Grade Separation Land Use Program

Land Use by Block	Pre-Grade Separation Conditions
Station Blocks	
Office	✓
Office Building Ground Floor Retail	✓
Freestanding Retail	
Mixed-Use Blocks	
Residential	✓ (Except MU-1)
High School	✓
Freestanding Retail	
Office Above Freestanding Retail	
Retail/Restaurant	✓ (MU-4)
Residential Blocks	
Residential	✓
Retail (RES 7)	✓

The land uses identified in **Table 8** results in the following specific levels of development in the pre-grade separation condition:

- 100% of residential development in Blocks RES 1 through RES 9 (832 units), including 3,472 SF of ground floor retail in Block RES 7
- 100% of office development in Blocks STA 1 through STA 5 (771,713 SF)
- 42% of retail development in Blocks STA 1 through STA 5 (16,221 SF)
- 100% of restaurant development in Blocks STA 1 through STA 5 (9,808 SF)
- 100% of development of a private High School in Block MU 1 (450 students)
- 0% of residential development in Block MU 1
- 100% of residential development in Blocks MU 2 through MU 4 (234 units)
- 0% of retail/restaurant development in Blocks MU 2 through MU 3
- 36% of retail development in Block MU 4 (3,205 SF)
- 100% of restaurant development in Block MU 4 (5,000 SF)

⁵ A reduction of 30.7%, which is greater than identified in the 2008 Bay Meadows II report, is primarily a result of implementing adding Level II TDM measures to the pre-grade separation land use program.



Although the trip generation estimates include both the a.m. and p.m. peak hours, trip caps, trip budgets, and trip reduction goals are only applicable to the p.m. peak hour trip generation estimates (per the Conditions of Approval)

The trip generation estimates for the pre-grade separation conditions are summarized in **Table 9**. The overall trip reduction applied to the unadjusted trip generation estimate is 21.4% in the a.m. peak hour and 30.7% in the p.m. peak hour. Detailed trip generation estimates are provided in the **Appendix**. Although the grade separations and full range of station upgrades have not been implemented to date, the JPB has nonetheless completed many improvements to the existing Hillsdale station, and the CalTrain ridership at the Hillsdale station is among the highest in the CalTrain system. The adjacency of existing excellent transit, the connection to BART and Santa Clara VTA's light rail system, the Level I and Level II TDM strategies, and the mixed-use character of the proposed development, create the elements necessary to achieve trip reductions, even though the full-range of transit upgrades have not been realized. In fact, surveys of existing non-mixed use development adjacent to Caltrain that do not provide the same quality of design as Bay Meadows, nor subject to trip reduction goals and TDM programs, achieve higher than 12% and 18% transit shares for employees and residents respectively⁶. Therefore, with the elements available to Bay Meadows, it is estimated that the initial portion of the project approved by the pending SPARs will achieve a 30.7% overall reduction of trips.

⁶ This statement is based on the author's review of the individual developments described in the Cervero, Lund, and Willson TOD studies, and a review of their contexts using Google Earth. These developments, while proximate to transit, are not part of planned mixed-use neighborhoods, and generally are not located in highly pedestrian-oriented locations outside of the specific development.



Table 9: Trip Generation Estimates – Pre-Grade Separation Conditions

Land Use	Size (KSF)	Units	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Residential Blocks								
Residential	832	DUs	84	345	428	366	179	544
Retail	3.472	KSF	2	1	4	6	7	13
Subtotal Trips			86	346	432	372	185	557
Station Blocks								
Office	771.713	KSF	1,059	144	1,204	193	957	1,150
Retail	16.221	KSF	10	7	17	29	31	61
Restaurant	9.808	KSF	37	34	71	57	37	94
Subtotal Trips			1,107	185	1,292	279	1,025	1,304
Mixed Use Blocks								
Office	0	SF	0	0	0	0	0	0
Retail	3.205	KSF	2	1	3	6	6	12
Restaurant	5.000	KSF	19	17	36	29	19	48
Residential	234	DUs	19	101	119	98	47	145
High School	450	Students	332	269	601	39	56	95
Subtotal Trips			372	388	760	172	128	300
Unadjusted Total Trips (All Blocks)								
Total Trips			1,564	919	2,483	823	1,338	2,161
Trip Reductions - Internal Capture and Transit Use								
Subtotal Trips			(207)	(171)	(378)	(217)	(290)	(507)
Trip Reductions - TDM Level I and Level II								
Subtotal Trips			(120)	(33)	(152)	(42)	(114)	(156)
Adjusted Net Total Trip Generation								
Net Trips			1,237	715	1,953	565	934	1,498
Maximum Trip Threshold Allowed Under Conditions of Approval								1,562
Trips Under / (Over) Maximum Trip Cap:								64
Note: Trip totals may differ slightly due to rounding								
KSF = 1,000s of square feet.								



Conclusion: Under pre-grade separation conditions the project is estimated to generate a total of 1,498 trips in the p.m. peak hour with reductions for transit, mixed-use internalization, and Level I and Level II TDM measures. The trip cap and budget per the Conditions of Approval is 1,562 trips. The p.m. peak hour trip estimate is under the maximum trip threshold by 64 trips.

3.3.2 Post-Grade Separation Conditions (Phases I through III)

The short-term (Phase I), mid-term (Phase II), and long-term (Phase III) project-wide trip reduction goals are 10%, 16%, and 25% respectively. Since the long-term trip reduction goal is the highest, this analysis focuses on Phase III. The trip generation estimates for the long-term (Phase III) conditions are summarized in **Table 10**. The overall trip reduction from the unadjusted trip generation estimate is 23.5% in the a.m. peak hour and 30.5% in the p.m. peak hour. Detailed trip generation estimates are provided in the **Appendix**.

Because the short-term and mid-term trip reduction goals established in the Conditions of Approval are lower than the long-term goal of 25% (10% and 16%), the project is estimated to achieve and surpass the interim term requirements as well.

Conclusion: For long-term buildout conditions the trip generation analysis includes 100% of the project's land use program. At buildout, with trip reductions for transit, mixed-use internalization, and Level I and Level II TDM measures, the project would generate a total of 1,713 trips in the p.m. peak hour. Compared to the Phase III trip cap established in the Conditions of Approval (2,569 p.m. peak hour trips), the project's estimated trip generation is below the cap by about 856 trips. Compared to the Phase III trip budget (2,349 x 75% = 1,762), the project is estimated to generate 49 less trips. Therefore, the analysis concludes that the project will achieve and surpass the 25% trip reduction goal at buildout, and remain within the established trip cap.



Table 10: Trip Generation Estimates – Post-Grade Separation Condition

Land Use	Size (KSF)	Units	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Residential Blocks								
Residential	832	DUs	84	345	428	366	179	544
Retail	3.472	KSF	2	1	4	6	7	13
Subtotal Trips			86	346	432	372	185	557
Station Blocks								
Office	771.713	KSF	1,059	144	1,204	193	957	1,150
Retail	38.177	KSF	24	15	39	69	74	143
Restaurant	9.808	KSF	37	34	71	57	37	94
Subtotal Trips			1,120	194	1,314	319	1,068	1,386
Mixed Use Blocks								
Office	33.486	KSF	46	6	52	8	42	50
Retail	33.122	KSF	21	13	34	60	64	124
Restaurant	8.000	KSF	30	28	58	47	30	76
Residential	284	DUs	23	122	145	119	57	176
High School	450	Students	332	269	601	39	56	95
Subtotal Trips			451	438	890	273	248	521
Unadjusted Total Trips (All Blocks)								
Total Trips			1,657	978	2,636	964	1,501	2,465
Trip Reductions - Internal Capture and Transit Use								
Subtotal Trips			(243)	(209)	(451)	(270)	(298)	(568)
Trip Reductions - TDM Level I and Level II								
Subtotal Trips			(128)	(41)	(169)	(55)	(128)	(183)
Adjusted Net Total Trip Generation								
Net Trips			1,287	729	2,016	638	1,075	1,713
Maximum Trip Threshold Allowed Under Conditions of Approval								2,569
Trips Under / (Over) Maximum Trip Cap:								856
Note: Trip totals may differ slightly due to rounding								
KSF = 1,000s of square feet.								



4 Transportation Demand Management (TDM) Strategies

The Conditions of Approval require implementation of a TDM program as stated in Condition 40:

“A Transportation Demand Management Program shall be implemented using a selection of programs from the Corridor Plan and the City/County Association of Governments (C/CAG). These programs, once implemented, must be on-going for the occupied life of the development, unless they are altered, exchanged or discontinued in consultation with the City.”

This section of the Plan discusses the objectives of the TDM plan and the recommended TDM strategies that may be considered for achieving the trip reduction goals.

4.1 Process for Implementing and Managing the TDM Program

Implementing and managing the TDM Program is a collaborative effort between the Bay Meadows II Master Property Owners Association (POA), the individual Bay Meadows II Homeowners Associations (HOA), owners, tenants and employers of the commercial properties, the Transportation Management Association (TMA), and the City of San Mateo. The responsibility for implementation, monitoring and managing the program is summarized in Table 11 below. The strategies, services and proposed methods of monitoring are discussed in the following sections.

Table 11: TDM Program Responsibilities

Action	Responsibility
Initial implementation of site and block level TDM strategies	Bay Meadows II (POA, HOA, owners, tenants, employers)
Initial implementation of corridor-wide TDM strategies and services	TMA
Annual monitoring of site traffic volumes	TMA, in cooperation with Bay Meadows POA
Supplemental traffic counts (if needed)	TMA
Annual monitoring of resident/employee travel characteristics	TMA
Summary of traffic monitoring and travel characteristics submitted to City of San Mateo	TMA
Determination of conformance with goals and conditions of approval	City of San Mateo
Review of effectiveness and revision of Bay Meadows and corridor-wide TDM strategies	Bay Meadows POA, TMA
Implementation of revised Bay Meadows strategies if required	Bay Meadows II (POA, HOA, owners, tenants, employers)



4.2 Membership in the San Mateo TOD Corridor Transportation Management Association (TMA)

The conditions also require that the project participate in a Transportation Management Association (TMA) being created for the San Mateo Transit-Oriented Corridor Plan Area. The TMA is still in its formation stages and has not yet identified the specific measures and programs that will be offered to its members. However, an existing TMA, the Peninsula Traffic Congestion Relief Alliance (The Alliance), has been identified as the organization that will manage the San Mateo Transit-Oriented Corridor Plan Area TMA. This Plan lists the current services provided by the Alliance and identifies additional TDM measures specific to the project which may be considered toward achieving the required trip reduction goals. It is assumed that the current services and programs offered by Alliance will also be adopted by the San Mateo Transit-Oriented Corridor Plan Area TMA.

4.2.1 Potential Services Provided by the TMA

The following programs are currently offered by the Peninsula Traffic Congestion Relief Alliance (The Alliance), and it is reasonable to assume that these same services will be provided by the San Mateo Transit-Oriented Corridor Plan Area TMA.

1. The Try Transit Program: This program allows employees and residents try transit for free. The employees and residents receive free tickets for BART, CalTrain, SamTrans, VTA and AC Transit, allowing people to test transit systems.
2. The Emergency Ride Home Program: Employees who commute by alternative modes of transit are provided with a free taxi or 24-hour car rental in case of an emergency. The Alliance pays 75% of cost of ride and the employer pays the remaining 25%. Currently fifty San Mateo County employers participate in this program.
3. Vanpool Incentive Program: This program provides an informational meeting to assist employees in forming vanpools. The new vanpool driver will receive a cash incentive of \$500 for six months and the vanpool passengers receive up to \$100 per month for three months.
4. Commuter Benefits Consulting: This program allows participation in the Alliance's programs at various levels. The participants receive assistance in getting the most out the programs and benefits (e.g., how to maximize the tax advantages of a pre-tax commuter subsidy program). This program also provides an opportunity for companies to achieve the Bay Area's "Best Workplaces for Commuters" designation from the United States Environmental Protection Agency.
5. Marketing of TDM programs to Employees and Community: The Alliance participates in employee, transportation, and community fairs and provides employees and residents with public transit information and other Alliance



programs. Awareness of the programs offered by the Alliance is also done by brochure distribution at fairs, advertising, and on the Alliance website.

6. Carpool Incentive Program: This program provides an informational meeting to assist employees in forming carpools. The participants can directly register on Alliance's website, www.commute.org or find a carpool partner at www.511.org. The program also provides cash incentives such as \$60 gas card for riding in a carpool two (2) days per week for eight (8) weeks for each carpool passenger. The Alliance also provides incentives for carpooling to college.
7. Bicycle Parking Incentive Program: This program assists in installing bike lockers at half the cost at the project site and provides a 50% reimbursement up to \$500 per rack and locker. The goal of this program is to encourage people to bike to work.
8. Bicycle and Pedestrian Safety Program: Employees and residents can receive a free bike and pedestrian safety workshop at their worksite or community centers. This program also teaches employees or residents how to use biking/walking as a transit extension. The goal of this program is to improve workplace safety.
9. The Shuttle Program: This program transports employees from BART and CalTrain Stations to their workplaces. Shuttle services includes: route formation and scheduling, customer service, vendor relations, and promotion and marketing of shuttle routes to employers and their employees. Currently, the Alliance operates 16 shuttle routes (between BART and CalTrain Stations to worksites) and more than 60 employers contribute to the funding to offset the cost of shuttle operations. The Alliance also promotes community shuttles and currently manages four community shuttle routes.
10. Downtown Dasher / On-Demand Taxi: This program provides on-demand taxi service from locations east of US-101 freeway to Downtown South San Francisco Merchants. The service is available to employers/employees from 11:00 AM to 2:00 PM. The participating South San Francisco Downtown Merchants provide the discounts and the program is currently funded by City of South San Francisco.

Once formed, the TMA's Director and Board of Directors will determine the initial services and programs to offer to members. These may include the following existing Alliance services and additional services.

- Try Transit Free program
- Guaranteed Ride Home
- Rebates for new vanpool participants
- Encouraging employers to sponsor new vanpools
- Carpool Incentive Program (fuel card incentive)
- Carpool to College program (fuel card incentive)
- School Pool program (fuel card incentive for carpooling at least 2 students)



- The Bike and Pedestrian Safety Program (education program)
- Commute Benefits Program (employer based program planning assistance)
- Develop and implement an employee and resident travel survey annually or every other year

4.3 Proposed TDM Strategies

The TDM program proposes to implement strategies and measures incrementally as the trip reduction goals increase over time and specific infrastructure improvements are implemented. The program proposes four (4) levels of strategies. Each level provides increasingly stringent measures designed to achieve higher trip reduction goals. It is anticipated that the project can achieve its 10%, 16% and 25% trip reduction goals with implementation of Level I and Level II TDM strategies. Level III and IV strategies would be implemented in the event that the project fails to achieve goals, as determined through annual monitoring. Except for the mandatory membership in the TMA, each block's builder will choose from the menu of TDM measures to apply to individual developments. While it is anticipated that Level I and II measures can achieve the trip reduction goals, the builders may choose measures from any of the levels.

It is important to note that the TDM strategies in this section both support the inherent reduction in trips of the project, and to further reduce automobile trips over and above the inherent reduction. The inherent reduction in trips is based on the proximity to the Hillsdale Caltrain station, and the walkable, and mixed-use design of the project. These inherent reductions are supported by empirical research of TOD and mixed-use development without reliance on significant TDM programs. **Figure 2** illustrates the implementation of the TDM strategy levels and **Table 12** presents the strategies by level and the estimated effectiveness of each level.

Except for the basic services provided by the TMA in Level I, the measures in **Table 12** represent a menu of strategies that would be considered in developing the initial TDM program and in subsequent revisions to the program. The effectiveness of each measure is estimated from the perspective that the strategies would be combined. Therefore, the effectiveness of individual measures is conservatively low, but reasonable when considered collectively. Further, since this is a menu, not all of the measures may be implemented at any given level. In light of this, the total collective effectiveness reflects an average of a select number of measures.

The Level I measures are estimated to achieve a collective trip reduction of 4.2 – 6.4% off the unadjusted trip generation of the project. Combined with the inherent trip reduction for TOD and mixed-use, Level I is expected to achieve an overall reduction of nearly 24 - 26%. The Level II measures are estimated to achieve a collective trip reduction of 3.9 – 4.3%. Combined with Level I measures and the inherent trip reductions, Level II is expected to achieve nearly 28% trip reduction. Therefore, these two levels are anticipated to achieve the trip reduction goals established in the Conditions of Approval.



If necessary, Level III and IV measures may be implemented for an additional 5.7% and 9.1% in trip reduction respectively. All levels combined in conjunction with inherent trip reductions are estimated to have the potential to reduce trips by up to 44.6%.



Figure 2: Levels of TDM Measures

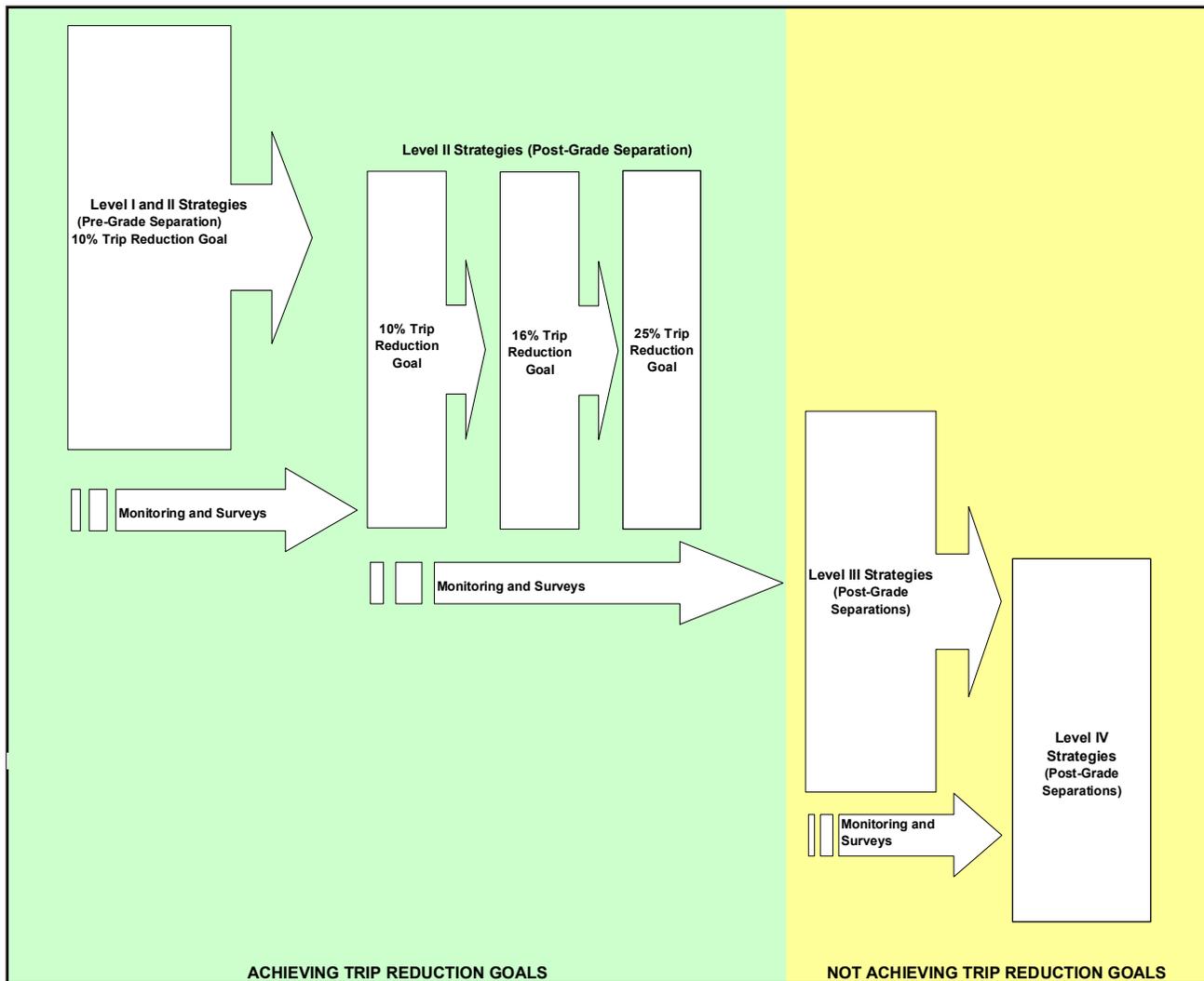




Table 12: TDM Strategy Levels and Estimated Effectiveness

Menu of TDM Strategies	Estimated Collective Effectiveness [1]
Level I (Prior to Grade-Separations – 10% Trip Reduction Goal)	
<ul style="list-style-type: none"> ▪ Mandatory membership in Transportation Management Association (TMA) with basic services <ul style="list-style-type: none"> ○ Try Transit Free program ○ Guaranteed Ride Home ○ Rebates for new vanpool participants ○ Encouraging employers to sponsor new vanpools ○ Carpool Incentive Program (fuel card incentive) ○ Carpool to College program (fuel card incentive) ○ School Pool program (fuel card incentive) ○ The Bike and Pedestrian Safety Program (education program) ○ Commute Benefits Program (employer based program planning assistance) ○ Develop and implement an employee and resident travel survey annually or every other year 	1.5 – 2.5%
<ul style="list-style-type: none"> ▪ Secure bicycle parking, locker/changing rooms, and showers provided in commercial buildings as part of the development program 	0.5 – 0.6%
<ul style="list-style-type: none"> ▪ New tenant/resident orientation of transportation alternatives and TMA services 	0.5%
<ul style="list-style-type: none"> ▪ Provide space for a transportation demand management office (located within the property management office or dedicated office space within the ground floor program) 	0.5%
<ul style="list-style-type: none"> ▪ Reserve portion of the 1-bedroom unit parking spaces in RES blocks 1 and 7 as flex spaces 	
<ul style="list-style-type: none"> ▪ Encourage commercial building owners to: <ul style="list-style-type: none"> ○ Install a publicly available ATM machine or encourage a bank branch tenant ○ Seek a health club tenant 	0.2 – 0.3%
<ul style="list-style-type: none"> ▪ Encourage/advise employers to offer the following services: <ul style="list-style-type: none"> ○ New employee commute options orientation program ○ Pre-tax transit fare purchases (CommuterCheck with direct value load to TransLink cards) ○ Commute services website and/or link to TMA website on employer's intranet ○ Co-sponsor (with BM II Property Owner Association) a commuter/transportation fair (potentially in conjunction with another community event) ○ On-site vanpool promotion 	0.1 – 0.3%
<ul style="list-style-type: none"> ▪ Work with Home Owners Associations to offer the following services: <ul style="list-style-type: none"> ○ Provide link to TMA website on HOA website ○ Co-sponsor (with BM II employers) a commuter/transportation fair (potentially in conjunction with another community event) ○ Provide a transportation-alternatives information package to every new household ○ Provide on-site sales of transit passes (or TransLink cards) 	0.1%
Total Level I Trip Reduction Effectiveness	4.2 – 6.6%
Estimated Total Trip Reduction (Mixed-use + Transit + Level I TDM)	23.5 – 25.9%



Level II (After Grade-Separations – Achieving Trip Generation Target)	
This menu of measures that would be considered as (1) new services or measures in addition to those provided by the TMA, and (2) additional services provided by the TMA.	
Near-Term (10% Trip Reduction Goal)	
▪ Reserve garage and on-street spaces for carshare vehicles	0.5%
▪ Additional TMA Services:	
○ Encourage private carshare enterprise (TMA to contact and promote)	
○ Provide rideshare matching service specific to BM II employees and residents	0.1%
Mid-Term (16% Trip Reduction Goal)	
▪ Establish preferential parking spaces for carpools and vanpools	2.1 – 2.5%
▪ Additional TMA Services:	
○ Shuttle to downtown (shared cost with other TMA members)	1%
○ Establish a “Commuter Club” providing cash drawings and other incentives for using alternative modes and completing travel diaries	0.1%
Long-Term (25% Trip Reduction Goal)	
▪ Additional TMA Services	
○ Bicycle purchase subsidy	0.1%
○ Electric bike purchase subsidy	
Total Level II Trip Reduction Effectiveness	3.9 – 4.3%
Estimated Total Trip Reduction (Mixed-use + Transit + Level I & II TDM)	27.4 – 27.8%
Level III (After Grade-Separations – If Not Achieving Trip Budget Target)	
This menu of measures that would be considered if monitoring indicates that the project is failing to achieve trip reduction goals after implementing Level I and II measures.	
▪ 25% subsidized transit fares for existing employees and residents (funded through Property Owners Association)	2%
▪ Free 90-day TransLink card for new employees and residents (funded through the Property Owners Association)	0.1%
▪ Establish parking cash-out program for employees of commercial properties	3%
▪ Property Owners Association will train and provide a part-time on-site TDM coordinator serving BM II employees and residents	0.1%
▪ Subsidize carshare vehicles (if private carshare enterprise not already implemented)	0.5%
Total Level III Trip Reduction Effectiveness	5.7%
Estimated Total Trip Reduction (Mixed-use + Transit + Level I, II & III TDM)	33.5%
Level IV (After Grade-Separations – If Not Achieving Trip Budget Target)	
This menu of measures that would be considered if monitoring indicates that the project is failing to achieve trip reduction goals after implementing Level I, II and III measures.	
▪ 50% subsidized transit fares for all existing employees and residents (funded through Property Owners Association)	4%
▪ Free 12-month TransLink card for new employees and residents	1%
▪ Charge employees for parking at commercial buildings	1.5%
▪ Subsidize school bus/shuttle to local elementary/middle schools (subsidy funded through HOAs while parents pay subscription for remaining cost)	0.1%
▪ Property Owners Association funded carshare service (through purchase of vehicles to be managed, maintained and insured by private enterprise)	1%
▪ Work with employers to fund vanpools (provide vehicles, maintenance and insurance)	0.8%



<ul style="list-style-type: none"> ▪ Property Owners Association will train and provide a full-time on-site TDM coordinator serving BM II employees and residents 	0.5%
<ul style="list-style-type: none"> ▪ Additional TMA Services <ul style="list-style-type: none"> ○ Contract with professional marketing firm to develop a commute alternatives campaign targeting San Mateo employees and residents 	0.5%
Total Level IV Trip Reduction Effectiveness	9.1%
Estimated Total Trip Reduction (Mixed-use + Transit + Level I-IV TDM)	42.6%
<p>[1] This table presents the estimated effectiveness of each TDM strategy as they would contribute to the collective effectiveness of a package of measures. This is to avoid double counting potential trip reductions. The effectiveness of any given individual measure is conservatively low, but reasonable when viewed in combination with other measures.</p>	



5 Traffic Monitoring Plan

5.1 **Monitoring Requirements of the San Mateo Transit Oriented Development (TOD) Corridor Plan and Conditions of Approval**

The San Mateo Rail Corridor TOD Plan Policy 7.23 requires for any TOD project along the corridor to establish a plan for monitoring project trip generation. This policy is also reflected in the Bay Meadows II Conditions of Approval. These policies and conditions require that the short-term (Phase I), mid-term (Phase II) and long-term (Phase III) trip reduction goals are monitored and verified by the City, or the TMA. On-going monitoring will allow the City to review whether the project is meeting the trip caps and achieving the applicable trip reduction goals. If the project is exceeding the trip caps or not meeting the trip reduction goals in any of the phases, then the monitoring may be adjusted to identify individual Blocks that are contributing to the excess trips. The project's CC&Rs will require the enforcement of the trip budget and implementation of additional TDM measures until the trip budget goals are achieved. It is expected that the TMA's costs of monitoring and enforcement will be covered by dues paid to the TMA from participants throughout the Rail Corridor. The monitoring is required to comply with the following as specified in the Conditions of Approval:

- a. Commencing from the time that the City's running tabulation of trips shows that Bay Meadows is generating more than 1,100 new trips, the City will monitor the trips generated by Bay Meadows annually to determine whether the project is meeting its TDM goals. The TDM requirements shall be included in the project's CC&Rs.
- b. The monitoring shall consist of p.m. peak hour driveway counts, sampling, cordon counts, street counts or any other counting method that provides accurate traffic data in the most cost-effective manner available (covering at least the period 4 p.m. to 6 p.m.) conducted annually for at least a five-day period (Monday through Friday, but excluding the holiday season between November 24 and January 1). The counts shall be done in such a way that the building owners and tenants are not aware that the counts are being done. The City or TMA may conduct supplemental counts to measure progress.
- c. The combined results of monitoring shall be consistent with the short-term, mid-term or long-term trip reduction goals. If the thresholds are not met, the building owners shall work with the City or TMA to improve the effectiveness of their TDM program.
- d. When monitoring the project, the City and/or TMA shall not include any trips attributable to the parking structure to be constructed by the Peninsula Corridor Joint Powers Board at the new Hillsdale CalTrain station in the total project counts.



- e. Owner shall designate, at its option, either a representative of the whole project, or a representative of each Block, to coordinate with the City and/or the TMA as to TDM monitoring.

5.2 Recommended Traffic Monitoring Plan for Bay Meadows II

This section discusses the recommended traffic monitoring plan and methodology. Key elements of the monitoring plan include:

- Identification of traffic counting gateways that create a cordon capturing all trips traveling external to the project site, and a schedule of traffic counting periods;
- A methodology for quantifying through traffic (traffic that passes entirely through the site without stopping) through periodic origin-destination surveys; and
- A methodology for determining non-Bay Meadows traffic that can be excluded from the monitoring program (i.e., JPB parking facility and City playfields).

5.2.1 Cordon Counts

The most effective method for capturing trips generated by the project that travel external to the project site is a cordon count. A cordon is an imaginary line drawn around the project which crosses streets that access the project site. At these points traffic counts can be conducted. The project site is accessed from six different roadways, including:

1. Delaware Street - North of 28th Avenue (from San Mateo County Exposition Center)
2. Delaware Street - South of 31st Avenue (from Pacific Boulevard)
3. 28th Avenue - West of Delaware Street (At JPB right-of-way after grade-separation)
4. 28th Avenue – East at Saratoga Drive
5. 31st Avenue - West of Delaware Street (At JPB right-of-way after grade-separation)
6. 31st Avenue - East at Franklin Parkway

Traffic monitoring is required to commence once the project trip generation during any phase exceeds a total of 1,100 trips. This means the project monitoring needs to start before buildout of the land uses assumed in the pre-grade separation conditions which are estimated to generate about 1,562 p.m. peak hour trips.

5.2.2 Cordon Count Methodology

Twenty four (24) hour bi-directional automatic machine counts need to be collected at all six roadway connections (four connections prior to grade-separations) accessing the project to capture all trips entering or exiting the site. These cordon counts should be collected for five consecutive days from Monday to Friday, but excluding summer months (while school is out of session), and the holiday seasons.



5.2.3 Origin-Destination Surveys to Quantify Through Traffic

Origin-Destination surveys are used to determine the number of “through trips” passing through the project site without stopping. Through trips are excluded from the trip generation monitoring as they are not generated by the “project”. Origin-destination surveys should be conducted during the same week that the cordon counts are being conducted. To determine the number of “through trips” during the p.m. peak hour, origin-destination surveys should be conducted from 4:00 p.m. to 6:00 p.m. Origin-destination surveys could use manual license plate surveys or the video recognition technology. Each of the methods is described below:

Manual License Plate Survey: Observers are posted at each of the access points and record the first or last three digits of license plates as they pass over the cordon, as well as record the time the vehicle crossed the cordon. A vehicle recorded at more than one access point within a relatively short period of time (i.e., a few minutes) did not stop within Bay Meadows and is considered a through trip. There are two ways this method of survey can be conducted:

- 1) Full Survey – requires capturing every vehicle entering and exiting the cordon. This can be labor intensive and has potential for human error, but of the manual methods it provides the most accurate data.
- 2) Sample survey – entails capturing only a portion of the vehicles and presenting the data as a percentage of the total cordon traffic. The sample usually is done by selecting only white passenger vehicles (the most common color for vehicles) and all commercial vehicles.

License Plate Survey by Video Recognition: This technique involves installing video cameras at all the access points. These video cameras are placed such that they record the license plates of the cars entering and leaving the project site. The video are then fed into an optical recognition system that records the license plate numbers and generates a list of numbers and the time they entered and exited the project area. From this data an analysis similar to manual license plate surveys can identify through traffic. This technique is more accurate than manual surveys because it can capture nearly all of the vehicles entering and exiting the project area. It is also reliable and can be used for any length of time as long as there is sufficient lighting to video license plates.

5.2.4 Parking Occupancy Surveys

Parking occupancy surveys determine traffic related to CalTrain commuters once the parking structure for the Peninsula Corridor Joint Powers Board is constructed. Traffic using this facility is excluded from the project trip monitoring.

Two scenarios are possible with the construction of the Peninsula Corridor Joint Powers Board parking structure:

- 1) The Joint Powers Board parking structure does not provide any parking spaces for uses within Bay Meadows.



- 2) The Joint Powers Board parking structure provides some parking for uses within Bay Meadows. These spaces would need to be designated in some manner.

Under scenario 1 the JPB structure is only used by CalTrain patrons and all traffic using the garage is excluded from the project's trip monitoring. Simple machine counts at the structures' access points will quantify these trips. Under scenario 2, parking occupancy surveys of those spaces designated or reserved for Bay Meadows' use are conducted before and during the p.m. peak hour. Traffic entering or exiting these spaces during the peak hour are included in the project's trip monitoring.

5.2.5 City Playfields

City playfields, which are excluded from the traffic monitoring, would require traffic counts at the facilities' driveways to determine their trip generation. These counted volumes would be subtracted from the cordon counts.

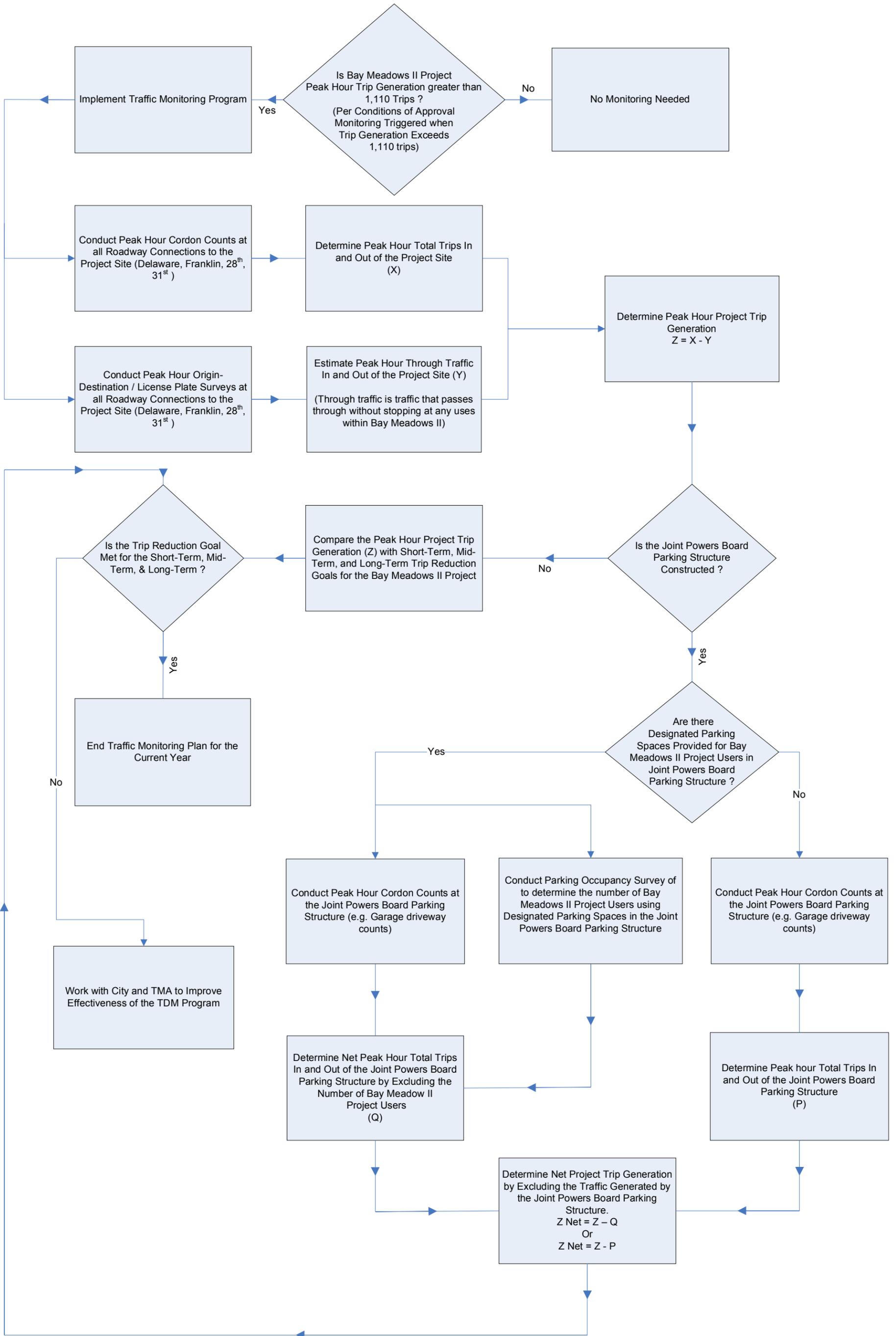
5.2.6 Block Level Monitoring

If monitoring indicates that the project overall is exceeding its trip cap or failing to achieve its trip reduction goal, monitoring may be conducted at the block level. Block level monitoring would be comprised of driveway counts and on-street parking turnover counts before and during the peak hours to determine the number of cars being generated by the project but that do not use driveways.

5.2.7 Methodology for Traffic Monitoring Plan

The recommended trip monitoring methodology is outlined in the flowchart shown in **Figure 3**.

Figure 3 Bay Meadows II Project – Traffic Monitoring Plan Flowchart





Appendices

- 1. *Short-Term (Phase I) Conditions – Detailed Trip Generation Estimates***
- 2. *Short-Term (Phase I) Conditions – Internal Capture Worksheets***
- 3. *Mid-Term (Phase II) Conditions – Detailed Trip Generation Estimates***
- 4. *Phase II and III Conditions – Internal Capture Worksheets***
- 5. *Long-Term (Phase III) Conditions – Detailed Trip Generation Estimates***

Bay Meadows II Trip Generation Budget (Pre-Grade Separations with Minimum 10% Trip Reduction Goal)
 (100% Residential (except MU 1), 100% Office and Ground Floor Retail/Restaurant in STA Blocks, No Freestanding Retail)
 (Institute of Transportation Engineers' Rates from Hexagon Phasing Analysis Table 4)

Land Use	Size	Units	AM Peak Hour						PM Peak Hour					
			Rate			Trips			Rate			Trips		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
RES 1 (Flats/Townhomes)	108	DUs	0.08	0.43	0.51	9	46	55	0.42	0.20	0.62	45	22	67
RES 2 (Townhomes)	80	DUs	0.08	0.43	0.51	6	34	41	0.42	0.20	0.62	34	16	50
RES 3 (Tuckunder/Townhomes)	156	DUs	0.08	0.43	0.51	12	67	80	0.42	0.20	0.62	66	31	97
RES 4 (Luxury Flats)	71	DUs	0.08	0.43	0.51	6	31	36	0.42	0.20	0.62	30	14	44
RES 5 (Tuckunder/Townhomes)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
RES 6 (Luxury Flats)	54	DUs	0.08	0.43	0.51	4	23	28	0.42	0.20	0.62	23	11	33
RES 7 (Stacked Flats)	158	DUs	0.08	0.43	0.51	13	68	81	0.42	0.20	0.62	66	32	98
RES 7 (Retail)	3,472	KSF	0.63	0.40	1.03	2	1	4	1.80	1.94	3.74	6	7	13
RES 8 (Tuckunder/Townhomes)	74	DUs	0.08	0.43	0.51	6	32	38	0.42	0.20	0.62	31	15	46
RES 9 (Cluster detached)	55	DUs	0.39	0.19	0.58	21	11	32	0.72	0.42	1.14	39	23	63
Subtotal Residential Blocks (Retail)	3,472	KSF				2	1	4				6	7	13
Subtotal Residential Blocks (Residential)	832	DUs				84	345	428				366	179	544
Total Residential Blocks						86	346	432				372	185	557
STA 1 (Office)	92,267	KSF	1.37	0.19	1.56	127	17	144	0.25	1.24	1.49	23	114	137
STA 1 (Retail)	5,794	KSF	0.63	0.40	1.03	4	2	6	1.80	1.94	3.74	10	11	22
STA 1 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
STA 2 (Office)	190,235	KSF	1.37	0.19	1.56	261	36	297	0.25	1.24	1.49	48	236	283
STA 2 (Retail)	3,049	KSF	0.63	0.40	1.03	2	1	3	1.80	1.94	3.74	5	6	11
STA 2 (Restaurant)	3,050	KSF	3.76	3.47	7.24	11	11	22	5.82	3.72	9.55	18	11	29
STA 3 (Office)	174,445	KSF	1.37	0.19	1.56	239	33	272	0.25	1.24	1.49	44	216	260
STA 3 (Retail)	3,280	KSF	0.63	0.40	1.03	2	1	3	1.80	1.94	3.74	6	6	12
STA 3 (Restaurant)	3,281	KSF	3.76	3.47	7.24	12	11	24	5.82	3.72	9.55	19	12	31
STA 4 (Office)	216,428	KSF	1.37	0.19	1.56	297	41	338	0.25	1.24	1.49	54	268	322
STA 4 (Retail)	0,000	KSF	0.63	0.40	1.03	0	0	0	1.80	1.94	3.74	0	0	0
STA 4 (Restaurant)	3,477	KSF	3.76	3.47	7.24	13	12	25	5.82	3.72	9.55	20	13	33
STA 5 (Office)	98,338	KSF	1.37	0.19	1.56	135	18	153	0.25	1.24	1.49	25	122	147
STA 5 (Retail)	4,098	KSF	0.63	0.40	1.03	3	2	4	1.80	1.94	3.74	7	8	15
STA 5 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
Subtotal Station Blocks (Office)	771,713	KSF				1,059	144	1,204				193	957	1,150
Subtotal Station Blocks (Retail)	16,221	KSF				10	7	17				29	31	61
Subtotal Station Blocks (Restaurant)	9,808	KSF				37	34	71				57	37	94
Total Station Blocks						1,107	185	1,292				279	1,025	1,304
MU 1 (Residential)	0	DUs	0.08	0.43	0.51	0	0	0	0.42	0.20	0.62	0	0	0
MU 1 (High School)	450	Students	n/a	n/a	n/a	332	269	601	n/a	n/a	n/a	39	56	95
MU 2 (Office)	0,000	KSF	1.36	0.19	1.55	0	0	0	0.25	1.24	1.49	0	0	0
MU 2 (Retail)	0,000	KSF	0.63	0.40	1.03	0	0	0	1.80	1.94	3.74	0	0	0
MU 2 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
MU 2 (Residential)	88	DUs	0.08	0.43	0.51	7	38	45	0.42	0.20	0.62	37	18	55
MU 3 (Office)	0,000	KSF	1.36	0.19	1.55	0	0	0	0.25	1.24	1.49	0	0	0
MU 3 (Retail)	0,000	KSF	0.63	0.40	1.03	0	0	0	1.80	1.94	3.74	0	0	0
MU 3 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
MU 3 (Residential)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
MU 4 (Office)	0,000	KSF	1.36	0.19	1.55	0	0	0	0.25	1.24	1.49	0	0	0
MU 4 (Retail)	3,205	KSF	0.63	0.40	1.03	2	1	3	1.80	1.94	3.74	6	6	12
MU 4 (Restaurant)	5,000	KSF	3.76	3.47	7.24	19	17	36	5.82	3.72	9.55	29	19	48
MU 4 (Residential)	70	DUs	0.08	0.43	0.51	6	30	36	0.42	0.20	0.62	29	14	43
Subtotal Mixed-Use Blocks (Office)	0,000	KSF				0	0	0				0	0	0
Subtotal Mixed-Use Blocks (Retail)	3,205	KSF				2	1	3				6	6	12
Subtotal Mixed-Use Blocks (Restaurant)	5,000	KSF				19	17	36				29	19	48
Subtotal Mixed-Use Blocks (Residential)	234	DUs				19	101	119				98	47	145
Subtotal Mixed-Use Blocks (High School)	450	Students				332	269	601				39	56	95
Total Mixed-Use Blocks						372	388	760				172	128	300
Total Unadjusted Trips:						1,564	919	2,483				823	1,338	2,161
Bulldozer Trip Reduction:														
Internal Capture & Transit Reduction [1][2]:			AM Peak			PM Peak			AM Peak			PM Peak		
Residential	29.55%	29.55%				30	132	162				137	67	204
Retail	37.60%	37.60%				5	3	9				15	17	32
Restaurant	29.80%	29.80%				17	15	32				26	16	42
Office	14.60%	19.90%				155	21	176				38	190	229
Subtotal Internal & Transit Reduction:						207	171	378				217	290	507
TDM Level I & Level II Reduction :														
AM Peak			PM Peak			AM Peak			PM Peak			PM Peak		
Residential (Residential Blocks)	2.8%	2.8%				2	10	12				10	5	15
Residential (MU Blocks)	4.1%	4.1%				1	4	5				4	2	6
Retail (Residential Blocks)	4.1%	4.1%				0	0	0				0	0	1
Retail (Station and MU Blocks)	5.9%	5.9%				1	0	1				2	2	4
Restaurant	5.9%	5.9%				3	3	6				5	3	8
Office	10.6%	10.6%				112	15	128				20	101	122
Subtotal TDM Reduction:						120	33	152				42	114	156
Net Adjusted Trip Generation						1,237	715	1,953				565	934	1,498
Percent Reduction from Unadjusted Trip Generation								21.4%						30.7%
Maximum Trip Threshold Allowed Under Conditions of Approval:														
														1,562
Trips Under / (Over) Maximum Allowed Trips:														
														64

Source: Program based on Residential and Mixed-Use Programming Overview dated 01-09-08 and Commercial Program dated 03-15-08 by WMS.
 Prepared by Kimley-Horn and Associates, Inc.

[1] Source of Mixed-Use Reductions: Institute of Transportation Engineers Trip Generation Handbook (Multi-Use Internalization Methodology).

[2] Source of Transit Adjustments:

Office Transit Use: Cervero, Robert. Ridership Impacts of Transit-Focused Development in California. Institute of Urban and Regional Development. 1993

Average commute mode split of station area workers for Caltrain and BART systems, assumes 90% of office trips are commute trips.

Resident Transit Use: Average of Caltrain and BART commute mode share. Cervero, Robert Lund, Willson. Travel Characteristics of Transit-Oriented Development in California.

Work Trips:[Caltrain: Rail = 15.7%, Bus = 1.7%] [BART Rail = 44.3%, Bus = 0.6%]. Assuming 93% Caltrain share and 7% BART share, results in 17.7% + average of bus riders (1.15%) gives 18.85% trip reduction for work trips.

Non-work Trips: Rail/Bus = 5.3%

Percent of Home-Based trips that are work trips = 56% in AM peak and 51% in PM peak. Source: Metropolitan Transportation Commission.

Retail and Restaurant Transit Use: 50% of El Cerrito Plaza (BART) retail center mode split. Source: Cervero, Robert Lund, Willson. Travel Characteristics of Transit-Oriented Development in California. Caltrans. 2004

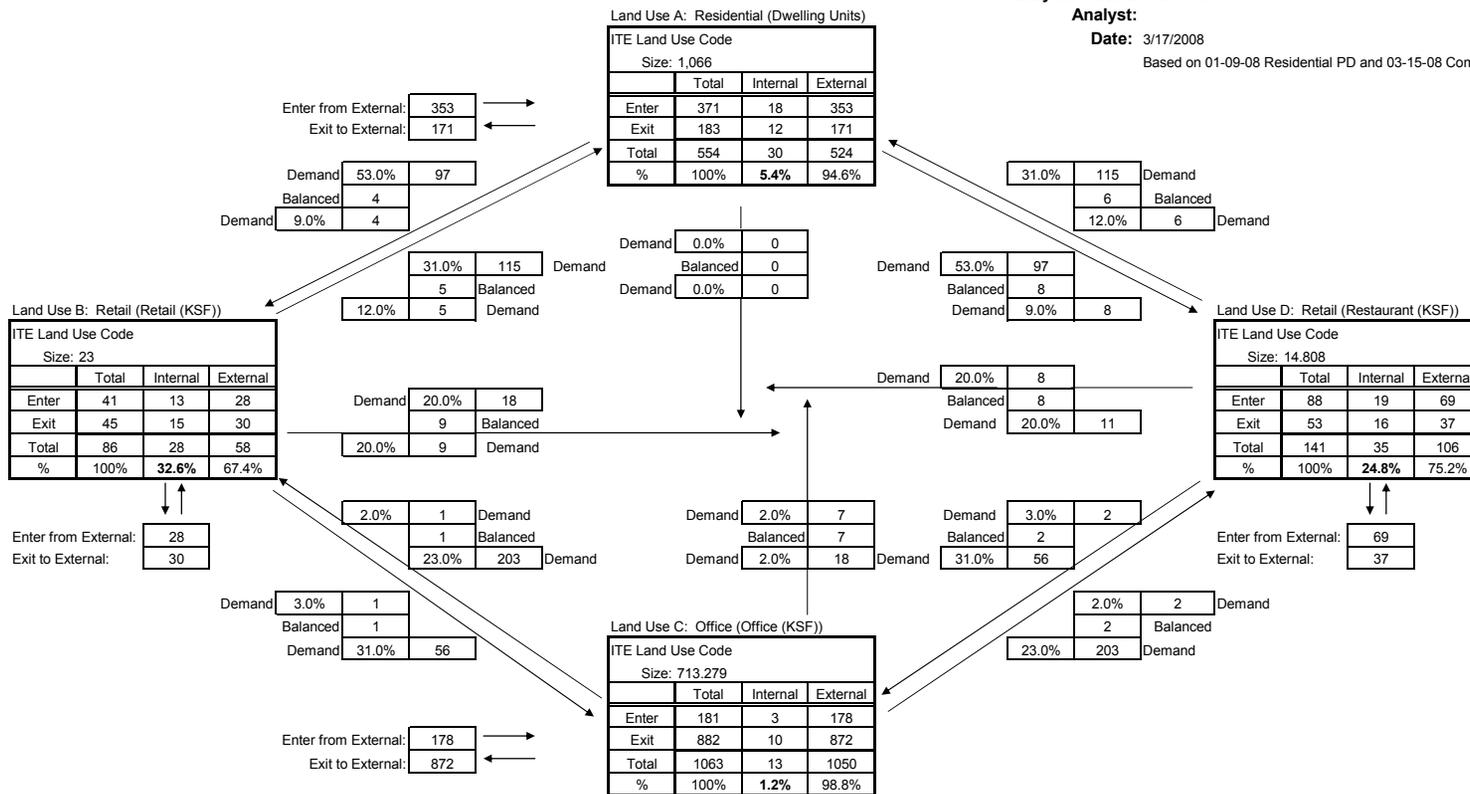
Appendix 2 - Internal Capture Worksheet for Phase I Trip Generation Analysis

ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET

(Source: Chapter 7, ITE Trip Generation Handbook, June 2004)

Project Number: 097065008
 Project Name: Bay Meadows II
 Scenario: Nearterm
 Analysis Period: PM Peak
 Analyst:
 Date: 3/17/2008

Based on 01-09-08 Residential PD and 03-15-08 Comm



NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	353	28	872	69	1,322
Exit	171	30	178	37	416
Total	524	58	1,050	106	1,738
Single Use Trip Gen Estimate	554	86	1,063	141	1,844

Overall Internal Capture = **5.75%**

**Appendix 3 - Phase II Mid-Term Program Buildout (As per 01-09-08 Residential PD and 03-15-08 Commercial + Retail PD from WMS)
 Bay Meadows II Trip Generation Budget (Post Grade Separations with Minimum 16% Trip Reduction Goal)
 (Institute of Transportation Engineers' Rates from Hexagon Phasing Analysis Table 4)**

10/8/2012

Land Use	Size	Units	AM Peak Hour						PM Peak Hour					
			Rate			Trips			Rate			Trips		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
RES 1 (Flats/Townhomes)	108	DUs	0.08	0.43	0.51	9	46	55	0.42	0.20	0.62	45	22	67
RES 2 (Townhomes)	80	DUs	0.08	0.43	0.51	6	34	41	0.42	0.20	0.62	34	16	50
RES 3 (Tuckunder/Townhomes)	156	DUs	0.08	0.43	0.51	12	67	80	0.42	0.20	0.62	66	31	97
RES 4 (Luxury Flats)	71	DUs	0.08	0.43	0.51	6	31	36	0.42	0.20	0.62	30	14	44
RES 5 (Tuckunder/Townhomes)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
RES 6 (Luxury Flats)	54	DUs	0.08	0.43	0.51	4	23	28	0.42	0.20	0.62	23	11	33
RES 7 (Stacked Flats)	158	DUs	0.08	0.43	0.51	13	68	81	0.42	0.20	0.62	66	32	98
RES 7 (Retail)	3,472	KSF	0.63	0.40	1.03	2	1	4	1.80	1.94	3.74	6	7	13
RES 8 (Tuckunder/Townhomes)	74	DUs	0.08	0.43	0.51	6	32	38	0.42	0.20	0.62	31	15	46
RES 9 (Cluster detached)	55	DUs	0.39	0.19	0.58	21	11	32	0.72	0.42	1.14	39	23	63
Subtotal Residential Blocks (Retail)	3,472	KSF				2	1	4				6	7	13
Subtotal Residential Blocks (Residential)	832	DUs				84	345	428				366	179	544
Total Residential Blocks						86	346	432				372	185	557
STA 1 (Office)	92,267	KSF	1.37	0.19	1.56	127	17	144	0.25	1.24	1.49	23	114	137
STA 1 (Retail)	5,794	KSF	0.63	0.40	1.03	4	2	6	1.80	1.94	3.74	10	11	22
STA 1 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
STA 2 (Office)	190,235	KSF	1.37	0.19	1.56	261	36	297	0.25	1.24	1.49	48	236	283
STA 2 (Retail)	10,889	KSF	0.63	0.40	1.03	7	4	11	1.80	1.94	3.74	20	21	41
STA 2 (Restaurant)	3,050	KSF	3.76	3.47	7.24	11	11	22	5.82	3.72	9.55	18	11	29
STA 3 (Office)	174,445	KSF	1.37	0.19	1.56	239	33	272	0.25	1.24	1.49	44	216	260
STA 3 (Retail)	8,769	KSF	0.63	0.40	1.03	6	4	9	1.80	1.94	3.74	16	17	33
STA 3 (Restaurant)	3,281	KSF	3.76	3.47	7.24	12	11	24	5.82	3.72	9.55	19	12	31
STA 4 (Office)	216,428	KSF	1.37	0.19	1.56	297	41	338	0.25	1.24	1.49	54	268	322
STA 4 (Retail)	8,627	KSF	0.63	0.40	1.03	5	3	9	1.80	1.94	3.74	16	17	32
STA 4 (Restaurant)	3,477	KSF	3.76	3.47	7.24	13	12	25	5.82	3.72	9.55	20	13	33
STA 5 (Office)	98,338	KSF	1.37	0.19	1.56	135	18	153	0.25	1.24	1.49	25	122	147
STA 5 (Retail)	4,098	KSF	0.63	0.40	1.03	3	2	4	1.80	1.94	3.74	7	8	15
STA 5 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
Subtotal Station Blocks (Office)	771,713	KSF				1,059	144	1,204				193	957	1,150
Subtotal Station Blocks (Retail)	38,177	KSF				24	15	39				69	74	143
Subtotal Station Blocks (Restaurant)	9,808	KSF				37	34	71				57	37	94
Total Station Blocks						1,120	194	1,314				319	1,068	1,386
MU 1 (Residential)	50	DUs	0.08	0.43	0.51	4	22	26	0.42	0.20	0.62	21	10	31
MU 1 (High School)	450	Students	n/a	n/a	n/a	332	269	601	n/a	n/a	n/a	39	56	95
MU 2 (Office)	15,509	KSF	1.36	0.19	1.55	21	3	24	0.25	1.24	1.49	4	19	23
MU 2 (Retail)	11,814	KSF	0.63	0.40	1.03	7	5	12	1.80	1.94	3.74	21	23	44
MU 2 (Restaurant)	3,000	KSF	3.76	3.47	7.24	11	10	22	5.82	3.72	9.55	17	11	29
MU 2 (Residential)	88	DUs	0.08	0.43	0.51	7	38	45	0.42	0.20	0.62	37	18	55
MU 3 (Office)	12,906	KSF	1.36	0.19	1.55	18	2	20	0.25	1.24	1.49	3	16	19
MU 3 (Retail)	12,361	KSF	0.63	0.40	1.03	8	5	13	1.80	1.94	3.74	22	24	46
MU 3 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
MU 3 (Residential)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
MU 4 (Office)	5,071	KSF	1.36	0.19	1.55	7	1	8	0.25	1.24	1.49	1	6	8
MU 4 (Retail)	8,947	KSF	0.63	0.40	1.03	6	4	9	1.80	1.94	3.74	16	17	33
MU 4 (Restaurant)	5,000	KSF	3.76	3.47	7.24	19	17	36	5.82	3.72	9.55	29	19	48
MU 4 (Residential)	70	DUs	0.08	0.43	0.51	6	30	36	0.42	0.20	0.62	29	14	43
Subtotal Mixed-Use Blocks (Office)	33,486	KSF				46	6	52				8	42	50
Subtotal Mixed-Use Blocks (Retail)	33,122	KSF				21	13	34				60	64	124
Subtotal Mixed-Use Blocks (Restaurant)	8,000	KSF				30	28	58				47	30	76
Subtotal Mixed-Use Blocks (Residential)	284	DUs				23	122	145				119	57	176
Subtotal Mixed-Use Blocks (High School)	450	Students				332	269	601				39	56	95
Total Mixed-Use Blocks						451	438	890				273	248	521
Total Unadjusted Trips:						1,657	978	2,636				964	1,501	2,465
Buildout Trip Reduction:														
Internal Capture & Transit Reduction [1][2]:	AM Peak	PM Peak				AM Peak						PM Peak		
Residential	32.85%	32.85%				35	153	188				159	77	237
Retail	30.40%	30.40%				14	9	23				41	44	85
Restaurant	37.90%	37.90%				25	23	49				39	25	64
Office	15.20%	15.20%				168	23	191				31	152	182
Subtotal Internal & Transit Reduction:						243	209	451				270	298	568
TDM Level I & Level II Reduction :	AM Peak	PM Peak				AM Peak						PM Peak		
Residential (Residential Blocks)	4.1%	4.1%				3	14	18				15	7	22
Residential (MU Blocks)	4.1%	4.1%				1	5	6				5	2	7
Retail (Residential Blocks)	5.9%	5.9%				0	0	0				0	0	1
Retail (Station and MU Blocks)	5.9%	5.9%				3	2	4				8	8	16
Restaurant	5.9%	5.9%				4	4	8				6	4	10
Office	10.6%	10.6%				117	16	133				21	106	127
Subtotal TDM Reduction:						128	41	169				55	128	183
Adjusted Trip Generation						1,287	729	2,016				638	1,075	1,713
Percent Reduction from Unadjusted Trip Generation								23.5%						30.5%
Maximum Trip Threshold Allowed Under Conditions of Approval:														2,878
Trips Under / (Over) Maximum Allowed Trips:														1,165

Source: Program based on Residential and Mixed-Use Programming Overview dated 01-09-08 and Commercial Program dated 03-15-08 by WMS.
 Prepared by Kimley-Horn and Associates, Inc.

[1] Source of Mixed-Use Reductions: Institute of Transportation Engineers Trip Generation Handbook (Multi-Use Internalization Methodology).

[2] Source of Transit Adjustments:

Office Transit Use: Cervero, Robert. Ridership Impacts of Transit-Focused Development in California. Institute of Urban and Regional Development. 1993

Average commute mode split of station area workers for Caltrain and BART systems, assumes 90% of office trips are commute trips.

Retail Transit Use: Average of Caltrain and BART commute mode share. Cervero, Robert Lund, Willson. Travel Characteristics of Transit-Oriented Development in California.

Work Trips: [Caltrain: Rail = 15.7%, Bus = 1.7%] [BART Rail = 44.3%, Bus = 0.6%]. Assuming 93% Caltrain share and 7% BART share, results in 17.7% + average of bus riders (1.15%) gives 18.85% trip reduction for work trips.

Non-work Trips: Rail/Bus = 5.3%

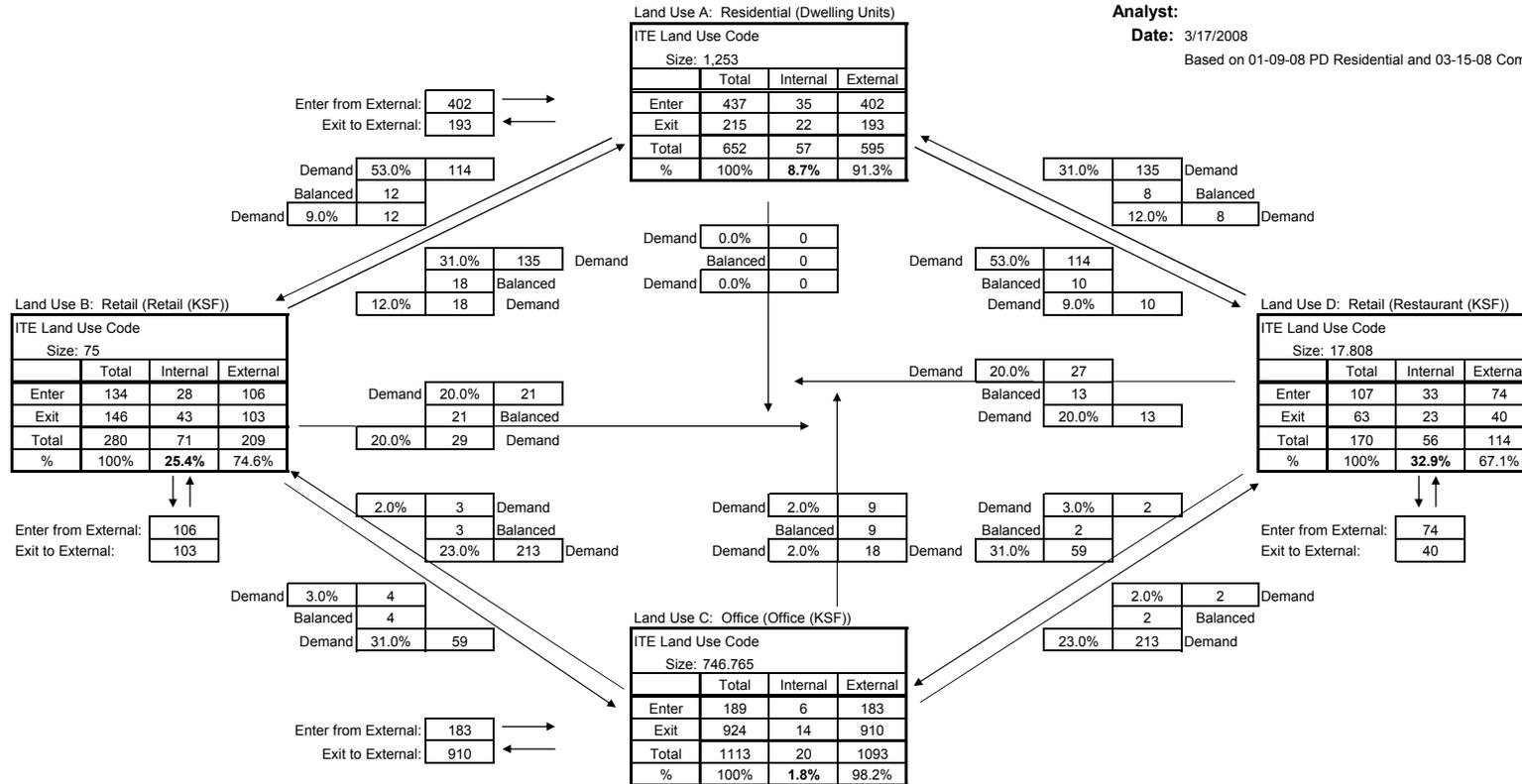
Percent of Home-Based trips that are work trips = 56% in AM peak and 51% in PM peak. Source: Metropolitan Transportation Commission.

Retail and Restaurant Transit Use: 50% of El Cerrito Plaza (BART) retail center mode split. Source: Cervero, Robert Lund, Willson. Travel Characteristics of Transit-Oriented Development in California. Caltrans. 2004

Appendix 4 - Internal Capture Worksheet for Phase II and III Trip Generation Analysis

ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET
 (Source: Chapter 7, ITE Trip Generation Handbook, June 2004)

Project Number: 097065008
Project Name: Bay Meadows II
Scenario: Buildout
Analysis Period: PM Peak
Analyst:
Date: 3/17/2008
 Based on 01-09-08 PD Residential and 03-15-08 Commercial PD



NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	402	106	910	74	1,492
Exit	193	103	183	40	519
Total	595	209	1,093	114	2,011
Single Use Trip Gen Estimate	652	280	1,113	170	2,215

Overall Internal Capture = 9.21%

**Appendix 5 - Phase II Full Program Buildout (As per 01-09-08 Residential PD and 03-15-08 Commercial + Retail PD from WMS)
 Bay Meadows II Trip Generation Budget (Post Grade Separations with Minimum 25% Trip Reduction Goal)
 (Institute of Transportation Engineers' Rates from Hexagon Phasing Analysis Table 4)**

10/8/2012

Land Use	Size	Units	AM Peak Hour						PM Peak Hour					
			Rate			Trips			Rate			Trips		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
RES 1 (Flats/Townhomes)	108	DUs	0.08	0.43	0.51	9	46	55	0.42	0.20	0.62	45	22	67
RES 2 (Townhomes)	80	DUs	0.08	0.43	0.51	6	34	41	0.42	0.20	0.62	34	16	50
RES 3 (Tuckunder/Townhomes)	156	DUs	0.08	0.43	0.51	12	67	80	0.42	0.20	0.62	66	31	97
RES 4 (Luxury Flats)	71	DUs	0.08	0.43	0.51	6	31	36	0.42	0.20	0.62	30	14	44
RES 5 (Tuckunder/Townhomes)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
RES 6 (Luxury Flats)	54	DUs	0.08	0.43	0.51	4	23	28	0.42	0.20	0.62	23	11	33
RES 7 (Stacked Flats)	158	DUs	0.08	0.43	0.51	13	68	81	0.42	0.20	0.62	66	32	98
RES 7 (Retail)	3,472	KSF	0.63	0.40	1.03	2	1	4	1.80	1.94	3.74	6	7	13
RES 8 (Tuckunder/Townhomes)	74	DUs	0.08	0.43	0.51	6	32	38	0.42	0.20	0.62	31	15	46
RES 9 (Cluster detached)	55	DUs	0.39	0.19	0.58	21	11	32	0.72	0.42	1.14	39	23	63
Subtotal Residential Blocks (Retail)	3,472	KSF				2	1	4				6	7	13
Subtotal Residential Blocks (Residential)	832	DUs				84	345	428				366	179	544
Total Residential Blocks						86	346	432				372	185	557
STA 1 (Office)	92,267	KSF	1.37	0.19	1.56	127	17	144	0.25	1.24	1.49	23	114	137
STA 1 (Retail)	5,794	KSF	0.63	0.40	1.03	4	2	6	1.80	1.94	3.74	10	11	22
STA 1 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
STA 2 (Office)	190,235	KSF	1.37	0.19	1.56	261	36	297	0.25	1.24	1.49	48	236	283
STA 2 (Retail)	10,889	KSF	0.63	0.40	1.03	7	4	11	1.80	1.94	3.74	20	21	41
STA 2 (Restaurant)	3,050	KSF	3.76	3.47	7.24	11	11	22	5.82	3.72	9.55	18	11	29
STA 3 (Office)	174,445	KSF	1.37	0.19	1.56	239	33	272	0.25	1.24	1.49	44	216	260
STA 3 (Retail)	8,769	KSF	0.63	0.40	1.03	6	4	9	1.80	1.94	3.74	16	17	33
STA 3 (Restaurant)	3,281	KSF	3.76	3.47	7.24	12	11	24	5.82	3.72	9.55	19	12	31
STA 4 (Office)	216,428	KSF	1.37	0.19	1.56	297	41	338	0.25	1.24	1.49	54	268	322
STA 4 (Retail)	8,627	KSF	0.63	0.40	1.03	5	3	9	1.80	1.94	3.74	16	17	32
STA 4 (Restaurant)	3,477	KSF	3.76	3.47	7.24	13	12	25	5.82	3.72	9.55	20	13	33
STA 5 (Office)	98,338	KSF	1.37	0.19	1.56	135	18	153	0.25	1.24	1.49	25	122	147
STA 5 (Retail)	4,098	KSF	0.63	0.40	1.03	3	2	4	1.80	1.94	3.74	7	8	15
STA 5 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
Subtotal Station Blocks (Office)	771,713	KSF				1,059	144	1,204				193	957	1,150
Subtotal Station Blocks (Retail)	38,177	KSF				24	15	39				69	74	143
Subtotal Station Blocks (Restaurant)	9,808	KSF				37	34	71				57	37	94
Total Station Blocks						1,120	194	1,314				319	1,068	1,386
MU 1 (Residential)	50	DUs	0.08	0.43	0.51	4	22	26	0.42	0.20	0.62	21	10	31
MU 1 (High School)	450	Students	n/a	n/a	n/a	332	269	601	n/a	n/a	n/a	39	56	95
MU 2 (Office)	15,509	KSF	1.36	0.19	1.55	21	3	24	0.25	1.24	1.49	4	19	23
MU 2 (Retail)	11,814	KSF	0.63	0.40	1.03	7	5	12	1.80	1.94	3.74	21	23	44
MU 2 (Restaurant)	3,000	KSF	3.76	3.47	7.24	11	10	22	5.82	3.72	9.55	17	11	29
MU 2 (Residential)	88	DUs	0.08	0.43	0.51	7	38	45	0.42	0.20	0.62	37	18	55
MU 3 (Office)	12,906	KSF	1.36	0.19	1.55	18	2	20	0.25	1.24	1.49	3	16	19
MU 3 (Retail)	12,361	KSF	0.63	0.40	1.03	8	5	13	1.80	1.94	3.74	22	24	46
MU 3 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
MU 3 (Residential)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
MU 4 (Office)	5,071	KSF	1.36	0.19	1.55	7	1	8	0.25	1.24	1.49	1	6	8
MU 4 (Retail)	8,947	KSF	0.63	0.40	1.03	6	4	9	1.80	1.94	3.74	16	17	33
MU 4 (Restaurant)	5,000	KSF	3.76	3.47	7.24	19	17	36	5.82	3.72	9.55	29	19	48
MU 4 (Residential)	70	DUs	0.08	0.43	0.51	6	30	36	0.42	0.20	0.62	29	14	43
Subtotal Mixed-Use Blocks (Office)	33,486	KSF				46	6	52				8	42	50
Subtotal Mixed-Use Blocks (Retail)	33,122	KSF				21	13	34				60	64	124
Subtotal Mixed-Use Blocks (Restaurant)	8,000	KSF				30	28	58				47	30	76
Subtotal Mixed-Use Blocks (Residential)	284	DUs				23	122	145				119	57	176
Subtotal Mixed-Use Blocks (High School)	450	Students				332	269	601				39	56	95
Total Mixed-Use Blocks						451	438	890				273	248	521
Total Unadjusted Trips:						1,657	978	2,636				964	1,501	2,465
Buildout Trip Reduction:														
Internal Capture & Transit Reduction [1][2]:			AM Peak			AM Peak			PM Peak			PM Peak		
Residential	32.85%	32.85%				35	153	188				159	77	237
Retail	30.40%	30.40%				14	9	23				41	44	85
Restaurant	37.90%	37.90%				25	23	49				39	25	64
Office	15.20%	15.20%				168	23	191				31	152	182
Subtotal Internal & Transit Reduction:						243	209	451				270	298	568
TDM Level I & Level II Reduction :			AM Peak			AM Peak			PM Peak			PM Peak		
Residential (Residential Blocks)	4.1%	4.1%				3	14	18				15	7	22
Residential (MU Blocks)	4.1%	4.1%				1	5	6				5	2	7
Retail (Residential Blocks)	5.9%	5.9%				0	0	0				0	0	1
Retail (Station and MU Blocks)	5.9%	5.9%				3	2	4				8	8	16
Restaurant	5.9%	5.9%				4	4	8				6	4	10
Office	10.6%	10.6%				117	16	133				21	106	127
Subtotal TDM Reduction:						128	41	169				55	128	183
Adjusted Trip Generation						1,287	729	2,016				638	1,075	1,713
Percent Reduction from Unadjusted Trip Generation								23.5%						30.5%
Maximum Trip Threshold Allowed Under Conditions of Approval:														2,569
Trips Under / (Over) Maximum Allowed Trips:														856

Source: Program based on Residential and Mixed-Use Programming Overview dated 01-09-08 and Commercial Program dated 03-15-08 by WMS.
 Prepared by Kimley-Horn and Associates, Inc.

[1] Source of Mixed-Use Reductions: Institute of Transportation Engineers Trip Generation Handbook (Multi-Use Internalization Methodology).

[2] Source of Transit Adjustments:

Office Transit Use: Cervero, Robert. Ridership Impacts of Transit-Focused Development in California. Institute of Urban and Regional Development. 1993
 Average commute mode split of station area workers for Caltrain and BART systems, assumes 90% of office trips are commute trips.

Retail Transit Use: Average of Caltrain and BART commute mode share. Cervero, Robert Lund, Willson. Travel Characteristics of Transit-Oriented Development in California.

Work Trips: [Caltrain: Rail = 15.7%, Bus = 1.7%] [BART Rail = 44.3%, Bus = 0.6%]. Assuming 93% Caltrain share and 7% BART share, results in 17.7% + average of bus riders (1.15%) gives 18.85% trip reduction for work trips.

Non-work Trips: Rail/Bus = 5.3%

Percent of Home-Based trips that are work trips = 56% in AM peak and 51% in PM peak. Source: Metropolitan Transportation Commission.

Retail and Restaurant Transit Use: 50% of El Cerrito Plaza (BART) retail center mode split. Source: Cervero, Robert Lund, Willson. Travel Characteristics of Transit-Oriented Development in California. Caltrans. 2004

**Attachment 2: Nueva High School Transportation
Management Plan [Kimley-Horn and Associates, Inc.,
dated November 26, 2012]**

Final Report

NUEVA HIGH SCHOOL TRANSPORTATION MANAGEMENT PLAN

26 November 2012

Prepared for:



Prepared by:



Kimley-Horn
and Associates, Inc.

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EXECUTIVE SUMMARY

Nueva High School is a private high school with a compact, multi-story design, and a strong cultural commitment to reducing drive-alone trips. It is proposed that the school be constructed to accommodate up to 450 students and 60 (full time and part time) faculty and staff and be located within block MU-1 in the Bay Meadows Phase II Specific Plan area. Bay Meadows is supported by a robust transportation system that includes opportunities for carpooling and using transit, biking and walking to reduce drive-alone trips.

Trip generation for the site based on a mode share analysis indicates up to 91 trips are expected to be generated during the PM peak hour. Because the school will take approximately 7 years to reach its initial target enrollment of 400 students (with a maximum future capacity of 450), opening day trip generation (and parking demand) for Nueva High School will be significantly lower.

The school site will have two vehicle entries and one exit. The principal vehicular entry to the site is from 28th Avenue and will be for parents dropping off or picking up students, Nueva buses, and emergency, delivery and service vehicles. The exit from the site is on Delaware Street but will also allow secondary access for staff, faculty, and visitors to reach the school's on-site parking.

The 28th Avenue driveway will be right in/out only and the Delaware Street access will be right in/out and left turns in. The right in/out operation of the main entrance and separation of entry traffic disperses traffic loads and eliminates conflicts with other vehicles at intersections and driveways. Therefore, this configuration has negligible effects on levels of service or queuing for other traffic. Signing, striping and other measures will be implemented at the project driveways to reinforce the right in and out operation and restrict prohibited left turns.

Some students will be dropped off and picked up by parents or others. The on-site circulation has been designed to provide drop-off and pick-up queuing on site for more than 500 feet. The curb area for students is 90 feet long to allow up to 4 vehicles to unload and load students at a time. An analysis of the car line confirmed that all queuing can be contained on site without spillback into 28th Avenue.

The school proposes to provide 125 parking space, two loading areas for delivery vehicles (that can also be used for parking small buses), and a bus loading (and parking) area that can accommodate two large school buses.



The San Mateo Municipal Code does not specifically apply to the project per the SPA and Rail Corridor TOD Plan Policy 7.22; however, the project comes close to meeting the Code requirement for non-TOD school projects in San Mateo.

Parking generation estimates based on a mode share analysis indicates demand will require 86 spaces. Estimated demand is well below the number of spaces proposed by Nueva High School.

On-site spaces will be dedicated for the use of faculty, staff, and visitors. Although no regular student parking will be provided, 33 spaces will be available to students on an exception basis. Students with a special need such as having to drive because of an after school project, a parent that is unable to pick up for the day, medical/dental appointment, etc. can obtain from the administration office a daily permit that allows them to park in a designated space in the garage. Excess daily parking will generally be reserved for visitors rather than made available to additional students.

Occasional large special events, including performing arts or cultural productions, graduation, and educational conferences, may require additional off-site parking. Nueva is finalizing a special event parking arrangement with a neighboring facility for up to 400 additional parking spaces subject to coordination of specific date availability. Special events will be conducted in coordination with the availability of these, and / or comparable, parking spaces.

The combination of 125 on-site parking spaces and offsite spaces will accommodate all contemplated special events. Special events will be scheduled, staffed, sized, and parked under the direction of school administration in conjunction with the commute, transportation, and parking coordinator and school safety and security personnel to ensure compliance with on-site and off-site parking availability and traffic requirements at Bay Meadows, and will be rescheduled, downsized, relocated, or cancelled, as required.

Parking for service vehicles, shipping and delivery vans and trucks, and school buses from visiting schools is also provided on site without interference to the circulating drive that wraps around the school.

Maintaining trip generation below the maximum block trip budget and limiting parking demand below the 125 on-site spaces are reinforced by a strong TDM program proposed by Nueva High School.



The TDM plan is comprised of four major elements:

- Policies and Procedures –The school’s trustees, parent/student representatives, and select faculty and staff, will draft, refine, and adopt the school’s policies related to student, staff and faculty transportation to the Bay Meadows site and on-site / off-site daily and event parking. They will also develop and adopt “Rules of Access” for student access, parent drop-off and pick-up, event management, and staff and faculty access; develop communication material for each user of the school’s facilities, as well as determine penalties for violation of the rules, and, develop, evaluate and prioritize a menu of services, subsidies, incentives, and/or costs that may be offered to parents/students, and faculty and staff.
- Education – The school will prepare and distribute detailed transportation and parking information, as well as conduct commute awareness programs for students, parents, faculty and staff. A commute, transportation, and parking coordinator will oversee all programs and practices including staffing, communications, and enforcement, and will work with designated faculty, staff, students, and contractors. The scope of ongoing monitoring and enforcement will include shared transportation programs, promotion, and actual usage; pick-up and drop-off; specifically assigned faculty and staff parking permits; single-day, exception-based, student-use permits; visitor traffic; management of tandem and alternative-energy parking spaces; and the annual commute, transportation, and parking survey to ensure achievement and maintenance of our school and city commute, traffic, and parking commitments and goals.
- Incentives – Nueva will offer several incentives to encourage students, parents, faculty and staff to avoid driving alone to the school. Incentives will include a combination of the already successful Nueva bus program, continuation of the school’s carpool match practices (for faculty), Caltrain Go Passes for students, guaranteed ride home, secure bike parking and changing areas, and drive alone disincentives.
- Monitoring and Enforcement – To ensure compliance with trip budget and parking limits, as well as being a good neighbor, the school will regularly monitor commute patterns, staff and supervise daily drop off and pick-up activities, enforce parking violations, and make adjustments to the TDM program to maximize and optimize performance against traffic and parking metrics.



1.0 PURPOSE OF THE NUEVA HIGH SCHOOL TRANSPORTATION MANGEMENT PLAN

As a development project within The Bay Meadows Phase II Specific Plan Amendment area, Nueva School is subject to the conditions of approval related to traffic and parking. This Transportation Management Plan (TMP) complies with the requirements established in the following documents:

- a) Conditions of Approval Draft PA 02-105 Bay Meadows Phase II Specific Plan Amendment Revised as of October 21, 2005 (City Council Resolution No. 111-2005)

The relevant sections of the above conditions of approval are located in the **Appendix**. The conditions of approval specifically require development in Bay Meadows Phase II to submit to the City of San Mateo the following:

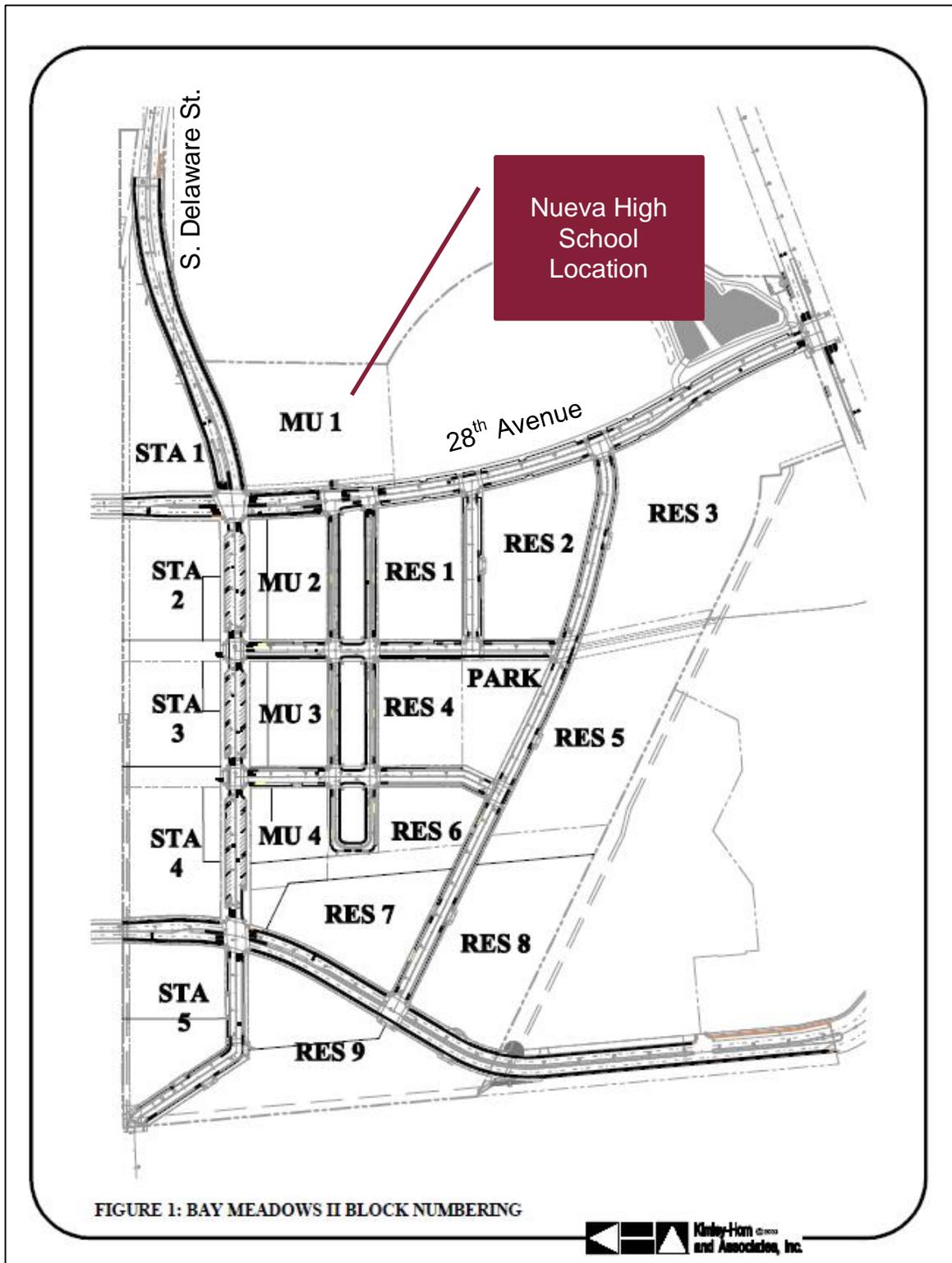
- TDM measures proposed to be utilized for each scenario that demonstrates that the Occupancy Projection meets the applicable trip budget and the Build-Out Projection would not cause project traffic to exceed 2,569 PM peak hour trips.

A Parking Operations Plan is required for non-residential buildings in Bay Meadows defined as any building on the Station Blocks, the retail/office buildings on Mixed Use Blocks 2, 3 and 4, and the mixed-use building on Block Residential 7. This requirement does not explicitly refer to Mixed-Use Block MU-1 (in which the project is located), but since Nueva School is a permitted land use in the Specific Plan, the City requires, at a minimum, that the project operate below the trip budget and implement methods to ensure adequate on-site project parking that will not use on-street spaces in the residential blocks or other blocks. This report provides that information and demonstrates that the Nueva High School can be a compatible use for the site.

Figure 1 shows Block MU-1 in relation to the other blocks of Bay Meadows.



Figure 1 - Bay Meadows





1.1 The Use of This Plan

This TMP (“Plan”) is a living document, a tool to be used by the administrators of Nueva School to help them comply with the conditions of approval. The TMP, in of itself, cannot ensure successful implementation of the Plan’s trip reduction measures, nor can it guarantee compliance with the City’s trip reduction requirements even if all of the measures contained within are successfully implemented. The Plan will evolve as Nueva High School becomes established in Bay Meadows and as the school’s administrators learn which measures work best for their employees, their students, and their student’s families. Any changes to the “living” document must be reviewed and approved by the Planning Division, TMA, and Public Works Department.

What this TMP can do is outlined below:

- Establish a framework for school policies, and procedures, related to traffic and parking.
- Recommend the support services needed to implement, monitor, and update the TMP, and assist the school’s users to make changes in their travel behavior.
- Quantify the shift in mode of access from automobile to alternate forms of transportation required to comply with the conditions of approval.
- Provide a procedural starting point and a menu of best practices in reducing trips tailored to Nueva High School.
- Recommend procedures for monitoring, refining and updating this Plan and addressing issues of concern to the City of San Mateo (e.g., special events, residential neighborhood parking impacts, etc.).

Successful compliance with the trip reduction requirements will require ongoing diligence on the part of the school; frequent communication with staff, faculty and students to maintain awareness of the requirements and travel options available; close involvement in the development and refinement of the Transportation Management Association’s programs and services; frequent monitoring of travel behavior and updating of the TMP when appropriate; and, integration of the TMP practices into the school’s culture and philosophy.



2.0 BAY MEADOWS SPECIFIC PLAN

2.1 Traffic and Parking Requirements of the Bay Meadows Specific Plan

In 2005, the City of San Mateo adopted the San Mateo Rail Corridor Transit Oriented Development Plan (Corridor Plan). The stated goal of the Corridor Plan was to allow, encourage and provide guidance for the creation of world class transit-oriented development (TOD) within a half-mile radius of the Hillsdale and Hayward Park Caltrain stations, while maintaining and improving the quality of life for those who already live and work in the area. The Corridor Plan included policies and a framework for implementing a corridor Transportation Demand Management program with a goal of achieving an overall reduction in new vehicle trips of at least 25 percent corridor-wide (Corridor Plan Policy 7.17).

The Corridor Plan called for the amendment of the Bay Meadows Phase II Specific Plan to achieve the TOD and other policies of the Corridor Plan. The City implemented these policies through its approval of the Bay Meadows Specific Plan Amendment (the "Specific Plan Amendment") and Conditions of Approval adopted on November 7, 2005, and the Bay Meadows Development Agreement between the City of San Mateo and Bay Meadows Land Company, dated as of November 21, 2005 (the "Development Agreement").

Bay Meadows Phase II Specific Plan Amendment's conditions of approval implement the Transportation Demand Management policies and goals of the Corridor Plan by establishing overall project trip budget for each of four phases. The phases are defined by the commencement and completion of a grade separation at 28th and/or 31st Avenues, and varying levels of development within Bay Meadows. The conditions further describe the monitoring methods to be used by the City to track individual trip budgets for each block. The conditions require participation in a Transportation Management Association (TMA) and implementation of a Transportation Demand Management (TDM) plan. Finally, the conditions specify the method for monitoring and enforcing the TDM goals for the entire development.

2.2 Bay Meadows and Block MU-1 Trip Budgets

The conditions of approval require establishing a trip budget for the entire project as well as for each block in order to measure the project's success in meeting the applicable trip reduction goals. The trip reduction goals are set at a 10% (short-term), 16% (mid-term) and 25% (long-term) reduction. Trip reduction is measured against trips calculated using standard Institute of Transportation Engineers' (ITE) trip generation rates applied to the actual commercial/retail square footage of development or dwelling units. The result is the "unadjusted" trip generation for each block and the Specific Plan area as a whole.



Trip budgets are established for conditions prior to, and after construction of, the planned grade-separations at either 28th or 31st Avenues. The Bay Meadows transit-oriented-development will require time to mature and balance its housing with commercial retail and restaurants in order to achieve internal trip capture. Therefore, in addition to phasing the goals with and without the grade-separations, the goals are also phased by short, mid, and long-term development conditions reflecting time to achieve a mix of uses.

Block MU-1 was not anticipated to develop prior to completion of the grade-separations at the time the Bay Meadows II Traffic Management Plan was initially prepared in 2008.

This study helps identify the appropriate trip budget for the project site and based on the results of this report, the trip budget for the high school on MU-1 is set at 95 PM trips for all phases of Bay Meadows II.¹ **Table 3** of this document shows a PM peak hour trip generation of 91 trips between 5-6 PM. The maximum trip budget for the high school is set at 95 trips which includes a roughly 5% contingency for a buffer factor. The Bay Meadows II Traffic Management Plan has been updated to reflect this new trip budget of 95 trips and has been submitted for review and approval concurrently with this document as part of the planning application for the Nueva High School.

It is noted that re-recording of Bay Meadows Covenants, Conditions and Restrictions (i.e. CC&Rs) is in progress to reallocate trips budgeted in Schedule 1 of the CC&Rs to Block MU-1.

2.3 Site Description as Approved in Specific Plan

Block MU-1 is adjacent to the Community Park, located on the north side of 28th Avenue, and across Delaware Street from Station Block 1 (STA-1). Block MU-1, the Community Park and Station Block 1 comprise the northern boundary of the Specific Plan area. The San Mateo County Event Center is located north of the Specific Plan area. South of 28th Avenue is Block MU-2 and the northern residential blocks.

Nueva High School will be located in Block Mixed-Use (MU-1) of the Bay Meadows Phase II Specific Plan area. Block MU-1 differs from the other mixed-use blocks in that, despite its designation, it was originally evaluated in the Bay Meadows Traffic Management Plan as 187 residential units (including 50 Below Market Rate (BMR)) units to be developed by the City on a one acre parcel of MU-1 fronting Delaware Street. Because of its mixed-use designation the site could also be developed as a variety of other permitted uses including a school.

Table 1 shows the unadjusted PM Peak hour trip generation for residential if developed on Block MU-1.

¹ Final Bay Meadows II Traffic Management Plan, prepared by Kimley-Horn and Associates, Inc. for Wilson Meany, Updated October 8, 2012.



Table 1 - PM Trip Generation if Block MU-1 Developed as Residential

Residential PM Peak							
ITE Code	Land Use Description	Independent Variable	No. of Units	Average PM Rate ⁽¹⁾	PM Trips	PM Trips In	PM Trips Out
220	Apartment	Units	187	0.62	116	75	41

Notes:

(1) ITE Trip Generation, Land Use 220, PM Peak Hour of Adjacent Street Traffic.

As noted in **Table 1**, Block MU-1 could generate 116 PM peak trips if developed as apartments. (Note that these trips are unadjusted for transit, TDM, and mixed-use internal capture.)

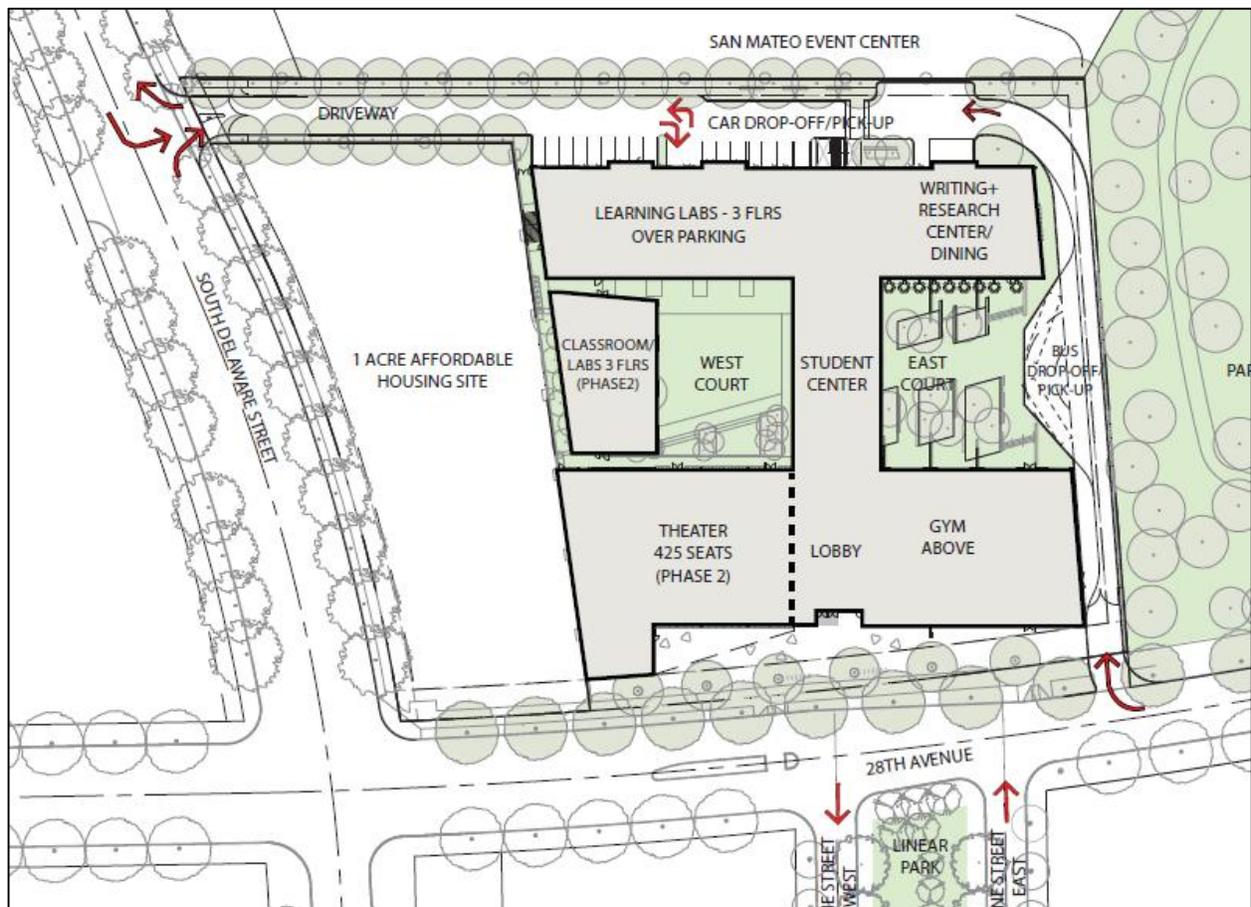


3.0 OVERVIEW OF THE PROJECT

Bay Meadows is a multi-use development supported by a robust transportation system that includes opportunities for carpooling and using transit, biking and walking to reduce drive-alone trips.

Nueva is a private high school with a compact, multi-story design, and a strong cultural commitment to reducing drive-alone trips. The site layout has an open campus design with several buildings surrounding central landscaped courtyards. The buildings range from one to three stories and contain academic space, library, kitchen / servery, student center with dining facilities, a theater with seating for 425 people, a gym, and administrative offices. A parking garage is located under the building wing to the rear of the property and under the west courtyard (see Section 3.6 for more on parking). **Figure 2** shows the Nueva High School site on Block MU-1.

Figure 2 - Nueva High School



Source: Leddy Matum Stacy Architects



Figure 3 - Percent of Existing Nueva Students within Close Access to Caltrain



It is proposed that the school be constructed to accommodate up to 450 students and 60 (full and part time) faculty and staff. Some of these staff will be primarily based from the Hillsborough campus and will only periodically come to the high school.

Currently 66% of Nueva students live within close access to a Caltrain station as shown in **Figure 3**. Furthermore, 77% of faculty and staff live within close access to Caltrain.

Many of the students at Nueva High School will be matriculating students from the Nueva School in Hillsborough.

The prekindergarten through 8th grade Nueva School in Hillsborough primarily draws students from the San Francisco Peninsula; about one third from San Francisco, and nearly seventy percent from the Coast, Central, South Central and Southern Peninsula (Half

Moon Bay, Pacifica, Pescadero, Burlingame, Hillsborough, Millbrae, San Bruno, San Mateo, Belmont, Foster City, Redwood City, Redwood Shores, San Carlos, Atherton, Los Altos, Menlo Park, Palo Alto, Stanford, Woodside, and Portola Valley). A very small number of students are drawn from the North Bay, South Bay, and the East Bay.



It is estimated that the student catchment area for the Nueva High School will have roughly the same population distribution of the Nueva School campus in Hillsborough. However, because of the high school's proximity to Caltrain, the student population may eventually become more oriented towards communities with convenient access to Caltrain stations. For purposes of this document, it is conservatively assumed that the population distribution for the high school will be the same as the existing Nueva School.

3.1 Proposed Site Plan, Access and Circulation

The site plan for the proposed Nueva High School is shown in **Figure 4**. While the site plan in the figure only shows the ground floor of the buildings, the site will have buildings up to three stories high. Principal vehicular access to the site is from 28th Avenue near the Kyne Street intersection. This driveway provides access for:

- Parents dropping off or picking up students;
- Nueva's buses;
- Emergency vehicles; and
- Occasional delivery and service vehicles.

Egress from the site is on Delaware Street via a driveway located approximately 360 feet north of the 28th Avenue intersection. This driveway also serves as a secondary access for staff, faculty, and visitors using the school's on-site parking.

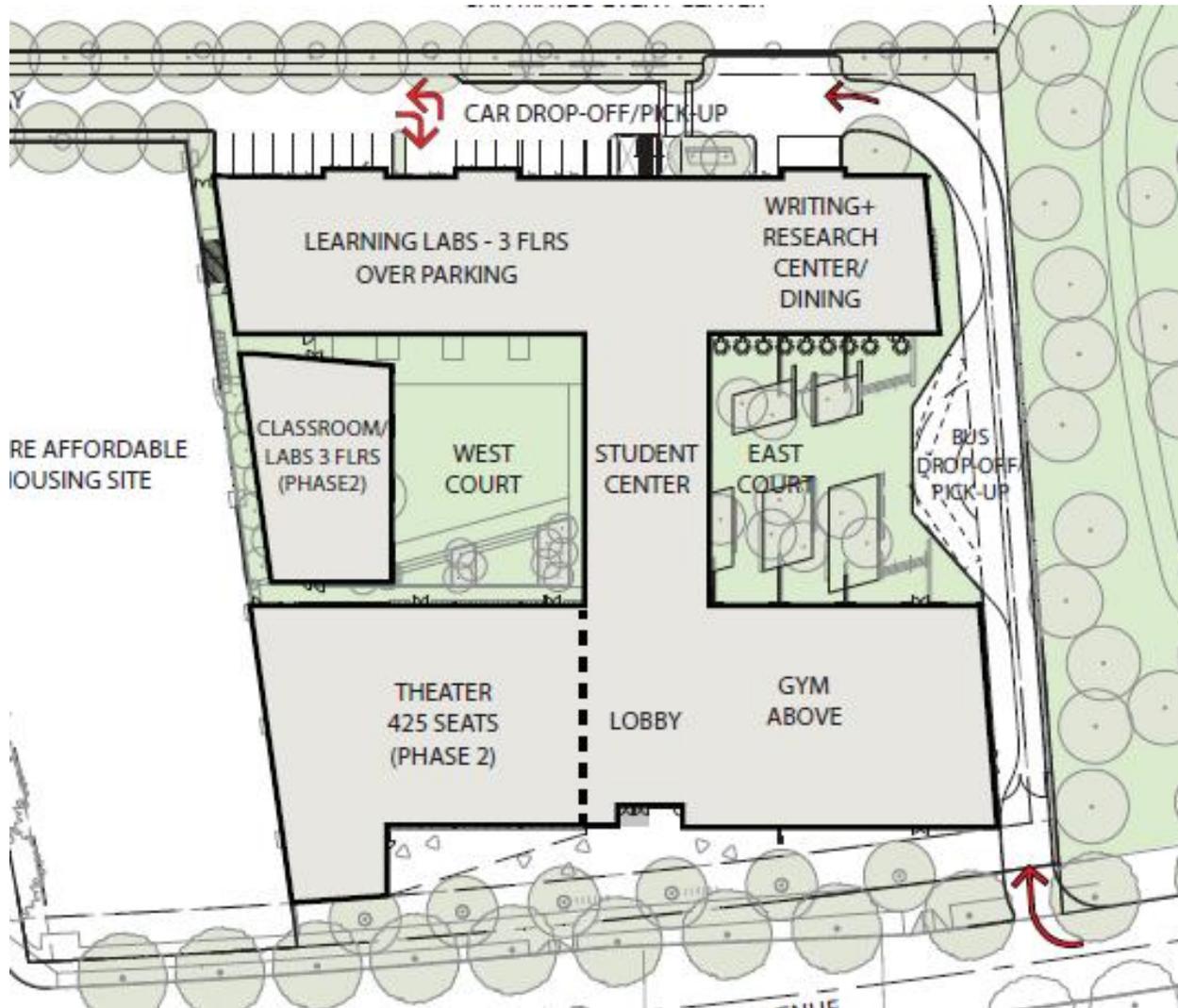
3.2 Proposed Parking Supply

Nueva High School will provide approximately 125 parking spaces, two bus stalls, and two loading zones on site. The majority of parking is located in a garage under the north classroom building and the west courtyard. Total on-site parking stalls (including outside spaces) comprise 94 full-size spaces, 26 compact spaces, and 5 accessible spaces for faculty, staff, visitors and a small number of students. Twenty-one of the spaces are constrained tandem spaces reserved for faculty (i.e. 21 pairs of spaces for a total of 42 stalls). A roll down overhead door will allow the parking garage to be secured after hours.

All accessible spaces are located for convenient access to the garage elevator.



Figure 4 - Nueva High School Site Plan



Source: Leddy Matum Stacy Architects

San Mateo Municipal Code requires 12 long-term stalls and 34 short-term stalls for bicycle parking.

Bicycle parking will be provided as follows:

- 26 long-term spaces in a secured room located at the SE corner of the building on the first floor. These spaces will have a direct access connector to the bike path/sidewalk fronting the school.
- 24 short-term bike stalls provided in front of the main lobby within 50 feet of the entry door and 12 bike stalls in front of the theater within 50 feet of the theater

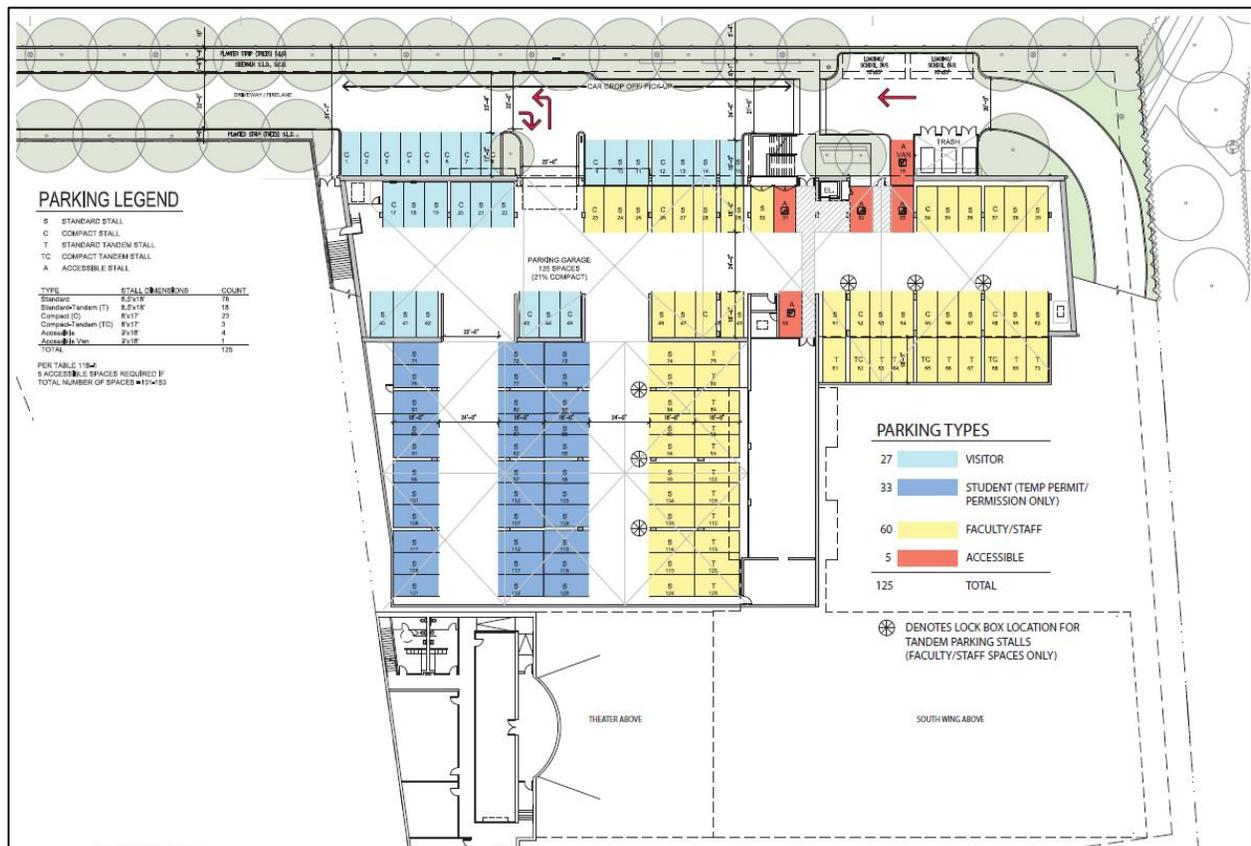


lobby doors. These spaces will also have a direct access connector to the bike path/sidewalk fronting the school.

Bicycle parking exceeds spaces required by code.

Figure 5 illustrates the proposed vehicular parking layout at the school.

Figure 5 – Parking Layout



Source: Leddy Matum Stacy Architects



3.3 School Traffic Generation

Although many students and some faculty and staff will use the Nueva buses, Caltrain, and other public transit (with nominal walking or cycling), the school will generate some vehicle trips to and from the site. These will principally comprise faculty and staff who will park at the school, and parents who drop off and pick up students in private vehicles.

Students will generally not be permitted to bring vehicles to campus; however, students with a special need such as having to drive because of an after school project, a parent that is unable to pick up for the day, medical/dental appointments, etc. can obtain from the administration office a permit that allows them to bring a car and park in a designated space in the garage. All other students will be expected to use other means to travel to school rather than driving their own vehicle.

For this site, the maximum number of PM peak hour trips allowed is 95 per the 2012 Bay Meadows II Traffic Management Plan. (No trip budget is set for the AM peak or the afternoon peak of the site.²)

Trip generation for the proposed Nueva High School was calculated based on the mode share trip generation of students, faculty and staff

3.3.1 Mode Share Trip Generation

The mode share is a method to estimate site generated trips based on the number of students, faculty and staff present at the site during various times of the day as well as vehicle trips generated by the site population based on the various travel modes available.

The calculations are based on the following assumptions:

- Students – Calculations are based on the maximum enrollment even though it will take approximately 7 years to reach the initial target of 400 students (with a maximum future enrollment of 450 students).
- Faculty – A combination of 60 faculty and staff are anticipated for Nueva High School. Although some of these individuals will be primarily located at the Hillsborough campus (and occasionally come to the Bay Meadows campus) and some are part-time employees, calculations conservatively assume all 60 faculty/staff will be full time at the high school.
- Absentee rate – According to the Nueva School, up to 10% of students are typically away from campus due to illness, field trips, projects, internships, etc. and 5% of faculty and staff are away due to similar factors. To be conservative, it

² Declaration of Covenants, Covenants and Restrictions and Reservation of Easements for Bay Meadows Phase II. Bay Meadows Main Track Investors, LLC, June 21, 2010.



was assumed that the absentee rate for students, is only 5% and all staff are on campus daily.

- Departure times – Staggered bell times are planned for around 8:30 AM and 3:30 PM. It is estimated that 70% of the students will typically leave campus at the afternoon bell and the remaining students will depart during the PM peak hour or later. Faculty and staff leave later with a higher percentage in the PM peak hour.³ Included in the 70% are students leaving for off-campus after school activities that may include sports not readily accommodated on campus (e.g. soccer, cross country, golf, and crew), sport competitions, internships and work study jobs, and performing arts at other schools or venues. The remaining 30% stay on campus for sports (including basketball, volleyball, fencing, etc.), robotics and engineering clubs (working in the innovation / design labs), visual and performing arts, student projects and collaborations (with one another and faculty). Departure times and afterschool activities are based on information provided by Nueva School administrators of their operational plan for the new high school.
- Nueva bus mode share – According to school administration⁴ and count data collected by Fehr & Peers Associates, Inc., 25% of the existing Nueva School (Hillsborough campus) student population uses the school provided bus. It is planned that Nueva High School will be served by the same bus service and that ridership will be the same or more for the high school student population. Although it is expected that 25% or more of Nueva students will use the Nueva bus, mode share calculations in this report conservatively use 15%.
- Caltrain mode share – Currently 66% of Nueva students live within close access to a Caltrain station and the Nueva School is located within about a third mile of the Hillsdale Caltrain station. According to Bellarmine High School in San Jose (also located near a Caltrain station) 15% to 20% of their students regularly ride Caltrain to school.⁵ Crystal Springs Upland School in Hillsborough reported that 21% of their students ride Caltrain.⁶ For purposes of this study it was conservatively assumed that 15% of Nueva High School students would use Caltrain. Faculty and staff Caltrain use was assumed to be 12.7% is based on the Bay Meadows II Traffic Management Plan's transit reduction for work trips.
- Carpool mode share – Student drivers were conservatively not assumed to carpool to school because state law prohibits most young drivers from taking passengers. Faculty and staff carpool was assumed to be 15.2% based on a combination of carpool data for San Francisco and San Mateo.
- Walk/Bike mode share – Walking and bicycling by students will be low because of the regional nature of the school but may increase because of the close proximity to Bay Meadows residential uses and a good network of sidewalks and

³ Based on conversations with Mr. Terry Lee, Associate Head of School, The Nueva School, Hillsborough, CA

⁴ Conversations with Mr. Terry Lee, Associate Head of School, The Nueva School, Hillsborough, CA

⁵ Conversation 9/19/2012 with Mr. Tom Gorndt, Bellarmine High School CFO.

⁶ Transportation Impact Analysis, Crystal Springs Uplands School, Hexagon Transportation Consultants, Inc., April 9, 2012.



bikeways. For calculations in this report, walking and bicycling were conservatively assumed to be 0%.

- Student drive alone mode share – The student drive alone mode share assumes a maximum of 10% of students with licenses (i.e. seniors and juniors) may drive and 0% of the sophomore and freshman may drive. Therefore the average rate for the student population is 5%.
- Parent drive mode share – Students not using alternative modes or driving alone are assumed to be transported by a parent. The vehicle trip ends for this mode were adjusted by 10% for siblings and non-siblings departing in the same vehicle.

Table 2 summarizes the departure breakdown of students, faculty and staff on campus from 3-4 PM, 4-5 PM, 5-6 PM, and 6-7 PM. The table assumes that all 60 faculty and staff are at the campus each day but only 95% of the student population (i.e. 428 of the 450 students) are present.

Table 2 - Person Trip Estimate for Trip Generation Calculation

	Departure Percentages per Person Type				
	Daily	3-4 PM	4-5 PM	5-6 PM	6-7 PM
Percent of Student	100%	70%	5%	15%	10%
Percent of Faculty/Staff	100%	50%	15%	20%	15%
Students	428	300	21	64	43
Faculty	42	21	6	8	6
Staff	18	9	3	4	3
Total	488	330	30	76	52

Notes: Totals may differ slightly due to rounding.

As seen in the table, 64 students and 12 faculty and staff are estimated to arrive or depart Nueva High School during the PM peak of 5-6 PM. Individuals may use Nueva buses, Caltrain, carpool, bike, walk, drive, or be picked up by others.



Table 3 summarizes the trip generation based on mode share calculations from **Table 2**.

Table 3 – Project Trip Generation Based on Mode Share

Mode of Travel	Person Trips by Mode in 5-6 PM Peak Hour					Vehicle Trips Ends ^[a]		
	Mode Share		Students	Faculty/Staff	Total	Students	Staff	Total
	% Students	% Faculty/Staff	64	12	76			
Nueva Bus ^[e]	15.0%	0.0%	10	0	10	4	0	4
Caltrain/Public Transit ^[d]	15.0%	12.7%	10	2	11	0	0	0
Carpool Drivers ^[b]	0.0%	15.2%	0	1	1	0	1	1
Carpool Passengers	0.0%	0.0%	0	1	1	0	0	0
Walk/Bike	0.0%	0.0%	0	0	0	0	0	0
Drive Alone ^[c]	5.0%	72.1%	3	9	12	3	9	12
Parent Drives ^[a]	65.0%	0.0%	42	0	42	75	0	75
Total	100.0%	100.0%	64	12	76	82	9	91

Notes: Totals may differ slightly due to rounding.

[a] Vehicle trip ends for parents equal person trips multiplied by two (2), representing the inbound and outbound trip ends. All other vehicle trip ends are outbound only (except Nueva Bus). The vehicle trip end calculation assumes 10% of the departing students are siblings or non-siblings and depart in the same vehicle. Bus trips are multiplied by two (2) because buses arrive and depart during the peak hour.

[b] Source of work based carpool mode share: average mode share of workers residing in San Francisco (13.4%) and San Mateo (16.9%) from the Metropolitan Transportation Commission's 2000 Household Travel Survey. Staff carpool mode share is assumed at 2 persons / vehicle including the driver.

[c] The student drive alone mode share assumes a maximum of 10% of students with licenses (seniors and juniors) may drive and 0% of the sophomore and freshman may drive. Therefore the average rate for the student population is 5%.

[d] Student Caltrain/Transit mode share based on Bellarmine High School which also has 15% of students using Caltrain. Staff mode share of 12.7% is based on the Bay Meadows II Traffic Management Plan's transit reduction for work trips.

[e] Current Nueva bus use at Hillsborough campus is 25% of the school population based on Fehr & Peers Associates, Inc. data. Nueva bus use conservatively assumed to be 15% for this study.

As noted in the table, the estimated number of vehicle trips during the 5-6 PM period is 91.⁷ To be conservative it is assumed that the Nueva evening buses will leave during the PM peak even though the schedule in the Appendix shows them leaving after 6 PM.

Although no trip budget is set for the AM peak period in the Bay Meadows II Traffic Management Plan, an AM trip estimate is included in the Appendix.

It is noted that *Trip Generation*, published by the Institute of Transportation Engineer's is a standard reference typically used by jurisdictions throughout the country for the estimation of trip generation potential of proposed developments.⁸ However, *Trip Generation* does not have a category that directly applies to this type of school. Therefore, for reference purposes only, ITE trip data is included in the Appendix.

⁷ It is noted that the estimate is conservative by assuming that only 10% of the departing students are siblings and will leave in the same vehicle. According to existing school information, 25% of the students have a sibling at the existing school and the ratio is assumed to remain relatively the same for the high school. Actual number of trips may be lower.

⁸ *Trip Generation 8th Edition*, Institute of Transportation Engineers, 2008.



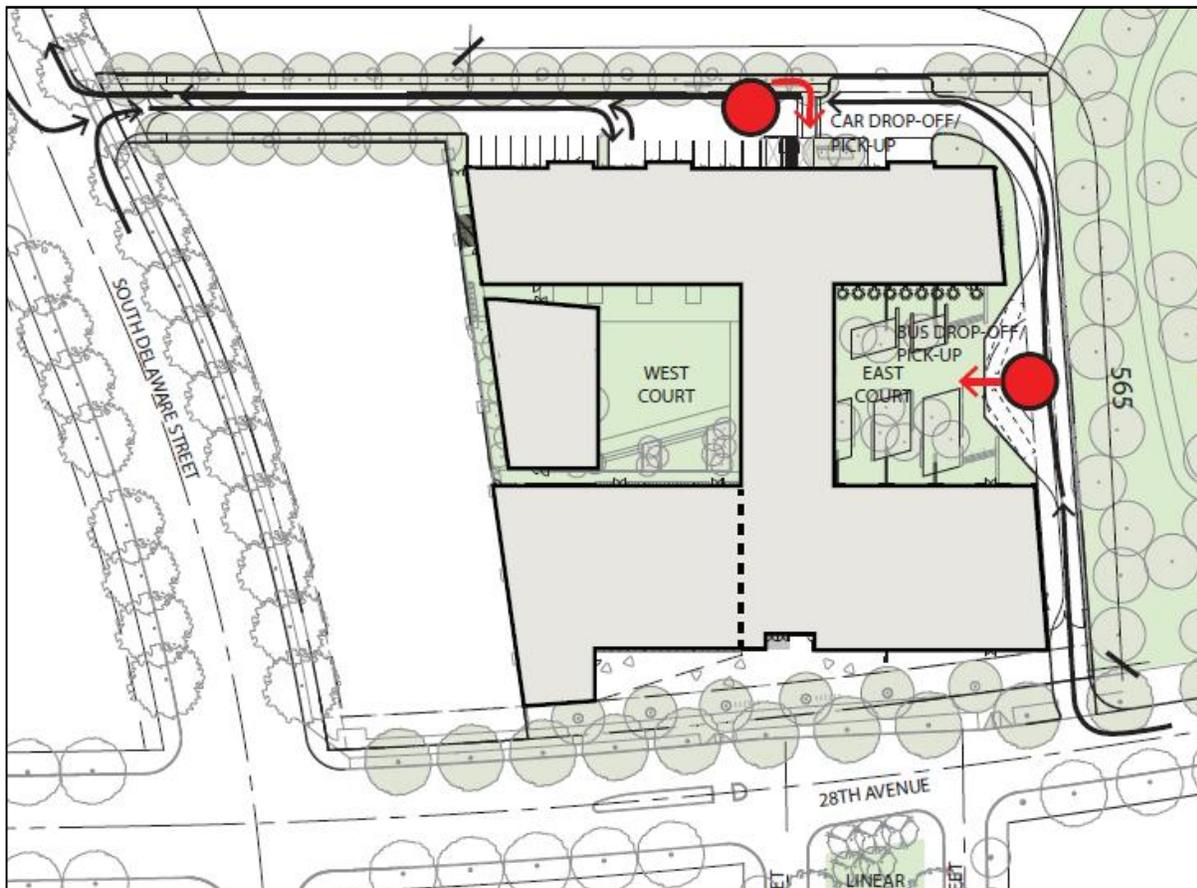
3.4 Queuing

As part of the Bay Meadows project, Nueva High School is required to determine if on-site traffic circulation can be managed without backups onto the local roadways. Although many students are planned to take a school bus or transit option, some students will be dropped off and picked up by parents or others. The on-site circulation has been designed to include a specified drop-off and pick-up area as well as provide queuing on-site for more than 500 feet for drop-off and pick-up. The curb area for students is 90 feet long to allow 4 vehicles to load students at a time.

Peak student arrivals will be supervised beginning at least 30 minutes before morning bell and peak student departures will be supervised until at least 30 minutes after afternoon bell to ensure orderly and compliant pick up / drop off via public transit, private bus, carpools, and other preferred transit options.

Figure 6 illustrates the circulation for the car line and location for drop off and pick up.

Figure 6 - Car Line Circulation and Drop Off/Pick Up



Source: Leddy Matum Stacy Architects



The AM peak and afternoon peak are when the greatest number of vehicles will arrive or depart from the school. Therefore, vehicle queuing will also be greatest during this same period and was evaluated as described below. (During the PM peak, traffic for the school is low so on-site queuing was not evaluated for that period.)

3.4.1 AM Peak Drop Off Queuing

The drop-off activities for vehicles during the AM peak period were evaluated to determine if queuing could be retained on-site. Although the drop off schedule will be staggered, a conservative evaluation was conducted assuming the AM peak hour traffic all arrived within 20 minutes rather than over a total 60 minute period. This approach is consistent with school drop-off periods where the concentrated peak usually lasts 15-30 minutes in duration. The evaluation also assumed that the drop off area can accommodate 4 vehicles at a time and that students will take an average of 15 seconds to exit the vehicle to the curb. Therefore, the drop off line capacity will be 16 vehicles per minute which exceeds the trips typically arriving at the site each minute. The result of the evaluation was that the vehicular drop-off queue is projected to be contained within the total 500 feet queuing distance available on-site.

3.4.2 Afternoon Peak Pick Up Queuing

The pick-up activities for vehicles during the afternoon peak period were evaluated to determine if queuing could be retained on-site. The afternoon pick up schedule will also be staggered. Nevertheless, a conservative evaluation was conducted assuming the afternoon school peak hour traffic all arrived within 25 minutes rather than over a total 60 minute period. This approach is consistent with school pick-up periods where the concentrated peak usually lasts 15-30 minutes in duration. The evaluation also assumed that the pick-up area can accommodate 8 vehicles at a time and that students will take an average of 30 seconds to enter the vehicle from the curb. Therefore, the pick-up line capacity will be 8 vehicles per minute. The result of the evaluation was that the vehicular drop-off queue is projected to be contained within the total 500 feet queuing distance available on-site.

It is recognized that some parents may wish to arrive ahead of the dismissal bell. Parents will be directed as part of the school's TDM plan, to not arrive early and queue in the car line. They will be directed to arrive at the 3:30 PM bell or later. However, if a parent happens to inadvertently arrive early, the car line has sufficient storage capacity (within the 500 feet) to accommodate 20-23 cars. Even under this scenario, queuing out onto 28th Avenue is not expected.

3.4.3 Bus Queuing

The school and its service provider CYO plan to operate eleven buses daily (five in the morning, four in the afternoon and two in the early evening) that will be used by students to travel to and from school. Routes are designed to promote safety, convenience and total transit times of approximately an hour or less.



In the morning, buses will be staged to arrive no more than two at a time in approximately ten minute increments, unloading in approximately five minutes, departing thereafter, and freeing the drop off zone for the next buses thereafter. All morning buses are scheduled to arrive by 8:20 AM before the 8:30 AM bell.

In the afternoon, buses will be staged no more than two at a time and depart in ten minute increments, loading in approximately five minutes, departing thereafter, and freeing the pickup zone for the next buses to arrive, stage, load and depart in a timely manner. Afternoon buses will depart beginning at 3:40 PM after the 3:30 PM bell dismissal with the last bus departing by 3:50 PM. Early evening buses serving students in after school activities arrive about 6 PM, stage and depart at 6:15 PM.

Unloading and loading times are based on 41 foot buses with a 56 student capacity. If 25 foot buses are used, unloading and loading times are approximately three minutes based on observations at the existing Nueva School.⁹

Buses will enter from 28th Avenue, unload / stage / load in one of two angled bus bays on the east side of the school, and depart via the South Delaware exit. Bus unload / stage / load areas are outside of the circulating lane which wraps around the school so that bus activities will not interfere with the car line or on-site circulation.

The vehicle circulating lane near the bus drop off area will be designed to direct vehicles drive to the far right of the roadway. This will be communicated through the use of signing, pavement striping and/or alternative paving materials. The additional separation of the buses and autos and will keep moving traffic away from the rear of the buses and allow for more space when buses back out of the stalls. All back out operations will be assisted by an on-site attendant to ensure parent autos do not conflict with the bus.

Based on the planned bus operation, queuing out onto 28th Avenue or interference of vehicle circulation is not expected.

3.5 Driveway and Intersection Operations

The school site will have two entries and one exit. The principal vehicular entry to the site from 28th Avenue will be right turn in only. This driveway is for parents dropping off or picking up students, Nueva's buses, and emergency, delivery and service vehicles. The exit from the site on Delaware Street will be right out only but will also allow right in and left in traffic for staff, faculty, and visitors accessing the school's on-site parking. The right in/out operation of the main entrance and separation of entry traffic disperses traffic loads and eliminates conflicts with other vehicles at intersections and driveways. Therefore, this configuration will have negligible effects on levels of service or queuing

⁹ Observations conducted June 2012.



for other traffic. The right in driveway from 28th Avenue also provides excellent sight visibility to cyclists or pedestrians who may be using the bike/pedestrian path along 28th Avenue. Additional signing, striping, and other measures will be implemented at the project driveways to reinforce the allowed movements and restrict prohibited left turns.

3.6 Parking Supply and Demand

3.6.1 Parking Supply

According to the City's Municipal Code, senior high schools must provide one parking space for every employee and 1 space per 6 students based on school capacity.

Nueva High School is unique compared to other high schools in San Mateo and does not necessarily fit the suburban model assumed in the Municipal Code. Nueva is a compact, multi-story design with limited parking for students and is located in Bay Meadows which offers high levels of access to Caltrain and other public transit.

As noted previously, the school will be constructed to accommodate up to 450 students and 60 faculty and staff. Typically a high school of this size would be expected to provide 135 on-site parking spaces per the Municipal Code. However the Code does not have a parking rate that applies for high schools within the specific plan area. Therefore, the typically required number of spaces was adjusted downward to reflect the Bay Meadows setting and multimodal access available to students, faculty and staff. The adjustment was assumed to be 15% for students and 12.7% for faculty/staff access to Caltrain and public transportation. **Table 4** summarizes the adjusted number of parking spaces that are assumed to be required at the school.



Table 4 - Required Parking Spaces at Nueva High School (adjusted for transit use)

	Units	Code Req'd Rate	Parking Required
Students	450	1 per 6 Students	75
Reduction for Caltrain/Public Transit ^[a]	15.0%		-11
Total Spaces Needed Based on Students			64
	Units	Code Req'd Rate	Parking Required
Faculty and Staff	60	1 per 1 Faculty/Staff	60
Reduction for Caltrain/Public Transit ^[b]	12.7%		-8
Total Spaces Needed based on Faculty/Staff			52
Total Spaces Nueva High School			116

Notes:

[a] Based on similar Caltrain use for Bellarmine High School, San Jose, CA.

[b] Calculated from Bay Meadows II Traffic Management Plan work trip transit mode share.

3.6.2 Daily Demand

Similar to trip generation, mode share can also be used to estimate site parking demand based on the number of students, faculty, staff, and visitors present at the site during peak times of the day.

Mode share parking generation is based on multiple factors including the number of persons on campus, time of day demand, use of alternate modes, and other factors. **Table 5** summarizes the demand based on mode share methodology. According to the table, 86 parking spaces are needed assuming that limited numbers (approximately 10%) of seniors and juniors are allowed to drive to school.

It should be noted that although approximately 21 students per day are expected to park on campus, this number is flexible. The site will provide 125 spaces with 60 dedicated for full and part time faculty and staff. Thus, the remaining 65 stalls will be available for visitors and students. While 33 parking spaces have been set aside for student use on a daily basis as approved exceptions to the No Student Driving Policy, if these spaces are not all used, the excess will remain open for visitors.



Table 5 – Parking Demand Based on Mode Share

	Number of Persons	Typ. Daily Attendance	Peak Parking Demand	Parking Spaces Provided	Time of Peak Demand	Comparison of Parking Generation Rates,		
						Ratio of Req'd Parking Per Student	Ratio of Proposed Supply Per Student	San Mateo Code Equivalent ^[d]
Students ^[a,b]	450	428	21	33	9:00 a.m. 3:00 p.m.	0.19	0.28	0.30
Faculty/Staff ^[b]	60	60	48	60	9:00 a.m. 3:00 p.m.			
Visitor Parking ^[c]	-	-	17	32	mid-morning			
Total	510	488	86	125		Spaces / Total Student Capacity		

Notes:

[a] This scenario reflects the school's proposed policy to restrict student parking.

[b] Refer to Table 3 in report and Mode Share Trip Generation for AM Peak in Appendix.

[c] Visitor parking demand estimated at 4% of students on campus.

[d] The City of San Mateo zoning code requires high school's to provide 1 space for every 6 students (based on capacity) and 1 space for every employee. The ratio of 0.30 spaces per student is the equivalent of the City's code for a 450 student high school with 60 employees.

It is noted that *Parking Generation*, published by the Institute of Transportation Engineer's is a standard reference typically used by jurisdictions throughout the country for the estimation of parking demand potential of proposed developments.¹⁰ However, *Parking Generation* does not have a category that directly applies to this type of school. Therefore, for reference purposes only, ITE parking data is included in the Appendix.

Because enrollment will ramp up over approximately 7 years, actual parking demand when the school initially opens will be lower than estimated.

On-site spaces will be dedicated for the use of faculty, staff, and visitors. Although no regular student parking will be provided, a maximum of 33 spaces will be available for students on a daily permit basis. Students with a special need such as having to drive because of an after school project, a parent that is unable to pick up for the day, medical/dental appointments, etc. can obtain from the administration office a permit that allows them to park in a designated space in the garage. All other students will still be expected to use other means to travel to school rather than driving their own vehicle.

An approximate breakdown of the parking assignments is as follows:

- Faculty and Staff – 60 spaces in garage.
- Students – 33 spaces in garage. This allocation provides parking for 10% of the senior class and junior class who are of age to drive.¹¹ Also includes flex spaces that can be used if additional students need to park.
- Visitors – 27 spaces outside and inside garage.
- Accessible – 4 spaces inside garage and 1 outside garage.

¹⁰ *Parking Generation 4th Edition*, Institute of Transportation Engineers, 2010.

¹¹ Assumed students of driving age include all senior class and junior class.



Faculty and staff will be assigned to tandem spaces and other stalls nearest the garage elevator and stairs. Students will be assigned low-turnover spaces located in the south portion of the garage. Visitors will be allowed to park in easy to reach garage spaces and spaces outside the garage to minimize back out conditions for visitors. There will also be a Coordinator on site who will coordinate special events.

The school will develop detailed policies and procedures for the use of tandem spaces for faculty and staff. Faculty and staff will be paired and assigned to tandem spaces in the garage. Parking stall assignments will be based on work schedules and keys will be placed in lock boxes at each tandem space in case a vehicle needs to be moved by one of the stall partners. This arrangement will consolidate the spaces used by faculty/staff and maximize the number of other available spaces.

Although Nueva High School will provide sufficient on-site parking, there may be some students who attempt to drive and park on the street or in lots owned by others. See the TDM section of this report regarding policies, procedures, and enforcement strategies proposed by Nueva to eliminate the potential for unauthorized parking by students. In addition, nearby on-street parking spaces will be time restricted and enforced by the City which will also discourage unauthorized off-site student parking.

3.6.3 Special Event Parking

Occasional large special events, including performing arts or cultural productions, graduation, and educational conferences, may require additional off-site parking. Nueva is finalizing long-term lease arrangements with adjacent premises.

A list of the anticipated events follows in order from largest to smallest number of attendees:

Common Ground Speaker Presentation

Performing Arts Presentation

Location — courtyard, amphitheater, gymnasium, and/or theater

Time of Year — spring

Day / Time — 1 production presented up to 3 weekday / weekend days in a row, afternoon / evening

Attendees — up to 450 comprised of 200 students, 200 parents, 25 faculty / staff, and 25 guests

Graduation

Location — courtyard, amphitheater, gymnasium, and/or theater

Time of Year — June

Day / Time — weekend after the last day of school, afternoon / evening

Attendees — up to 450 comprised of 200 parents, 150 students, 50 faculty / staff, and 50 guests



Back-to-School Night

Location — courtyard, amphitheater, gymnasium, classrooms, student center, and/or theater

Time of Year — as much as once in the fall and spring

Day / Time — weekday, afternoon / evening

Attendees — up to 400 comprised of 350 parents and 50 faculty / staff

Culmination Presentations

Location — throughout the school facilities and grounds, theater

Time of Year — spring Day / Time — up to 4 weekday or weekend days, 1 per grade level, afternoon and evening

Attendees — up to 300 comprised of 125 students, 125 parents, 25 faculty / staff, and 25 guests

Parking demand for the above special events was calculated and summarized in **Table 6**.

Table 6 – Special Event Parking Demand

Special Event	Time of Day	Attending Event ^[d]				Total Persons	Vehicles				Total Vehicles	Parking Demand Above On-Site Capacity ^[h]
		Students	Parents	Faculty/ Staff	Guest/ Visitors		Students	Parents ^[e]	Faculty/ Staff ^[f]	Guest/ Visitors ^[g]		
Performing Arts Presentation ^[b]	Afternoon/ Evening	200	200	25	25	450	50	154	21	25	250	125
Graduation ^[c]	Afternoon/ Evening	150	200	50	50	450	150	154	41	50	395	270
Back-to-School Night	Afternoon/ Evening	0	350	50	0	400	0	270	41	0	311	186
Culmination Presentations ^[a]	Afternoon/ Evening	125	125	25	25	300	13	97	21	25	156	31

Notes:

- [a] Assumes that student parking will be limited to 10% for this event
- [b] Assumes that 25% of students may need to arrive early and will drive separately
- [c] Assumed that all students may need to arrive early and will drive separately
- [d] During special events listed, no other students, faculty/staff, or visitors are on site
- [e] Assumes a typical vehicle occupancy of 1.3 in parent vehicles
- [f] Faculty/staff parking demand adjusted to account for use of alternative modes
- [g] Assumes a typical vehicle occupancy of 1.0 for guest/visitor vehicles
- [h] On-site parking capacity up to 125 spaces.

As shown in the table, none of the five large events can be completely parked in the available 125 spaces at the high school campus. Therefore, Nueva is finalizing a special event parking arrangement with a neighboring facility for up to 400 additional parking spaces subject to coordination of specific date availability. Special events will be conducted in coordination with the availability of these, and / or comparable, parking spaces.

The combination of 125 on-site parking spaces and offsite spaces will accommodate all contemplated special events. Special events will be scheduled, staffed, sized, and parked under the direction of school administration in conjunction with the commute, transportation, and parking coordinator and school safety and security personnel to



ensure compliance with on-site and off-site parking availability and traffic requirements at Bay Meadows, and will be rescheduled, downsized, relocated, or cancelled, as required.

These are approximations and may need to be adjusted based upon observations once the school is open.

3.6.4 Other Parking Demand

Other parking demands will occur from time to time. These include for recycling and trash vehicles, shipping and delivery vans, and visiting buses from other schools.

Recycling and trash bins will be kept in enclosed corrals at the back of the school. Near the bins is an area where trucks can pull to the side of the circulating drive and load the bins for dumping. The trucks are only at the school a few minutes and then leave via the Delaware Street exit. The school will coordinate arrivals by trash vehicles to occur outside of the morning and afternoon bell schedule.

Shipping and delivery vans have two loading spaces at the rear of the school near the trash bins. Delivery vans and trucks can park in the spaces outside of the circulating drive and leave via the Delaware Street exit.

Visiting school buses such as for sporting events are accommodated on site and will use the loading area designated for the large Nueva buses. Arrivals for visiting buses will be coordinated to occur outside of the time when they are needed for Nueva buses. If more bus parking is needed for a large event, arrangements will be made to park vehicles at a nearby off-site lot.

3.7 Transportation Demand Management

Maintaining trip generation below the maximum block trip budget and limiting parking demand below the 125 on-site spaces are reinforced by a strong TDM program proposed by Nueva High School.

The plan is comprised of four major elements:

1. Policies and Procedures
2. Education
3. Incentives
4. Monitoring and Enforcement

3.7.1 Policies and Procedures

The school's trustees, parent/student representatives, and select faculty and staff, will draft, refine, and adopt the school's policies related to student, staff and faculty transportation to the Bay Meadows site and on-site / off-site daily and event parking. They will also develop and adopt "Rules of Access" for student access, parent drop-off and pick-up, event management, and staff and faculty access; develop communication material for each user of the school's facilities, as well as determine penalties for violation of the rules, and, develop, evaluate and prioritize a menu of services, subsidies, incentives, and/or costs that may be offered to parents/students, and faculty and staff. The school will also develop procedures for the use of the tandem spaces in the parking garage.

The school will also confirm their commitment to the San Mateo Rail Corridor Transportation Management Association (TMA) as mandated in the Bay Meadow's approval conditions. The TMA will manage a series of demand management services and program available to all members.

3.7.2 Education

Education focuses on awareness and communications to reduce drive-alone trips to the school by parents and faculty. This includes implementing the following TDM measures:

- **Transportation and Parking Policy Materials** – Prepare materials for students, parents, faculty and staff. Materials would include:
 - "Transportation and Parking Policy Fact Sheet" for new and returning students and their parents.
 - General overview of the school's requirements (and internal policies) as a member of the Bay Meadows Transit-Oriented-Development (TOD) community.



- Brief description of the benefits of being located within a TOD, linking the benefits to the school's sustainability and environmental stewardship policies.
- Summary of school transportation options available to students, faculty and staff.
- Outline the various internal transportation assistance and incentive programs the school offers.
- Reference other important policies and sources of information.
- Provide rules of access for dropping off and picking up students on-site by automobile.
- Link to the school's Commute Options website.
- A map of "How to Access Nueva School by Public Transportation" from each region of the Bay Area, including where to park or drop-off/pick-up, schedule of service, transfers, and approximate travel times. This includes educating drivers about the right-in / right-out only conditions at the site.
- Link to the local Transportation Management Association's website and programs offered to members.
- Prepare a comprehensive version of the above information and provide in "booklet" format or include in the school's customary student information package.
- Require student and parent "agreement" that they understand, and will abide by, the requirements and programs presented in the school's Transportation and Parking Policies.
- **Student and Parent Awareness and Communication Program** – Information will be provided to parents on commute options, pick-up and drop-off procedures, on-site circulation, and visitor parking. Students are advised that they are not permitted to bring a vehicle to school unless they have an assigned on-site parking space (i.e. daily permit). Students and parents will be required to sign a pledge (i.e. agreement) that they will not bring vehicles to school campus and park on the street or nearby locations (without authorization).
- **Faculty and Staff Awareness and Communication Program** – Information will be provided to faculty and staff on commute options, on-site circulation, and employee parking. Faculty and staff are advised that they are not permitted to bring a vehicle to school unless they have an assigned parking space. Spaces will be on-site. Faculty willing to carpool will be given greater priority for available spaces. Faculty and staff may be asked to sign a pledge that they will not bring vehicles to campus and park on the street or nearby locations (without authorization).
- **On-Site Commute Coordinator** – The school will have a Commute Options Assistance Office staffed by a commute, transportation, and parking coordinator who will oversee all programs and practices including staffing, communications, and enforcement, and will work with designated faculty, staff, students, and contractors. The scope of ongoing monitoring and enforcement will include shared transportation programs, promotion, and actual usage; pick-up and drop-off; specifically assigned faculty and staff parking permits; single-day, exception-



based, student-use permits; visitor traffic; management of tandem and alternative-energy parking spaces; and the annual commute, transportation, and parking survey to ensure achievement and maintenance of our school and city commute, traffic, and parking commitments and goals.

3.7.3 Incentives

Nueva will offer a combination of incentives to encourage students, parents, faculty and staff to avoid driving alone to the school. Incentives include the following:

- **Continuation of Nueva Buses** – Continue to operate the program to achieve at least 25% of the students using the system. Users of the bus program pay costs for operation. (See Appendix D for additional information on Nueva Bus routes.)
- **Caltrain Go Pass for Students, Faculty and Staff** – Provide an annual transit “Go Pass” for teachers and students, the cost of which is included in the tuition or as part of compensation (the school may negotiate a substantial discount on passes and pass the savings onto the students). The Go Pass allows unlimited use of Caltrain. This program may be substituted with various levels of subsidy rather than including the cost of the pass in tuition or compensation. The substitution would be made if it offered a better value but with the same levels of effectiveness. Similar passes for SamTrans are not planned since only limited numbers of Nueva students are expected to utilize the service.
- **Ride Matching Services** – Develop and promote the current carpool practices into a formal transportation “ride-match” program that identifies students residing nearby and how they can carpool or take transit as a group, or bike and walk together if residing locally. The school will work to match experienced transit and bike commuters with new alternative transportation commuters. Experienced commuters will be encouraged to assist new commuters in planning their transit and bicycle routes, how to make connections, tips on parking, gear, reading transit schedules, etc.
- **Guaranteed Ride Home** – Joint the Transportation Alliance Guaranteed Ride Home program for students and faculty. In the event of an emergency, a free taxi or rental car can be provided to get home for those who used transit to get to work. (This service may be included with membership in the Bay Meadows Transportation Management Association (TMA).)
- **Secure Bicycle Parking** – Sixty-two secure bicycle parking spaces will be provided for students, faculty and visitors. More than half will be long-term spaces in a room located at the SE corner of the building and the remaining will be near the main lobby and the theater lobby doors along 28th Avenue.
- **Showers and Changing Areas** – Showers and changing areas will be provided for faculty, staff, and students who walk or bicycle.
- **No On-Site Student Parking without Permit** – Limit on-site parking to faculty, staff and visitors. Students with a special need such as having to drive because of an after school project, a parent that is unable to pick up for the day, medical/dental appointments, etc. can obtain from the administration office a



permit that allows them to park in a designated space in the garage. All other students will still be expected to use other means to travel to school rather than driving their own vehicle.

3.7.4 Monitoring and Enforcement

To ensure compliance with trip budget and parking limits, as well as being a good neighbor, the school will regularly monitor commute patterns, enforce violations, and make adjustments to the TDM program if failing to meet the traffic and parking metrics. Nueva High School is committed to the following:

- **Annual Survey of Commute Patterns** – The school will survey incoming students/parents (all grades) on planned travel mode, to gauge the need for necessary measures to accommodate the upcoming school year.
- **Annual Survey of Nueva’s Trip Generation and Parking Demand** – Traffic counts will be conducted annually at the project driveways and near the school to quantify school trip generation and verify the school is operating below the Trip Budget. Parking demand will be counted on-site, at leased off-site school lots (used for special events), and in the general school vicinity to determine total parking demand by students, faculty, staff, and visitors, and whether adjustments are needed to the school’s parking supply. Traffic and parking counts will be annually collected in May when the driving demand is typically at it greatest for the school. The Coordinator will also monitor parking demand for major school events to confirm that adequate parking is available off-site. The Coordinator will make adjustments to TDM program prior to the start of the next school year if needed to reduce trips to the site.
- **Daily Monitoring of Drop Off and Pick-Up Process** – At the start of the school year and following winter break (for about 2 weeks), the Coordinator and designated faculty/staff will daily monitor the drop off and pick up process at the school to confirm that it is carried out in an orderly fashion, that queuing is contained on-site, and that arriving and departing traffic is following the recommend rules of access. Periodic monitoring will continue thereafter to maintain compliance.
- **License Plate Database for Enforcement** – The school during the annual enrollment process will obtain the license plate numbers of all vehicles owned by the student’s family. The information will be kept in a database for use by the Coordinator during enforcement activities.
- **Daily Monitoring for Parking Violators** – At the start of the school year and following winter break (for about 2 weeks), the Commute coordinator will daily monitor nearby streets and lots to check if students are parking off-site in unauthorized locations. Periodic monitoring will continue thereafter to maintain compliance. The Coordinator will have license plate data to verify if unauthorized parking by students is occurring. The Coordinator will meet with students and parents to resolve problems.



- **Collaboration With Nearby Businesses** – The Coordinator will collaborate with nearby businesses to confirm that students are not parking in nearby business lots. The businesses will be given the phone number and email of the Coordinator and will be asked to call if they suspect unauthorized parking by students.
- **Annual Adjustments to Policies, Procedures, and TDM program** (as needed) – The Coordinator will work with school administrators to make adjustments to the policies, procedures and TDM program to keep trip generation below 95 trips and parking contained in authorized parking lots. Adjustments will be completed and communicated prior to the start of the next school year if needed to reduce trips to the site. It is assumed that the TMP will evolve as Nueva High School becomes established in Bay Meadows and as the school’s administrators learn which measures work best for their employees, their students, and their student’s families.



APPENDIX



Appendix A - Relevant Conditions of Approval Draft PA 02-105 Bay Meadows Phase II Specific Plan Amendment Revised as of October 21, 2005 (City Council Resolution No. 111-2005)

40. TRANSPORTATION DEMAND MANAGEMENT (TDM) PROGRAM. A Transportation Demand Management Program shall be implemented using a selection of programs from the Corridor Plan and the City/County Association of Governments- (C/CAG). These programs, once implemented, must be on-going for the occupied life of the development, unless they are altered, exchanged or discontinued in consultation with the City. The trip budget and monitoring plan shall be determined or each Block at the SPAR phase for development on the Block.

The project shall have the following trip thresholds, applicable as specified below, to meet TDM trip reduction goals and EIR mitigation measures (note that references to an "amount of development" in this condition refers to the amount of development as calculated by square footage for commercial uses and housing units for residential use:

- A. *Pre-Grade Separations: No building permit shall be issued which would individually or cumulatively permit an amount of development that would generate traffic in excess of 1,562 trips unless and until the Peninsula Corridor Joint Powers Board has commenced construction of grade separated crossings at either or both of 8th and 31st Avenues. **Mitigation Measure Traffic-BM18*

- B. Short-term trip reduction: Until the later to occur of (i) completion and occupancy of at least 50% of the collective amount of development approved for the first three Blocks to be developed, and (ii) the completion of grade separated crossings either or both of 28th and 31st Avenues; in addition to the overall project trip limits specified in paragraph A of this condition (if applicable), the project shall have a trip reduction goal of 10% off the total PM peak hour trip generation calculated using the methodology in the FEIR (excluding reductions for mixed-use internalization or transit-oriented development), as determined during the SPAR approval process for each Block.

- C. Mid-term trip reduction: From and after (i) completion and occupancy of at least 50% of the collective amount of development approved for the first three Blocks to be developed, and (ii) the completion of grade separated crossings at either or both of 28th and 31st Avenues, the project (including Blocks previously approved with a 10% goal) shall have a trip reduction goal of 16% off the total PM peak hour trip generation calculated using the methodology in the FEIR (excluding reductions for mixed-use internalization or transit-oriented development), as determined during the SPAR approval process for each Block. The total mid-term project trip generation cannot exceed 2,878 trips (84% of 3,426).



- D. Long-term trip reduction: From and after the later to occur of (i) the approval of a SPAR for each Block in the project, (ii) completion and occupancy of 75% of the collective amount of development approved for each Block in the Station/Mixed Use Parcel (as shown in the Specific Plan Amendment), (iii) completion and occupancy of 75% of the collective amount of development approved for each Block in the Residential Parcel (as shown in the Specific Plan Amendment), and (iv) the completion of grade separated crossings at either or both of 28th and 31st Avenues, the project (including Blocks previously approved with a 10% or 16% goal) shall have a trip reduction goal of 25%. Therefore, when fully built out; the project shall generate no more than 2,569 PM peak hour trips (75% of 3,426 (the total number of trips assumed in the FEIR excluding reductions for mixed-use internalization or transit-oriented development), was 3,426 trips)). Even if an individual Block generates trips in excess of its TDM reduction goals, so long as the project does not generate more than 2,569 PM peak hour trips, then the project will be in compliance with the trip reduction requirements of these conditions of approval. The aggregate project trips shall in all events be determined by excluding any trips attributable to the parking structure to be constructed by the Peninsula Corridor Joint Powers Board at the new Hillsdale Caltrain station. (PUBLIC WORKS, PLANNING)

41. *TRIP BUDGET DETERMINATION- The City will keep a running tabulation of the trips projected to be generated by the project, and individual Blocks, and no development beyond the applicable trip budget for their project shall be permitted. To ensure that the project does not exceed the applicable trip budgets in effect at any particular time, any SPAR application must include a traffic study projecting the number of trips to be generated by the proposed development (a) at the time of Certificate of Occupancy will be issued for the development covered by the SPAR ("Occupancy Projection"), and (b) at the time of full build out of the Specific Plan Amendment ("Build Out Projection."), and the TDM measures proposed to be utilized for each scenario. Such traffic study must demonstrate that the Occupancy Projection meets the applicable trip budget and the Build-Out Projection would not cause project traffic to exceed 2,569 PM peak hour trips. If the owner demonstrates that the actual trips generated by the project are fewer than those projected through the traffic studies submitted with any SPAR application, then the running tabulation of trips shall be reduced accordingly to reflect the actual trip generation for the project, and additional development (up to the relevant threshold limit) shall be permitted. This condition shall be implemented prior to each SPAR approval. The analysis shall be submitted with each SPAR application and monitored by the Public Works Department. (PUBLIC WORKS) *Mitigation Measure Traffic and Circulation- BM18.

42. TRANSPORTATION MANAGEMENT ASSOCIATION (TMA). A TMA has been established for projects in the Corridor Plan area. All development within the Specific Plan Amendment area is required to participate in the TMA and fund their fair share of the cost of the TMA. The TMA will develop TDM measures and make them available to both existing



and future development within the Corridor Plan area, including Bay Meadows. (PUBLIC WORKS).

43. *TDM MONITORING. The short-term, mid-term, and long-term trip reduction goals shall be monitored and verified by the City or TMA and shall comply with the following:

- A. Commencing from the time that the City's running tabulation of trips shows that Bay Meadows. is generating more than 1,100 trips, the City will monitor the trips generated by Bay Meadows annually to determine whether the project is meeting its trip reduction requirements. The TDM requirements shall be included in the CC&Rs recorded against the project site. The City may require employee, resident, parking or other surveys to gain a better understanding of travel behavior for residents and workers within the Specific Plan area.
- B. Prior to monitoring, the City or TMA shall agree with the owner as to a scope of work for the review. The applicant or property owner shall be notified of the fees and a deposit shall be collected with 30 days of notification.



Appendix B – Mode Share AM Peak Trip Generation

Mode of Travel	Person Trips by Mode in AM Peak Hour					Vehicle Trips Ends ^[a]		
	Mode Share		Students	Faculty/Staff	Total	Students	Staff	Total
	% Students	% Faculty/Staff	428	60	488			
Nueva Bus ^[e]	15.0%	0.0%	64	0	64	8	0	8
Caltrain/Public Transit ^[d]	15.0%	12.7%	64	8	72	0	0	0
Carpool Drivers ^[b]	0.0%	15.2%	0	5	5	0	5	5
Carpool Passengers	0.0%	0.0%	0	5	5	0	0	0
Walk/Bike	0.0%	0.0%	0	0	0	0	0	0
Drive Alone ^[c]	5.0%	72.1%	21	43	65	21	43	65
Parent Drives ^[a]	65.0%	0.0%	278	0	278	501	0	501
Total	100.0%	100.0%	428	60	488	530	48	578

Notes: Totals may differ slightly due to rounding.

[a] Vehicle trip ends for parents equal person trips multiplied by two (2), representing the inbound and outbound trip ends. All other vehicle trip ends are inbound only (except Nueva Bus). The vehicle trip end calculation assumes 10% of the departing students are siblings or non-siblings and depart in the same vehicle. Bus trips are multiplied by two (2) because buses arrive and depart during the peak hour.

[b] Source of work based carpool mode share: average mode share of workers residing in San Francisco (13.4%) and San Mateo (16.9%) from the Metropolitan Transportation Commission's 2000 Household Travel Survey. Staff carpool mode share is assumed at 2 persons / vehicle including the driver.

[c] The student drive alone mode share assumes a maximum of 10% of students with licenses (seniors and juniors) may drive and 0% of the sophomore and freshman may drive. Therefore the average rate for the student population is 5%.

[d] Student Caltrain/Transit mode share based on Bellarmine High School which also has 15% of students using Caltrain. Staff mode share of 12.7% is based on the Bay Meadows II Traffic Management Plan's transit reduction for work trips.

[e] Current Nueva bus use at Hillsborough campus is 25% of the school population based on Fehr & Peers Associates, Inc. data. Nueva bus use conservatively assumed to be 15% for this study.



Appendix C - ITE Trip Generation

A trip is defined in *Trip Generation* as a single or one-directional vehicle movement with either the origin or destination at the project site. In other words, a trip can be either “to” or “from” the site. Specifically, a single visit to a site is counted as two trips (i.e., one to and one from the site).

According to ITE, the high school will generate three traffic peaks during the course of a typical school day. They are:

1. AM Peak (8-9 AM) – Includes faculty and staff arriving to park on site and parents dropping off students. Anticipated morning bell is approximately 8:30 AM.
2. Afternoon Peak (3-4 PM) – Includes parents picking up students and faculty and staff leaving. Anticipated afternoon bell is approximately 3:30 PM.
3. Evening Peak (4-6 PM) – Includes a relatively small number of students who have stayed later for afterschool sports or other activities and are being picked up by a parent. Also includes the remaining faculty and staff. Only this period is subject to the trip maximum when school traffic and the peak of “adjacent street traffic” contribute to the greatest amount of congestion for Bay Meadows. Some of these trips could occur after the 6 PM peak but for purposes of the calculation are all assumed to occur between 4 PM and 6 PM.

As described in *Trip Generation*, “high schools serve students who have completed middle or junior high school. Both public and private high schools are included in this land use.” It should be noted that ITE *Trip Generation* data is primarily comprised of field surveys at suburban locations that have limited access to transit and other non-auto modes of transportation. At these suburban locations, most students drive to school. Some may walk or bicycle.

Table C1 summarizes ITE trip generation for high schools during the AM, afternoon, and PM peak periods of the day.

According to ITE, a typical suburban high school with 450 students is expected to generate 189 AM trips, 131 afternoon trips, and 59 PM trips.

PM peak trips for Nueva High School are also significantly less than if the site were developed as 187 residential units (see **Table 1**).



Table C1 – Project Trip Generation Based in ITE Rates

AM During Commute Peak							
ITE Code	Land Use Description	Independent Variable	No. of Units	Average AM Rate ⁽¹⁾	AM Trips	AM Trips In	AM Trips Out
530	High School	Students	450	0.42	189	129	60
Afternoon Off-Peak							
ITE Code	Land Use Description	Independent Variable	No. of Units	Average Afternoon Rate ⁽²⁾	Afternoon Trips	Afternoon In	Afternoon Out
530	High School	Students	450	0.29	131	62	69
PM During Commute Peak							
ITE Code	Land Use Description	Independent Variable	No. of Units	Average PM Rate ⁽³⁾	PM Trips	PM Trips In	PM Trips Out
530	High School	Students	450	0.13	59	19	40

Notes:

- (1) ITE Trip Generation, Land Use 530, AM Peak Hour of Adjacent Street Traffic and Generator.
- (2) ITE Trip Generation, Land Use 530, PM Peak Hour of Generator.
- (3) ITE Trip Generation, Land Use 530, PM Peak Hour of Adjacent Street Traffic.



Appendix D - ITE Parking Generation

Parking demand was calculated using suburban high school rates from ITE *Parking Generation*.¹² Unlike Nueva High School, the suburban locations surveyed in *Parking Generation* have limited access to transit and other non-auto modes of transportation. The suburban ITE rate was therefore adjusted to account for the expected reduction associated with Caltrain/public transit and the schools robust transportation demand management measures to arrive at an expected parking demand. Demand is calculated based on the number of enrolled students. **Table D1** summarizes the expected parking demand based on an adjusted suburban parking rate.

Table D1- Parking Demand Based on Suburban High School

Daily Parking Demand Based on Suburban High School								
ITE Code	Land Use Description	Independent Variable	No. of Units	Day of Week	Average Rate	85th Percentile	Average Demand	85th Percentile Demand
530	High School (urban)	Student(s)	450	Weekday	0.23	0.25	104	113
<i>Reduction for Caltrain/Transit at 15%^(a)</i>							-16	-17
<i>Reduction for Nueva Bus at 15%^(b)</i>							-16	-17
Net Expected Parking Demand							72	79

Notes:

(a) Reduction consistent with percentage of students using Caltrain at Bellarmine High School

(b) Conservatively assumed at 15%. Current actual at Nueva is 25%.

As seen in the table, parking demand ranges from 72 to 79 spaces which well below the number of spaces proposed by Nueva High School.

¹² Suburban parking demand rates are based from studies in California, Oregon, and Illinois. California locations included Campbell, Seaside, Watsonville, and Goleta. The average parking spaces provided at the all schools surveyed was 0.5 spaces per student; however, the observed 85th percentile demand was only half the number of spaces provided.



Appendix E - Nueva Bus Routes

North - San Francisco Routes

Morning East Route

Location	Time
William de Avila School (Waller & Masonic)	7:25 AM
James Lick Middle School (1220 Noe Street)	7:40 AM
Flynn Elementary School (3125 Cesar Chavez)	7:55 AM
Nueva School	8:20 AM

Morning West Route

Location	Time
Presidio & Sacramento (near Muni stop next to Jewish Community Center)	7:20 AM
Lake & Funston	7:30 AM
Ocean & Junipero Serra (little Junipero Serra between Stonecrest and Winston)	7:50 AM
Nueva School	8:20 AM

Afternoon East Route

Location	Time
Nueva School	3:40 PM
Flynn Elementary School (3125 Cesar Chavez)	4:05 PM
James Lick Middle School (1220 Noe Street, in front of school building)	4:20 PM
William de Avila School (Waller & Masonic)	4:35 PM

Afternoon West Route

Location	Time
Nueva School	3:40 PM
Ocean & Junipero Serra (little Junipero Serra between Stonecrest and Winston)	4:10 PM
Lake & Funston	4:30 PM
Presidio & Sacramento (near Muni stop next to Jewish Community Center)	4:40 PM

Evening

Location	Time
Nueva School	6:15 PM
Ocean & Junipero Serra (little Junipero Serra between Stonecrest and Winston)	6:50 PM
James Lick Middle School (1220 Noe Street)	7:05 PM
William de Avila School (Waller & Masonic)	7:20 PM
O'Farrell Street and Masonic (stops on O'Farrell Street)	7:25 PM



South - Peninsula Routes

Morning Route 1

Location	Time
611 S. El Monte, Los Altos (St. Williams Church)	7:20 AM
Whiskey Hill Rd. & Woodside Rd. (Town Hall Center, behind Pioneer)	7:40 AM
280 & Edgewood (corner of Canada and Edgewood Rds.)	7:50 AM
The Nueva School	8:10 AM

Morning Route 2

Location	Time
Jerry Bowden Park (N. California St. at Alma)	7:25 AM
Safeway parking lot in Sharon Heights Shopping Center	7:45 AM
Nueva School	8:10 AM

Morning Route 3

Location	Time
El Camino Real at Quarry Road (Stanford Shopping Center)	7:30 AM
Lawler Ranch Road (west of I-280 at Sand Hill Rd. and Lawler Ranch Rd., parking strip)	7:50 AM
Nueva School	8:15 AM

Afternoon Route 1

Location	Time
Nueva School	3:50 PM
280 & Edgewood (corner of Canada and Edgewood Rds.)	4:10 PM
Whiskey Hill Rd. & Woodside Rd. (Town Hall Center, behind Pioneer)	4:20 PM
Lawler Ranch Road (west of I-280 at Sand Hill Rd. and Lawler Ranch Rd., parking strip)	4:30 PM
611 S. El Monte, Los Altos (St. Williams Church)	4:50 PM

Afternoon Route 2

Location	Time
Nueva School	3:50 PM
Safeway parking lot in Sharon Heights Shopping Center	4:15 PM
El Camino Real at Quarry Road (Stanford Shopping Center)	4:30 PM
Jerry Bowden Park (N. California St. at Alma)	4:45 PM

Evening

Location	Time
Nueva School	6:15 PM
280 & Edgewood (southeast corner of Canada and Edgewood Rds.)	6:40 PM
Lawler Ranch Road (west of I-280 at Sand Hill Rd. and Lawler Ranch Rd., parking strip)	6:50 PM
Safeway parking lot in Sharon Heights Shopping Center	6:55 PM
Jerry Bowden Park (N. California St. at Alma)	7:15 PM



Appendix F – Drop Off and Pick Up Calculations

Assumptions:

Drop-Off

15 sec dwell
16 veh / min Capacity

Demand

AM -

258 veh

Assumes that parents and buses use the 28th driveway. Others use Delaware.

Total Arrival Time

20 min

Arrival Rate

12.90 veh / min

Unserved Rate (Arrival - Departure)

-3.10 veh / min

Queue:

0 veh

0 feet

Pick-Up

30 sec dwell
8 veh / min Capacity

PM -

184 veh

Assumes that parents and buses use the 28th driveway. Others use Delaware.

Total Arrival Time

25 min

Arrival Rate

7.36 veh / min

Unserved Rate (Arrival - Departure)

-0.64 veh / min

Queue:

0 veh

0 feet

Queue Storage:

500 feet
25 feet / veh

**Attachment 3: Nueva High School Consistency with
Rail Corridor Development Plan and Bay Meadows
[Hexagon Transportation Consultants, Inc., dated
October 19, 2012]**



October 19, 2012

Ms. Darcy Forsell
City of San Mateo
330 W. 20th Avenue
San Mateo, CA 94403

Re: Nueva High School Consistency with *Rail Corridor Development Plan and Bay Meadows Specific Plan EIR*

Dear Ms. Forsell:

Nueva High School is being proposed on a site that is part of the Bay Meadows Specific Plan. An EIR was prepared for the specific plan and the Rail Corridor Development Plan in 2004 ("Rail Corridor Plan EIR"). Development in the Bay Meadows Specific Plan area is covered by the 2004 EIR provided the proposed development is consistent with the EIR project description. The project description for the EIR did not include a high school. However, the number of trips generated by the high school in conjunction with the current program for development of Bay Meadows II fall within the range that was analyzed in the EIR. Also, transportation conditions have not changed in the area since the 2004 EIR. Therefore, it can be concluded that the Nueva High School proposal is covered by the 2004 EIR. More detailed analysis and explanation follows.

San Mateo Rail Corridor Plan

The Rail Corridor Plan was adopted by the City Council in June 2005. This plan is intended to allow, encourage, and provide guidance for the creation of world class transit-oriented development (TOD) within a half-mile radius of the Hillsdale and Hayward Park Caltrain station areas, while maintaining and improving the quality of life for those who already live and work in the area.

The plan includes transit supportive policies, land uses, development densities, height standards, and design guidelines. Bringing these together are two special TOD zones located within the larger plan area, as shown in Figure 8. The TOD zones include sites where redevelopment could occur, within approximately one-half mile of both stations. The plan also includes goals and policies to improve the street system and pedestrian friendliness for other places within the plan area, not in TOD zones, where existing uses may remain, and existing zoning and development standards are retained.

Implementation of the Corridor Plan and resultant development is intended to bring several long-term benefits to the City of San Mateo, including the following:

- Improved access to Caltrain stations for pedestrians, bicycles, autos, and buses, enhancing transit's attractiveness to residents throughout the City.
- New development near the stations will be consistent with goals, objectives and policies adopted by the City of San Mateo specially tailored for the TOD area.
- Higher-density housing recommended near the two stations will add to the City's housing stock and help alleviate some of the pressures present throughout the Bay Area for affordable and market rate housing.
- The potential to create class "A" office space in close proximity of the stations will help San Mateo maintain its stature as an attractive employment center in the Bay Area by retaining existing and attracting new employers.
- Recommended improvements to the City's street network will add roadway connections, improving mobility throughout the plan area, contributing to the completion of the city-wide street network.
- The City's park system would be enhanced with the creation of a large civic park and smaller neighborhood parks in the plan area.



The concepts in this plan were shaped through a collaborative planning process including input from a Citizen Advisory Committee (CAC) representing local land owners, residents, and businesses, City staff, and public agencies staff. It reflects a vision shaped by a common desire to create world class transit oriented development, and is informed by property ownership patterns, technical, market, and urban design considerations.

Rail Corridor Plan Environmental Impact Report

An Environmental Impact Report (EIR) was prepared to identify impacts that could potentially be generated by adoption and implementation of the City’s Rail Corridor Plan. The EIR evaluated the Rail Corridor Plan and the traffic impacts generated by “cumulative” development, which includes all projected growth in the City and the region (including the Corridor Plan) for the year 2020. Subsequently, additional analysis has been prepared as part of the City of San Mateo General Plan (2009) to evaluate projected growth up to the year 2030.

Land Use Assumptions

As part of the Rail Corridor Plan process, two land use alternatives were developed representing low-end (Scenario A) and high-end (Scenario Z) development scenarios that could occur under the proposed policies of the Corridor Plan. These scenarios were developed by the Rail Corridor Citizens Advisory Committee.

This Citizens Advisory Committee (CAC) was appointed by Council to provide public input to staff and consultants in evaluating land use and transportation alternatives. The 17-member committee was comprised of a number of local residents and area business and property owners/managers.

While the Corridor Plan proposes specific heights and densities, the EIR assessed the potential impacts of development within the range of the “A” and “Z” scenarios as developed by the CAC.

Table 1 summarizes the land use programs from these two scenarios.

Table 1
Corridor Plan Land Use Development Scenarios

CORRIDOR SUBAREA	SCENARIO A		SCENARIO Z	
HAYWARD PARK STATION TOD ZONE				
New Housing	636	units	1,725	units
maximum density in subarea (units/acre):		(< 25 u/a)		(< 75 u/a)
New Offices	412,100	s.f.	762,100	s.f.
New Retail	50,000	s.f.	150,000	s.f.
Total New Commercial (office & retail, independent of uses to be replaced) ¹	462,100	s.f.	912,100	s.f.
HILLSDALE STATION TOD ZONE				
New Housing	600	units	1,900	units
maximum density in subarea (units/acre):		(< 25 u/a)		(density TBD)
New Offices	900,000	s.f.	2,777,000	s.f.
New Retail	50,000	s.f.	200,000	s.f.
Total New Commercial (office & retail, independent of uses to be replaced) ¹	950,000	s.f.	2,977,000	s.f.
EL CAMINO REAL CORRIDOR				
New Housing	406	units	406	units
maximum density in subarea (units/acre):		(25 - 50 u/a)		(25 - 50 u/a)
New Offices	254,848	s.f.	254,848	s.f.
New Retail	355,831	s.f.	355,831	s.f.



Total New Commercial 610,679 s.f. 610,679 s.f.
 (office & retail, independent of uses to be replaced)¹

CORRIDOR TOTAL	SCENARIO A	SCENARIO Z
New Housing	1,642 units	4,031 units
New Offices	1,566,948 s.f.	3,793,948 s.f.
New Retail	455,831 s.f.	705,831 s.f.
Total New Commercial (office & retail, independent of uses to be replaced) ¹	2,022,779 s.f.	4,499,779 s.f.

¹ Existing uses in the Corridor Plan Area that could be replaced include commercial, industrial, racetrack, and other non-commercial uses. This figure does not include uses to be replaced because it is unknown precisely which uses would be replaced and because not all of those that would be replaced are directly comparable with the commercial uses that would replace them. Within the Hayward Park subarea, as much as 515,000 s.f and 735,000 s.f. of existing uses could be replaced under Corridor Plan A and Corridor Plan Z, respectively. Within the El Camino Real subarea, as much as 275,000 s.f. of existing uses could be replaced under either scenario. The entirety of the uses to be replaced on the Bay Meadows site are racetrack uses (i.e., grandstand, barns, etc.), which do not have a direct commercial equivalent.

Certification of the EIR and Adoption of the Rail Corridor Plan

The City Council in June 2005 adopted the Rail Corridor Plan and certified the EIR for the impacts associated with the "Z" Alternative. In doing so, the City Council adopted a set of Findings and a Statement of Overriding Considerations as explained below:

Statement of Overriding Considerations

Section 15093 of the California Environmental Quality Act (CEQA) Guidelines, states the following:

15093. Statement of Overriding Considerations

- (a) CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."
- (b) When the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record.
- (c) If an agency makes a statement of overriding considerations, the statement should be included in the record of the project approval and should be mentioned in the notice of determination. This statement does not substitute for, and shall be in addition to, findings required pursuant to Section 15091.

Several traffic impacts were noted in the Statement of Overriding Considerations, principally to address freeway and freeway ramp impacts. The Statement of Overriding Considerations indicated that freeway and ramp improvements are not under the control of the City of San Mateo, and therefore their implementation cannot be assured.

For example, for SR 92 ramp and freeway impacts, it was noted that the California Department of Transportation (Caltrans) plans to rebuild the SR 92/El Camino Real interchange, converting it either to a partial cloverleaf or a diamond design. Depending on the design, rebuilding the ramp could provide sufficient ramp capacity. However, since the improvement of the El Camino Real/SR 92 interchange is not



under the control of the City of San Mateo, and therefore its implementation cannot be assured, this impact was considered significant and unavoidable.

In addition, the Statement of Overriding Considerations prepared for the Corridor Plan and as adopted by the City Council stated that there are economic, social, and other benefits of the Rail Corridor Plan that outweigh the project's unavoidable significant environmental impacts. These were listed as follows:

- Increase housing opportunities while maintaining the character of existing single-family neighborhoods
- Concentration of major new development near transportation and transit corridors
- Development of a strategy to limit traffic congestion
- Establishing and maintaining San Mateo as a sustainable city
- Contributions to the community's economic well-being
- Increase in amount and variety of community housing stock

Current Bay Meadows Development Program

Table 2 shows the current Bay Meadows development program, including Nueva High School, compared to the adopted Corridor Plan Z land use totals for the area near the Hillsdale Caltrain Station. The current program has much less office space, less than half the retail space, and fewer residential units than were included in the Rail Corridor Plan EIR. The reduction in office space would reduce the Bay Meadows trip generation by more than 1,000 PM peak hour trips. The high school would generate about 100 PM peak hour trips. With regard to trip generation and transportation impacts, the reduction in office space more than makes up for the trips added by the high school.

Table 2
Bay Meadows Development Program

Land Use Category	2004 EIR	
	Corridor Plan Z Size	Current Proposal Size
Office	2,777,000 s.f.	805,199 s.f.
Housing	1,900 d.u.	1,116 d.u.
Retail (incl. restaurants)	200,000 s.f.	95,279 s.f.
High School	n/a	450 students

Current Traffic Forecasts

Since the completion of the Rail Corridor Plan EIR, the San Mateo General Plan moved the planning horizon from 2020 to 2030. The San Mateo traffic model was updated to produce 2030 forecasts. Table 3 shows a comparison of the 2020 forecasts to the 2030 forecasts for a number of intersections in the Bay Meadows area. A review of the 2030 San Mateo traffic model indicates that the traffic findings of the *Rail Corridor EIR* continue to be valid to the year 2030, and no new significant impacts are identified.



Table 3
2020 to 2030 Forecast Comparison

Intersection	Peak Hour	GP 2020 Corridor Plan Z		2030 GP	
		Avg. Delay	LOS	Avg. Delay	LOS
El Camino Real and 25th Avenue	AM	24.0	C	21.8	C
	PM	31.3	C	22.2	C
Delaware Street and Concar Avenue	AM	28.4	C	27.6	C
	PM	43.2	D	42.3	D
SR 92 WB Ramps and Concar Avenue	AM	10.1	B	18.9	B
	PM	10.8	B	16.4	B
Delaware Street and Saratoga Avenue	AM	13.2	B	18.4	B
	PM	22.3	C	20.1	C
Saratoga Drive and Hillsdale Blvd.	AM	24.9	C	33.0	C
	PM	36.9	D	33.9	C
Saratoga Avenue and Franklin Pkwy	AM	30.1	C	19.9	B
	PM	25.5	C	23.8	C
NB 101 and Hillsdale Blvd.	AM	21.8	C	24.7	C
	PM	28.4	C	26.2	C
SB 101 and Hilldale Blvd	AM	12.2	B	6.1	A
	PM	16.2	B	17.0	B

Conclusions

The transportation analysis prepared for the Rail Corridor Plan EIR does not need to be modified. The trip generation and transportation impact of the currently proposed Nueva High School project is consistent with the Bay Meadows II project that was analyzed in the EIR.

Please contact us if you have any questions about this analysis or our conclusions.

Sincerely,

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Gary Black, President

**Attachment 4: Memorandum to Darcy Forsell re:
New Nueva High School Circulation Plan [Hexagon
Transportation Consultants, Inc., dated
October 19, 2012]**



Memorandum

Date: October 19, 2012
To: Darcy Forsell, City of San Mateo
From: Gary Black
Subject: New Nueva High School Circulation Plan

Introduction

Hexagon Transportation Consultants, Inc. has re-evaluated the site access for the proposed Nueva High School in San Mateo, California. The previous site access plan had an inbound driveway on 28th Avenue opposite Kyne Street and an in-and-out driveway on Delaware Street. The new site plan, dated October 5, 2012, maintains the same driveway functions and on-site circulation but moves the 28th Avenue driveway so that it is east of Kyne Street.

Hexagon believes that the new access plan will function better than the old plan. Our analysis is described below.

Access Analysis

Access to the site for student drop-off/pick-up and for buses is proposed via an entry-only driveway on 28th Avenue. Access for staff and visitors is proposed via a two-way driveway on Delaware Street. The Delaware exit will include a device to allow only right turn exits. The 28th Avenue driveway has been moved away from the Kyne Street intersection.

Previously the driveway was located directly across from Kyne Street East at the signalized intersection. Hexagon determined that because of the design of 28th Avenue at this location, it would not be possible to allow inbound left turns into the driveway at that location. Therefore, the driveway would need to be restricted to right turns only. If the driveway is restricted to right turns only, there is nothing to be gained by being located within the signalized intersection. The presence of a driveway on the north side of the intersection would just complicate the signal operations. Therefore, Hexagon suggested that the driveway be moved to the eastern edge of the Nueva High School site, which puts it about 30 feet east of Kyne Street. The driveway will be restricted to right turns in only, so it will not affect the signalized intersection operations.

The Nueva High School site plan shows that the driveway on Delaware Street will be restricted to right turns out only. This will reduce potential traffic conflicts with the planned parking garage across the street. The Delaware Street driveway will serve as the exit for student drop-offs/pick-ups and buses, as well as the entrance and exit for staff and visitors.

Conclusions

The new Nueva High School site plan, dated October 5, 2012, provides good site access and circulation. It is not expected that school traffic would cause any back-ups or disruption to traffic flow on 28th Avenue or on Delaware Street.

**Attachment 5: Air Quality Consistency Analysis,
[Michael Brandman Associates, dated August 7, 2012]
and Air Quality Consistency Analysis: Carbon
Monoxide Hotspot Assessment [Michael Brandman
Associates, dated September 27, 2012]**



August 3, 2012

Ms. Darcy Forsell, Associate Planner
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Subject: Air Quality Consistency Analysis – Nueva High School Site Plan and Architectural Review

Dear Ms. Forsell:

This letter provides a review of the potential air quality impact of the proposed Nueva High School Site Plan and Architectural Review (SPAR) in comparison to the adopted San Mateo Rail Corridor Plan & Bay Meadows Specific Plan Amendment Environmental Impact Report (EIR). The EIR was certified—and the Bay Meadows Phase II Specific Plan amendments approved—by the City of San Mateo (City) in 2005. Because the exact mix of uses was not known when the EIR was prepared, the EIR assumed various combinations of land uses at Mixed Use Block 1 (MU-1). The Bay Meadows Phase II Specific Plan, however, expressly allows educational facilities as a permitted land use. A private high school (together with affordable housing on a one-acre portion of the Block) is now considered an option for MU-1; the Nueva High School SPAR is proposed for the City's consideration. This analysis addresses only the Nueva High School SPAR.

To evaluate the proposed project under consideration, Michael Brandman Associates (MBA) reviewed the certified EIR, the proposed project, and the Nueva High School Transportation Demand Management Plan (TDM Plan) prepared by Kimley-Horn and Associates to determine if the proposed project would create any new or significantly increased impacts on air quality. In addition, MBA estimated daily trip generation and vehicle miles traveled using ITE trip generation rates and San Mateo County-specific trip lengths. We conclude that the proposed Nueva High School is consistent with the EIR and would not change the EIR findings, require revisions to the EIR, or require any new mitigation measures, or raise any new significant air quality issues.

Project Description

The proposed Nueva High School would be constructed to accommodate up to 450 students and 60 full time and part time faculty and staff. The school is anticipated to take approximately 8 years to reach its initial target enrollment of 400 students. The Bay Meadows area is supported by a robust transportation system that includes opportunities for carpooling, use of transit, biking and walking to reduce drive-alone trips. The school would provide 125 parking spaces, two loading areas for delivery vehicles, and a bus loading (and parking) area that would accommodate up to two large school buses. Onsite parking spaces would be dedicated for the use of faculty, staff, and visitors. Although no regular student parking would be provided, additional spaces would be available to students on an exception basis. Large special events would occasionally be held at Nueva High School, such as parents' night, sporting events, cultural presentations, and graduation.

Basis of Existing Air Quality Analysis

Conditions of approval of the Bay Meadows Phase II Specific Plan amendments included establishing a trip budget for the entire project, as well as for each block, in order to measure the project's success in meeting

applicable trip reduction goals. Block MU-1 is one of four blocks designated mixed-use, and approved to be developed with residential over ground floor retail or office. Block MU-1 was originally evaluated in the Bay Meadows Traffic Management Plan as 187 residential units; because of its mixed-use designation, it allows for development of up to 165,000 square feet at the maximum Floor Area Ratio per the purchase agreement with the master developer.

Construction Impacts

Construction activities associated with development of the Bay Meadow's project were analyzed in the certified EIR and found to be reduced to less than significant with mitigation measure Air Quality-BM1.

Long-Term Regional Impacts

For the majority of development projects, including residential, office, and education facilities, on-road mobile vehicles traveling to and from the development constitute the single largest contributing source of air pollutant emissions. Therefore, average daily trip generation, and vehicle miles traveled (VMT) are key metrics in determining operational emissions of development projects.

The certified EIR found that development of the Bay Meadows project would result in regional air pollutant emissions due to the related intensification of land uses and increase in VMT. However, the EIR found that development of Bay Meadows would not exceed the applicable regional air pollutant thresholds due to consistency with population and VMT projections, and inclusion of goals and objectives that would facilitate transportation oriented design on the project site (consistency with Clean Air Plan Transportation Control Measures).

As estimated using ITE trip generation rates and region-specific trip lengths contained within the URBEMIS air quality emissions model, development of MU-1 in 187 apartments would result in an estimated 1,290 average annual daily trips (AADT), with approximately 11,032 daily vehicle miles traveled (VMT). Development of the block with 165,000 square feet of office space would result in an estimated 1,817 AADT, and 14,719 VMT. These trips are unadjusted for transit, TDM, and mixed-use internal capture

Odors

The certified EIR found no known land uses that emit odors affecting substantial numbers of people in the project area. In addition, City Municipal code requires any proposed commercial and/or manufacturing development to control potential onsite odors. Subsequently, the EIR found odor impacts associated with development of the Bay Meadows project would be less than significant.

Toxics

Impacts from toxic emissions on residential land uses, which are considered a location of sensitive receptors, were analyzed in the certified EIR. The EIR found that proposed development with a potential to emit toxic air contaminants may be constructed in the project area; therefore, impacts to sensitive receptors from future development may be potentially significant. However, the EIR found that implementation of mitigation measure Air Quality-BM2 would reduce the impact to less than significant.

Long-Term Local and Cumulative Impacts

This impact is related to potential carbon monoxide (CO) hotspot generation. CO hotspots are a concern at roadway intersections with high traffic volumes at peak hours. The certified EIR found that the development of the Bay Meadows project would result in a less than significant CO impact on a localized basis as well as cumulative basis.

For this comparative analysis, the maximum PM Peak Hour generation is used as a proxy for intersection congestion. The maximum PM trip budget for block MU-1 is 106 trips as “mid-term” development, and 95 trips at “long-term” buildout of the specific plan area. As noted in the TDM Plan, development of the block as general office building would result in 204 PM unadjusted trips out. Development of MU-1 in 187 dwelling units would result in an estimated 41 PM Peak Hour trips out. Please note these trips are unadjusted for transit, TDM, and mixed-use internal capture.

Analysis of Proposed Nueva School SPAR

MBA analyzed the proposed project to determine if the development would result in any new or significantly increased air quality impacts than that analyzed and disclosed in the certified EIR. The Nueva High School TDM Plan, prepared by Kimley-Horn and Associates July 28, 2012, includes a review of traffic and parking requirements of the Bay Meadows Specific Plan, Block MU-1 trip budgets, the proposed Nueva High School trip generation, and the compatibility of the proposed Nueva High School to the Bay Meadows Specific Plan.

Construction Impacts

Construction of the proposed Nueva High School would not involve a greater intensity or duration of construction activities than development of the site with residences or office buildings. In addition, the project would be required to implement mitigation measure Air Quality-BM1. Therefore, development Nueva High School would not result in new or significantly increased construction impacts from what was analyzed in the certified EIR.

Long-Term Regional Impacts

Development of the Nueva High School would result in an estimated 770 AADT, and 5,821 VMT. Therefore, the proposed project would result in substantially lower AADT and VMT than development of residences or office buildings. These trips are unadjusted for transit, TDM, and mixed-use internal capture as a worst-case assumption. In addition, the Nueva High School would not increase the population of the project area. Development of the site is required to be consistent with the goals and objectives identified in the Bay Meadow’s Phase II Specific Plan.

Because the Nueva High School would be developed consistent with the goals and objectives of the Bay Meadow’s Phase II Specific Plan, would not increase population greater than that analyzed in the EIR, nor would it increase VMT generated for the project area above that analyzed in the certified EIR, the proposed school would not result in a new or significantly increased operational regional air quality impacts.

Odors

No new land uses that emit odors affecting substantial numbers of people have been developed in the project area. In addition, commercial and/or manufacturing development must still comply with City Municipal Code requirements to control potential onsite odors. Schools are not considered odor sources having the potential to generate odor impacts. Chemistry and other science labs at schools can generate odors from certain experiments; however, this is not a frequent occurrence and the labs are required by state building code and OSHA to provide adequate ventilation to minimize exposure of students, staff, and faculty. Therefore, the development of the Nueva High School would not result in new or significantly increased odor impacts.

Toxics

Schools are considered a location of sensitive receptors; therefore, because impacts to sensitive receptors were assessed in the EIR and because development of potential toxic air contaminants must comply with mitigation measure Air Quality-BM2, development of the site as a school would not result in a new or significantly increased risk to sensitive receptors. Furthermore, the site is located more than 0.5 mile from

Highway 101 and Highway 92. Therefore, in accordance with the Bay Area Air Quality Management District's guidance, Highway 101 and Highway 92 would not pose a significant toxic risk impact to the project.

Laboratories, including school laboratories, must comply with all applicable health, safety and environmental protection laws, regulations and requirements, including Title 8, California Code of Regulations (CCR), Section 5191 (Occupational Exposures to Hazardous Chemicals in Laboratories). As such, Nueva High School is required to prepare a Chemical Hygiene Plan (CHP). The CHP describes the proper use, handling practices and procedures to be followed by faculty, staff, students, visiting scholars, and all other personnel. The CHP is required to be: capable of protecting employees from the health hazards present in the workplace, capable of keeping exposures below Cal/OSHA-regulated limits, readily accessible to employees, and reviewed annually and updated as appropriate. Preparation and implementation of the CHP reduces in-school exposure to toxic substances in laboratories to less than significant for employees and students.

Diesel-fueled school buses would be a localized source of diesel particulate matter, which is an identified toxic air contaminant. However, operation and idling of school buses on school sites is not expected to result in significant toxic air contaminant exposure primarily due to the small number of school buses that would operate on a site and the limited duration of onsite idling. As described in the TDM Plan, four buses are anticipated to serve the school; two of which are estimated to take four minutes to load with the other two buses estimated to take two minutes to unload. The California Air Resources Board (ARB) approved an Airborne Toxic Control Measure that limits school bus idling and other vehicle idling at or near schools to only when necessary for safety or operational concerns. This regulation has been in effect since July 16, 2003. The regulation targets school buses, school pupil activity buses, youth buses, paratransit vehicles, transit buses, and heavy-duty commercial motor vehicles that operate at or near schools.

For reference, the current methodological protocols required by the ARB when studying the health risk posed by diesel particulate matter assume the following: (1) 24-hour constant exposure; (2) 350 days a year; (3) for a continuous period lasting 70 years. These are incredibly conservative assumptions that are not replicated in reality. Most people are indoors for 18-20 hours a day (at their place of employment or home) and most people do not live, work, or study in the same location for a 70-year period. Therefore, the limited amount of onsite school bus idling would not pose new or significantly increased air quality impacts from toxic air contaminant exposures.

Long-Term Local and Cumulative Impacts

The TDM Plan includes a review of the PM trip generation of the proposed Nueva High School using two methodologies: mode share trip generation and ITE trip generation. The mode share methodology found up to 100 total trips (inbound and outbound) are expected to be generated by the Nueva High School during the PM Peak Hour. The ITE analysis found only 40 PM Peak Hour trips out. Therefore, the proposed project would result in fewer PM Peak Hour trips out than if developed with residences or in general commercial and, it follows, not result in new or significantly increased potential for CO hotspot generation. These trips are unadjusted for transit, TDM, and mixed-use internal capture. The long-term and cumulative impacts for other pollutants are less than the uses analyzed in the EIR.

Vehicles may queue in the drop-off and pick-up area; however, vehicles idling on a school-site for pick-up and drop-off are not among sources typically identified as a concern for CO hotspot generation. As stated within the TDM Plan, many students are expected to take a school bus or to utilize other transit options. The AM Peak drop-off queue is estimated to produce concentrated peak traffic that usually lasts 15-30 minutes, with 4 vehicles accommodated at a time within the drop-off area, at a rate of 8 vehicles per minute. The TDM Plan determined that the drop-off queue could be contained within the total 500 feet of queuing distance available onsite. For PM Peak pick-up, it was estimated that the pick-up line capacity would be 4 vehicles per minute, with a result that the pick-up queue would be contained within the total 500 feet queuing distance available

onsite. For reference, the Bay Area Air Quality Management District's guidance provides screening criteria that, if met, would result in less-than-significant CO concentrations. The quantitative screening criteria are:

- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The project site would not experience more than 44,000 vehicles per hour, nor would it experience more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited. Therefore, the proposed project would not result in new or significantly increased potential for CO hotspot generation through onsite idling and queuing.

Conclusion

As shown in the comparative analysis provided above, the proposed Nueva High School would not introduce any new or significantly increased air quality impacts from that analyzed and mitigated within the certified EIR. Therefore, air quality impacts would be less than significant with mitigation, as contained within the previously certified EIR and discussed above. The certified EIR analysis does not need to be modified to address the project as proposed.

Sincerely,



Chrissy Meier, Senior Air Quality Analyst

Michael Brandman Associates

Bishop Ranch 3

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September 27, 2012

Ms. Darcy Forsell, Associate Planner
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Subject: Air Quality Consistency Analysis: Carbon Monoxide Hotspot Assessment – Nueva High School Site Plan and Architectural Review

Dear Ms. Forsell:

In response to City comments, Michael Brandman Associates (MBA) prepared the following clarification to supplement the Air Quality Consistency Analysis provided on August 3, 2012 regarding whether emissions from the vehicles dropping off and picking up students at the proposed high school have the potential to create a carbon monoxide (CO) hotspot.

Carbon Monoxide Hotspots

The Air Quality Consistency Analysis prepared by MBA concluded that the project would not have the potential to create a CO hotspot. The conclusion was based on a comparison of peak trips generated by the project during student pick up and drop off with trip based screening criteria contained in the Bay Area Air Quality Management District's CEQA Air Quality Guidelines. According to the project traffic consultant, Kimley-Horn, the project would generate a maximum of 95 PM peak hour trips which would result in 48 trips entering the site and 47 trips exiting the site during the peak hour. The most likely time for queuing and idling to occur is at the end of the school day when some parents may arrive before class ends and leave their engines running while they are waiting. This would generate CO emissions in the pick up and queuing area.

To further refine the assessment, MBA developed average idling times based on a worst case scenario for the peak hour. The Transportation Demand Management study estimated that the PM Peak pick-up line capacity would be 4 vehicles per minute, with a result that the pick-up queue would be contained within the total 500 feet queuing distance available onsite. At this rate, the 48 student pickups could be accommodated in 12 minutes under ideal conditions. However, as a worst case, the following assumptions were made to reflect parents arriving early or right at the end of classes for the day:

- 50 percent arrive early (1/6th 15 min, 1/6th 10 min, 1/6th 5 min)
- All other vehicles arriving in the peak hour arrive when school lets out for the day
- All drivers leave their engines running while they are waiting
- The drivers that are last in line when class lets out wait 12 minutes to get to the pick up point.

Based on these assumptions, the worst case average idling time during the peak hour is 11.5 minutes including waiting and queuing. Actual idling is expected to be much less.

At a rate of 11.5 minutes of idling per vehicle, 48 idling vehicles would generate 552 idling minutes during the peak hour. By comparison, the BAAQMD screening criteria used to identify potential CO hotspots for roadway intersections is 44,000 vehicles per hour. Consider the amount of idling that would occur at a signalized intersection with traffic volumes of 44,000 vehicles per hour. Assuming the average idling time while waiting for the signal lights to change was 30 seconds per vehicle, the intersection would produce 22,000 minutes of idling per hour plus the emissions generated while the vehicles travel through the intersection. The intersection in this case is producing idling emissions at a rate nearly 40 times the rate of emissions produced in the school loading area. In terms of emissions, the project would generate approximately 0.37 pounds of CO per hour compared to the intersection, which would generate 13.2 pounds of CO per hour based on EMFAC 2011 light duty auto emission rates. For this reason, vehicles idling on a school-site for pick-up and drop-off are not among sources typically identified as a concern for CO hotspot generation. Therefore, the proposed project would not result in new or significantly increased potential for CO hotspot generation through onsite idling and queuing.

Sincerely,



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Attachment 6: Preliminary Environmental Noise Study, [Charles M. Salter Associates Inc., dated June 25, 2012] and Letter to LMS Architects re: City Noise Regulation Requirements [Charles M. Salter Associates Inc., dated August 1, 2012]

25 June 2012

Charlie Stott
Leddy Maytum Stacy Architects
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Subject: **Nueva High School**
Preliminary Environmental Noise Study
CSA Project: 12-0081

Dear Charlie:

This letter summarizes the results of our environmental noise study for the Nueva High School ("School"). The purpose is to develop schematic mitigation measures to reduce interior noise levels to meet the project acoustical requirements and address potential noise impacts. This report summarizes our findings.

PROJECT ACOUSTICAL CRITERIA

State of California

The California Building Code does not have interior noise criteria for non-residential projects.

City of San Mateo – Noise Element of the General Plan

The City of San Mateo Noise Element of the General Plan identifies "schools" as a "noise-sensitive" land-use and provides maximum interior noise level standards. The noise element includes the following policies related to the project (*see San Mateo General Plan for tables and figures*):

N 1.1: Interior Noise Standard. Require submittal of an acoustical analysis and interior noise insulation for all "noise sensitive" land uses listed in Table N-1 [excerpted into Table 1, below, which also includes Table N-2] which have an exterior noise level of DNL¹ 60 dB or above, as shown on Figure N-1. Maximum interior noise level shall not exceed DNL 45 dB in all habitable rooms.

N 1.2: Exterior Noise Level Standard. Require an acoustical analysis for new parks, play areas, and multi-family common open space (intended for the use and the enjoyment of residents) which have an exterior noise level of DNL 60 dB or above, as shown on Figure N-1. Require an acoustical analysis which uses Leq² for new parks and play areas. Require feasibility analysis of noise

¹ Day-Night Average Sound Level (DNL) – A descriptor established by the U.S. Environmental Protection Agency to describe the average day-night level with a penalty applied to noise occurring during the nighttime hours (10 pm - 7 am) to account for the increased sensitivity of people during sleeping hours.

² Leq--The equivalent steady-state A-weighted sound level that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same period.

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reduction measures for public parks and play areas. Incorporate necessary mitigation measures into residential project design to minimize common open space noise levels. Maximum exterior noise should not exceed 67 dB for residential uses and should not exceed 65 dB (Leq) during the noisiest hour for public park uses.

N 2.1: Noise Ordinance: Continue implementation of the City's existing noise control ordinance (see Municipal Code section below).

N 2.2: Minimize Noise Impact: Protect all "noise sensitive" land uses listed in tables N-1 and N-2 from adverse impacts caused by the noise generated on-site by new developments. Incorporate necessary mitigation measures into development design to minimize noise impacts. Prohibit long-term exposure increases of 3 dB (DNL) or above at the common property line, or new uses which generate noise levels of DNL 60 dB or above at the property line, excluding ambient noise levels.

City of San Mateo, California – Noise Regulation of the Municipal Code

As stated in noise element policy N 2.1 above, the project must implement the City's existing noise control ordinance. The following are noise regulations applicable to the project:

7.30.030 Designated Noise Zones

The properties hereinafter described are hereby assigned the following noise zones:

Noise Zone 1: All property in any single family residential zone (including adjacent parks and open space) as designated on the City's zoning map prepared pursuant to the provisions of Title 27, or any revisions thereto.

Noise Zone 2: All property in any commercial/mixed residential, multi-family residential, specific plan district or PUD as designated on the City's zoning map prepared pursuant to the provisions of Title 27, or any revisions thereto.

Noise Zone 3: All property in any commercial or central business district as designated on the City's zoning map prepared pursuant to the provisions of Title 27, or any revisions thereto.

Noise Zone 4: All property in any manufacturing or industrial zone as designated on the City's zoning map prepared pursuant to the provisions of Title 27, or any revisions thereto.

7.30.040 Maximum Permissible Sound Levels

(a) It is unlawful for any person to operate or cause to be operated any source of sound at any location within the city or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any other property to exceed:

(1) The noise level standard for that property as specified in Table 7.30.040 for a cumulative period of more than thirty minutes in any hour;

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- (2) The noise level standard plus five dB for a cumulative period of more than fifteen minutes in any hour;
 - (3) The noise level standard plus ten dB for a cumulative period of more than five minutes in any hour;
 - (4) The noise level standard plus fifteen dB for a cumulative period of more than one minute in any hour; or
 - (5) The noise level standard or the maximum measured ambient level, plus twenty dB for any period of time.
- (b) If the measured ambient level for any area is higher than the standard set in Table 7.30.040, then the ambient shall be the base noise level standard for purposes of subsection (a)(1) of this section. In such cases, the noise levels for purposes of subsections (a)(2) through (a)(5) of this section shall be increased in five dB increments above the ambient.

Table 7.30.040: Noise Level Standards

Noise Zone	Time Period	Noise Level (dB)
Noise Zone 1	10 p.m. to 7 a.m.	50
	7 a.m. to 10 p.m.	60
Noise Zone 2	10 p.m. to 7 a.m.	55
	7 a.m. to 10 p.m.	60
Noise Zone 3	10 p.m. to 7 a.m.	60
	7 a.m. to 10 p.m.	65

7.30.050 Interior Noise Limits

It is unlawful for any person to operate or cause to be operated any source of sound, on multifamily residential property or multi-tenant commercial or industrial property at a noise level more than ten dB above the level allowed by Section 7.30.040 three feet from any wall, floor or ceiling inside any unit on the same property when the windows and doors of the unit are closed, except within the unit in which the noise source or sources is located. (Ord. 2004-16 § 1, 2004).

7.30.060 Special Provisions:

(e) Construction. Construction, alteration, repair or land development activities which are authorized by a valid city permit shall be allowed on weekdays between the hours of seven a.m. and seven p.m., on Saturdays between the hours of eight a.m. and five p.m., and on Sundays and holidays between the hours of noon and four p.m., or at such other hours as may be authorized or restricted by the permit, if they meet at least one of the following noise limitations:

(1) No individual piece of equipment shall produce a noise level exceeding ninety dB at a distance of twenty-five feet. If the device is housed within a structure or trailer on the property, the measurement shall be made outside the structure at a distance as close to twenty-five feet from the equipment as possible.

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(2) The noise level at any point outside of the property plane of the project shall not exceed 90 dB.

Area/Project Specific Plan Requirements

The Conditions of Approval (CoA) related to the Bay Meadows Phase II Specific Plan Amendment (PA 02-0105, dated 21 October 2005) states the following:

CoA#51 Interior Noise Analysis

Prepare an interior noise analysis as part of the final design of the proposed residential uses. The analysis shall demonstrate how interior noise levels would achieve a 45 dB DNL where the exterior noise levels would exceed 60 dB DNL. Noise control measures shall be designed according to the type of building construction and specified sound rating for each building element. The noise analysis shall be submitted to the City with the final design of the proposed residential uses for SPAR implementation of this condition shall be prior to issuance of any Certificate of Occupancy for each phase and monitored by the Building Division. (*Mitigation Measure Noise-BM3a*)

The noise limit of CoA #51 is in-line with the San Mateo Noise Element interior noise requirement.

CoA#52 Noise Analysis near Caltrain Tracks

For all proposed sensitive uses within 530 feet of the centerline of the Caltrain tracks, the project sponsor shall conduct a detailed noise analysis. The results of that analysis shall be used by the project sponsor to implement measures that would ensure interior noise level would be no higher than 45 dBA. The City shall not issue a building permit for any proposed sensitive uses (such as schools, hospitals, rest homes, long term care facilities, mental care facilities, residential uses, places of worship, libraries and passive recreation uses) on the project site where the interior noise level standard of 45 dBA would be exceeded. The analysis shall be submitted to the City prior to issuance of each building permit for each phase. The implementation of this condition shall be monitored and verified by the Building Division. The project sponsor shall provide a letter from an acoustical engineer indicating that the projects comply with the Caltrain tracks noise analysis submitted for the individual residential developments. (*Mitigation Measure Noise-BM7*)

In summary, we interpret the requirement of CoA #52 to be that the typical maximum noise intrusion from train passbys must be reduced to a slow (exponential) time-weighted and A-weighted sound pressure level of 45 decibels or quieter. This is shortened to 45 "dBA³" in the remainder of this letter. For our analysis, the statistical metric $L_{\max 30}$ ⁴ is used to quantify the typical maximum noise level of reoccurring train passbys.

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³ dBA – A-Weighted sound pressure level (or noise level) represents the noisiness or loudness of a sound by weighting the amplitudes of various acoustical frequencies to correspond more closely with human hearing. A 10-dB (decibel) increase in noise level is perceived to be a doubling of loudness. A-Weighting is specified by the U.S. EPA, OSHA, Caltrans, and others for use in noise measurements.

⁴ $L_{\max 30}$ — The energy average of the maximum levels of the loudest 30% of intrusive sounds expected to occur during a time period. It is a metric by which acoustical engineers can determine structural requirements necessary to reduce intrusive noise to an acceptable level. Reference: Max Level Intrusive Noise Limit by Rob Greene, 1982.

EXISTING AND FUTURE NOISE ENVIRONMENT

The project site is located in San Mateo and is bordered by 28th Street to the south, a future housing site (and Delaware Street) to the west, a future park to the east, and a parking lot to the north. The School building is set back approximately 500 feet from the Caltrain tracks. The environment at the site is expected to consist primarily of noise from local traffic and Caltrain passbys.

School construction is planned for two phases. The phase 2 additions would acoustically shield portions of the phase 1 building from environmental noise. Therefore, a summary analysis for phase 1 and phase 2 conditions are provided. In addition, the future housing project site located to the west of the School would also be expected to provide acoustical shielding from environmental noise. However, since the construction details of this site are not available. Therefore, our analysis, conservatively, does not account for acoustical shielding from the future housing building.

Our analysis of Caltrain passby noise is based on noise measurements conducted from 1 to 6 September 2011. Train noise was measured at a setback distance of 60 feet from the tracks just south of the 28th Street centerline. Based on these measurements, we expect the typical maximum train noise level to be 73 dBA at the School site.

Previously, a traffic analysis from Kimley-Horn and Associates (dated 11 May 2006) was provided to us for the Bay Meadows area. Based on the traffic projections, we calculated expected future traffic noise levels. The calculations are based on the Federal Highway Administration's Highway Traffic Noise Prediction Model. The model uses traffic volume, vehicle speed, truck percentage, distance to receiver, and a presumed attenuation rate to estimate the hourly average noise level. We also assumed that the DNL is equal to the peak hour average noise level, typical of these roadway categories. At a setback distance of 50 feet from the roadway centerlines, we calculated the following noise levels:

- 28th Street: DNL 58 dB
- Delaware Street: DNL 63 dB

METHODOLOGY – SIGNIFICANCE CRITERIA

The California Environmental Quality Act (CEQA) contains guidelines to evaluate whether environmental impacts are considered significant. The guidelines ask whether the proposed project would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

CEQA does not stipulate noise or vibration levels that are considered significant; rather, it is expected that noise and vibration levels will be evaluated with respect to relevant local standards. In addition to

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noise limits, the San Mateo General Plan contains standards of significance for noise increases in Policy N 2.2, restated below:

“Prohibit long-term exposure increases of 3 dB (DNL) or above at the common property line, or new uses which generate noise levels of DNL 60 dB or above at the property line, excluding ambient noise levels.”

ASSESSMENT OF NOISE AND MITIGATION MEASURES

Project Interior Noise Levels

Our analysis is based on the School SPAR Submittal plans dated 22 June 2012. To meet the project indoor noise criteria, it will be necessary for the facades to be sound-rated. Our preliminary calculations are based on a typical classroom size space with up to 50-percent glazing. The minimum exterior window and door STC⁵ ratings at noise-sensitive spaces are listed below and shown on the attached site plans for both phase 1 and phase 2 conditions. Our analysis assumes that “habitable” spaces, as referenced in the City Noise Element would apply to typically occupied or otherwise noise-sensitive rooms (e.g., classrooms, offices). We expect that hallways and other circulation space would not require sound-rated facade construction.

Most construction-grade dual-pane one-inch thick window assemblies can achieve an STC rating of 28. The construction of STC 33 window assemblies can vary between suppliers but can typically be achieved by providing dissimilar glazing thicknesses and/or laminated glass in addition to upgraded seals. It is important to note that the STC rating applies to the full window assemblies (glass and frame) rather than just the glass itself. Tested sound-rated assemblies should be used.

Our analysis accounts for an exterior wall assembly as shown in the drawings (see Details 3 and 13/A8.4) to include:

- Exterior finish: 3-coat stucco or wood siding
- Gypsum sheathing
- Rigid insulation
- Stud framing with cavity batt insulation
- One layer of interior gypsum board

Building(s) at the future housing site to the west of the School would be expected to reduce environmental noise at the west facade of the School. However, since details of future housing construction are not available, our analysis, conservatively, does not account for such noise reduction.

Mitigation Summary: Insulated facade construction with sound-rated exterior doors and windows as described above.

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⁵ Sound Transmission Class (STC) — A single-number rating derived from the sound insulation properties of building elements such as walls and windows. Increasing STC ratings indicate more sound insulation and less transmitted sound.

Project Exterior Noise Levels

The project includes two "open court" areas. Both would be shielded from transportation noise sources by the project buildings following phase 2 construction. The western open court area would remain exposed to street traffic noise prior to phase 2. Each open court is located farther than 150 feet from the adjacent roadways. Based on our measured existing and projected future noise levels at the site, environmental noise is expected to be below DNL 60 dB at that distance. Therefore, we expect noise levels at both potential outdoor use areas to meet the noise standard of the San Mateo Noise Element in both phase 1 and phase 2 constructions.

A park is to be located to the northeast of the project. Based on our experience, we expect that average daily noise levels (i.e., DNL) at the project site would not be significantly increased by typical park activities.

Mitigation Summary: None required

Project-generated Operational Noise

Potential Permanent Increase in Ambient Noise Levels

Theater noise is not expected to significantly increase ambient noise levels as it would be reduced by the building construction that would fully enclose this space. Noise from activities in the gymnasium would also not be expected to increase ambient noise levels by 3 dB (DNL) at nearby noise-sensitive receivers. We understand that windows will be provided in the gymnasium in addition to a mechanical ventilation system. If complaints occurred as a result of activities in the gymnasium, we understand that the windows could be closed to further reduce gymnasium noise emitted to the exterior.

Mitigation Summary: None required

Project-generated Mechanical Equipment Noise

Potential Permanent Increase in Ambient Noise Levels

Mechanical equipment associated with the project, such as ventilation fans, has the potential to exceed City noise standards. Specific mitigation measures cannot be determined before the equipment has been selected. Equipment should be selected and located to meet the noise standards. If necessary, additional mitigation measures, such as noise barriers, acoustical louvers, or equipment noise attenuators, should be employed. A qualified professional should be involved during the design phase of the project to advise the design team regarding effective noise reduction measures. This is in-line with the Bay Meadows Phase II Specific Plan Amendment Condition of Approval listed below:

CoA #50 Noise Control

The project sponsor shall implement noise control measures for any mechanical equipment and truck loading docks on the Bay Meadows project site as needed to reduce noise levels to DNL of 60 dB at the property line of adjacent or nearby residences, per the City's Noise Element. At a minimum, the following measures shall be implemented:

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- A. All proposed development shall be designed so that loading areas face away from the residences to minimize potential noise levels at the nearby residences.
- B. All proposed development, as feasible, shall specify equipment that meets the City's noise standard of 60 dB at the nearest receptor without special enclosures or mufflers.
- C. Mechanical equipment shall be located as far away from nearby residential land uses as feasible.
- D. As necessary a separate noise barrier or enclosure shall be constructed around mechanical equipment to block line-of-sight between the equipment and nearby residences.

The implementation of this condition shall be prior to issuance of any Certificate of Occupancy for each phase and monitored by the Building Division. (Mitigation Measure Noise – BM2)

Mitigation Summary: Mechanical system is to be designed to comply with the requirements of the San Mateo Noise Ordinance and as stated in CoA #50.

Construction Noise and Vibration

Potential Temporary Increase in Ambient Noise Levels

Construction of the project has the potential to result in temporary elevated noise levels at adjacent land uses. Construction activities might include grading, excavation, concrete foundation, structural framing, exterior finishes, interior framing, and interior finishes. The noisiest of these activities is typically during the early phases, when heavy machinery would be in use. Typical noise levels from these activities range from 80 to 90 dBA at 50 feet.

Framing involves the use of pneumatic tools such as nailing guns and other hand tools such as hammers and saws. The final phase is interior work, which tends to be less intrusive since the noise occurs indoors. Table 3 below shows typical noise levels from various construction activities:

Table 1: Typical Construction Noise Levels

Construction Phase	Noise Level (Leq) at 50 feet
Demolition	89 dBA
Ground Clearing	84 dBA
Excavation	89 dBA
Foundation	78 dBA
Erection	85 dBA
Exterior Finishing	89 dBA

Source: U.S. Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, December 1971.

To reduce the potential the likelihood of neighbors complaining about construction noise and vibration, mitigation measures outlined in the Bay Meadows Phase II Specific Plan Amendment Condition of Approval below should be implemented:

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CoA #49 Building Construction Activities and Noise Control

The following provisions to control traffic congestion, noise, and dust shall be followed during site excavation, grading and construction: The allowed hours of Building construction activities may be waived or modified through an exemption from the hours of work designated in Section 23.06.017, for limited periods, if the Building Official finds that:

1. The following criteria are met:
 - A. Permitting extended hours of construction will decrease the total time needed to complete the project thus mitigating the total amount of noise associated with the project as a whole; or
 - B. Permitting extended hours of construction are required to accommodate design or engineering requirements, such as a large concrete pour. Such a need would be determined by the project's design engineer and require acceptance by the City of San Mateo.
 - C. An emergency situation exists where the construction work is necessary to correct an unsafe or dangerous condition resulting in obvious and eminent peril to public health and safety. If such a condition exists, the City may waive any of the remaining requirements outlined below.
2. The exemption will not conflict with any other condition of approval required by the City to mitigate significant impacts.
3. The contractor or owner of the property will notify residential and commercial occupants of property adjacent to the construction site of the hours of construction activity which may impact the area. This notification must be provided three days prior to the start of the construction activity.
4. The approved hours of construction activity and contact information will be posted at the construction site in a place and manner that can be easily viewed by any interested member of the public.

The Building Official may revoke the exemption at any time if the contractor or owner of the property fails to abide by the conditions of exemption or if it is determined that the peace, comfort and tranquility of the occupants of adjacent residential or commercial properties are impaired because of the location and nature of the construction. The waiver application must be submitted to the Building Official ten (10) working days prior to the requested date of waiver.

5. The following measures are required to reduce potential noise impacts of the project to a less than significant level:
 - A. All diesel equipment shall be operated with closed engine doors and should be equipped with factory-recommended mufflers.
 - B. Pile-driving activities shall be restricted to between 8:00 a.m. to 5:00 p.m., Monday through Friday, to limit the intrusiveness of pile driving during the morning and evening hours. This measure is suggested only for construction sites that would use pile drivers within 2,000 feet of residential or sensitive land uses.
 - C. Proposed walls or barriers shall be installed as early as possible to help reduce noise from construction activities.
 - D. Stationary construction equipment shall be kept beyond 100 feet of existing residences.
 - E. Noise attenuation techniques will be employed as needed and feasible to reduce noise levels below 100 dBA Leq in commercial/industrial areas and below 80 dBA Leq at exterior

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locations in residential areas. Such techniques may include the use of sound blankets on noise generating equipment and the construction of temporary sound barriers between construction sites and affected uses. Noise attenuation techniques will be verified through measurement of noise levels.

- F. Whenever feasible, electrical power should be used to run air compressors and similar power tools.
- G. Contractors shall use "quiet" models of any conventionally noisy construction equipment such as air compressors, jackhammers and other impact tools, as feasible.
- H. Contractors shall designate an employee as the construction noise coordinator and provide an on-site sign that will identify the person and provide a contact number. The coordinator would be responsible for receiving calls from residents or businesses regarding specific construction noise-related complaints. The coordinator would then be responsible for taking appropriate measures to reduce or eliminate noise levels as appropriate.
- I. Complaints and the response should be logged and kept on file for review by the City. The construction noise coordinator would act as a liaison between the residents in the vicinity of the construction and the contractor, so perceived noisy activities are addressed as soon as possible. The implementation of this condition shall be monitored throughout construction and verified by the Public Works Department and Building Division. (PUBLIC WORKS, BUILDING) (*Mitigation Measure Noise - BM1*)

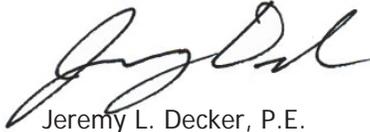
Mitigation Summary: Implement construction noise and vibration control measures as listed in CoA #49.

* * *

This concludes our preliminary environmental noise study for the Nueva High School. We plan to review the facade requirements in greater as the project develops. Should you have any questions, please give us a call.

Sincerely,

CHARLES M. SALTER ASSOCIATES, INC.



Jeremy L. Decker, P.E.
Senior Consultant

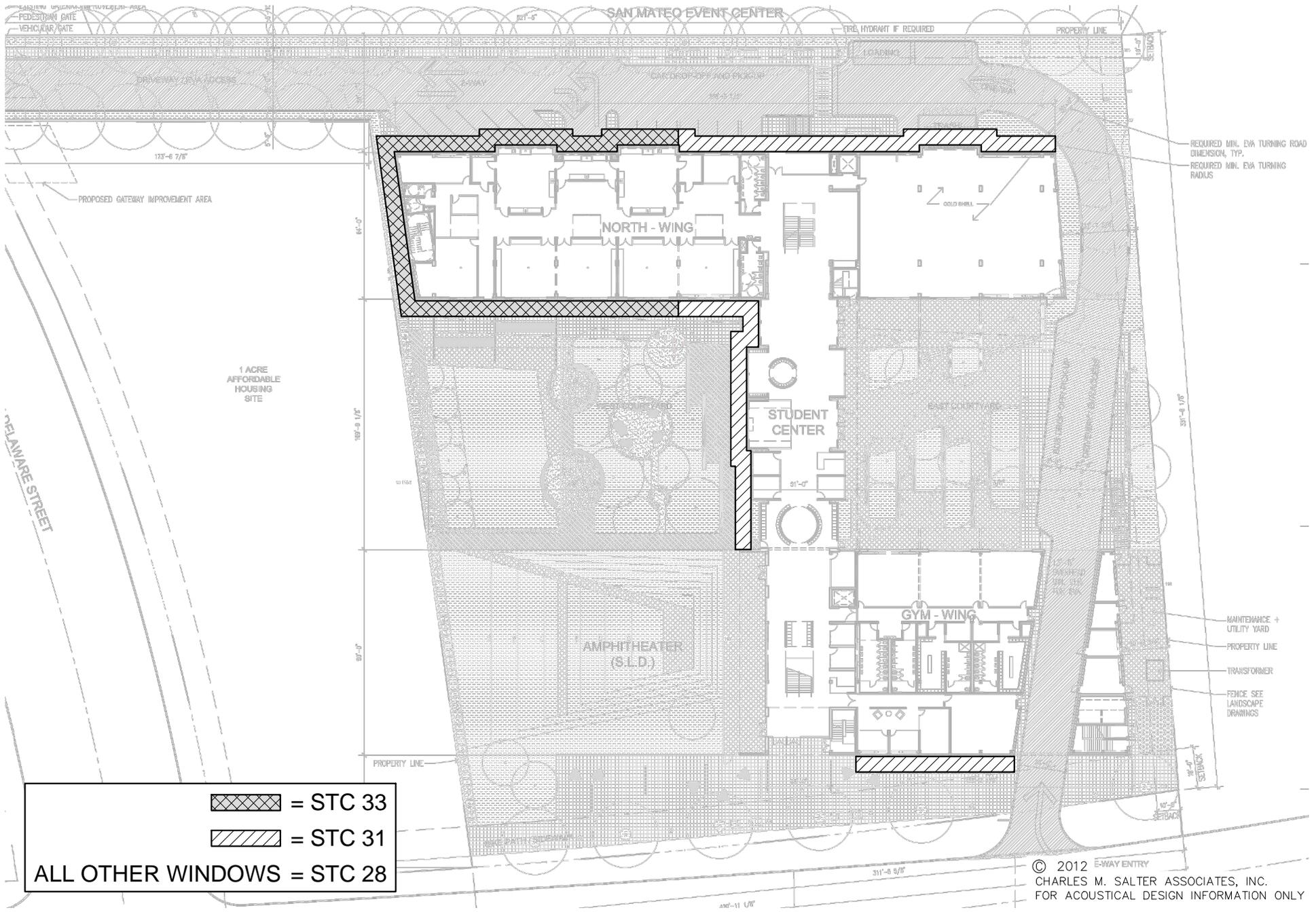


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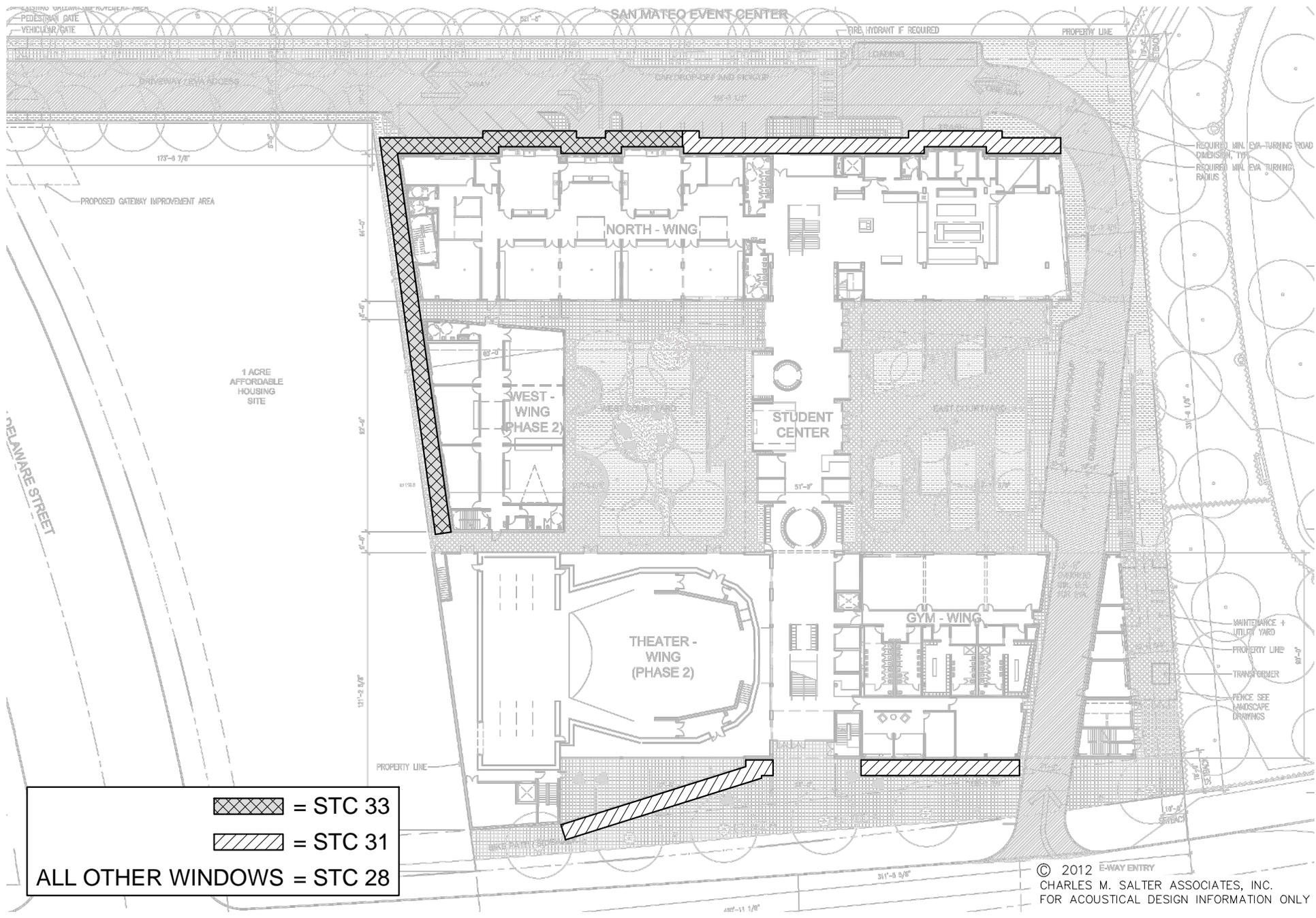


NUEVA HIGH SCHOOL PHASE 1: SOUND-RATED WINDOWS AND EXTERIOR DOORS AT "HABITABLE" ROOMS

FIGURE 1

CSA #
12-0081

JLD
06.25.12



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NUEVA HIGH SCHOOL PHASE 2: SOUND-RATED WINDOWS AND EXTERIOR DOORS AT "HABITABLE" ROOMS

FIGURE 2

CSA # 12-0081 JLD 06.25.12

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1 August 2012

Charlie Stott
LMS Architects
677 Harrison Street
San Francisco, CA 94107
Email: CStott@lmsarch.com

Subject: **Nueva School**
CSA Project No. 12-0231

Dear Charlie:

This report addresses the noise regulation requirements promogated by the City of San Mateo that apply to the subject project.

Ordinance No. 2004-16 describes the intent of the noise regulations "...protect the inhabitants of the City against ... forms of nuisances..." and to allow for comfortable enjoyment of life. Commercial and multi-family residential have the following property line standards:

10:00 p.m. – 7:00 a.m. - 55 dB maximum
7:00 a.m. – 10:00 p.m. - 60 dB maximum

Adjustments are made to account for intermittent noise.

The noise ordinance addresses a variety of sources such as sound performances, vehicle horns, alarm systems, construction, amplified sound equipment, bands, unruly gatherings, engines, motors, mechanical devices, etc.

For this project, we must engineer the mechanical ventilation systems to not exceed the property line sound limits.

During construction, noise limits apply as outlined in Section 7.30.060 (e).

After construction, noise ordinance requirements will apply to noise generated by outdoor gatherings, parties, entertainment, music, etc.

Activities within the gymnasium are not expected to affect the neighborhood and easily meet City requirements because of the existing ambient noise and also because the room is fully enclosed.

The activities in the theater (which is a part of phase 2) are also anticipated to easily meet City requirements. Theaters, by its basic nature, need to be protected from environmental noise intrusion including train passbys, vehicular traffic aircraft flyovers, etc. This sound isolation construction will prevent theater noise from being audible or detectable at the property line.

Sincerely,

CHARLES M. SALTER ASSOCIATES, INC.



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