3.8 NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM

As a result of the analysis undertaken in the Initial Study for the Long Beach Memorial Medical Center Expansion (proposed project),[1] the City of Long Beach (City) Department of Planning and Building determined that the proposed project may result in environmental impacts to the National Pollution Discharge Elimination System (NPDES). Therefore, this issue has been carried forward for detailed analysis in this Environmental Impact Report (EIR). This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts to NPDES and to identify potential alternatives.

The analysis of NPDES includes a description of the regulatory framework that guides the decision-making process, existing conditions of the proposed project area, thresholds for determining if the proposed project would result in significant impacts, anticipated impacts (direct, indirect, and cumulative), mitigation measures, and level of significance after mitigation.

The potential for impacts to NPDES was evaluated in accordance with the methodologies provided by the City of Long Beach General Plan,[2] the California Storm Water Best Management Practice Handbook for Construction Activity,[3] the City of Long Beach Storm Water Management Plan,[4] the hydrology and water quality report prepared by Moffat and Nichol for the proposed project (Appendix H, *Hydrology and Water Quality*), and the Water Quality Control Plan (Basin Plan) for the Los Angeles Region (4).[5]

3.8.1 Regulatory Framework

This regulatory framework identifies the federal, state, and local statutes and policies related to hydrology and water quality that must be considered by the City of Long Beach during the decision-making process for projects that involve the potential to result in significant impacts related to NPDES.

Federal

Section 401 of the Clean Water Act of 1972

The federal Clean Water Act (CWA)[6] of 1972 sets national goals and policies to eliminate discharge of water pollutants into navigable waters and to achieve a water quality level that will protect fish, shellfish, and wildlife while providing for recreation in and on the water whenever possible. The

[1] City of Long Beach, Department of Planning and Building. 20 August 2004. *Initial Study for the Long Beach Memorial Medical Center Expansion Project*. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[2] City of Long Beach, Department of Planning and Building. 30 April 1973. *Conservation Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[3] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbook*. Contact: California Stormwater Quality Association, P.O. Box 2105, Menlo Park, CA 94026.

[4] City of Long Beach. Revised August 2001. *Stormwater Management Plan*. Available at http://www.lbstormwater.org/plan/

[5] California Regional Water Quality Board, Los Angeles Region (4). 13 June 1994. *Water Quality Control Plan Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*. Contact: 320 West Fourth Street, Suite 200, Los Angeles, CA 90013.

[6] Office of the Law Revision Counsel. 2 January 2002. 33 U.S. Code, §1341: "Certification." Available at: http://uscode.house.gov

CWA regulates point-source and non-point-source discharges to receiving waters with the NPDES program. The CWA provides for delegating certain responsibilities for water quality control and planning to the states. The State of California has been authorized by the U.S. Environmental Protection Agency (EPA) to administer and enforce portions of the CWA, including the NPDES program. The State of California issues NPDES permits through the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs). The proposed project is regulated by the Los Angeles RWQCB.

In 1987, the CWA was amended to state that the discharge of pollutants to waters of the United States from storm water is effectively prohibited, unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the CWA added Section 402(p) and established a framework for regulating industrial, municipal, and construction storm water discharges under the NPDES program. The 1987 amendment was developed from the awareness that storm water runoff, a non-point-source discharge, is a significant source of water pollution. In 1990, the U.S. EPA published final regulations that established application requirements to determine when industrial, municipal, and construction activities require an NPDES permit.

On December 13, 2001, the Los Angeles RWQCB adopted Order No. 01-182. This order is for NPDES Permit No. CAS004001 for municipal storm water and urban runoff discharges within the County of Los Angeles (County).

As adopted in December 2001, Order No. 01-182 covers 84 cities and the unincorporated areas of the County, with the exception of the portion of the County in the Antelope Valley, including the Cities of Lancaster and Palmdale, as well as the City of Long Beach and the City of Avalon. Under Order No. 01-182, the County of Los Angeles Flood Control District is designated as the Principal Permittee; the County and the 84 incorporated cities are designated as Permittees. The Principal Permittee coordinates and facilitates activities necessary to comply with the requirements of Order No. 01-182, but is not responsible for ensuring compliance of any of the other Permittees.

In compliance with Order No. 01-182, the Permittees have implemented a Storm Water Quality Management Plan (SWQMP), with the ultimate goal of accomplishing the requirements of Order No. 01-182 and reducing the amount of pollutants in storm water and urban runoff. The SWQMP is divided into six separate programs, as outlined in Order No. 01-182. These programs are as follows:

1. Public Information and Participation
2. Industrial/Commercial Facilities
3. Development Planning
4. Development Construction
5. Public Agency Activities
6. Illicit Connection/Illicit Discharge

Each Permittee is required by the Permit to have implemented these programs by February 1, 2002.

General Construction Activity Storm Water Discharges

Storm water discharges that are composed entirely of runoff from qualifying construction activities may be eligible for regulation under the General Construction Activity Storm Water Permit issued by the SWRCB rather than regulation under an individual NPDES permit issued by the appropriate RWQCB. Construction activities that qualify include clearing, grading, excavation, reconstruction, and dredge-and-fill activities that result in the disturbance of at least 5 acres of total land area. The proposed project would be required to conform to the Standard Urban Storm Water Management Plan (SUSMP) in accordance with the NPDES General Construction Activity Storm Water Permit to reduce water quality impacts to the maximum extent practicable. A SUSMP is a report that includes one or more site maps, an identification of construction activities that could cause pollutants to enter the storm water, and a description of measures or best management practices (BMPs) to control these pollutants to the maximum extent practicable. A BMP is defined by the Storm Water Quality Task Force as any program, technology, process, siting criteria, operating method, measure, or device that controls, prevents, removes, or reduces storm water pollution.

Regional

Water Quality Control Plan for the Los Angeles Region

The federal CWA is administered and enforced by the SWRCB, which develops regulations to implement water quality control programs mandated at the federal and state levels.

The Los Angeles RWQCB has prepared a Basin Plan that includes the coastal watersheds of Los Angeles and Ventura Counties. The first essentially complete Basin Plan, which was established under the requirements of California's 1969 Porter-Cologne Water Quality Control Act,[7] was adopted in 1975 and revised in 1984. The most recent version of the Basin Plan was adopted in 1994.[8]

The Basin Plan assigned beneficial uses to surface and groundwater such as municipal water supply and water-contact recreation to all waters in the basin. The Basin Plan also sets water-quality objectives, subject to approval by the U.S. EPA, which are intended to protect designated beneficial uses. These objectives apply to specific parameters (numeric objectives) and general characteristics of the water body (narrative objectives). An example of a narrative objective is the requirement that all waters must remain free of toxic substances in concentrations producing detrimental effects on aquatic organisms. Numeric objectives specify concentrations of pollutants that are not to be exceeded in ambient waters of the basin.

[7] State of California. 1969. Porter-Cologne Water Quality Control Act. California Water Code, Section 13000 et seq.: "Water Quality." Available at: http://www.ceres.ca.gov/index.html

[8] California Regional Water Quality Board, Los Angeles Region (4). 13 June 1994. *Water Quality Control Plan Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*. Contact: 320 West Fourth Street, Suite 200, Los Angeles, CA 90013.

Local

City of Long Beach General Plan

The City of Long Beach and the California Storm Water Best Management Practice Handbook for Construction Activity[9] has identified standard BMPs that are capable of reducing impacts to soil erosion to below the level of significance.

City of Long Beach Storm Water Management Plan

The objective of the federal CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Section 402(p) of the CWA, as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges from municipal separate storm sewers (MS4s) to waters of the United States. Section 402(p)(3)(B) requires the following for MS4 permits:

> (i) may be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

The City of Long Beach is fully implementing the Long Beach Storm Water Management Program (LBSWMP) to meet the objectives of effectively prohibiting non-storm water discharges and reducing the discharge of pollutants to the maximum extent practicable such that these discharges will not adversely impact the beneficial uses of the City of Long Beach's receiving waters. Essentially, the City's ultimate objective is to comply with the federal CWA and the state Porter-Cologne Water Quality Control Act.

The LBSWMP is a comprehensive program containing several elements, practices, and activities aimed at reducing or eliminating pollutants in storm water to the maximum extent practicable. The programs that are relevant to the proposed project that contribute toward preventing and mitigating storm water pollution include the following:

- Street maintenance, which consists of the following elements: street sweeping, sidewalk and alley cleaning, and maintenance operations
- Sewage systems operations and maintenance
- Storm drain systems operation and maintenance
- Municipal facilities maintenance
- Public construction activities
- Landscaping maintenance

The LBSWMP also addresses the planning of development projects and construction of projects not within the public street right-of-ways.

[9] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbook*. Contact: California Stormwater Quality Association, P.O. Box 2105, Menlo Park, CA 94026.

3.8.2 Existing Conditions

Drainage

The City of Long Beach is divided into 30 major drainage basins. Within each drainage basin, there are sub-basins for major drains 36 inches in diameter or larger that have their outfall to a regional drain, regional retention basin, or the Long Beach Harbor. The proposed project is located in Drainage Basin 6.[10] Basin 6 is 695 acres and is made up of 475 acres of residential, 125 acres of commercial, 73 acres of institutional, and 17 acres of open space. It is located in the west central portion of the City of Long Beach just east of the Los Angeles River. The extreme eastern portion of Basin 6 lies within the City of Signal Hill. It is bound on the north, south, east, and west by West Wardlow, Eagle Street, California Avenue, and the Los Angeles River, respectively.

The drainage pattern is to the south and southeast. There are two major storm drain systems that have a total of five major lines contributing runoff. One major system drains the western portion of Basin 6, and the other drains the eastern portion. The two systems converge at San Francisco Avenue just north of Willow Street and outfall into the Los Angeles River through the Willow Pump Station. This station is owned by the City of Long Beach and has a maximum operating capacity of 466 cubic feet per second (CFS). There is a split flow at 25th Street and Long Beach Boulevard, a 48-inch pipe that remains in Basin 6 and a 36-inch pipe that takes flow into Basin 5.

Storm water runoff from areas east of Atlantic Avenue and areas north of Spring Street are conveyed to a 54-inch storm drain that traverses east-west through the hospital site. A pump station is located at the west side of the railroad tracks, which leads the storm water toward the Los Angeles River (Section 3.6, Hydrology and Water Quality, Figure 3.6.2-3, *Storm Drain System*).

Surface Water Quality

Surface water quality in the proposed project area has been affected in a way that is consistent with the urban development that has occurred. Non-point-source pollution from urban, impervious surfaces (i.e., parking lots, roadways, sidewalks, rooftops, etc.) is a major contributor to impairment of streams and waterways. Impervious surfaces contribute grease, oil, antifreeze, and other vehicle emissions, as well as heavy metals from brake dust, litter, and other debris and pathogens, into water systems. Landscaped areas contribute pesticides, fertilizers, and other landscape waste into the water system. The proposed project area consists almost entirely of impervious surfaces.

3.8.3 Significance Thresholds

The potential for the proposed project to result in impacts to NPDES was analyzed in relation to the questions contained in Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines. The proposed project would normally be considered to have a significant impact to NPDES when the potential for any one of the following three thresholds occurs:

- Results in a significant loss of pervious surface
- Creates a significant discharge of pollutants into the storm drain or waterway
- Violates any BMP of the NPDES permit

[10] City of Long Beach. Revised August 2001. *Stormwater Management Plan*. Available at http://www.lbstormwater.org/plan/

3.8.4 Impact Analysis

Pervious Surface

The proposed project would not result in significant impacts from the loss of pervious surfaces. The current site is nearly 100 percent impervious to rainfall. Proposed site improvements would not be expected to change the pervious areas. The proposed sites for development of the proposed project elements are currently hardscaped and do not represent sources of recharge to any existing groundwater aquifer.

The proposed structures and surrounding area feature a nearly 100-percent impervious surface, and the imperviousness of the surface would remain relatively the same as the existing condition, ensuring that infiltration would remain at current levels and that the overall volume of flow accumulating on or off site would not change from existing conditions. Therefore, the proposed project would not result in an impact from loss of pervious surfaces, and no further mitigation is required.

Storm Drain and Waterway

The proposed project consists of redevelopment of existing developed sites (parking lots, parking structure, and office buildings) to more effectively utilize Long Beach Memorial Medical Center (LBMMC) property. Redevelopment of existing developed areas would not be expected to create a significant discharge of pollutants into the storm drain or waterway after incorporation of BMPs. The total increase in vehicular trips on roadways and driveways, and the associated increase in parking within the LBMMC campus (Campus) would be expected to contribute additional pollutants to storm water runoff, thus requiring the consideration of BMPs to maintain or improve the quality of storm water runoff for the Campus.

The municipal storm water NPDES permit issued to the County by the Los Angeles RWQCB in 1996 requires the development and implementation of a program addressing storm water pollution issues in development planning for private projects. As part of the NPDES permit, the LBSWMP requires new developments to meet the permit requirements through BMPs to reduce or eliminate non-storm water discharges to the storm water system. These requirements meet the water quality standards as set forth by the responsible agencies and address storm runoff quantity and flow rate, suspended solids (primarily from erosion), and contaminants such as phosphorus (primarily from landscaping) and hydrocarbons (primarily from automobiles).

NPDES Permit

As a part of the NPDES permit issued to the County by the Los Angeles RWQCB, the LBSWMP requires new developments to meet the permit requirements through a SUSMP. The construction elements of the proposed project would require a SUSMP and overall compliance with the NPDES permit programs. The SUSMP outlines the BMPs to reduce or eliminate non-storm water discharges to the storm water system. These requirements meet the water quality standards set forth by the presiding agencies and address storm runoff quantity and flow rate, suspended solids (primarily from erosion), and contaminants such as phosphorus (primarily from landscaping) and hydrocarbons (primarily from automobiles). The proposed project would not violate any BMPs for the NPDES.

The primary objectives of the 1987 amendments to the CWA that established a framework for regulating storm water discharges from municipal, industrial, and construction activities under the NPDES include the following:

- Effectively prohibiting non-storm water discharges
- Reducing the discharge of pollutants from storm water conveyance systems to the maximum extent practicable

3.8.5 Cumulative Impacts

The incremental impact of the proposed project, when considered with the related past, present, or reasonably foreseeable, probable future projects (Section 2, Project Description, Table 2.6-1, *List of Related Projects*), would not cause a significant cumulative impact to the NPDES permit. The proposed project would not impact NPDES because there is not a net increase in impervious surfaces from that of the existing conditions. The proposed project would include the incorporation of BMPs for reducing discharge of the pollutants into the storm drain and waterway system. Therefore, implementation of the proposed project would not cause a significant cumulative impact on NPDES when considered with the related past, present, or reasonably foreseeable, probable future project.

3.8.6 Mitigation Measure

Measure NPDES-1

The City of Long Beach Planning and Building Department shall require the construction contractor to implement best management practices (BMPs) consistent with National Pollution Discharge Elimination System (NPDES) Permit No. CAS 004003 to reduce transport of Pollutants of Concern from the construction site to the storm drainage and waterway system for each construction element of the proposed project: Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench; MCH pediatric outpatient building; MCH link building; Todd Cancer Institute Phases I and II; roadway alignment; and parking area. Prior to completion of final plans and specifications for each construction element of the proposed project, the City of Long Beach Planning and Building Department shall ensure that the plans and specifications require compliance with NPDES Permit No. CAS 004003. The construction contractor for each element of the proposed project shall be required to submit a Standard Urban Storm Water Management Plan to the City of Long Beach for review and approval at least 30 days prior to the anticipated need for a grading permit. The City of Long Beach Planning and Building Department shall monitor construction to ensure compliance with NPDES Permit No. CAS 004003. The Office of Statewide Health Planning and Development has jurisdiction over inpatient facilities, and the City of Long Beach would have jurisdiction over outpatient facilities.

3.8.7 Level of Significance after Mitigation

Implementation of mitigation measure NPDES-1 would be expected to reduce potential impacts to NPDES to below the level of significance.

3.9 NOISE

As a result of the analysis undertaken in the Initial Study for the Long Beach Memorial Medical Center Expansion (proposed project),[1] the City of Long Beach (City) Department of Planning and Building determined that the proposed project may result in environmental impacts from noise. Therefore, this issue has been carried forward for detailed analysis in this Environmental Impact Report (EIR). This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts from noise and to identify potential alternatives.

The analysis of noise includes a description of the regulatory framework that guides the decision-making process, existing conditions of the proposed project area, thresholds for determining if the proposed project would result in significant impacts, anticipated impacts (direct, indirect, and cumulative), mitigation measures, and level of significance after mitigation.

The potential for impacts from noise has been analyzed in accordance with the methodologies provided by the County of Los Angeles Streamlined General Plan,[2] the Noise Control Ordinance of the County of Los Angeles,[3] and the site-specific acoustical analysis and modeling undertaken for the proposed project (Appendix I, *Noise Analysis*).[4]

Noise Definition

Noise is defined as unwanted sound. The human response to environmental noise is subjective and varies considerably from individual to individual. Sensitive receptors, such as residential areas, convalescent homes, schools, auditoriums, and other similar land uses, may be affected to a greater degree by increased noise levels. The effects of noise can range from interference with sleep, concentration, and communication to physiological and psychological stress; at the highest intensity levels, effects can include hearing loss.

The method commonly used to quantify environmental noise involves evaluation of all frequencies of sound, with an adjustment to reflect the constraints of human hearing. Because the human ear is less sensitive to low and high frequencies than to midrange frequencies, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called "A-weighting," written as dBA. In practice, environmental noise is conveniently measured using a sound-level meter that includes an electronic filter corresponding to the A-weighted curve that allows comparison to common noise sources and their A-weighted sound level, subjective loudness, and type of effect (Table 3.9-1, *A-Weighted Sound Levels*).

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[1] City of Long Beach, Department of Planning and Building. 20 August 2004. *Initial Study for the Long Beach Memorial Medical Center Expansion Project*. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[2] County of Los Angeles, Department of Regional Planning. 1993. *Streamlined County of Los Angeles General Plan*. Contact: 320 West Temple Street, Room 1348, Los Angeles, CA 90012.

[3] County of Los Angeles. 1978. Noise Control Ordinance of the County of Los Angeles. Ord. 1, 1778, § 2 (Art. 1, § 101) and Ord. 1, 1773, § 2 (Art. 1, § 101). Chapter 12.08. Available at: http://ordlink.com/codes/lacounty/index.htm

[4] VSA n Associates, Inc. 8 October 2004. *Long Beach Memorial Medical Center Expansion Noise Impact Analysis*. Contact: VSA n Associates, Inc., 12525 Lambert Road, Whittier, CA 90606.

TABLE 3.9-1
A-WEIGHTED SOUND LEVELS

Noise Source	A-Weighted Sound Level (in dBA)	Subjective Loudness	Effect of Noise
Near jet engine	130	Intolerable or deafening	Hearing loss
Loud auto horn	100	Very noisy	Hearing loss
Normal conversation at 5 to 10 feet	60	Loud	Speech interference
Bird calls	40	Moderate	Sleep disturbance
Whisper	30	Faint	No effect
Rustling leaves	10	Very faint	No effect

There are several statistical tools used to evaluate and compare noise-level measurements. To account for the fluctuation in noise levels over time, noise impacts are commonly evaluated using time-averaged noise levels. Time averages are typically expressed in terms of the A-weighted Noise Equivalent Level (L_{eq}), a steady-state energy level equal to the energy content of the time-varying period. This means that the L_{eq} represents the noise level experienced over a stated period of time averaged as a single noise level. Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, an artificial decibel increment is added to quiet-time noise levels in 24-hour noise descriptors, or a 24-hour L_{eq}, called the Community Noise Equivalent Level (CNEL), also called the Day-Night Level (L_{dn}).

Another measure used to characterize noise exposure is the variation in sound levels over time, measured by the percentage exceedance level. L_{10} is the A-weighted sound level that is exceeded for 10 percent of the measurement period, and L_{90} is the level that is exceeded for 90 percent of the measurement period. L_{50} is the median sound level. Additional statistical measures include L_{min} and L_{max}, the minimum and maximum sound levels, respectively, measured during a stated measurement period.

These descriptions of noise are based on the sound level at the point of measurement. When determining potential impacts to the environment, the noise level at the receptor is considered. Noise is attenuated as it propagates from the source to the receiver. Attenuation is the reduction in the level of sound resulting from absorption by the topography, the atmosphere, distance, barriers, and other factors. Attenuation is also logarithmic, rather than linear, so that for stationary sources like the proposed project, noise levels decrease approximately 6 dBA for every doubling of distance.

Ground-Borne Vibration Definition

Vibration is an oscillatory motion, which can be described in terms of displacement, velocity, or acceleration. Because motion is oscillatory and there is no net movement of the vibrating element, the average of any of the motion descriptors is zero. Displacement is the easiest descriptor to understand. For a vibrating floor, the displacement is simply the distance that a point on the floor moves away from its static position. The velocity represents the instantaneous speed of the movement, and the acceleration represents the rate of change in the speed.

Although displacement is easier to understand than velocity and acceleration, it is rarely used for describing ground-borne vibration. This is because most transducers used to measure ground-borne vibration use either velocity or acceleration. Even more important, the response of humans, buildings,

and equipment to vibration is more accurately described using velocity or acceleration. Therefore, ground-borne vibration is measured as a velocity level in 10^{-6} inches per second.

The effects of ground-borne vibration include striking movements of the building floors, rattling of windows, or shaking of items on shelves or hangings on walls. The rumble is the noise radiated from the motion and contact of room surfaces. In essence, the room surfaces act like a loudspeaker. This is called ground-borne noise. In extreme cases, vibrations can cause damage to buildings.

3.9.1 Regulatory Framework

State and local governments have established noise standards and guidelines to protect citizens from potential hearing damage and various other adverse physiological and social effects associated with noise.

State

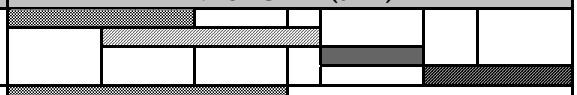
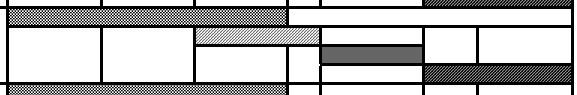
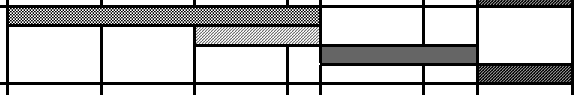
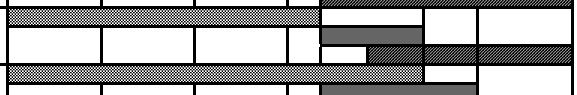
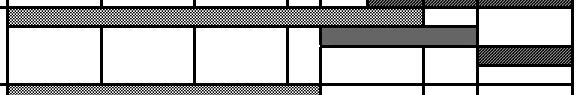
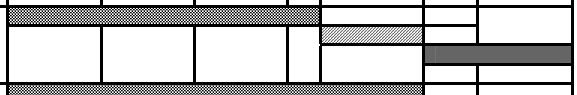
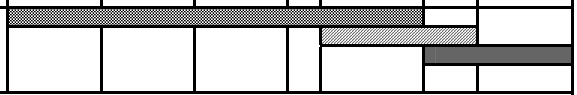
California Senate Bill 860, which became effective January 1, 1976, directed the California Office of Noise Control within the State Department of Health Services to prepare "Guidelines for the Preparation and Content of Noise Elements of the General Plan."[5] One purpose of these guidelines was to provide sufficient information concerning the noise environment in the community so that noise could be considered in the land use planning process. As part of this publication, Land Use Compatibility Standards were developed in four categories: Normally Acceptable, Conditionally Acceptable, Normally Unacceptable, and Clearly Unacceptable (Table 3.9.1-1, *Land Use Compatibility for Community Noise Environments*). These categories were based on earlier work done by the U.S. Department of Housing and Urban Development (HUD). The interpretation of the four categories is as follows:

- Normally Acceptable: Specified land use is satisfactory without special insulation.
- Conditionally Acceptable: New development requires detailed analysis of noise insulation requirements.
- Normally Unacceptable: New development is discouraged and requires a detailed analysis of insulation features.
- Clearly Unacceptable: New development should not be undertaken.

The State of California has developed a Land Use Compatibility Matrix for community noise environments that further defines four categories of acceptance and assigns CNEL values to them. In addition, the State Building Code (Title 24, California Code of Regulations [CCR], Part 2) establishes uniform minimum noise insulation performance standards to protect persons within new hotels, motels, dormitories, long-term care facilities, apartment houses, and residential units other than detached single-family residences from the effects of excessive noise, including, but not limited to, hearing loss or impairment and interference with speech and sleep. Residential structures to be located where the CNEL or L_{dn} is 60 dBA or greater are required to provide sound insulation to limit the interior CNEL to a maximum of 45 dBA. An acoustic, or noise, analysis report prepared by an experienced acoustic engineer is required for the issuance of a building permit for these structures. Conversely, land use changes that result in increased noise levels at residences of 60 dBA or greater must be considered in the evaluation of impacts to ambient noise levels.

[5] California Department of Health Services, Office of Noise Control. February 1976. *Guidelines for the Preparation and Content of Noise Elements of the General Plan*. Contact: California Department of Health Services, Office of Noise Control, P.O. Box 942732 Sacramento, CA 94234-7320.

TABLE 3.9.1-1
LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

Land Use Category	Community Noise Exposure 55 60 65 70 75 80 L_{dn} or CNEL (dBA)
Residential—low-density single-family, duplex, mobile homes	
Residential—multiple family	
Transient lodging—motels, hotels	
Schools, libraries, churches, hospitals, nursing homes	
Auditoriums, concert halls, amphitheaters	
Sports area, outdoor spectator sports	
Playgrounds, neighborhood parks	
Golf courses, riding stables, water recreation, cemeteries	
Office buildings, business commercial and professional	
Industrial, manufacturing, utilities, agriculture	

INTERPRETATION:

Normally acceptable
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Normally unacceptable
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Conditionally acceptable
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction with closed windows and fresh air supply systems or air conditioning will normally suffice.

Clearly unacceptable
New construction of development should generally not be undertaken.

SOURCE:
California Department of Health Services, Office of Noise Control. February 1976. *Guidelines for the Preparation and Content of Noise Elements of the General Plan*. Contact: California Department of Health Services, Office of Noise Control, P.O. Box 942732 Sacramento, CA 94234-7320.

Local

City of Long Beach Municipal Code

Operational Noise

Chapter 8.80 of the Long Beach Municipal Code controls unnecessary, excessive, and annoyance noise and vibration in the City of Long Beach. Section 8.80.150 of the Long Beach Municipal Code outlines the exterior noise limit sound levels by receiving land use (Table 3.9.1-2, *City of Long Beach Exterior Noise Limits by Receiving Land Use*).

TABLE 3.9.1-2
CITY OF LONG BEACH EXTERIOR NOISE LIMITS BY RECEIVING LAND USE

Receiving Land Use District	Time Period	Noise Level (dBA)	Steady Audible Tone
District One—Predominantly residential with other land use types also present	Night: 10:00 p.m.–7:00 a.m.	45	40
	Day: 7:00 a.m.–10:00 p.m.	50	45
District Two—Predominantly commercial with other land use types also present	Night: 10:00 p.m.–7:00 a.m.	55	50
	Day: 7:00 a.m.–10:00 p.m.	60	55
District Three—Predominantly industrial with other land types use also present	Any time	65	60
District Four—Predominantly industrial with other land types use also present	Any time	70	65
District Five—Airport, freeways, and waterways regulated by other agencies	Regulated by other agencies and laws		

Section 8.80.150 of the Long Beach Municipal Code states the following:

> No person shall operate or cause to be operated any source of sound at any location within the incorporated limits of 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 from any other property, either incorporated or unincorporated, to exceed:
>
> 1. The noise standard for that land use district as specified in Section 8.80.160 for a cumulative period of more than thirty minutes in any hour; or
>
> 2. The noise standard plus five decibels for a cumulative period of more than fifteen minutes in any hour; or
>
> 3. The noise standard plus ten decibels for a cumulative period of more than five minutes in any hour; or
>
> 4. The noise standard plus fifteen decibels for a cumulative period of more than one minute in any hour; or
>
> 5. The noise standard plus twenty decibels or the maximum measured ambient, for any period of time.

If the measured ambient level exceeds that permissible within any of the first four noise limit categories, the allowable noise exposure standard shall be increased in 5-decibels increments in each category as appropriate to encompass or reflect the ambient noise level. If the measurement location is on a boundary between two different districts, the noise-level limit applicable shall be the arithmetic mean of the two districts.

Section 8.80.160 of the Long Beach Municipal Code states that, in the event that an alleged offensive noise contains a steady audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting or contains music or speech conveying informational content, the standard limits shall be reduced by 5 dBA (Table 3.9.1-2).

Construction Noise

Section 8.80.202 of the Long Beach Municipal Code lists the permitted construction times and does not provide specific standards for noise levels associated with construction during permitted times or times outside of permitted times. Variances are required for construction activities outside of permitted times. Construction activity noise regulations apply only to construction activities where a building or other related permit is required or was issued by the building official. The requirements are as follows:

- Weekdays and federal holidays: No person shall operate or permit the operation of any tools or equipment used for construction, alteration, repair, remodeling, drilling, demolition, or any other related building activity that produces loud or unusual noise that annoys or disturbs a reasonable person of normal sensitivity between the hours of 7:00 p.m. and 7:00 a.m. the following day on weekdays, except for emergency work authorized by the building official. For the purposes of this section, a federal holiday shall be considered a weekday.

- Saturdays: No person shall operate or permit the operation of any tools or equipment used for construction, alteration, repair, remodeling, drilling, demolition, or any other related building activity that produces loud or unusual noise that annoys or disturbs a reasonable person of normal sensitivity between the hours of 7:00 p.m. on Friday and 9:00 a.m. on Saturday and after 6:00 p.m. on Saturday, except for emergency work authorized by the building official.

- Sundays: No person shall operate or permit the operation of any tools or equipment used for construction, alteration, repair, remodeling, drilling, demolition, or any other related building activity at any time on Sunday, except for emergency work authorized by the building official or except for work authorized by permit issued by the noise control officer.

- Owner's/employer's responsibility: It is unlawful for the landowner, construction company owner, contractor, subcontractor, or employer of persons working, laboring, building, or assisting in construction to permit construction activities in violation of provisions in this section.

- Sunday work permits: Any person who wants to do construction work on a Sunday must apply for a work permit from the noise control officer. The noise control officer may issue a Sunday work permit if there is good cause shown; and in issuing such a permit, consideration will be given to the nature of the work and its proximity to

residential areas. The permit may allow work on Sundays, only between 9:00 a.m. and 6:00 p.m., and it shall designate the specific dates when it is allowed.

Vibration

Section 8.80.200/G of the Long Beach Municipal Code outlines the policies and standards relating to operational ground-borne vibration. This section states that operating or permitting the operation of any device that creates vibration above the vibration perception threshold of an individual, at or beyond the property boundary of the source if on private property or at 150 feet (46 meters) from the source if on a public space or public right-of-way. For the purposes of this section, *vibration perception threshold* means the minimum ground or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by such directed means as sensation by touch or visual observation of moving objects.

The City of Long Beach has not adopted any standards for ground-borne vibration associated with construction activities.

City of Long Beach General Plan Noise Element

Operational Noise

The Noise element of the City of Long Beach General Plan[6] suggests criteria for maximum acceptable outdoor and indoor noise levels based on land use type. The criteria are for planning purposes only and do not carry any regulatory authority. The Noise element contains a list of specific goals and strategies related to land use planning, the general noise environment, transportation noise, construction and industrial noise, population and housing noise, and public health and safety. The Noise element serves six purposes:

- To protect and preserve both the property rights of owners and the right to quietness of the citizenry at large
- To make the City a quieter, more pleasant place to live
- To diminish transportation noise impacts on the population
- To respond to demands for a reasonably quiet environment; this is compatible with both existing ambient noise levels and continuing building (i.e., construction noise) and industrial development
- To reduce both noise exposure to the population and noise-level outputs generated by the population
- To attain the lowest possible level of harmful effects of noise on people by the implementation of information, monitoring, and advisory programs.

[6] City of Long Beach, Department of Planning and Building. 25 March 1975. *Noise Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

The Noise element of the City of Long Beach General Plan recommends numerical criteria to judge whether noise from construction and demolition sites is reasonable. In considering what criteria will be appropriate in the daytime, the most weight is given to the following factors:

1. The noise should not interfere unduly with lives and the work of people in nearby buildings.

2. The work on most construction and demolition sites does not last very long, usually for some weeks or months at most.

3. A great deal of building is done in urban areas where there is noise from other sources such as traffic.

4. The efficiency of the building industry depends upon the use of machines.

5. Any criterion must be economically and operationally practicable for contractors.

Construction Noise

Based on the above-mentioned factors, the Noise element of the City of Long Beach General Plan suggests an acceptable construction noise level, where an average maximum noise level outside the nearest building at the window of an occupied room closest to the site boundary should not exceed:

- 70 dBA in areas away from main roads and sources of industrial noise
- 75 dBA in areas near main roads and heavy industries

Aircraft Noise

The standard for the acceptable level of aircraft noise for persons living in the vicinity of airports is hereby established to be a CNEL of 65 dBA. These regulations consider the hospital land use as incompatible if the exterior aircraft noise exceeds 65-dBA CNEL. If the exterior noise levels exceed 65-dBA CNEL, the building shell construction must provide adequate noise reduction, such that the interior noise levels in all rooms used by patients do not exceed an interior CNEL of 45 dBA.

The Airport Noise Compatibility Ordinance (Long Beach Municipal Code, Chapter 16.43), passed in 1995, prevents incompatible properties (i.e., residences, churches, and schools) from being exposed to noise above 65-dBA CNEL. To achieve this goal, CNEL budget and enforcement limits have been established for five separate user groups (air carrier, charter, commuter, general aviation, and industrial) based on the baseline year of 1989–1990.

Roadway Noise

The City of Long Beach has not adopted regulations for traffic noise. In the absence of regulations, the evaluation of the impact is based on California Department of Transportation (Caltrans) requirements. Per Caltrans requirements, the determination of whether a noise increase is considered to be substantial is dependent, in part, on the existing noise levels and the noise abatement criteria (NAC) of 67-dBA $L_{eq}(h)$ (i.e., equivalent noise level measured over one hour) for hospital land use. Caltrans considers a noise level increase to be substantial when the proposed project would result in an increase (Figure 3.9.1-1, *Substantial Noise Increase for Hospital Land Use*).

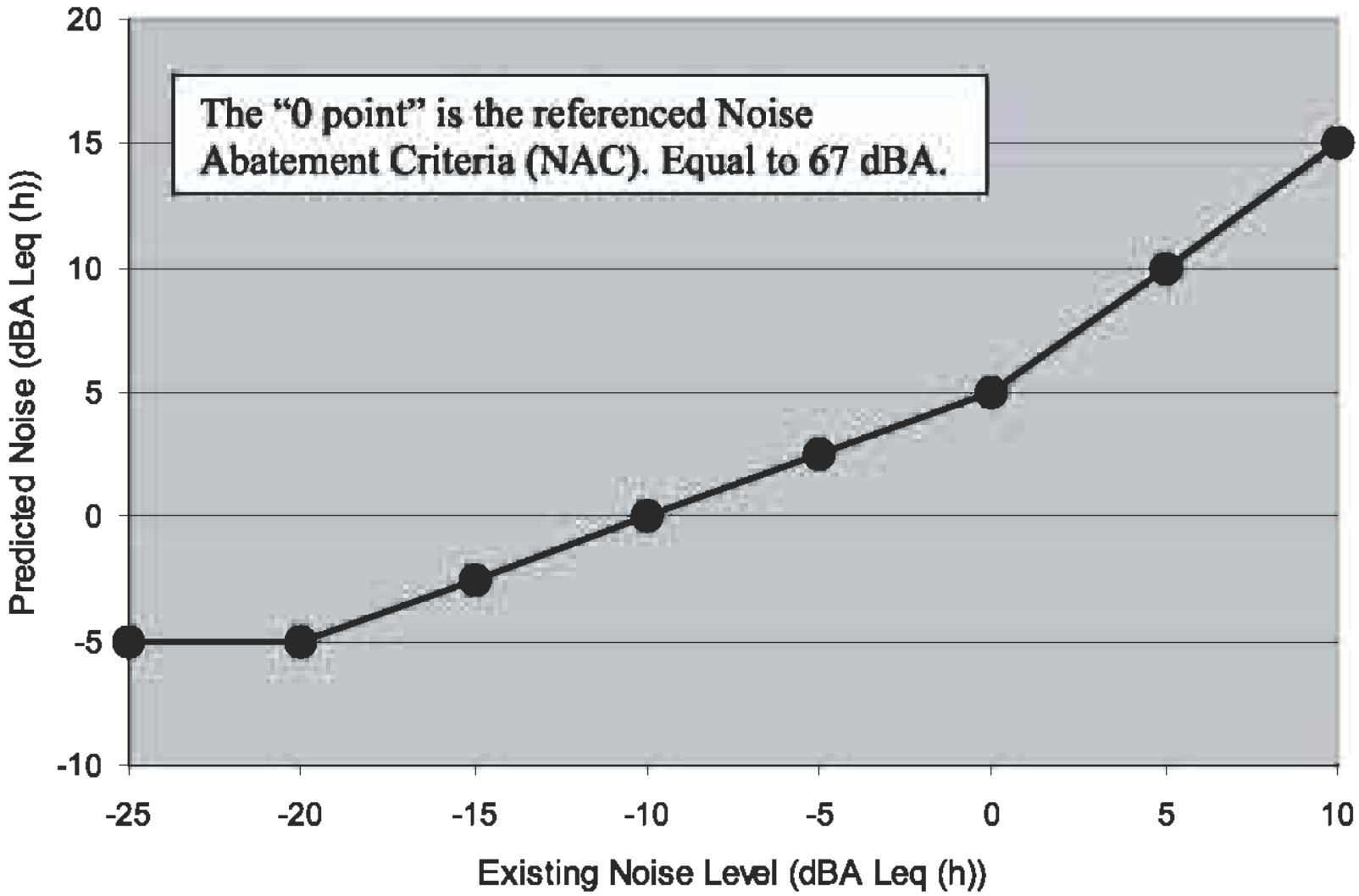


FIGURE 3.9.1-1
Substantial Noise Increase for Hospital Land Use

3.9.2 Existing Conditions

Environmental noise levels were monitored at several locations within and surrounding the hospital complex (Figure 3.9.2-1, *Noise Measurement Locations*). These measurements were made on October 5, 2004 (between 10:00 a.m. and 3:30 p.m.), and October 6, 2004 (between 1:30 p.m. to 4:30 p.m.). Noise levels at the site are dominated by vehicular traffic and occasional aircraft, barking dogs, lawnmowers, etc.

The sound-level meter measures and displays the equivalent noise level, as well as the maximum and the minimum noise levels during the measurement period. The data thus collected were analyzed to determine the L_{eq} level at each measurement location within and surrounding the site (Appendix I). The results of the monitoring and calculations were used as the basis for characterizing the ambient noise environment (Table 3.9.2-1, *Ambient Noise Levels*).

TABLE 3.9.2-1
AMBIENT NOISE LEVELS

Location	L_{eq} (dBA)
A (East side of Atlantic Avenue near medical office building)	72
B (South of Miller Children's Hospital)	59
C (Northeast intersection of Atlantic Avenue and Patterson Street)	71
D (Parking lot north of Ranch House)	55
E (27th Street between Ranch House and medical office building)	63
F (Southwest corner of 27th Street and North Pasadena Avenue)	60
G (Southwest corner of Long Beach Boulevard and East Canton Street)	65
H (Northwest corner of Spring Street and Long Beach Boulevard)	66
I (Northeast corner of Spring Street and Long Beach Boulevard)	58

Ambient noise levels at the project site range from L_{eq} 55 dBA to L_{eq} 72 dBA (Table 3.9.2-1). This range is deemed "conditionally acceptable" to "normally unacceptable" within the land use designation of "schools, libraries, churches, hospitals, nursing homes" (Table 3.9.1-1).

3.9.3 Significance Threshold

The potential for the proposed project to result in impacts related to noise was analyzed in relation to the questions contained in Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines.

The proposed project would normally be considered to have a significant impact to noise when the potential for any one of the following six thresholds occurs:

- 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 ground-borne vibration
- A substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project

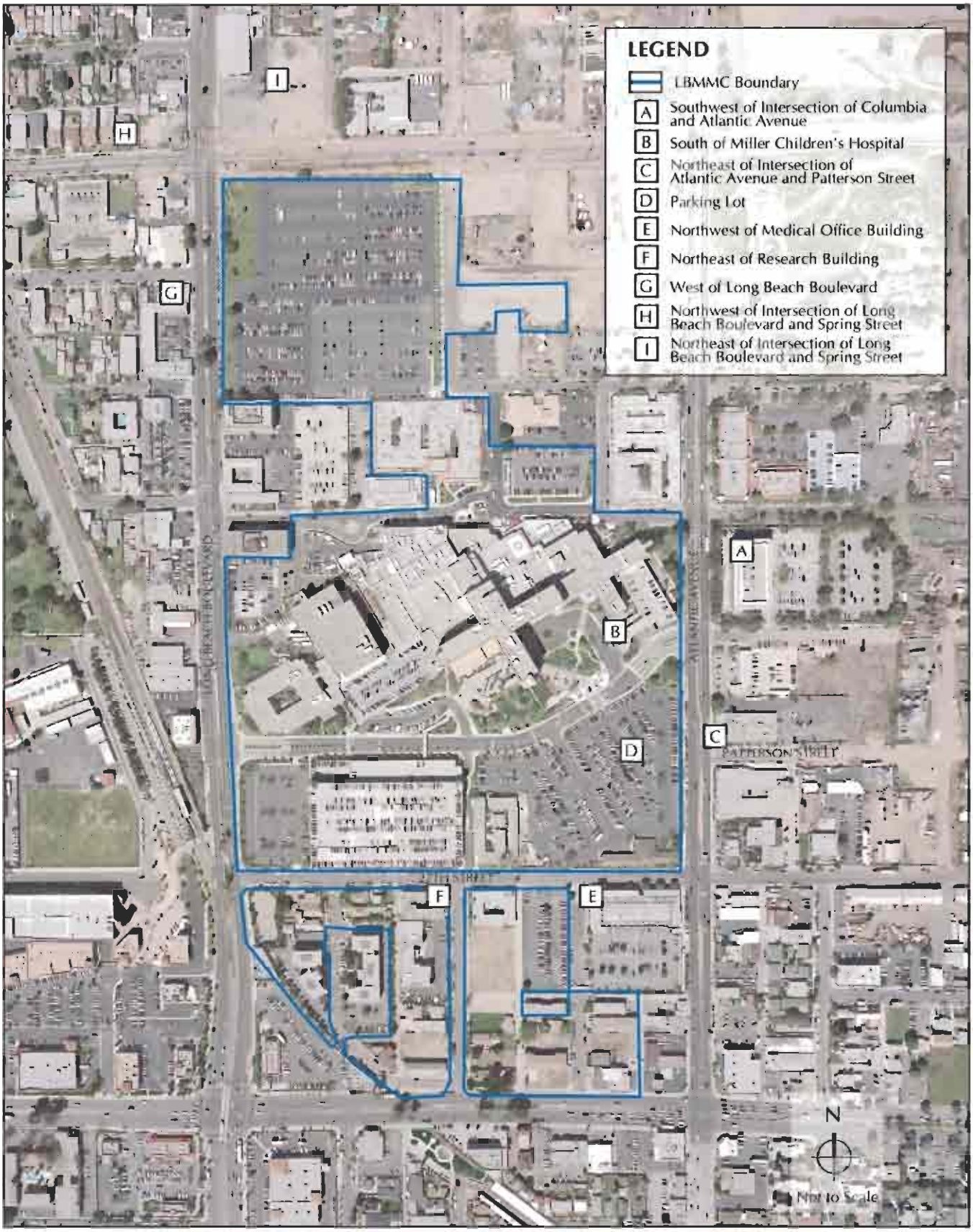


FIGURE 3.9.2-1
Noise Measurement Locations

- A substantial temporary or periodic increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project

- For a proposed project located within an airport land use plan or where such a plan has not been adopted within 2 miles of a public airport, exposure of persons residing or working in the proposed project area to excessive noise levels

- For a proposed project within the vicinity of a private airstrip, exposure of persons residing or working in the proposed project area to excessive noise levels

The significance of impacts to the ambient noise environment was considered in relation to the magnitude of the CNEL increase and the potential to change the community noise exposure category (Table 3.9.3-1, *Ambient Noise Significance Thresholds*). For the purpose of this analysis, the exposure of persons to or generation of noise level in excess of standards established was determined on the basis of the following:

- Operational noise levels: Long Beach Municipal Code
- Construction noise levels: Long Beach Municipal Code and City of Long Beach General Plan
- Operational vibration levels: Long Beach Municipal Code
- Construction vibration levels: No specific requirements
- Roadway noise: Caltrans guidelines
- Aircraft noise: CCR and City of Long Beach Airport Noise Compatibility Ordinance

TABLE 3.9.3-1
AMBIENT NOISE SIGNIFICANCE THRESHOLDS

CNEL Increase	Category Change	Significant Impact?
5 dBA or more	No	Yes
3 to 4 dBA	No	Yes
3 to 4 dBA	Yes	No
0 to 3 dBA	No	No

In addition to these requirements, it is important to consider ambient noise level increases. Ambient noise levels are most appropriately defined in terms of CNEL values because these account for a full day of noise exposure adjusted for community receptors.

If a given area is characterized by a quiet noise environment and a new noise source is introduced that increases the noise exposure in the area without violating the Long Beach Municipal Code noise standards, then a noise impact may still occur. However, objective standards for evaluating such impacts to the ambient noise level have not been adopted formally within the City of Long Beach or the State of California.

It is generally accepted among environmental professionals that most people would consider an increase in the existing ambient CNEL of 5 dB or more as noticeable. Therefore, a CNEL increase of 5 dBA or more is generally considered to be a significant environmental impact. A change in the CNEL value from 3 to 5 dBA may be noticed by some and is generally considered an adverse impact to those persons. These conditions could lead to complaints but are not considered significant environmental impacts because they would not generally be considered a substantial change. Changes in the CNEL

values of less than 3 dBA are generally not noticeable and are also not considered to be significant impacts.

An exception to the above criteria for an ambient noise level increase of less than 5 dBA to be considered less than significant may occur based on the consideration of the Land Use Compatibility Matrix developed by the State of California (Table 3.9.1-1). Although an increase in CNEL values of 3 to 4 dBA is not considered to be a significant impact to ambient noise levels by itself, if there is a category change in the Land Use Compatibility Matrix, the overall impact would be considered significant. For example, a category change would occur if the CNEL value moves from normally acceptable to conditionally acceptable when the existing CNEL value is combined with the expected increase in the ambient noise level.

A proposed project would result in a significant noise impact if the project were to result in the exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels. The requirement of the County Noise Control Ordinance regarding vibration is that motion velocities do not exceed 0.01 inch/second over the range of 1 to 100 Hertz (Table 3.9.3-2, *Ground-Borne Vibration Significance Thresholds*).

TABLE 3.9.3-2
GROUND-BORNE VIBRATION SIGNIFICANCE THRESHOLDS

Criterion
Motion velocities do not exceed 0.01 inch/second over the range of 1 to 100 Hertz.
Impact will be considered significant if the predicted noise levels at the nearest land designation are equal to or above the criterion indicated.

3.9.4 Impact Analysis

This section analyzes the potential for significant impacts to occur from noise that would be generated from the implementation of the proposed project. A project's noise impacts can be separated into long-term permanent impacts from project operations and short-term impacts due to construction.

Direct and Indirect Impacts

Construction Impacts

Construction activities are normally carried out in phases utilizing different pieces of equipment. Noise associated with construction of the proposed project or one of the alternatives may result in short-term audible noise levels within the proposed project site and the surrounding area.

The A-weighted noise measurements made at 50 feet for various types of construction equipment expected to be used on the proposed project site were used as the basis for analyzing construction impacts on the ambient noise environment (Table 3.9.4-1, *Measured A-Weighted Noise Levels in dB for Various Types of Construction Equipment at 50 Feet*).

TABLE 3.9.4-1
MEASURED A-WEIGHTED NOISE LEVELS IN dB FOR VARIOUS TYPES OF CONSTRUCTION EQUIPMENT AT 50 FEET

Type	A-Weighted Noise Level (dBA)
Dozers	77
Water trucks	81
Graders	76
Dump trucks	75
Scrapers	76
Front-end loaders	75

In addition, the evaluation of potential noise impacts considered the proximity of each element of the proposed project to sensitive receptors (Table 3.9.4-2, *Nearest Sensitive Receiver(s) for Project Elements*).

TABLE 3.9.4-2
NEAREST SENSITIVE RECEIVER(S) FOR PROJECT ELEMENTS

Proposed Project	Nearest Sensitive Receiver(s)
Todd Cancer Institute (TCI), Phases I and II	School located across Long Beach Boulevard, single-family residence north of Long Beach Boulevard and Spring Street
Miller Children's Hospital (MCH) pediatric inpatient tower, Phases I and II	Medical office building across Atlantic Avenue, MCH
MCH pediatric impatient tower, utility trench	Convalescent home
MCH pediatric impatient tower, central plant	Medical office building across 27th Street
MCH link building	Medical office building across Atlantic Avenue
MCH pediatric outpatient building	Medical office building across Atlantic Avenue
Roadway realignment	Medical office building across Atlantic Avenue

Evaluation of construction noise is divided into allowable construction hours and construction activities.

- As per the Long Beach Municipal Code (Section 8.80.202), construction would be permitted within the hours indicated below. Variance would be required outside of the following hours:
    - Weekdays: 7:00 a.m. to 7:00 p.m.
    - Saturdays: 9:00 a.m. to 6:00 p.m.
    - Sundays: No construction is permitted.

- Construction Noise: Construction noise would occur in discreet phases. Average noise levels associated with various construction phases were calculated for all pertinent equipment that would present and operating at a reference distance of 50 feet (Table 3.9.4-3, *Construction Activity Noise Levels at 50 Feet*). The range of predicted noise levels at the nearest sensitive receivers for each proposed project element was estimated for each phase of construction (Table 3.9.4-4, *Construction Noise for Different Projects at Nearest Sensitive Receptors*). The potential for adverse impacts on sensitive receptors to occur would be possible in Phases 4 and 9 of construction.

TABLE 3.9.4-3
CONSTRUCTION ACTIVITY NOISE LEVELS AT 50 FEET

Activity	Noise Level at 50 Feet (dBA)
Ground clearing (demolition and grading)	84 dBA
Excavations	89 dBA
Foundations	78 dBA
Erection of structures	85 dBA
Finishing (i.e., paving)	89 dBA

TABLE 3.9.4-4
CONSTRUCTION NOISE FOR DIFFERENT PROJECTS AT NEAREST SENSITIVE RECEPTORS

Activity	Project and Impacted Receiver								
	1	2	3	4	5	6	7	8	9
Ground clearing	62	58	67	84	67	67	67	67	74
Excavations	67	63	72	89	72	72	72	72	79
Foundations	56	52	61	75	61	61	61	61	68
Erection of structures	63	59	68	85	68	68	68	68	75
Finishing (i.e., paving)	67	63	72	89	72	72	72	72	79
Permitted construction level	75	70	75	75	75	75	75	75	75

1	TCI–Impact on school located across Long Beach Boulevard
2	TCI–Impact on single-family residence north of Long Beach Boulevard /Spring Street
3	Pediatric inpatient tower–Impact on medical office building across Atlantic Avenue
4	Pediatric inpatient tower–Impact on MCH
5	Link building–Impact on medical office building across Atlantic Avenue
6	Pediatric outpatient building–Impact on medical office building across Atlantic Avenue
7	Roadway realignment–Impact on medical office building across Atlantic Avenue
8	Utility trench–Impact on convalescent home across Atlantic Avenue
9	Central plant building–Impact on medical office building across 27th Street

In summary:

- Todd Cancer Institute (TCI): The construction of this proposed project element would not be expected to have any negative noise impact; therefore, no mitigation measures are required.

- Miller Children's Hospital (MCH) pediatric inpatient tower: The construction of this proposed project element would not be expected to have any negative noise impact on the medical office buildings across the street but would have a negative impact on the existing MCH building located within 50 feet of the proposed project element. The negative impact would occur during the ground clearing, excavation, erection, and finishing phases of the proposed project element. Noise reduction of 5 to 14 dBA would be required to reduce inputs to below the level of significance.

- Miller Children's Hospital pediatric outpatient building, link building, and utility trench; and the roadway realignment: The construction of these proposed project elements would not have any negative noise impact; therefore, no mitigation measures are required.

- Miller Children's Hospital central plant building: The construction of this proposed project element would have a negative noise impact during the excavation and the finishing phases of the proposed project, and a noise reduction of 4 dBA would be required during these phases of construction to reduce impacts to below the level of significance.

Actual noise levels associated with construction of the proposed project would vary widely during the course of construction depending on where the equipment was located and what pieces of equipment were in use at any one time. Maximum noise levels associated with all construction equipment operating at the same time would probably never occur during construction. Typically, noise levels from construction activities on a project such as this would range from 65 dBA to 75 dBA at a distance of 50 feet within the proposed project site or 50 feet from the property line of the construction site to the surrounding area. This would translate to noise levels that do not exceed 65 dBA at the closest residential property, which is located to the northwest of the site. Therefore, construction activities at the proposed project site would comply with the requirements of the Long Beach Municipal Code.

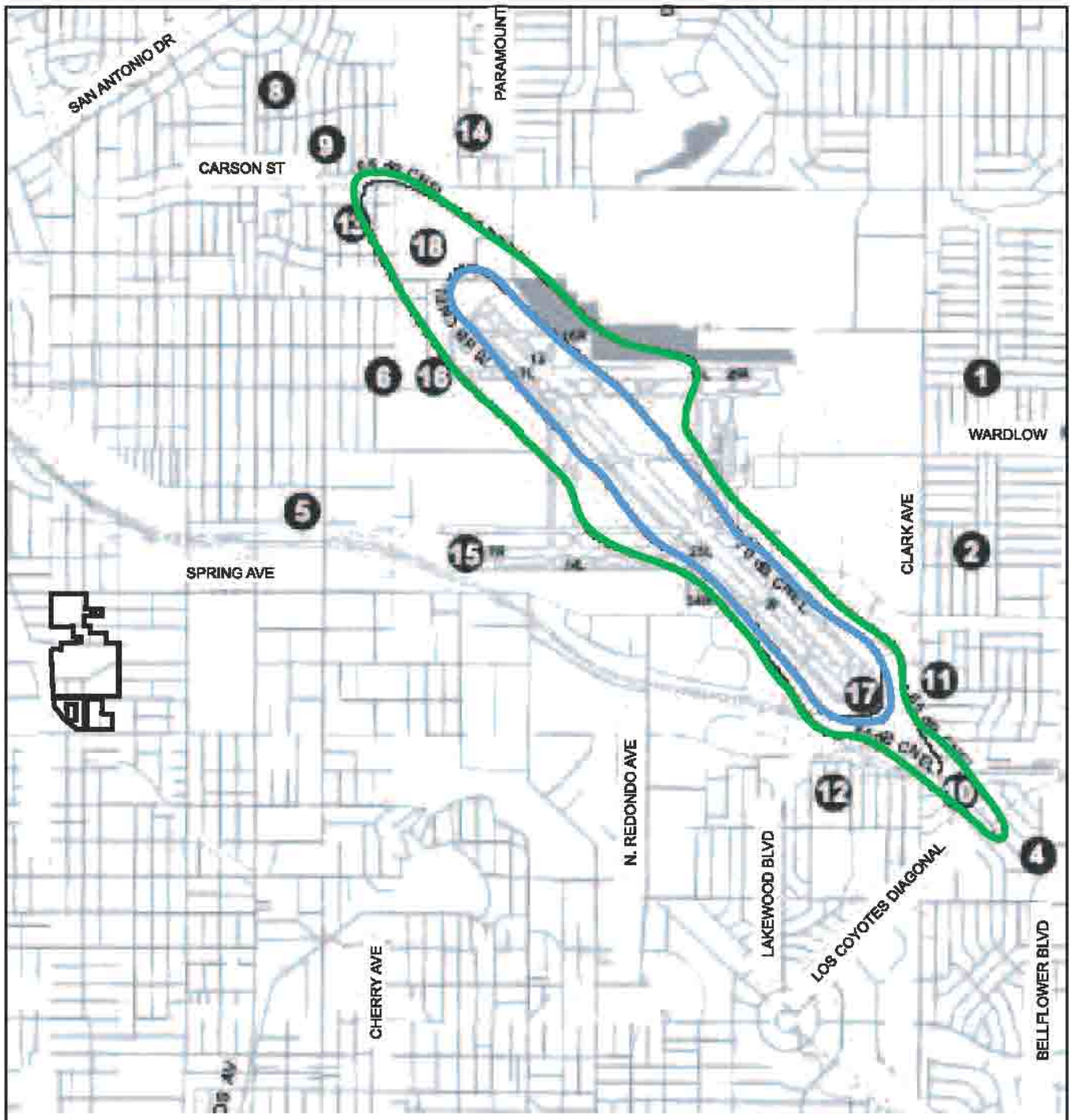
Aircraft Noise Generation

The proposed project would not be expected to result in impacts to noise in relation to public airports. The nearest public airport/public use airport is the Long Beach Airport located more than 1.8 miles to the north. The proposed project site is well outside the 65-dBA CNEL contour boundaries (Figure 3.9.4-1, *65-dBA CNEL Contour*). Therefore, there would be no expected impacts on people working in the proposed project area from noise related to public airports.

The proposed project would not be expected to result in impacts to noise in relation to private airstrips. According to the Thomas Guide[7] and the U.S. Geological Survey (USGS) map,[8] there are no

[7] Thomas Bros. Maps. 2003. *The Thomas Guide: 2003 Los Angeles and Ventura Counties*. Contact: Thomas Bros. Maps, 8255 North Central Park, Skokie, IL 60076.

[8] C.W. Jennings. Revised 1992 (1962). USGS Geologic Map of California, Long Beach Sheet (Olaf P. Jenkins Edition). Capitol Heights, MD: Williams & Heintz Map Corporation.



SOURCE: VSA n Associates, 2004

LEGEND

- 1 Airport Noise Monitoring Locations
- Campus Boundary
- 65-dBA CNEL Contour
- 70-dBA CNEL Contour

FIGURE 3.9.4-1
65-dBA CNEL Contour

private airports within 2 miles of the proposed project area. Based on the frequency of flights and the type of aircraft, there are no expected impacts on people working in the proposed project area from noise related to private airstrips.

Construction and operation of the proposed project elements would not be expected to result in significant impacts due to excessive noise related to air traffic. The proposed project would not be located within an airport land use plan for a public airport, public use airport, or private airstrip according to the County of Los Angeles General Plan.[9] The Long Beach Airport and the Torrance Airport are the nearest public airports to the proposed project site, located approximately 1.8 miles and 10 miles from the proposed project site, respectively.[10] Although located within 1.8 miles of the Long Beach Airport, site-specific data demonstrated that the proposed project site is located outside the 65-dBA CNEL Contour. There are no private airstrips located within an approximate 10-mile radius of the proposed project. Therefore, significant impacts due to excessive noise related to air traffic would not be expected to occur.

Ambient Noise Levels

Temporary and/or periodic noise sources would include demolition and construction activities. The substantial increase level based on measured ambient levels was calculated (Table 3.9.4-5, *Construction Activity Noise Levels at Resident Across Quill Street*).

TABLE 3.9.4-5
CONSTRUCTION ACTIVITY NOISE LEVELS
AT RESIDENCE ACROSS QUILL STREET

Activity	Project and Impacted Receiver								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Ground clearing	62	58	67	84	67	67	67	67	74
Excavations	67	63	72	89	72	72	72	72	79
Foundations	56	52	61	75	61	61	61	61	68
Erection of structures	63	59	68	85	68	68	68	68	75
Finishing (i.e., paving)	67	63	72	89	72	72	72	72	79
Substantial increase level	70	63	77	64	76	76	76	76	68

1	TCI–Impact on school located across Long Beach Boulevard
2	TCI–Impact on single-family residence north of Long Beach Boulevard/Spring Street
3	Pediatric inpatient tower–Impact on medical office building across Atlantic Avenue
4	Pediatric inpatient tower–Impact on MCH
5	Link building–Impact on medical office building across Atlantic Avenue
6	Pediatric outpatient building–Impact on medical office building across Atlantic Avenue
7	Roadway realignment–Impact on medical office building across Atlantic Avenue
8	Utility trench–Impact on convalescent home across Atlantic Avenue
9	Central plant building–Impact on medical office building across 27th Street

[9] County of Los Angeles, Department of Regional Planning. 1993. *Streamlined County of Los Angeles General Plan*. Contact: 320 West Temple Street, Room 1348, Los Angeles, CA 90012.

[10] Automobile Club of Southern California, Travel Publications Department. 2000. *Los Angeles County Metropolitan Area*. Contact: 2601 South Figueroa Street, Los Angeles, CA 90007.

In summary:

- TCI Phases I and II: The construction of this proposed project element would not be expected to have any negative noise impact; therefore, no mitigation measures would be required.

- MCH pediatric inpatient tower: The construction of this proposed project element would not be expected to have any negative noise impact on the medical office buildings across the street but would be expected to have a negative impact on the existing MCH building located within 50 feet of the proposed project element. The negative impact would occur during all construction phases of the proposed project. Noise reduction of 11 to 25 dBA would be required to reduce impacts to below the level of significance.

- MCH pediatric outpatient building, link building, and utility trench; and the roadway realignment: The construction of these proposed project elements would not be expected to have any negative noise impact; therefore, no mitigation measures would be required.

- MCH central plant building: The construction of this proposed project element would be expected to have a negative noise impact during the ground clearing, excavation, erection, and the finishing phases of the proposed project element. Noise reduction of 1 to 11 dBA would be required during these phases of construction to reduce impacts to below the level of significance.

The proposed project would result in less than significant impacts from noise related to a permanent increase in the ambient noise level in the proposed project vicinity above levels existing without the proposed project.

Permanent increase in the noise levels would occur from operations of the building and additional roadway noise (Table 3.9.4-6, *Permanent Noise Levels from Different Projects at Sensitive Receptors*). The long-term operational noise levels would be below the substantial increase level. Therefore, the operational impacts on ambient noise levels would be below the threshold for significance.

TABLE 3.9.4-6
PERMANENT NOISE LEVELS FROM DIFFERENT PROJECTS AT SENSITIVE RECEPTORS

Activity		Project and Impacted Receiver								
		1	2	3	4	5	6	7	8	9
Predicted		27	24	32	50	32	32	32	32	40
Substantial increase level		70	63	77	64	76	76	76	76	68
1	TCI–Impact on school located across Long Beach Boulevard									
2	TCI–Impact on single-family residence North of Long Beach Boulevard/Spring Street									
3	Pediatric inpatient tower–Impact on medical office building across Atlantic Avenue									
4	Pediatric inpatient tower–Impact on MCH									
5	Link building–Impact on medical office building across Atlantic Avenue									
6	Pediatric outpatient building–Impact on medical office building across Atlantic Avenue									
7	Roadway realignment–Impact on medical office building across Atlantic Avenue									
8	Utility trench–Impact on convalescent home across Atlantic Avenue									
9	Central plant building–Impact on medical office building across 27th Street									

Permanent increases in the ambient noise level would be generated from the operation of the buildings at the proposed project site and additional traffic generated by the proposed project. The impact to noise related to temporary or periodic increase in the ambient noise level in the proposed project vicinity is expected to be reduced to below the level of significance with the incorporation of mitigation measures.

Construction, demolition, and maintenance activities would also result in temporary and periodic increases, respectively, in the ambient noise level. The noise level expected from operation of the proposed project would be approximately 50 dBA at 50 feet, and 89 dBA at 50 feet during construction and maintenance activities, assuming a worst-case scenario.

Due to noise attenuation, noise levels would not exceed 72 dBA at MCH within the proposed project site. Therefore, construction activities at the proposed project site would comply with the requirements of the Long Beach Municipal Code. However, with mitigation measures, construction noise activities could be reduced to below the level of significance.

Ambient daytime noise levels at the nearest off-site sensitive receptor, which is the convalescent home across Atlantic Avenue, would be approximately 71 dBA. Therefore, ambient noise levels would not temporarily interfere with activities at the convalescent home for the duration of construction.

Ground-Borne Vibration

The proposed project elements would be expected to experience less than significant impacts to noise in relation to generation of excessive ground-borne vibration or ground-borne noise. Vibration from building operations would be minimal and well below the criteria, based on typical vibration levels at 100 feet from a similar 4-story building. Although vibration levels would vary depending on design and soil conditions, noise and vibration data for similarly designed buildings indicate that the vibration levels would be below the threshold of significance. Therefore, there are no expected impacts to noise related to generation of excessive ground-borne vibration or ground-borne noise.

The requirements of the Long Beach Municipal Code concerning vibration are that motion velocities do not exceed 0.01 inch/second over the range of 1 to 100 Hertz. Ground-borne vibration levels typically associated with pile-driving activities, blasting, and major grading activities can exceed this vibration threshold level at distances within 100 feet. However, because there would be pile-driving, blasting, or mass grading activities at the proposed project site, perceptible ground vibration at sensitive receptors and other locations off site would be possible.

Operational Impacts

The proposed project would result in a less than significant impact from noise related to exposure to or generation of excessive ground-borne vibration. Significant ground-borne vibration and noise levels are based on 0.001 g's[11] in the frequency range between 1 and 30 hertz and 0.003 g's in the frequency range between 30 and 100 hertz.[12] The vibration generated during building operations would be minimal (i.e., less than 0.0005 g's in the frequency range of 1 and 30 hertz and less than 0.0015 g's in the frequency range between 30 and 100 hertz) and well below the criteria. Operations of the proposed project are not expected to generate noise levels that exceed the threshold of significance. Most of the operations-related noise would be confined to indoor spaces.

Traffic Generation Impacts

The analysis of noise from additional trips generated by the proposed project was based on the hourly peak noise levels. The increase in noise levels at all locations around the proposed project was less than 1 dB, which will not be perceived.

3.9.5 Cumulative Impacts

The incremental impact of the combined components of the proposed project, when added to the related past, present, or reasonably foreseeable, probable future projects listed in Section 2, Project Description, would not result in significant cumulative impacts from noise. The proposed project area does not currently experience noise levels in excess of the Long Beach Municipal Code standards. The related projects identified also would not create excessive noise or ground-borne vibration within the proposed project vicinity. Sound attenuates over distance. Because the proposed project is separated from all related projects by at least 0.25 mile, the incremental effect of the proposed project in combination with the related projects would not elevate the ambient noise level above the Long Beach Municipal Code standards. Similarly, the proposed project would not contribute to cumulative impacts from the related impacts that would result in a category change in the Land Use Compatibility Matrix. Therefore, there would not be anticipated cumulative impacts from noise.

3.9.6 Mitigation Measures

Although there is no mitigation measure that would completely eliminate potential noise generation from construction, the specified mitigation measures would reduce noise impacts to less than significant levels.

[11] The symbol *g* is the average acceleration produced by gravity at sea level, and it is often used as a unit of acceleration approximately equal to 9.8 meters per second per second.

[12] VSA n Associates, Inc. 8 October 2004. *Long Beach Memorial Medical Center Expansion Noise Impact Analysis*. Contact: VSA n Associates, Inc., 12525 Lambert Road, Whittier, CA 90606.

Measure Noise-1

The City of Long Beach shall minimize the potential for construction noise levels to exceed the City of Long Beach Noise Ordinance by requiring the construction contractor to properly maintain all heavy equipment used for construction of each element of the proposed project: Todd Cancer Institute Phases I and II; Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench; MCH pediatric outpatient building; MCH link building; road realignment; and parking. Prior to the completion of final plans and specifications, the City of Long Beach shall ensure that the plans and specifications include a requirement that all construction equipment shall be properly maintained. All vehicles and compressors shall utilize exhaust mufflers. Engine enclosure covers as designed by the manufacturer shall be in place at all times. The City of Long Beach shall monitor the use of heavy equipment during construction to ensure conformance with the requirements of properly maintained heavy equipment.

Measure Noise-2

The City of Long Beach shall minimize the potential for construction noise levels to conflict with the City of Long Beach Noise Ordinance by requiring the plans and specifications to specify restricted periods for grading and construction for each element of the proposed project: Todd Cancer Institute Phases I and II; Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench; MCH pediatric outpatient building; MCH link building; road realignment; and parking. Prior to the completion of final plans and specifications, the City of Long Beach shall ensure that the plans and specifications include a provision that restricts grading and construction activities to daily operation from 7:00 a.m. to 7:00 p.m., Monday through Friday, and from 8:00 a.m. to 5:00 p.m. on Saturdays. There should be no work on Sundays or federal holidays.

Measure Noise-3

The City of Long Beach shall require that the plans and specifications for the Miller Children's Hospital pediatric inpatient tower and the central plant building require that construction equipment shall be equipped with state-of-the-art noise-muffling devices. Barriers or curtains shall be required to be installed close to equipment to shield the equipment from the receiver. The height and length of the barriers or curtains shall be determined based on location of construction activity and receiver.

Because of the close proximity of the source and receiver, the impact would be dependent on the location of the noise sources. Prior to the start of construction, the contractor shall develop a noise control plan based on actual equipment to be used and location of various activities. If actual equipment noise levels are not available, equipment noise levels shall be measured in the field. The plan should predict the noise levels with the actual equipment and with the barriers or curtains in place. The plan shall take into consideration the order of construction and equipment mix. Equipment mix and/or the number of equipment operating shall be considered in reducing the noise levels.

3.9.7 Level of Significance after Mitigation

Implementation of mitigation measures Noise-1 through Noise-3 would reduce potential impacts related to noise to below the level of significance.

3.10 PUBLIC SERVICES

As a result of the analysis undertaken in the Initial Study for the Long Beach Memorial Medical Center Expansion (proposed project),[1] the City of Long Beach (City) Department of Planning and Building determined that the proposed project may result in environmental impacts to public services. Therefore, this issue has been carried forward for detailed analysis in this Environmental Impact Report (EIR). This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts to fire protection, police protection, schools, parks, and other services, as well as to identify potential alternatives.

The analysis of public services includes a description of the regulatory framework that guides the decision-making process, existing conditions of the proposed project area, thresholds for determining if the proposed project would result in significant impacts, anticipated impacts (direct, indirect, and cumulative), mitigation measures, and level of significance after mitigation.

The potential impacts to public services have been analyzed in accordance with the methodologies provided by the City of Long Beach General Plan,[2] published maps, the City of Long Beach Municipal Code,[3] the California Health and Safety Code,[4] the available information from the City of Long Beach,[5] and communications both with the City of Long Beach[6] and service provider officials.[7,8]

3.10.1 Regulatory Framework

The proposed project site is owned by the Long Beach Memorial Medical Center (LBMMC), falls within the jurisdiction of the City of Long Beach, and is subject to the City of Long Beach General Plan.[9] The proposed project is required to comply with the City's land use policies, ordinances, and regulations. The City of Long Beach Municipal Code[10] applies to the land within the proposed

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[1] City of Long Beach, Department of Planning and Building. 20 August 2004. *Initial Study for the Long Beach Memorial Medical Center Expansion Project*. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[2] City of Long Beach, Department of Planning and Building. July 1991. *General Plan Maps and Descriptions of Land Use Districts*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[3] City of Long Beach. 1982. City of Long Beach Municipal Code (Ord. C-5831 § 1, 1982), Chapter 21. Available at: http://www.longbeach.gov/apps/cityclerk/lbmc/title-21/frame.htm

[4] Office of Statewide Health Planning and Development. 1994. Senate Bill 1953, Chapter 740, Amendment to the Alfred E. Alquist Hospital Seismic Safety Act of 1983, Sections 130000 through 130070. Available at: http://www.oshpd.cahwnet.gov/SB1953/index.htm

[5] City of Long Beach. 9 July 2004. "City of Long Beach Departments and Municipal Services." Available at: http://www.ci.long-beach.ca.us/depts./default.asp

[6] Anita Garcia, *Personal Communication*, 8 July 2004. City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[7] Allan Patalano, *Personal Communication*, 8 July 2004. City of Long Beach, Fire Department, 3917 Long Beach Boulevard, Long Beach, CA 90807.

[8] Michael Weber, *Personal Communication,* 25 October 2004. City of Long Beach, Police Department, 100 Long Beach Boulevard, Long Beach, CA 90802.

[9] City of Long Beach, Department of Planning and Building. July 1991. *General Plan Maps and Descriptions of Land Use Districts*. Contact: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[10] City of Long Beach. 1982. City of Long Beach Municipal Code (Ord. C-5831 § 1, 1982), Chapter 21. Available at: http://www.longbeach.gov/apps/cityclerk/lbmc/title-21/frame.htm

project area. The proposed project also must comply with the California Health and Safety Code. The consideration of state and city standards allows the EIR to fulfill its intended purpose as an informational document.

State

The Leroy F. Greene School Facilities Act of 1998, Senate Bill 50

The Leroy F. Greene School Facilities Act of 1998, Senate Bill (SB) 50, signed into law in August 1998, became fully effective with the approval of State Proposition 1A on November 3, 1998. SB 50 describes three levels of fees that can be statutorily levied against a project for mitigation of school facilities. SB 50 declares that payment of the specified development fees, where necessary, is full and covers complete mitigation for impacts to school facilities and prohibits a public agency from denying a legislative or adjudicative act on the basis of refusal to provide mitigation of school facilities that exceeds the amounts authorized by SB 50. The proposed project is not located within, or immediately adjacent to, an existing or proposed school site; therefore, SB 50 would not pertain to the proposed project.

Local

City of Long Beach General Plan

The Public Safety element of the City of Long Beach General Plan identifies goals and polices for public services related to fire protection and crime prevention.

Fire Protection

The Public Safety element of the City of Long Beach General Plan recognizes the importance of ensuring that fire facilities and protective services are sufficient for the existing and future population and land uses of the City. These focus on reducing threats to public safety through the protection of property and wildlands from fire through the review of projects and development proposals and on following the City's fire prevention standards and mitigation measures. The Public Safety element of the City of Long Beach General Plan recognizes the importance of continuously reviewing and reevaluating plans to meet fire protection needs resulting from changing conditions.

This document also establishes the importance of continued efforts to reduce all fire hazards while placing special emphasis on reducing hazards associated with fire-prone industrial facilities, old and deteriorating structures, and multistory buildings.

The proposed project is within the boundaries of the City of Long Beach; therefore, it falls under the land use guidance of the City of Long Beach General Plan. The City has adopted the policy to review significant development projects and General Plan amendments. The City also requires decision makers to make findings on the impacts that a project or land use plan change may have on fire protection services.

Police Protection

The Public Safety element of the City of Long Beach General Plan recognizes the importance of preventing crimes through physical planning and emphasizes the importance of continued efforts for incorporating security factors into the existing and new buildings. These efforts need to focus on reducing threats to public safety through the review of projects and development proposals. The Public Safety element requires the Planning Department to maintain a liaison with law enforcement and the Fire, Building and Safety, and Community Development Departments.

Schools

According to the City of Long Beach General Plan, schools are to be in locations complementary to existing land uses, recreational facilities, and the community identity.

Libraries

According to the City of Long Beach General Plan, the City will make efforts to assist the City of Long Beach Library Department in providing library services that respond to the needs of the community.

3.10.2 Existing Conditions

Fire Protection

The Long Beach Fire Department (LBFD) provides fire protection services to the LBMMC campus (Campus). The LBFD has a staff of 502 uniformed personnel and 483 civilian support staff members. LBFD staff is responsible for carrying out a variety of emergency response duties in the City of Long Beach:

- Fire prevention
- Firefighting
- Emergency medical care
- Technical rescue
- Hazardous materials mitigation
- Disaster response
- Public education
- Community service

A professionally trained staff of 502 firefighters (including 24 paramedic-trained personnel) is on duty at all times at 23 neighborhood fire stations located across the LBFD's approximately 55-square-mile jurisdiction.

There are six fire stations within a 2-mile radius of the proposed project (Figure 3.10.2-1, *Public Services Near the Proposed Project*). The nearest three fire stations provide primary and secondary response to the Campus (Table 3.10.2-1, *Existing Fire Stations Serving the Proposed Project Site*). Fire Station No. 7 is located at 2295 Elm Avenue, 0.5 mile south of the Campus. It is the primary emergency responder for the Campus. Fire Station No. 9 is located approximately 1.2 miles north of the Campus and serves as the secondary emergency responder for the Campus. Fire Station No. 16 also serves the Campus and is located approximately 2.0 miles west of the Campus.

LONGFELLOW ELEMENTARY SCHOOL
LONG BEACH BRETHREN ELEMENTARY SCHOOL
LOS CERRITOS ELEMENTARY SCHOOL
LOS CERRITOS PARK
BIRNEY ELEMENTARY SCHOOL
SILVERADO PARK
WEBSTER ELEMENTARY SCHOOL
MUIR, JOHN ELEMENTARY SCHOOL
STEPHENS, W L MIDDLE SCHOOL
HARTE LIBRARY
JACKIE ROBINSON ACADEMY
OAKWOOD SCHOOL
HUDSON ELEMENTARY SCHOOL
SAINT LUCY ELEMENTARY SCHOOL
LAFAYETTE ELEMENTARY SCHOOL
HUDSON PARK
SAVANNAH ACADEMY HIGH SCHOOL
ADMIRAL KIDD PARK
CABRILLO HIGH SCHOOL
GARFIELD ELEMENTARY SCHOOL
HOLY INNOCENTS SCHOOL
GEORGE WASHINGTON MIDDLE SCHOOL
DRAKE PARK
LONG BEACH POLYTECHNIC HIGH SCHOOL
VETERANS MEMORIAL PARK
BIXBY KNOLLS PARK
HUGHES MIDDLE SCHOOL
SAINT BARNABAS SCHOOL
SOMERSET PARK
DANA LIBRARY
RESERVOIR PARK
FIRE STATION 16
BURNETT ELEMENTARY SCHOOL
BURROUGHS ELEMENTARY SCHOOL
WESTERLY SCHOOL
SIGNAL HILL ELEMENTARY SCHOOL
SIGNAL HILL PARK
ALVARADO ELEMENTARY SCHOOL
LONG BEACH PREPARATORY ACADEMY
CHITTICK FIELD PARK
HILLBROOK PARK
LEE ELEMENTARY SCHOOL
ORIZABA PARK
BUTLER ELEMENTARY SCHOOL
WHITTIER ELEMENTARY SCHOOL
MARTIN LUTHER KING JR PARK
MACARTHUR PARK
LINCOLN ELEMENTARY SCHOOL
CALIFORNIA RECREATION CENTER PARK
SAINT JAMES ACADEMY
LONG BEACH COMMUNITY SERVICE CENTER
REID HIGH SCHOOL
INTERNATIONAL ELEMENTARY SCHOOL
LONG BEACH CIVIC CENTER
FIRE STATION 9
FIRE STATION 7
FIRE STATION13
FIRE STATION 10
FIRE STATION 3
BURNETT LIBRARY
14TH STREET PARK
FIRST BAPTIST CHURCH SCHOOL
FIRST BAPTIST CHURCH SCHOOL
ROOSEVELT ELEMENTARY SCHOOL
WEST DIVISION POLICE STATION

N

0 0.5 1 Miles

Data Source: Thomas Brothers, City of Long Beach

Library
Junior High/High School
Elementary/Middle School
Civic Center
Fire Station
Police Station
2-Mile Radius from Site
LBMMC Campus
City of Long Beach
City of Signal Hill
Park

FIGURE 3.10.2-1

Public Services Near the Proposed Project

TABLE 3.10.2-1
EXISTING FIRE STATIONS SERVING THE PROPOSED PROJECT SITE

Fire Station	Location	Personnel and Equipment	Distance to Site
No. 7	2295 Elm Avenue Long Beach, CA 90806	12 personnel, task force truck and engine company, paramedic rescue ambulance—battalion headquarters	0.5 mile
No. 9	3917 Long Beach Boulevard Long Beach, CA 90807	11 personnel, task force truck and engine company, paramedic rescue ambulance—EMT	1.2 miles
No. 16	2890 East Wardlow Road Long Beach, CA 90807	16 personnel, task force truck and engine company, paramedic rescue ambulance—EMT rescue ambulance—division headquarters	2 miles

Police Protection

Police protection in the City of Long Beach is provided by the Long Beach Police Department (LBPD). The LBPD is responsible for providing police service to 460,000 residents[11] in an area encompassing approximately 55 square miles.[12] It is divided into four divisions, groups, units, or sections, and the LBPD is overseen by the Board of Police Commissioners. A representative of the West Division confirmed that police protection services in the proposed project area are currently provided by the LBPD West Division (Figure 3.10.2-1) located at 1835 Santa Fe Avenue. The West Division has a deployment of 104 sworn officers and 24 support staff members who work in three shifts. The West Division is responsible for all police operations in downtown Long Beach. This area has a population of 120,000 residents, which covers approximately 12.9 square miles. The average citywide police response time in Long Beach is 5 minutes. In the West Division, the average response time is 4.4 minutes to the first priority call. The LBPD has plans to construct a new police station, North Long Beach Police Station, near the Campus at 4891 Atlantic Avenue.

Schools

The Campus is within the boundaries of the Long Beach Unified School District (LBUSD). The LBUSD has a total enrollment of 97,000 students, including adult schools and children centers in the Cities of Long Beach, Lakewood, Signal Hill, and Avalon (Catalina Island). Of these students, 95,483 are enrolled in K–12 programs. The LBUSD employs a total of 10,797 personnel, including 5,345 regular full-time teachers.[13] The LBUSD has 62 elementary schools, 24 middle schools, and 9 high schools.[14,15] There are 29 school campuses within a 2-mile radius of the proposed project

[11] City of Long Beach, Department of Planning and Building. October 2002. *Open Space and Recreation Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[12] Keith Colin, *Personal Communication*, 25 October 2004. City of Long Beach, Police Department, West Division, 100 Long Beach Boulevard, Long Beach, CA 90802.

[13] Mathew Reichardt, *Personal Communication*, 25 October, 2004. Senior Research Office Technician, Department of Research Planning and Evaluation, Long Beach Unified School District, 417 Atlantic Avenue, Long Beach, CA 90802.

[14] Long Beach Unified School District. 11 December 2003. *Waste Assessment Report: Long Beach Unified School District*. Available at: http://www.ciwmb.ca.gov/Schools/WasteReduce/AssessRpts/LBUSD/

[15] Mathew Reichardt, *Personal Communication*, 25 October, 2004. Senior Research Office Technician, Department of Research Planning and Evaluation, Long Beach Unified School District, 417 Atlantic Avenue, Long Beach, CA 90802.

site (Figure 3.10.2-1). The closest of these, Robinson Middle School, has an enrollment of about 923 students and is located at 2750 Pine Avenue, approximately 0.2 mile west of the proposed project site (Figure 3.10.2-1). Schools planned for construction near the proposed project site include an elementary school with a potential enrollment of 1,450 students that will be located south of Hill Street between Redondo Avenue and Obispo Avenue, and a middle school with a potential enrollment of 850 students that will be located west of Cherry Avenue and south of 20th Street.

Parks and Open Spaces

The proposed project elements are located within the existing Campus. There are 11 local and regional parks in the vicinity of the proposed project site (Figure 3.10.2-1), one of which, Veteran's Memorial Park, is located within a 1-mile radius of the proposed project site (Figure 3.10.2-1). Veteran's Park is located on 28th Street, west of the proposed project site. In addition to Veteran's Park, 10 local and regional parks are located within an approximate 2-mile radius of the proposed project site. To the northeast is Summerset Park; to the southeast are Hamilton Bowl, King Park, McArthur Park, and Calie Recreation Center; to the southwest are Drake Park, Admiral Kidd Park, and Hudson Park; and to the northwest are Silverado Park and Los Cerritos Park. Parks planned for construction near the proposed project site include the 11-acre Douglass Park at 3855 North Lakewood Boulevard and Long Beach Sports Park at 1000 East Spring Street.

Other Public Facilities

The proposed project is located 3.5 miles north of the Long Beach Civic Center and immediately west of the City of Signal Hills. This area is well served by public facilities, including post offices, public libraries, and hospitals (Figure 3.10.2-1). There are four post offices and four public libraries within approximately 2 miles of the proposed project site. The nearest post office is approximately 1 mile southeast of the proposed project site. The Burnett Branch Library is approximately 0.6 mile south of the proposed project site. The Long Beach Central Library is approximately 2.6 miles south of the proposed project site. The Dana Branch Library is 1 mile north of the proposed project site. The Bret Harte Branch library is 1.5 miles west of the proposed project site. The Mark Twain Branch Library planned for constructed at 1401 East Anaheim Street is 1.6 miles southeast of the proposed project site. Pacific Hospital of Long Beach is within 2 miles of the proposed project site. Medical offices planned for construction near the proposed project site are at 2702 Long Beach Boulevard, 3932 Long Beach Boulevard, 2760 Atlantic Avenue, and 2229 Pacific Avenue.

3.10.3 Significance Threshold

The potential for the proposed project to result in impacts to public services was analyzed in relation to the questions contained in Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines.

The proposed project is normally considered to have a significant impact to public services if the project causes substantial adverse physical impacts associated with the provision of, or need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

- Fire protection
- Police protection
- Schools
- Parks
- Other public services

3.10.4 Impact Analysis

Upon build-out, the proposed expansion of facilities and services would provide a full range of integrated medical facilities to the existing Long Beach community. The proposed project is subject to the City of Long Beach General Plan[16] policies and regulations. The Campus currently utilizes City of Long Beach emergency response services and other services. The elements of the proposed project have been designed to accommodate the community's need for hospital services consistent with population growth anticipation by the General Plan and known demographic trends for health care in the Los Angeles–Long Beach statistical area. The proposed project would not include the construction of housing. The proposed project would not provide infrastructure improvements that would expand the capacity for growth in the community beyond that anticipated by the General Plan. It is expected that the proposed project would generate additional demand for fire services in case of emergencies. Therefore, the proposed project would have a significant effect on fire protection and would require mitigation.

Fire Protection

Over the next 10 years, the proposed project would provide expanded services to the existing community. The added facilities would not increase or expedite the anticipated level of population growth within the region. However, implementation of the proposed project would be expected to result in less than significant impacts to fire protection. Development of new facilities as part of the proposed project would potentially place an additional burden on the existing primary and secondary emergency response units for fire company training, fire prevention inspections, and system maintenance. Additional staff to serve the proposed project site would be accommodated by one of the three existing fire stations. Thus, there would be a need to deputize an additional officer and expand one of the existing primary and secondary response stations. There would not be a need to construct a new fire station.

[16] City of Long Beach, Department of Planning and Building. July 1991. *General Plan Maps and Descriptions of Land Use Districts*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

Police Protection

Implementation of the proposed project would not be expected to result in significant impacts on police protection services, requiring the construction of new buildings. The LBPD Office of Operations and Planning estimates a need for two sworn officers per 1,000 persons[17] to provide adequate police protection. The proposed project consists of expanded facilities to serve the community and would not be expected to induce growth. An existing police station and an additional police station planned to be constructed at Atlantic Avenue would be sufficient to provide police protection in the proposed project area.

The Campus has an existing security plan[18,19]and lighting plan.[20] The existing security plan would be amended for each element of the proposed project. Similarly, the specifications of the lighting plan would be applied to each of the new developed elements of the Campus, including the pedestrian rates of travel between the designated proposed project area and newly constructed buildings. It is anticipated that the West Division could be adequately staffed to support the proposed project within the existing facility. Thus, the proposed project would not require the services of additional sworn officers and would not be expected to result in the need to expand the West Division or the need for the construction of new facilities.

Schools

Implementation of the proposed project would not be expected to result in impacts to schools in the surrounding areas of the City of Long Beach. The proposed project consists of expanded facilities to serve the existing community and would not be expected to induce growth. Therefore, the proposed project would not be expected to affect the population of school-age children in the City. The proposed project would continue to serve as an extended health care facility for area residents. Thus the proposed project would not generate a demand for the expansion of existing schools or construction of new schools that would cause physical change in the environment.

Parks

Implementation of the proposed project would not be expected to result in significant impacts to existing neighborhood and regional parks or other recreational facilities. The proposed project is located within the existing Campus. Parks located within an approximate 1-mile radius of the proposed project include Martin Luther King Jr. Park, Los Cerritos Park, Reservoir Park, and Veterans Memorial Park. The proposed project consists of expanded facilities to serve the existing community and would not be expected to induce growth. Therefore, the proposed project would not be increasing the level of demand on existing park facilities in the City of Long Beach.

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[17] Keith Colin, *Personal Communication*, 25 October 2004. City of Long Beach, Police Department, West Division, 100 Long Beach Boulevard, Long Beach, CA 90802.

[18] Long Beach Memorial Medical Center. Revised August 2003. "Management Plan for Security." Contact: Long Beach Memorial Medical Center, 2801 Atlantic Avenue, Long Beach, CA 90806.

[19] Long Beach Memorial Medical Center. Revised September 2003. "Emergency Management Policies and Procedures: Internal Disaster—Biological/Chemical Response (Bioterrorism Plan)." (Policy 1.4.33.036.) Contact: Long Beach Memorial Medical Center, 2801 Atlantic Avenue, Long Beach, CA 90806.

[20] Lighting Plan to be received from the Long Beach Memorial Medical Center.

Other Public Facilities

The proposed project would not be expected to result in impacts to other public facilities. The proposed project is located in the Central Long Beach Redevelopment Area. This area is well served by public facilities, including post offices and public libraries. Although City of Long Beach residents and visitors who use elements of the proposed project may also use other public facilities, the proposed project does not include residential development that would be expected to result in a net increase in local population. Therefore, the need to construct new public facilities would not be anticipated in association with the proposed project.

3.10.5 Cumulative Impacts

The incremental impacts of the proposed project to public services, when considered with the related past, present, or reasonably foreseeable, probable future projects listed in Section 2.6, Related Project, of this EIR would not be expected to be significant. Of the 43 related projects (Section 2, Project Description, Table 2.6-1, *List of Related Projects*) identified as a result of scoping, public comments, and coordination with the City of Long Beach Department of Planning and Building, nine of the projects include residential development that could contribute up to 661 dwelling units, and four of the projects include medical office development that would expand the capacity for outpatient health care in the vicinity of the proposed project. The proposed project would accommodate the expanded need for health care services resulting from the nine residential projects in the community. Therefore, the proposed project would be directly responsive to the need for expanded capacity for health care services from the related projects on local and regional hospital facilities. The proposed project would not contribute to significant cumulative impacts to public services resulting from the provision of, or need for, new or physically altered health facilities that would require physical alteration of the environment. In addition, the proposed project would not require the provision of, or need for, new or physically altered fire protection, police protection, school, or other public facilities that would require physical alteration of the environment. Therefore, there would be no significant cumulative impacts to public services.

3.10.6 Mitigation Measures

Measure Public Services-1

Exposure of people or property to security-related issues from the operation of the Miller Children's Hospital pediatric inpatient tower Phases I and II, central plant building, pediatric outpatient building, and link building; the Todd Cancer Institute (TCI) Phases I and II; and all new parking facilities within the Long Beach Memorial Medical Center (LBMMC) campus shall be minimized through an amendment of the existing security plan prior to the operation of each proposed project element. The LBMMC shall submit to the City of Long Beach an amendment to the security plan that identifies the existing measures that shall be applied to each element of the proposed project at least 30 days prior to the anticipated need for an occupancy permit.

Measure Public Services-2

Exposure of property to vandalism and of people to safety hazards from the operation of the Miller Children's Hospital pediatric inpatient tower Phases I and II, central plant building, pediatric outpatient building, and link building; the Todd Cancer Institute (TCI) Phases I and II; and all new parking facilities within the Long Beach Memorial Medical Center (LBMMC) campus shall be minimized through an amendment to the existing lighting plan prior to the operation of each proposed project element. The LBMMC shall submit to the City of Long Beach an amendment to the lighting plan that documents the location of all exterior lighting on structures, within parking areas, and along pedestrian and vehicular routes of travel. The amended lighting plan shall be submitted to the City of Long Beach at least 30 days prior to the anticipated need for an occupancy permit.

3.10.7 Level of Significance after Mitigation

Implementation of mitigation measures Public Services-1 and Public Services-2 would reduce potential impacts related to public services to below the level of significance.

3.11 TRAFFIC AND TRANSPORTATION

As a result of the analysis undertaken in the Initial Study for the Long Beach Memorial Medical Center Expansion (proposed project),[1] the City of Long Beach (City) Department of Planning and Building determined that the proposed project may result in environmental impacts to traffic and transportation. Therefore, this issue is being carried forward for detailed analysis in this Environmental Impact Report (EIR). This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts to traffic and transportation and to identify potential alternatives.

The analysis of traffic and transportation includes a description of the regulatory framework that guides the decision-making process, existing conditions of the proposed project area, thresholds for determining if the proposed project would result in significant impacts, anticipated impacts (direct, indirect, and cumulative), mitigation measures, and level of significance after mitigation.

Traffic and transportation at the proposed project site were evaluated in accordance with the City of Long Beach General Plan[2] and the County of Los Angeles Congestion Management Plan (CMP). The full technical impact report is available in the traffic impact analysis (Appendix J, *Traffic Analysis*).[3]

3.11.1 Regulatory Framework

State

California Water Code

The proposed project is subject to the State of California Water Code, Division 12, Part 5, Chapter 1, Article 4, Section 31060 titled "Construction of Rights of Way."[4] Any mitigation measure required to be implemented in a state right-of-way would require a State of California Department of Transportation (Caltrans) Encroachment Permit. Mitigation in excess of $300,000 would require a Caltrans Project Study Report. Caltrans recommended that large-sized trucks transporting construction materials and equipment be limited to off-peak commute periods and any heavy construction equipment that requires the use of oversized transport vehicles on state roadways or facilities would require a Caltrans transportation permit. The construction scenario defined for the proposed project would not require the transport of oversized vehicles on state facilities.

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[1] City of Long Beach, Department of Planning and Building. 20 August 2004. *Initial Study for the Long Beach Memorial Medical Center Expansion Project*. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[2] City of Long Beach, Department of Planning and Building. December 1991. *Transportation Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[3] Linscott, Law & Greenspan Engineers. 4 November 2004. *Traffic Impact Analysis*. Prepared for: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105. Prepared by: Linscott, Law & Greenspan Engineers, 1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626. Contact: City of Long Beach, Department of Community Development, 333 West Ocean Boulevard, Long Beach, CA 90802.

[4] West's Annotated California Codes. 1984. *Water Code Sections 30000 to 38999. Official California Water Code Classification*. Vol. 69. St. Paul, MN: West Publishing Company.

Regional

Southern California Association of Governments Regional Transportation Plan

The proposed project lies within the jurisdiction of the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP). The RTP is a long-range plan that provides a blueprint for future transportation improvements and investments based on specific transportation goals, objectives, policies, and strategies. The RTP is based on federal transportation law requiring comprehensive, cooperative, and continuous transportation planning. SCAG meets these requirements by developing comprehensive transportation plans that include all surface transportation modes (multimodal planning) to ensure efficient movement of people and goods throughout the region. The RTP includes an assessment of overall growth and economic trends in the region and provides strategic direction for transportation capital investments. The RTP serves the following functions:

- Addresses how to improve mobility and solve congestion problems
- Evaluates federal, state, and local funding available for transportation improvements
- Estimates costs of projects and develops funding strategies to meet these costs
- Achieves air quality requirements

Local

Metropolitan Transportation Authority Congestion Management Plan

The Congestion Management Program (CMP) for the County of Los Angeles (County) is a state-mandated program that was enacted by state legislature with the passage of Proposition 111 in 1990.[5] The program is intended to address the impact of local growth on the regional transportation system. As required by the 2002 CMP for the County, a Traffic Impact Assessment (TIA)[6] has been prepared for the proposed project to determine the potential impacts to designated monitoring locations on the CMP highway system. The hallmark of the CMP program is that it is intended to address the impact of local growth on the regional transportation system.

City of Long Beach General Plan

Transportation Element

The Transportation element of the City of Long Beach (City) General Plan includes pertinent policies related to traffic and transportation and circulation, issues related to land use, and various traffic analyses of traffic conditions within the City.

[5] County of Los Angeles, Metropolitan Transportation Authority. June 2002. *2002 Congestion Management Program for Los Angeles County*. Contact: Metropolitan Transportation Authority, One Gateway Plaza, Los Angeles, CA 90012-2952.

[6] Linscott, Law & Greenspan Engineers. 4 November 2004. *Traffic Impact Analysis*. Prepared for: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105. Prepared by: Linscott, Law & Greenspan Engineers, 1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626. Contact: City of Long Beach, Department of Community Development, 333 West Ocean Boulevard, Long Beach, CA 90802.

3.11.2 Existing Conditions

Regional Roadway System

The proposed project is located in the City of Long Beach, County of Los Angeles, California (Figure 2.1-1, *Regional Vicinity*). The Long Beach Memorial Medical Center campus (Campus) is located less than 1 mile south of U.S. Interstate 405 (San Diego Freeway), approximately 1 mile east of U.S. Interstate 710 (Long Beach Freeway), and approximately 1 mile north of State Route 1 (Pacific Coast Highway). The Campus is located approximately 3.5 miles northeast of the Port of Long Beach, approximately 1 mile east of the Los Angeles River, and approximately 1 mile west of the Long Beach Airport.

U.S. Interstate 405 (I-405) primarily provides regional access to the proposed project site. The I-405 generally runs in a northwest to southeast direction in the vicinity of the proposed project site. This eight-lane facility is a major highway, which extends through the County of Los Angeles and links Long Beach with the neighboring communities of Westminster, Seal Beach, Lakewood, and Carson, as well as more distant locations such as the near-coastal areas of both Los Angeles and Orange County, as well as San Diego. High-occupancy vehicle (HOV) lanes exist on the I-405 throughout Los Angeles and Orange County. In the proposed project vicinity, there is one HOV lane in each direction; there are a total of 10 travel lanes on the I-405. Freeway access to the proposed project site is provided via the Long Beach Boulevard/I-405 interchange, Atlantic Avenue/I-405 interchange, Orange Avenue/I-405 southbound (SB) ramps interchange, and the 32nd Street/I-405 northbound (NB) ramps interchange.

Street Network

The Campus is bound on the north by East Spring Street, on the east by Atlantic Avenue, on the south by Willow Street, and on the west by Long Beach Boulevard (Figure 2.1-2, *Long Beach Memorial Medical Center Location*). Access to the site is provided via East Spring Street from the north, Atlantic Avenue from the east, Willow Street and 27th Street to the south, and Long Beach Boulevard to the west.

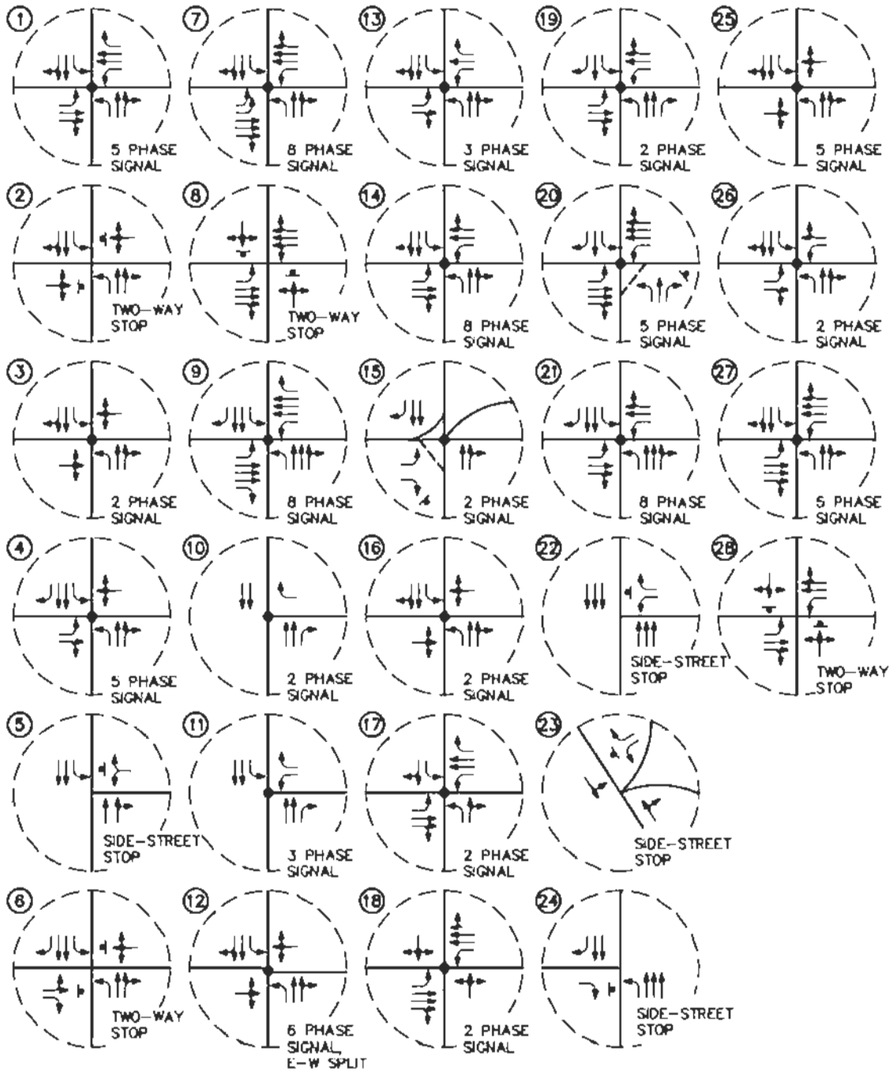
The principal local network of streets serving the proposed project includes Atlantic Avenue, Long Beach Boulevard, Wardlow Road, Spring Street, and Willow Avenue. The existing lane configurations were documented as part of the traffic impact analysis (Appendix J). Coordination was undertaken with the City of Long Beach staff to define study intersections impacted by the proposed project (Figure 3.11.2-1, *Existing Roadway Conditions and Intersection Controls*).[7]

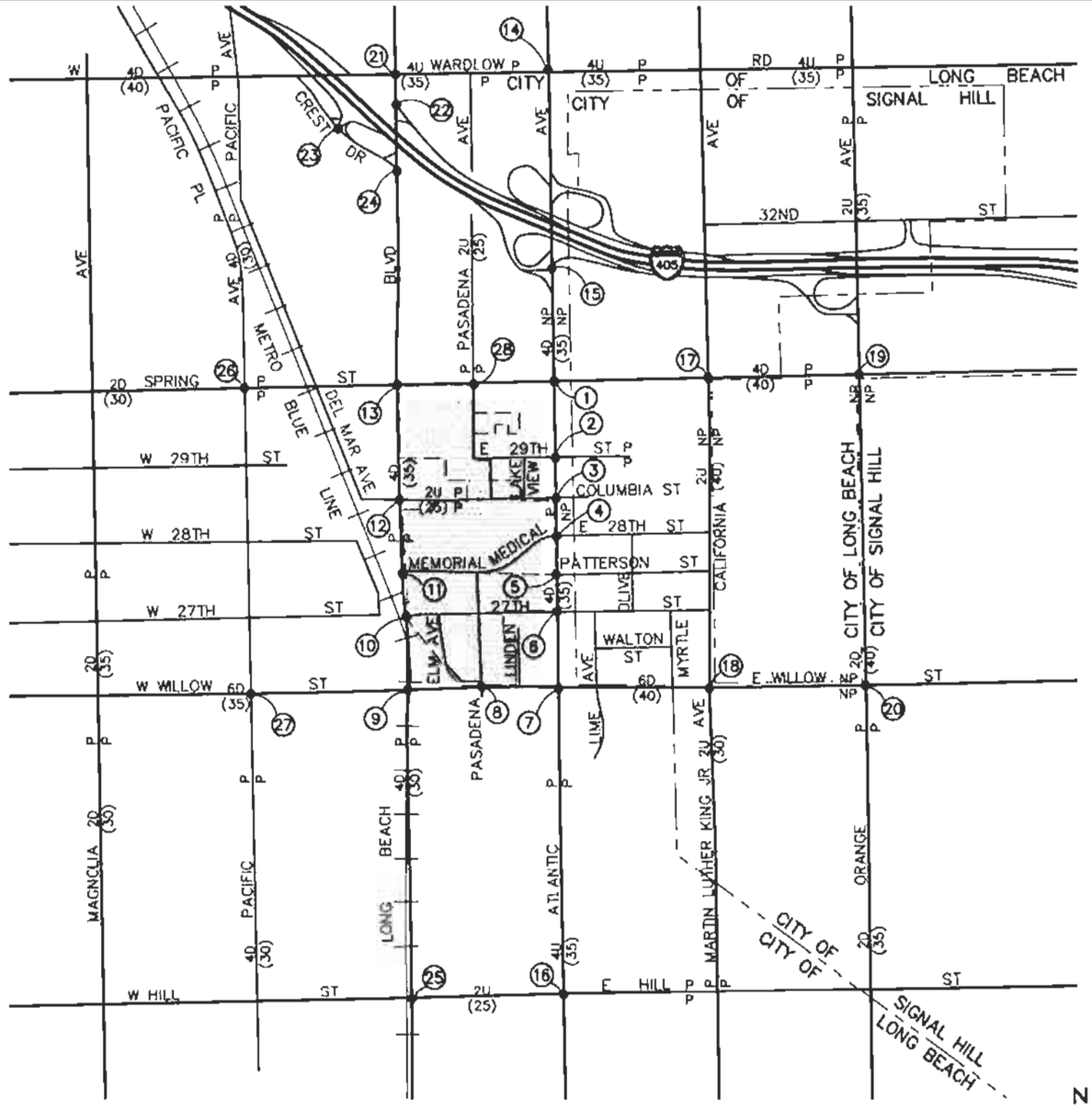
Each of the local network streets serving the proposed project are listed and analyzed below:

Atlantic Avenue

Atlantic Avenue is a four-lane, divided roadway oriented in the north-south direction, with a raised center median along the project frontage, providing two lanes of travel in each direction. Parking is not permitted along the east side of this roadway, but it is permitted on the west side of this roadway along the project frontage. North of Spring Street, curbside parking is prohibited on both sides of Atlantic Avenue. On-street parking is permitted along either side of this roadway south of

[7] Richard Barretto, Linscott, Law & Greenspan Engineers, *Personal Communication*, September 2004. Dave Roseman, Traffic Engineer, City of Long Beach.





LEGEND

- ← = APPROACH LANE ASSIGNMENT
- ● = TRAFFIC SIGNAL
- P = PARKING, NP = NO PARKING
- U = UNDIVIDED, D = DIVIDED
- - - = FUTURE ROADWAY ALIGNMENT OF MEMORIAL MEDICAL CAMPUS DRIVE
- 2 = NUMBER OF TRAVEL LANES
- (XX) = POSTED SPEED LIMIT (MPH)
- □ = PROJECT SITE
- (#) = STUDY INTERSECTION

SOURCE: Linscott Law & Greenspan

FIGURE 3.11.2-1
Existing Roadway Conditions and Intersection Controls

Willow Street. The posted speed limit on Atlantic Avenue is 35 miles per hour (mph). Traffic signals control the study intersections on Atlantic Avenue at Wardlow Road, I-405 SB ramps, Spring Street, Columbia Street, 28th Street (Memorial Medical Center), Willow Street, and Hill Street.

Long Beach Boulevard

Long Beach Boulevard is a four-lane, divided roadway oriented in the north-south direction, which borders the proposed project site to the west. Parking is permitted on either side of this roadway, within the vicinity of the proposed project. The posted speed limit on Long Beach Boulevard is 35 mph north of Columbia Street and 30 mph south of Willow Street. Traffic signals control the study intersections on Long Beach Boulevard at Wardlow Road, Spring Street, Columbia Street, Patterson Street (Memorial Drive), 27th Street, Willow Street, and Hill Street.

Wardlow Road

Wardlow Road is a four-lane, divided roadway oriented in the east-west direction. In general, on-street parking is permitted along this roadway in the vicinity of the proposed project. The posted speed limit on Wardlow Road is 40 mph west of Long Beach Boulevard and 35 mph east of Long Beach Boulevard. Traffic signals control the study intersections on Wardlow Road at Long Beach Boulevard and Atlantic Avenue.

Spring Street

Spring Street is a four-lane, divided roadway oriented in the east-west direction, which borders the proposed project site to the north. Spring Street is a two-lane, divided roadway west of Del Mar Avenue. Parking is not permitted on either side of this roadway, within the vicinity of the proposed project. The posted speed limit on Spring Street is 30 mph west of Long Beach Boulevard and 40 mph east of Long Beach Boulevard. Traffic signals control the study intersections on Spring Street at Pacific Avenue, Long Beach Boulevard, Atlantic Avenue, California Avenue, and Orange Avenue.

Willow Street

Willow Street is a six-lane, divided roadway oriented in the east-west direction, with a raised median, providing three travel lanes in each direction. In general, parking is permitted along either side of this roadway, within the vicinity of the proposed project. The posted speed limit on Willow Street is 35 mph west of Atlantic Avenue and 40 mph east of Atlantic Avenue.

Traffic Volumes

Twenty-eight (28) key intersections were identified and selected for evaluation as the locations at which to assess existing and future traffic operating conditions. Some portion of potential project-related traffic would pass through each of these intersections, and their analysis would reveal the expected relative impacts of the proposed project. The 28 key intersections were selected for evaluation based on discussions with the City and in consideration of the criteria in the current County CMP traffic impact guidelines. The 28 key intersections are listed below:

1) Atlantic Avenue/Spring Street
2) Atlantic Avenue/East 29th Street
3) Atlantic Avenue/Columbia Street

4) Atlantic Avenue/Memorial Medical Center–28th Street
5) Atlantic Avenue/East Patterson Street
6) Atlantic Avenue/27th Street
7) Atlantic Avenue/Willow Street
8) Pasadena Avenue/Willow Street
9) Long Beach Boulevard/Willow Street
10) Long Beach Boulevard/27th Street
11) Long Beach Boulevard/East Patterson Street
12) Long Beach Boulevard/Columbia Street
13) Long Beach Boulevard/Spring Street
14) Atlantic Avenue/Wardlow Road
15) Atlantic Avenue/I-405 Southbound (SB) Ramps
16) Atlantic Avenue/Hill Street
17) California Avenue/Spring Street
18) California Avenue/Willow Street
19) Orange Avenue/Spring Street
20) Orange Avenue/Willow Street
21) Long Beach Boulevard/Wardlow Road
22) Long Beach Boulevard/I-405 Northbound (NB) Ramps
23) I-405 SB Ramps/Crest Drive
24) Long Beach Boulevard/Crest Drive
25) Long Beach Boulevard/Hill Street
26) Pacific Avenue/Spring Street
27) Pacific Avenue/Willow Street
28) Pasadena Avenue/Spring Street

The existing a.m. and p.m. peak-hour traffic counts were conducted in October 2004 (Appendix J).[8] The existing a.m. and p.m. peak-hour traffic volumes at key study intersections (Figure 3.11.2-2a, *Existing A.M. Peak-Hour Traffic Volumes*, and Figure 3.11.2-2b, *Existing P.M. Peak-Hour Traffic Volumes*).

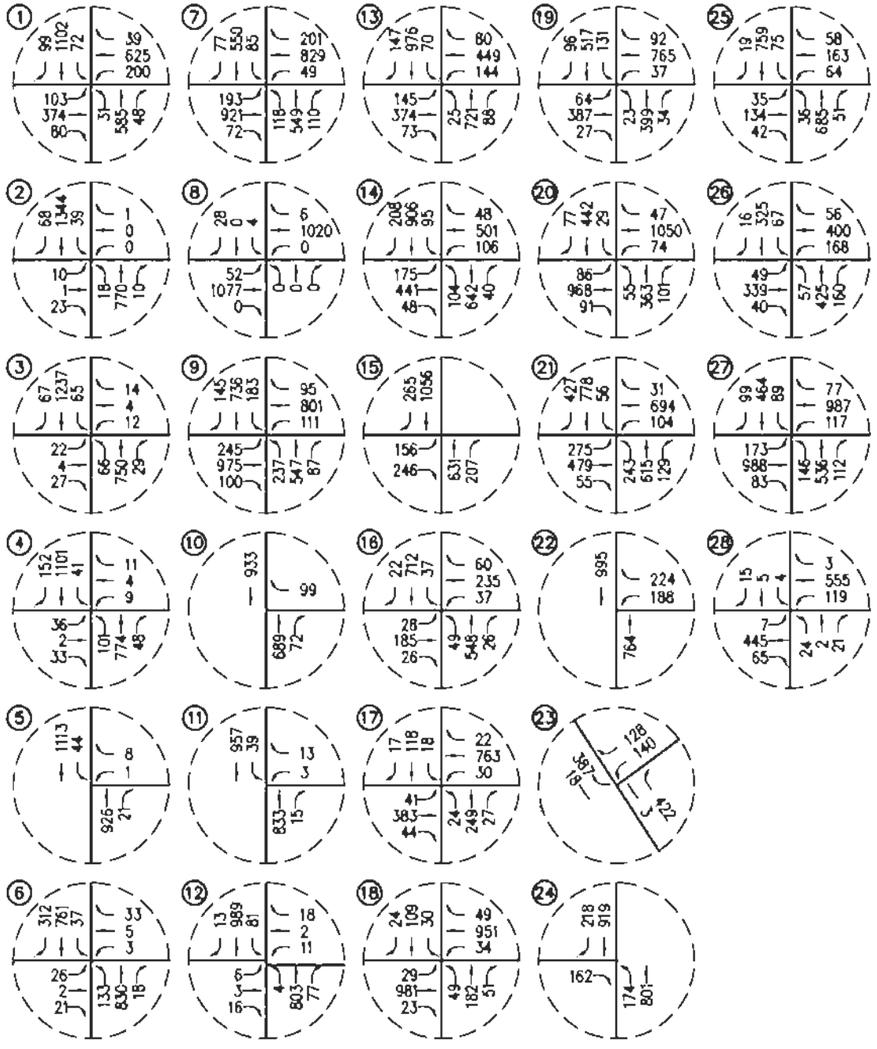
Public Transit

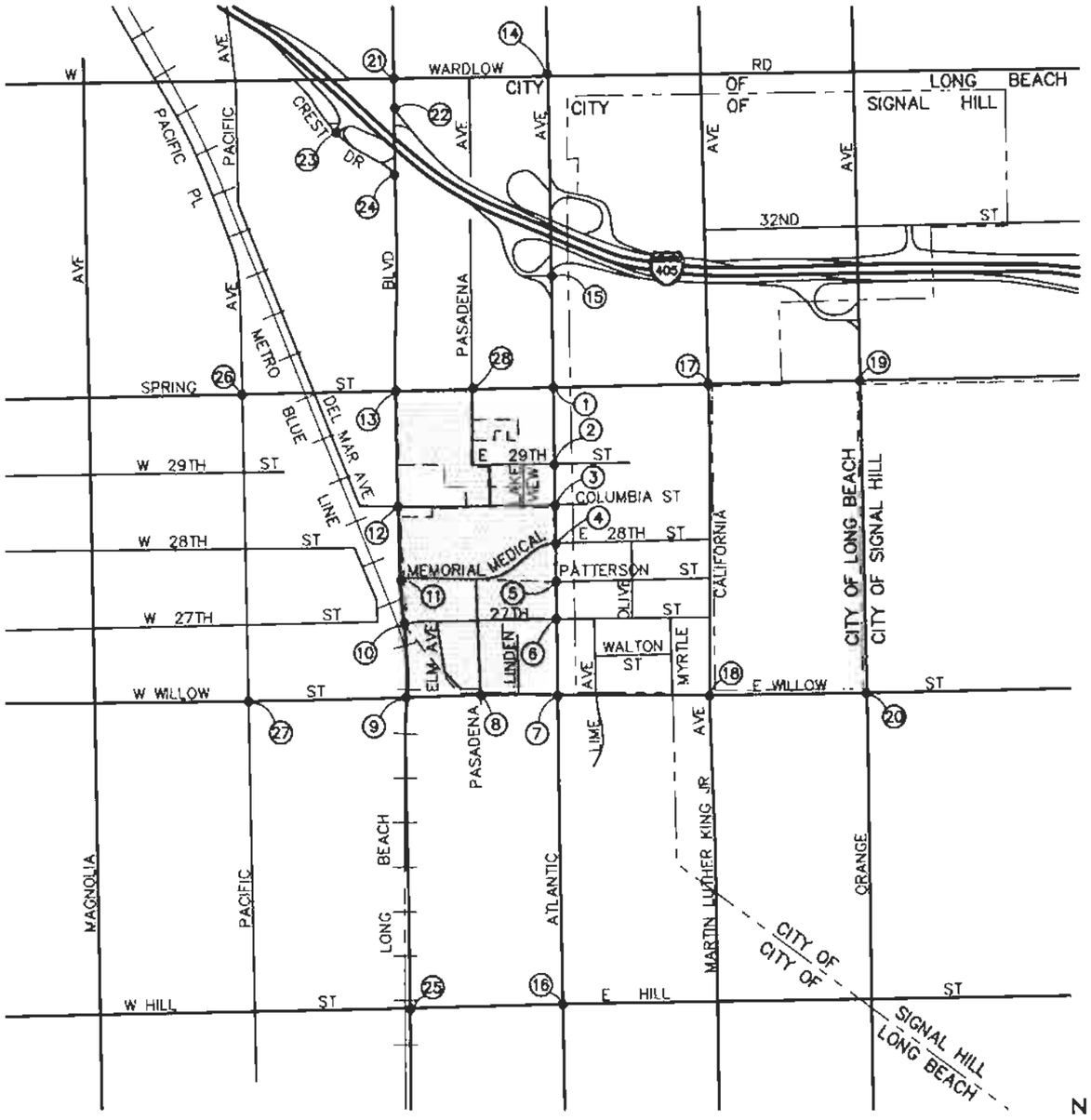
Long Beach Transit (LBT), the Los Angeles Metropolitan Transit Authority (MTA), and the Metro Blue Line Light Rail Transit System provide public transit services in the vicinity of the proposed project.

Long Beach Transit

LBT Route No. 5 travels north and south on Long Beach Boulevard adjacent to the proposed project site, with a bus stop at the intersection of Long Beach Boulevard and Willow Street and Long Beach and Memorial Medical Center/28th Street. LBT Route Nos. 45, 46, 61, 66, 81, 101, 102, 103, 131, 171, 172, 173, 174, 191, and 192 all provide direct access to LBT Route No. 5.

[8] Linscott, Law & Greenspan Engineers. 4 November 2004. *Traffic Impact Analysis*. Prepared for: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105. Prepared by: Linscott, Law & Greenspan Engineers, 1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626. Contact: City of Long Beach, Department of Community Development, 333 West Ocean Boulevard, Long Beach, CA 90802.



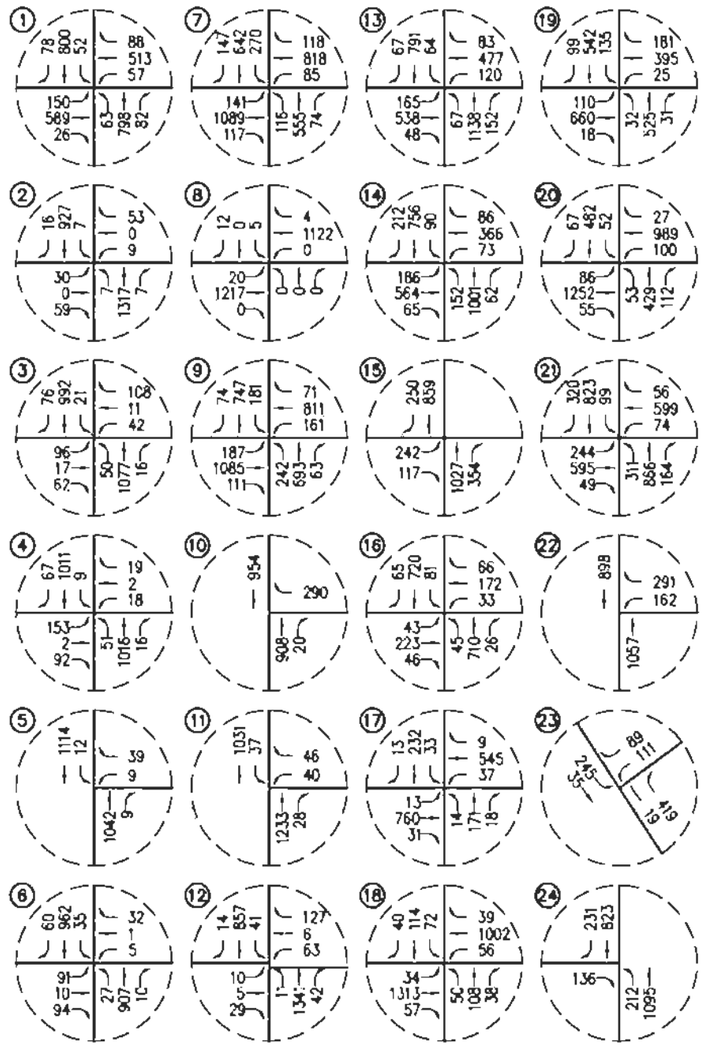


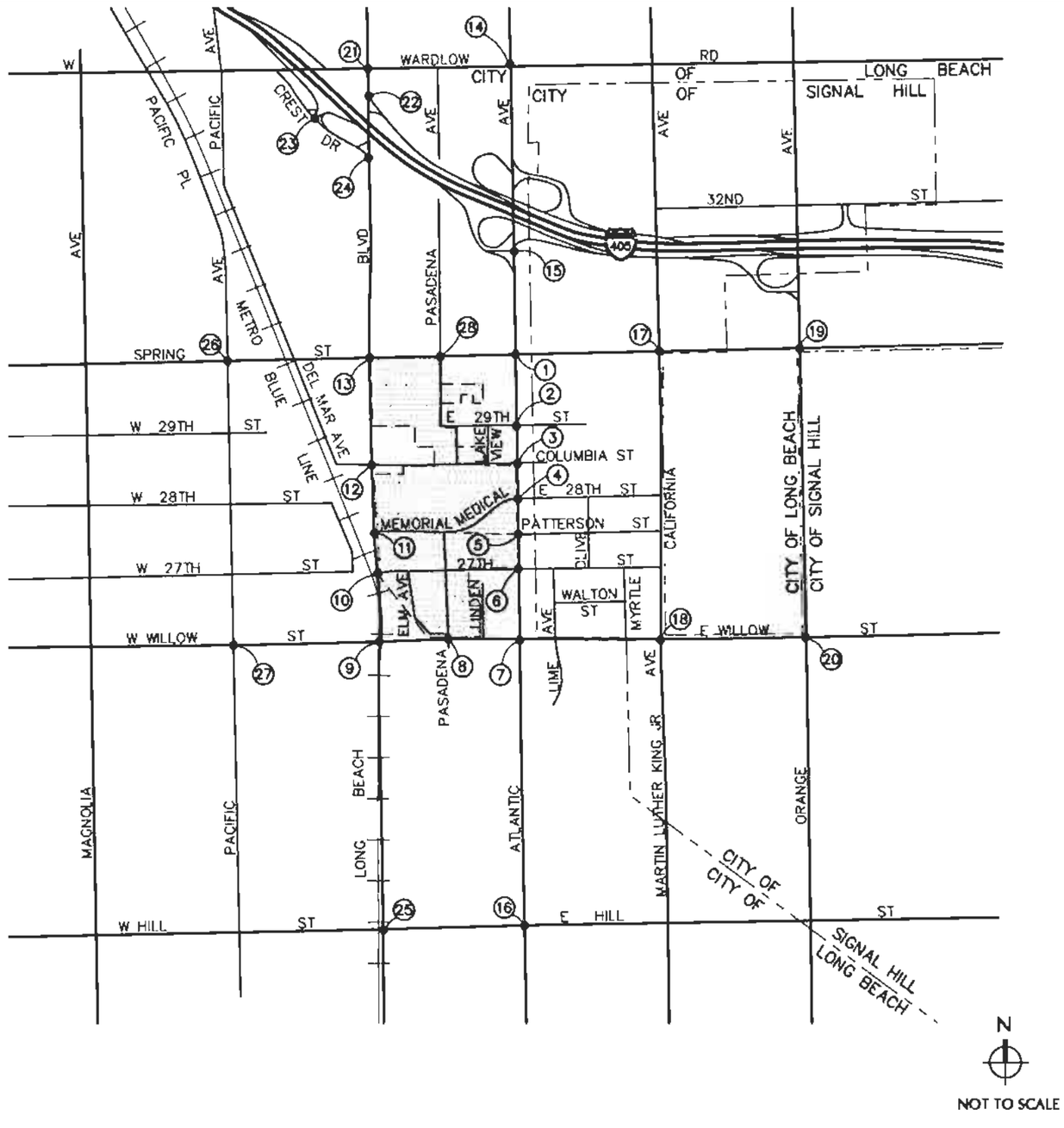
LEGEND

- = PROJECT SITE
- = FUTURE ROADWAY ALIGNMENT OF MEMORIAL MEDICAL CAMPUS DRIVE
- = STUDY INTERSECTION

SOURCE: Linscott Law & Greenspan

FIGURE 3.11.2-2a
Existing A.M. Peak-Hour Traffic Volumes





LEGEND

- = PROJECT SITE
- FUTURE ROADWAY ALIGNMENT OF MEMORIAL MEDICAL CAMPUS DRIVE
- (#) = STUDY INTERSECTION

SOURCE: Linscott Law & Greenspan

FIGURE 3.11.2-2b
Existing P.M. Peak-Hour Traffic Volumes

LBT Route Nos. 61 and 62 travel north and south on Atlantic Avenue east of the proposed project site, with a bus stop at the intersection of Atlantic Avenue and Willow Street. LBT Route Nos. 5, 7, 45, 46, 81, 101, 102, 103, 131, 171, 172, 173, 174, 191, and 192 all provide direct access to LBT Route Nos. 61 and 62.

Metropolitan Transportation Authority

MTA Route Red No. 60, Route Orange No. 232, and Route Green No. 360 travel north and south on Long Beach Boulevard near the proposed project site. Red Route No. 60 travels from Long Beach Boulevard to Pacific Boulevard to Santa Fe Avenue to Downtown Los Angeles. Orange Route No. 232 travels from Long Beach Boulevard to Anaheim Street to Pacific Coast Highway to Sepulveda Boulevard to the Los Angeles International Airport (LAX) City Bus Center.

The LBT service area extends beyond the City in portions of Signal Hill, Cerritos, Lakewood, San Pedro, Paramount, Compton, Los Angeles, Hawaiian Gardens, and Seal Beach. All LBT routes connect with the Metro Blue Line Light Rail Rapid Transit System. Bus transfers provide for discounted fares on the Blue Line.

Metro Blue Line Light Rail Transit System

Given that bus service via LBT is provided between Willow Station and the proposed project site, patrons would be able to utilize the existing Metro Blue Line Light Rail Transit System via Willow Station. In addition, Willow Station is located immediately south of the proposed project site by less than 0.25 mile, allowing patrons to walk to the Campus.

Intersection Conditions

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. The City of Long Beach and the City of Signal Hill consider LOS D to be the minimum acceptable condition that should be maintained during the peak commute hours for roads and highways in the vicinity of the proposed project site.

Existing a.m. and p.m. peak-hour operating conditions for the 28 key study intersections were evaluated using the Intersection Capacity Utilization (ICU) methodology for signalized intersections and the methodology outlined in the Highway Capacity Manual 2000[9] for unsignalized intersections (Table 3.11.2-1, *Level of Service Criteria for Unsignalized Intersections,* and Table 3.11.2-2, *Existing Peak Hours of Service*).

[9] Highway Research Board. 1965. *Highway Capacity Manual* (Special Report No. 87). Washington, DC: Highway Research Board.

TABLE 3.11.2-1
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LOS	Highway Capacity Manual Delay Value (sec/veh)	LOS Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

SOURCE:
Linscott, Law & Greenspan Engineers. 4 November 2004. *Traffic Impact Analysis*. Prepared for: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105; and City of Long Beach, Department of Community Development, 333 West Ocean Boulevard, Long Beach, CA 90802. Prepared by: Linscott, Law & Greenspan Engineers, 1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626.

TABLE 3.11.2-2
EXISTING PEAK HOURS OF SERVICE

Key Intersections		Time Period	Control Type	ICU/HCM Delay Value (sec/veh)	LOS
1.	Atlantic Avenue/ Spring Street	a.m. p.m.	5∅ Traffic Signal	0.781 0.687	C B
2.	Atlantic Avenue/ East 29th Street	a.m. p.m.	Two-Way Stop	1.40 5.40	A A
3.	Atlantic Avenue/ Columbia Street	a.m. p.m.	2∅ Traffic Signal	0.582 0.574	A A
4.	Atlantic Avenue/Memorial Medical Center–East 28th Street	a.m. p.m.	5∅ Traffic Signal	0.565 0.588	A A
5.	Atlantic Avenue/ East Patterson Street	a.m. p.m.	Side Street Stop	0.30 0.60	A A
6.	Atlantic Avenue/ 27th Street	a.m. p.m.	Two-Way Stop	4.50 29.30	A D
7.	Atlantic Avenue/ Willow Street	a.m. p.m.	8∅ Traffic Signal	0.732 0.850	C D
8.	Pasadena Avenue/ Willow Street	a.m. p.m.	Two-Way Stop	0.60 0.40	A A
9.	Long Beach Boulevard/ Willow Street	a.m. p.m.	8∅ Traffic Signal	0.878 0.891	D D
10.	Long Beach Boulevard/ 27th Street	a.m. p.m.	2∅ Traffic Signal	0.454 0.579	A A
11.	Long Beach Boulevard/ East Patterson Street	a.m. p.m.	3∅ Traffic Signal	0.421 0.553	A A
12.	Long Beach Boulevard/ Columbia Street	a.m. p.m.	6∅ Traffic Signal	0.541 0.789	A C
13.	Long Beach Boulevard/ Spring Street	a.m. p.m.	3∅ Traffic Signal	0.859 **1.004**	D **F**
14.	Atlantic Avenue/ Wardlow Road	a.m. p.m.	8∅ Traffic Signal	0.834 0.795	D C
15.	Atlantic Avenue/ I-405 SB Ramps	a.m. p.m.	2∅ Traffic Signal	0.584 0.683	A B
16.	Atlantic Avenue/ Hill Street	a.m. p.m.	2∅ Traffic Signal	0.568 0.576	A A
17.	California Avenue/ Spring Street	a.m. p.m.	2∅ Traffic Signal	0.548 0.532	A A
18.	California Avenue/ Willow Street	a.m. p.m.	2∅ Traffic Signal	0.506 0.561	A A
19.	Orange Avenue/ Spring Street	a.m. p.m.	2∅ Traffic Signal	0.745 0.708	C C
20.	Orange Avenue/ Willow Street	a.m. p.m.	5∅ Traffic Signal	0.743 0.819	C D
21.	Long Beach Boulevard/ Wardlow Road	a.m. p.m.	8∅ Traffic Signal	**0.934** **0.949**	**E** **E**

TABLE 3.11.2-2
EXISTING PEAK HOURS OF SERVICE, Continued

Key Intersections		Time Period	Control Type	ICU/HCM Delay Value (sec/veh)	LOS
22.	Long Beach Boulevard/ I-405 NB Ramp	a.m. p.m.	Side Street Stop	30.10 **40.00**	D **E**
23.	I-405 SB Ramps/ Crest Drive	a.m. p.m.	Side Street Stop	19.20 6.90	C A
24.	Long Beach Boulevard/ Crest Drive	a.m. p.m.	Side Street Stop	2.10 1.90	A A
25.	Long Beach Boulevard/ Hill Street	a.m. p.m.	5∅ Traffic Signal	0.605 0.676	B B
26.	Pacific Avenue/ Spring Street	a.m. p.m.	2∅ Traffic Signal	0.667 0.723	B C
27.	Pacific Avenue/ Willow Street	a.m. p.m.	5∅ Traffic Signal	0.717 0.764	C C
28.	Pasadena Avenue/ Spring Street	a.m. p.m.	Two-Way Stop	2.20 16.20	A C

NOTES:
Bold ICU/LOS values indicate adverse service levels based on City LOS standards.
sec/veh = seconds per vehicle (delay).
SOURCE:
Linscott, Law & Greenspan Engineers. 4 November 2004. *Traffic Impact Analysis*. Prepared for: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105; and City of Long Beach, Department of Community Development, 333 West Ocean Boulevard, Long Beach, CA 90802. Prepared by: Linscott, Law & Greenspan Engineers, 1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626.

Table 3.11.2-2 summarizes the existing peak-hour LOS calculations for the 28 study intersections based on existing year 2004 traffic volumes and current street geometry. Review of Table 3.11.2-2 indicates that, based on the ICU/HCM method of analysis and the City's LOS criteria, 3 of the 28 key study intersections currently operate at an unacceptable LOS (LOS E or worse) during the a.m. and/or p.m. peak hours. The intersections that currently operate at LOS E and/or LOS F during the a.m. peak hour and/or p.m. peak hour include Long Beach Boulevard/Spring Street, Long Beach Boulevard/Wardlow Road, and Long Beach Boulevard/I-405 NB ramps. The remaining 25 key study intersections currently operate at LOS D or better during the commuter peak hours.

Existing Development

The existing uses at the Campus include inpatient medical facilities, outpatient medical facilities, and mixed-use facilities, including a child care center, nutrition programs, and outpatient clinics. There are approximately 1,213,945 gross square feet of structures located within the Campus. Table 3.11.2-3, *Existing Development Tabulation,* summarizes the existing development tabulation at the Campus. There are two licensed hospitals within the Campus with a total floor area of 872,792 square feet: the Long Beach Memorial Medical Center (LBMMC) with 459 licensed beds and Miller Children's Hospital (MCH) with 281 licensed beds. These facilities are centrally located on the Campus, north of 27th Street, east of Long Beach Boulevard, south of Columbia Street, and west of Atlantic Avenue. In addition to inpatient services, outpatient services are provided in structures located north and south of LBMMC and MCH.

TABLE 3.11.2-3
EXISTING DEVELOPMENT TABULATION

Building Number per Existing Building Plan[1]	Building	Gross Floor Areas (Square Foot)
1	Miller Children's Hospital	175,162
2	Long Beach Memorial Medical Center	697,630
3	Administration Building	129,531
4	Memorial West Facility (Rehab)[2]	107,622
5	Miller House	25,000
6	Ranch House / WIC Medical Center	12,000
8	Memorial Guest Residence Hotel	12,000
9	Research Building	20,000
17	Buffums Plaza	35,000
	Total	**1,213,945**

NOTES:
[1] Building numbers as shown on diagram. Taylor, July 2004. "Existing Buildings." Contact: Taylor, 2220 University Drive, Newport Beach, CA 92660.
[2] Gross floor area of the Memorial West Facility includes the Rehab (31,167 square feet).

Based on a comprehensive inventory of on-site spaces, the traffic impact analysis (Appendix J)[10] determined that there are 3,452 parking spaces located in 11 locations throughout the Campus. Figure 2.2-3, *Existing Parking,* identifies the parking locations of the Campus, whereas Table 3.11.2-4, *Existing Parking Supply,* presents the existing parking supply within each parking location and parking type/designation (i.e., patient/visitor, staff/employee, doctor/physician, reserved, etc.).

[10] Linscott, Law & Greenspan Engineers. 4 November 2004. *Traffic Impact Analysis*. Prepared for: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105. Prepared by: Linscott, Law & Greenspan Engineers, 1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626. Contact: City of Long Beach, Department of Community Development, 333 West Ocean Boulevard, Long Beach, CA 90802.

TABLE 3.11.2-4
EXISTING PARKING SUPPLY

Parking Lot	Staff/Employee Spaces	Patient/Visitor Spaces	Doctor Spaces	Total Spaces
Lot A	675	—	—	675
Lot B	—	217	—	217
Lot C	—	74	—	74
Lot D	—	—	28*	28
Lot E	85	—	—	85
Lot F	—	26	60	86
Lot G	—	—	87	87
Lot H	—	29	—	29
Lot I	150	—	—	150
Lot J	1,430	164	—	1,594
Lot K	—	427	—	427
Total	2,340	937	175	3,452

NOTE:
*Spaces shared with patients and visitors.
SOURCE:
Linscott, Law & Greenspan Engineers. 4 November 2004. *Traffic Impact Analysis*. Prepared for: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105; and City of Long Beach, Department of Community Development, 333 West Ocean Boulevard, Long Beach, CA 90802. Prepared by: Linscott, Law & Greenspan Engineers, 1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626.

3.11.3 Significance Thresholds

The potential for the proposed project to result in impacts related to traffic and transportation was analyzed in relation to the questions contained in Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines, as modified by the County CMP and City of Long Beach General Plan. Thresholds of significance for traffic levels are separated into areas deemed deficient and those identified as significant. The term *deficiency* refers to the operational level below which traffic movement is no longer considered acceptable. Although the County CMP states that LOS E or better is acceptable, the City of Long Beach General Plan states that LOS D is the lowest acceptable LOS at intersections. Thus, any intersections operating at LOS E or F are considered deficient.

The proposed project would normally be considered to have a significant impact to traffic and transportation when the potential for any one of the following seven thresholds occurs:

- Increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity (V/C) ratio on roads, or congestion at intersections)

- Exceedance, either individually or cumulatively, of a LOS standard established by the County CMP and City of Long Beach General Plan for designated roads or highways. Impacts to local and regional transportation systems are considered significant if one of two conditions occur:

    - An unacceptable peak-hour LOS (i.e., LOS E or F) at any of the key intersections is projected. The City of Long Beach considers LOS D (ICU =

0.801 to 0.900) to be the minimum acceptable LOS for all other intersections. For the City, the current LOS, if worse than LOS D, should also be maintained.

- The project increases traffic demand at the study intersection by 2 percent of capacity (ICU increase ≥ 0.020), causing or worsening LOS E or F (ICU > 0.901). At unsignalized intersections, a significant adverse traffic impact is defined as a project that adds 2 percent of more traffic to delay (seconds per vehicle) at an intersection operating at LOS E or F.

- Change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks

- Substantial increase in hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)

- Inadequate emergency access

- Inadequate parking capacity

- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)

3.11.4 Impact Analysis

This section analyzes the potential for significant impacts on traffic and transportation that would occur from the implementation of the proposed project. A project's traffic and transportation impacts can be separated into operational and future impacts, usually long-term impacts and construction impacts, which are short-term impacts.

The relative impact of the added project traffic volumes generated by the proposed project during the a.m. and p.m. peak hours was evaluated based on analysis of future operating conditions at the 28 key study intersections, both with and without the proposed project. The significance of the potential impacts of the proposed project at each key intersection was then evaluated using the City's LOS standards and traffic impact criteria.

Implementation of the proposed project would be expected to have a potentially significant effect on the V/C ratio of existing streets and intersections in the vicinity of the proposed project. The LOS for several of the surrounding streets and freeways would degrade to below an acceptable level with the implementation of the proposed project. In addition, the implementation of the proposed project may have a significant impact on LOS standards established by the County for the CMP roadway system.

Direct and Indirect Impacts

Project Traffic Generation

The proposed project would lead to a physical change in the environment, the development of currently undeveloped land; therefore, it would result in impacts to the LOS of the surrounding

local roadways and the CMP roadway system. Where a CMP deficiency has been projected, necessary mitigation measures have been identified to restore traffic operation, the proposed project's share of new traffic on the impacted CMP facility has been calculated, and the cost of improvements necessary to restore traffic operations to an acceptable LOS has been estimated.

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation factors and equations used in the traffic forecasting procedure are typically found in Trip Generation.[11]

Table 3.11.4-1**,** *Project Traffic Generation Rates*, summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed project.

TABLE 3.11.4-1
PROJECT TRAFFIC GENERATION RATES

ITE Land Use Code / Project Description	Daily 2-Way	A.M. Peak Hour			P.M. Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Generation Factors							
610: Hospital (TE/bed)	11.81	0.79	0.34	1.13	0.47	0.83	1.30
720: Medical-Dental Office Building (TE/1,000 square feet)	36.13	1.96	0.52	2.48	1.00	2.72	3.72

NOTES:
TE/bed = Trip ends per bed
TE/1,000 square feet = Trip ends per 1,000 square feet of development.
SOURCE:
Institute of Transportation Engineers. 2003. *Trip Generation.* Seventh Edition. Washington, DC: Institute of Transportation Engineers.

Table 3.11.4-2, *Project Traffic Generation Forecast,* summarizes the trip generation forecast for the proposed project. Table 3.11.4-2 indicates that the proposed expansion project, at build-out, is expected to generate approximately 9,377 daily trips, with 696 trips (534 inbound, 162 outbound) produced in the a.m. peak hour and 979 trips (283 inbound, 696 outbound) produced in the p.m. peak hour on a typical weekday.

[11] Institute of Transportation Engineers. 2003. *Trip Generation.* Seventh Edition. Washington, DC: Institute of Transportation Engineers.

TABLE 3.11.4-2
PROJECT TRAFFIC GENERATION FORECAST

Project Description	Daily 2-Way	A.M. Peak Hour			P.M. Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Year 2008							
TCI Phase I (83,630 square feet)	3,022	164	43	207	84	227	311
MCH pediatric inpatient tower Phase I (72 beds)	850	57	24	81	34	60	94
MCH pediatric outpatient tower (80,000 square feet)	2,890	157	42	199	80	218	298
Year 2008 Subtotal:	**6,762**	**378**	**109**	**487**	**198**	**505**	**703**
Year 2014							
TCI Phase II (42,300 square feet)	1,528	83	22	105	42	115	157
MCH pediatric inpatient tower Phase II (92 beds)	1,087	73	31	104	43	76	119
Year 2014 Subtotal:	**2,615**	**156**	**53**	**209**	**85**	**191**	**276**
Project Total:	**9,377**	**534**	**162**	**696**	**283**	**696**	**979**

SOURCE:
Institute of Transportation Engineers. 2003. *Trip Generation*. Seventh Edition. Washington, DC: Institute of Transportation Engineers.

Phase I of the proposed project is forecast to generate 6,762 daily trips, with 487 trips produced in the a.m. peak hour and 703 trips produced in the p.m. peak hour on a typical weekday. Phase II of the proposed project is forecast to generate 2,615 daily trips, with 209 trips produced in the a.m. peak hour and 276 trips produced in the p.m. peak hour on a typical weekday.

Air Traffic Impact

Implementation of the proposed project would not be expected to result in significant impacts to air traffic patterns. The proposed project is located approximately 1 mile west of the Long Beach Airport. The proposed project would be developed completely within the existing footprint of the Campus. There would be no change in land use patterns in relation to existing air traffic patterns; similarly, there would be no anticipated impacts related to safety in relation to land uses for the proposed project area.

Hazards Due to Design Feature Impacts

Implementation of the proposed project would not be expected to result in design modifications to roadway features. However, there would be no expected increase in hazards (e.g., sharp curves or dangerous intersections). The proposed project would likely require minor modifications to the adjacent external street system and the improvements to the internal circulation system. The result of any modifications would be designed to improve overall traffic flow and circulation patterns in the immediate vicinity of the proposed project site, as well as improve site access and internal circulation.

Emergency Vehicle Access Impact

Implementation of the proposed project would have the potential to result in significant impacts to emergency access, thus requiring the consideration of mitigation measures. Construction trips would be expected to use emergency access routes to the Campus during the anticipated 10-year

build-out of the proposed project, thus requiring the development of a Traffic Safety Plan for each phase of construction to ensure the provision of adequate emergency access throughout construction of the proposed project. Similarly, operation of the proposed project improvements would be expected to increase the trips generated by the Campus by as much as 50 percent at build-out, thus requiring the consideration of mitigation measures that ensure emergency access is not compromised. The mitigation measures will address the development of a Traffic Safety Plan for each phase of construction to ensure that emergency vehicle routes operate properly.

Parking Impact

Implementation of the proposed project would be expected to result in significant impacts on parking capacity, thus requiring the consideration of mitigation measures. The proposed project would result in the displacement of existing parking during each phase of construction. There are five elements of the proposed project that require the removal of parking or that generate demand for new parking: (1) TCI Phases I and II; (2) MCH pediatric inpatient tower Phases I and II, utility trench, and central plant building; (3) MCH pediatric outpatient building; (4) MCH link building; and (5) roadway realignment. The initial phase of construction would utilize the 259 available parking spaces. When available parking is exhausted in the later phase of construction, additional parking spaces would be required. A minimum of 860 additional parking spaces would be required to be in place to facilitate the initiation of the first three proposed project elements: (1) TCI Phase I; (2) MCH pediatric inpatient tower Phase I, utility trench, and central plant building; and (3) roadway realignment.

To determine the number of parking spaces required to support the proposed project, parking demand was calculated using parking codes per the City of Long Beach Title 21, Zoning Regulations, Chapter 21.41: "Off-Street Parking and Loading Requirements."[12]

The City zoning code specifies a parking ratio of two spaces per bed for hospitals and five spaces per 1,000 gross floor area (GFA) of medical office uses. The City parking codes were applied to the existing and proposed development tabulation of the LBMMC. Table 3.11.4-3, *City Code Parking Requirements,* summarizes the square-footage information and the parking requirements for the existing land uses and proposed project. As shown, direct application of the City's code to the existing development results in a code requirement of 3,193 parking spaces, whereas the proposed project has a code requirement of 1,418 parking spaces, for a combined code requirement of 4,611 parking spaces.

[12] City of Long Beach, Department of Planning and Building. 1988. Title 21, Zoning Regulations, Chapter 21.41: "Off-Street Parking and Loading Requirements." Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802. Available at: http://www.longbeach.gov/apps/cityclerk/lbmc/title-21/frame.htm

TABLE 3.11.4-3
CITY CODE PARKING REQUIREMENTS

Project Description	Size (Square footage or number of beds)		City of Long Beach Code Parking Ratio	Spaces Required
Existing Development				
LBMMC	462	Beds	2 spaces per bed	924
Miller Children's Hospital	281	Beds	2 spaces per bed	562
LBMMC remaining medical facilities	341,153	SF	5 spaces per 1,000 SF	1,707
Subtotal – Existing Development Code Parking Requirement:				**3,193**
Existing Parking Supply:				**3,452**
Parking Surplus/Deficiency (+/–):				**+259**
Proposed Development				
Todd Cancer Institute	125,930	SF	5 spaces per 1,000 SF	630
Miller Children's Hospital pediatric inpatient tower	164	Beds	2 spaces per bed	328
Miller Children's Hospital pediatric outpatient building	80,000	SF	5 spaces per 1,000 SF	400
Millers Children's Hospital link building	20,000	SF	—	50
Millers Children's Hospital central plant building	3,500	SF	—	10
Subtotal – Proposed Development Code Parking Requirement:				**1,418**
Total Code Parking Requirement (Existing + Proposed):				**4,611**
Existing Parking Supply:				**3,452**
Net Parking Surplus/Deficiency (+/–) per Code:				**–1,159**

NOTE:
SF = Square footage
SOURCE:
City of Long Beach, Department of Planning and Building. 1988. Title 21, Zoning Regulations, Chapter 21.41: "Off-Street Parking and Loading Requirements." Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802. Available at: http://www.longbeach.gov/apps/cityclerk/lbmc/title-21/frame.htm

In addition, a total of 577 parking spaces would be permanently lost due to development of five project elements: (1) TCI Phase I; (2) MCH patient inpatient tower Phase I, utility trench, and central plant building; (3) roadway realignment; (4) MCH pediatric outpatient building; and (5) TCI Phase II (Table 3.11.4-4, *Existing Parking Spaces Converted to Development*). In addition, construction staging and soil remediation impacts on existing parking were also considered. Concurrent staging for TCI Phase I and the MCH pediatric inpatient tower, utility trench, and central plant building would be expected to result in temporary impacts to an additional 190 parking spaces (Table 3.11.4-5, *Additional Parking Spaces Required During Construction*).

TABLE 3.11.4-4
EXISTING PARKING SPACES CONVERTED TO DEVELOPMENT

Project Element	Construction Schedule	Parking Spaces Removed
Construction Parking Requirements July 2005 to December 2007		
Todd Cancer Institute Phase I	Jul 2005 to Dec 2007	171
Miller Children's Hospital pediatric inpatient tower Phase I, utility trench, and central plant building	Jul 2005 to Dec 2007	100
Roadway realignment	Jul 2005 to Jun 2006	195
Total Parking Converted During Construction July 2005 to December 2007		466
Construction Parking Requirements January 2006 to June 2007		
Miller Children's Hospital pediatric outpatient building	Jan 2006 to Jun 2007	43
Total Parking Converted During Construction January 2006 to June 2007		43
Construction Parking Requirements January 2010 to June 2011		
Todd Cancer Institute Phase II	Jul 2010 to Jun 2011	68
Miller Children's Hospital link building	Jul 2010 to Jun 2011	–
Total Parking Converted During Construction July 2010 to June 2011		68
Construction Parking Requirements January 2012 to June 2013		
Miller Children's Hospital pediatric inpatient tower Phase II	Jan 2012 to Jun 2013	–
Total Parking Converted During Construction July 2010 to June 2011		–
Net Reduction of Existing Parking Spaces		577

TABLE 3.11.4-5
ADDITIONAL PARKING SPACES REQUIRED DURING CONSTRUCTION

Project Element	Construction Schedule	Temporary Construction Impacts to Parking Spaces
Construction Parking Requirements July 2005 to December 2007		
Todd Cancer Institute Phase I	Jul 2005 to Dec 2007	135
Miller Children's Hospital pediatric inpatient tower Phase I, utility trench, and central plant building	Jul 2005 to Dec 2007	55
Roadway realignment	Jul 2005 to Jun 2006	—
Total Additional Parking Required During Construction July 2005 to December 2007		190
Construction Parking Requirements January 2006 to June 2007		
Miller Children's Hospital pediatric outpatient building	Jan 2006 to Jun 2007	—
Total Additional Parking Required During Construction January 2006 to June 2007		—
Construction Parking Requirements January 2010 to June 2011		
Todd Cancer Institute Phase II	Jul 2010 to Jun 2011	207
Miller Children's Hospital link building	Jul 2010 to Jun 2011	—
Total Additional Parking Required During Construction July 2010 to June 2011		207
Construction Parking Requirements January 2012 to June 2013		
Miller Children's Hospital pediatric inpatient tower Phase II	Jan 2012 to Jun 2013	20
Total Additional Parking Required During Construction July 2010 to June 2011		20
Maximum Temporary Construction Impacts to Parking		207

With a current parking supply of 3,452 parking spaces, the Campus would have a deficiency of 1,153 parking spaces when compared to the City parking code requirement. The proposed project includes a parking program that would meet all parking deficiencies.

In recognition of the demand for parking generated by the elements of the proposed project, LBMMC identified opportunities to accommodate additional parking within and immediately adjacent to the Campus (Table 3.11.4-6, *Parking Opportunities*).

TABLE 3.11.4-6
PARKING OPPORTUNITIES

Proposed Parking Site	Potential Surface Parking
Off-Site Lease Opportunities	
Site L	296
Site M	238
Capacity of Off-Site Lease Opportunities	534
On-Site Conversion to Surface Parking	
Site N	121
Site P	68
Site Q	71
Site R	96
Site S	72
Site T	87
Capacity of On-Site Conversion to Surface Parking	515
Total Available Parking Opportunities	1,049

Based on the existing available resources, LBMMC defined a parking program to accommodate the parking demand resulting from construction and operation of the elements of the proposed project (Table 3.11.4-7, *Construction Parking Program*, and Table 3.11.4-8, *Operation Parking Program*). The combined use of existing on-site parking, leasing immediately adjacent parking, and development of additional on-site parking would provide sufficient parking to support construction and operation of three elements of the proposed project: (1) TCI Phase I; (2) MCH pediatric inpatient tower Phase I, utility trench, and central plant building; and (3) roadway realignment. However, the identified parking opportunities would be insufficient by approximately 681 parking spaces to support operation of the last four elements of the proposed project: (1) MCH pediatric outpatient building, (2) TCI Phase II, (3) MCH link building Phase II, and (4) MCH Phase II. If the lease of Lots L and M could not be renewed in year 2015, there would be a need to replace the 534 parking spaces provided at that location, thus suggesting a total possible shortfall of 1,215 parking spaces in year 2015. It would be feasible to address this shortfall through development of a parking structure at the location of the existing surface Lot K. Development of a structure on Lot K would displace 189 parking spaces during construction that would need to be incorporated into the design of the parking structure for a total capacity of 1,404. Thus, the inclusion of the parking program will provide a sufficient number of parking spaces that will be provided throughout the construction of the proposed project.

TABLE 3.11.4-7
CONSTRUCTION PARKING PROGRAM

	Period	Parking Required	Parking Program
STEP A	Roadway realignment: July 2005 to October 2005	195	
	Existing available capacity (259)		195
	MCH pediatric inpatient tower Phase I, central plant building, and utility trench: October 2005 to January 2008	155	
	Existing available capacity (259)		64
	On-site Parking Lot N (121)		91
	TCI Phase I: July 2005 to December 2006	306	
	Off-site Parking Lot L (296)		163
	Off-site Parking Lot M (238)		143
STEP B	MCH pediatric outpatient building: October 2005 to May 2007	43	
	On-site Parking Lot R (68)		43
STEP C	TCI Phase II: July 2010 to June 2011	275	
	Parking structure at Lot K (1,404)		275
	MCH link building: July 2010 June 2011	0	
STEP D	MCH pediatric inpatient tower Phase II: January 2012 to June 2013	20	
	Parking structure at Lot K (1,404)		20

TABLE 3.11.4-8
OPERATION PARKING PROGRAM

	Period	Parking Required	Parking Program
STEP A	Roadway realignment: November 2005	195	
	Existing available capacity (259)		195
	MCH pediatric inpatient tower Phase I, central plant building, and utility trench: January 2008	254	
	Existing available capacity (259)		64
	On-site Parking Lot N (121)		121
	Off-site Parking Lot L (296)		59
	Central plant building parking (10)		10
	TCI Phase I: January 2007	589	
	Lot L		237
	Lot M		238
	On-site Parking Lot P (68)		68
	On-site Parking Lot Q (71)		46
STEP B	MCH pediatric outpatient building: June 2007	443	
	On-site Parking Lot Q (71)		25
	On-site Parking Lot R (96)		96
	On-site Parking Lot S (72)		72
	On-site Parking Lot T (87)		87
	Parking structure at Lot K (1,404)		161
STEP C	TCI Phase II: July 2011	280	
	Parking structure at Lot K (1,404)		280
	MCH link building: July 2011	50	
	Parking structure at Lot K (1,404)		50
STEP D	MCH pediatric inpatient tower Phase II: July 2013	184	
	Parking structure at Lot K (1,404)		184

Alternative Transportation

As required by the 2004 CMP for the County, a review has been made of the CMP transit service. A number of transit services exist in the proposed project area, necessitating the following transit impact review. Pursuant to the CMP guidelines, the proposed project is forecasted to generate 34 transit trips (26 inbound and 8 outbound) during the a.m. peak hour and 48 transit trips (14 inbound and 34 outbound) during the p.m. peak hour. Over a 24-hour period, the proposed project is forecasted to generate 459 daily weekday transit trips. It is anticipated that the existing transit service in the proposed project area would be able to accommodate the proposed project–generated transit trips.

Because the CMP does not provide guidance as to what constitutes a transit impact, it cannot be determined whether these person trips would have a significant impact. Nevertheless, given the number of transit trips generated by the proposed project and the existing transit routes in the proposed project vicinity, it can be concluded that the public transit system would not be significantly impacted by the proposed project.

The CMP guidelines require that arterial monitoring intersection locations must be examined if the proposed project would add 50 or more trips during either the a.m. or p.m. weekday peak hours (of adjacent street traffic) at CMP monitoring intersections. Based on the proposed project's trip generation potential, trip distribution, and trip assignment, the proposed project would not add 50 or more trips at the identified CMP intersections during either the weekday a.m. peak hour or p.m. peak hour. Therefore, a CMP intersection traffic impact analysis is not required.

The proposed project would not add 150 or more trips (in either direction) during the weekday a.m. and p.m. peak hours at CMP mainline freeway monitoring locations, as stated in the CMP manual as the threshold for a traffic impact assessment. Therefore, a CMP freeway traffic impact analysis is not required. Based on the result of this CMP evaluation, it is concluded that the proposed project would not have any significant traffic impact on the CMP highway system.

3.11.5 Cumulative Impacts

Future Traffic Operations

For interim years 2008 and 2014, the proposed project, if implemented, would significantly impact the LOS of local intersections. Future traffic operations were evaluated for interim years 2008 and 2014, both with and without proposed project scenarios. The objective of the future traffic operations analysis is to project future traffic growth and the operating conditions that would be expected to result from regional growth in the vicinity of the proposed project site, with and without the proposed project.

To make a realistic estimate of future on-street conditions prior to implementation of the proposed project, the status of other known development projects (related projects) in the area has been researched at the City of Long Beach and the City of Signal Hill (Appendix J).[13] With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impact of all ongoing development. There are 33 related projects in the City of Long Beach and 10 related projects in the City of Signal Hill that have either been built, but not yet fully occupied, or are being processed for approval. These 43 related projects have been included as part of the cumulative background settings.

Roadway Realignment

As a component of the proposed project, vehicular and pedestrian circulation patterns would be improved through the realignment of selected internal roadways.

Atlantic Avenue/Memorial Medical Center—East 28th Street

During Phase I, the proposed project proposes to remove the west leg of the intersection, in order for the Memorial Drive to be realigned and extended to intersect at East Patterson Street; it will remove the traffic signal and install a stop sign on the east leg, and remove the existing NB left-turn lane.

[13] Linscott, Law & Greenspan Engineers. 4 November 2004. *Traffic Impact Analysis*. Prepared for: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105. Prepared by: Linscott, Law & Greenspan Engineers, 1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626. Contact: City of Long Beach, Department of Community Development, 333 West Ocean Boulevard, Long Beach, CA 90802.

Atlantic Avenue/East Patterson Street

Based on the traffic impact analysis (Appendix J),[14] as part of the proposed realignment, it has been determined that in order to improve this intersection, the raised median on the south leg will need to be modified to provide an exclusive NB left-turn lane. The SB approach will need to be restriped to add an exclusive SB right-turn lane. A red curb will need to be installed on the west side of Atlantic Avenue for 100 feet north of the intersection to prohibit parking. In addition, the west leg of the intersection (the realignment of the Memorial Drive) will need to be developed to provide an exclusive left-turn lane and a shared through/right-turn lane. Finally, a five-phase traffic signal providing protected/permitted left-turn phasing in the NB and SB directions will be installed.

Pasadena Avenue/Willow Street

Based on the traffic analysis (Appendix J),[15] it has been recommended to install a two-phase traffic signal.

Related-Projects Traffic Characteristics

To estimate future on-street conditions prior to implementation of the proposed project, the status of other known development projects (related projects) in the area has been researched at the City of Long Beach and the City of Signal Hill. With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impact of all ongoing development. There are 33 related projects located in the City of Long Beach and 10 related projects in the City of Signal Hill that have either been built, but not yet fully occupied, or are being processed for approval. These 43 related projects have been included as part of the cumulative background settings.

The traffic impact analysis (Appendix J)[16] provides the location and a brief description for each of the 43 related projects, as well as the development totals and resultant trip generation for the related projects. The related projects are expected to generate a combined total of 97,016 daily trips on a typical weekday, with 7,720 trips (4,983 inbound and 2,737 outbound) forecasted during the a.m. peak hour and 9,497 (3,801 inbound and 5,696 outbound) during the p.m. peak hour.

The 33 related projects in the City of Long Beach are expected to generate 81,031 trips on a daily basis, with 6,453 trips occurring in the a.m. peak hour and 8,069 trips occurring in the p.m. peak hour.

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[14] Linscott, Law & Greenspan Engineers. 4 November 2004. *Traffic Impact Analysis*. Prepared for: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105. Prepared by: Linscott, Law & Greenspan Engineers, 1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626. Contact: City of Long Beach, Department of Community Development, 333 West Ocean Boulevard, Long Beach, CA 90802.

[15] Linscott, Law & Greenspan Engineers. 4 November 2004. *Traffic Impact Analysis*. Prepared for: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105. Prepared by: Linscott, Law & Greenspan Engineers, 1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626. Contact: City of Long Beach, Department of Community Development, 333 West Ocean Boulevard, Long Beach, CA 90802.

[16] Linscott, Law & Greenspan Engineers. 4 November 2004. *Traffic Impact Analysis*. Prepared for: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105. Prepared by: Linscott, Law & Greenspan Engineers, 1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626. Contact: City of Long Beach, Department of Community Development, 333 West Ocean Boulevard, Long Beach, CA 90802.

The 10 related projects located in the City of Signal Hill are expected to generate 15,985 trips during a typical weekday, with 1,267 trips occurring in the a.m. peak hour and 1,428 trips occurring in the p.m. peak hour. The trip generation potential of these related projects have been included in both year 2008 and year 2014 cumulative background setting, with one exception: The Douglass Park project was not considered in the year 2008 cumulative traffic setting because the anticipated completion year for this related project is year 2020. However, to remain conservative, the traffic impact analysis (Appendix J) included it as part of the year 2014 cumulative traffic setting.

Future analysis was completed for future background traffic conditions for both year 2008 and year 2014. These two traffic projections are listed below.

Year 2008: Future Background Traffic (Existing + Ambient Growth + Related Projects)

An analysis of future (year 2008) background traffic conditions indicates that the same three intersections currently operating at an adverse LOS would continue to operate at an adverse LOS. Furthermore, six additional intersections are projected to operate at an unacceptable operating condition during the a.m. and p.m. peak hour based on the City's LOS standards, with the addition of ambient traffic growth and related projects traffic. There are a total of nine intersections forecast to operate at LOS E or LOS F during the peak hour indicated (Table 3.11.5-1, *Year 2008 Key Impacted Intersections*).

TABLE 3.11.5-1
YEAR 2008 KEY IMPACTED INTERSECTIONS

Key Intersections		A.M. Peak-Hour ICU or HCM/LOS	P.M. Peak-Hour ICU or HCM/LOS
6.	Atlantic Avenue/27th Street	—	**420.20 sec/veh LOS F**
7.	Atlantic Avenue/Willow Street	—	**0.929 LOS E**
9.	Long Beach Boulevard/Willow Street	**0.935 LOS E**	**0.958 LOS E**
13.	Long Beach Boulevard/Spring Street	**0.925 LOS E**	**1.141 LOS F**
19.	Orange Avenue/Spring Street	—	**0.964 LOS E**
20.	Orange Avenue/Willow Street	—	**0.903 LOS E**
21.	Long Beach Boulevard/Wardlow Road	**0.997 LOS E**	**1.028 LOS F**
22.	Long Beach Boulevard/I-405 NB Ramp	**45.00 sec/veh LOS E**	**58.40 sec/veh LOS F**
28.	Pasadena Avenue/Spring Street	—	**41.00 sec/veh LOS E**

The remaining 19 key study intersections are expected to operate at adequate service levels (LOS D or better) during the weekday a.m. and p.m. peak commute hours.

Year 2008: Future Background Traffic (Phase I)

Significant impacts occur when the project increases traffic demand at a signalized study intersection by 2 percent of capacity (ICU ≥ 0.020), or increases the overall intersection delay by more than 2 percent at unsignalized intersections operating at LOS E or F. Traffic associated with the proposed project would significantly impact 11 of the 28 key study intersections (Table 3.11.5-2, *Year 2008 Key Impacted Intersections: Phase I*).

TABLE 3.11.5-2
YEAR 2008 KEY IMPACTED INTERSECTIONS: PHASE I

Key Intersections		A.M. Peak Hour ICU or HCM/LOS	P.M. Peak Hour ICU or HCM/LOS
1.	Atlantic Avenue/Spring Street	**0.910 LOS E**	—
2.	Atlantic Avenue/East 29th Street	—	**625.2 sec/veh LOS F**
6.	Atlantic Avenue/27th Street		**510.6 sec/veh LOS F**
7.	Atlantic Avenue/Willow Street	—	**0.958 LOS F**
8.	Pasadena Avenue/ Willow Street		**654.6 sec/veh LOS F***
9.	Long Beach Boulevard/Willow Street	**0.949 LOS E**	**0.978 LOS E**
13.	Long Beach Boulevard/Spring Street	**0.954 LOS E**	**1.193 LOS F**
21.	Long Beach Boulevard/Wardlow Road	**1.016 LOS F**	**1.065 LOS F**
22.	Long Beach Boulevard/I-405 NB Ramps	**45.90 sec/veh LOS E**	**608.20 sec/veh LOS F**
23.	I-405 SB Ramps/Crest Drive	**46.70 sec/veh LOS E**	—
28.	Pasadena Avenue/Spring Street	—	**1942.1 sec/veh LOS F**

NOTE:
* The LOS for this intersection represents the anticipated LOS with the addition of rerouted traffic due to the recommended eastbound (EB) left-turn restrictions at the Atlantic Avenue and 27th Street intersection.

The implementation of planned and/or recommended improvements at these 11 study intersections completely offsets the impact of the proposed project traffic. The remaining 17 key study intersections would not be impacted by the proposed project.

Year 2014: Future Background (Existing + Ambient Growth + Related Projects)

The traffic impact analysis (Appendix J) indicates that the same 11 intersections identified in year 2008 with Phase I traffic conditions are projected to operate poorly under year 2014 conditions. The remaining 17 key study intersections are forecast to operate at LOS D or better during the commuter peak hours.

Year 2014: Phase I and Phase II Project Traffic

The traffic impact analysis (Appendix J) indicates that traffic associated with Phase I and Phase II of the proposed project would significantly impact the same 11 intersections identified in year 2008 with Phase I traffic conditions. For the other 17 key study intersections, the project ICU and delay (seconds/vehicle) increment at the intersections forecast to operate at an adverse LOS during the a.m. peak hour or p.m. peak hour are less than the maximum allowable thresholds.

The transportation impacts associated with the proposed project were determined based on both year 2008 and year 2014 traffic analysis. The development of the proposed project is anticipated to create 11 significant impacts. As such, the proposed project would be expected to pay a proportional "fair share" of the improvement costs of 7 of the 11 impacted intersections to mitigate the proposed project's traffic impacts.

3.11.6 Mitigation Measures

The following mitigation measures are recommended to reduce significant impacts to traffic and parking. The proposed project should comply with all requirements of the CMP for the City of Long Beach. This shall include, but not be limited to, trip reduction, deficiency plans, traffic and public transportation improvement requirements, and impact fees, as required. This section identifies recommended roadway improvements that change the intersection geometry to increase capacity. Mitigation measures Transportation-1 and Transportation-2 involve roadway restriping to reconfigure (add lanes to) specific approaches of a key intersection. The identified improvements are expected to mitigate the impact of future nonproject (ambient growth and cumulative projects) traffic, and/or improve LOS to an acceptable range. Mitigation measure Transportation-1 includes recommended improvements for year 2008. Mitigation measure Transportation-2 includes recommended improvements for year 2014. Mitigation measure Transportation-3 includes recommended improvements for parking.

Measure Transportation-1

The following improvements are potential recommendation measures identified to mitigate significantly impacted intersections. The proposed project can be expected to pay a fair share of the construction costs to implement these mitigation measures.

1) Atlantic Avenue/Spring Street
   - Modify existing median and restripe Spring Street to provide a second eastbound (EB) left-turn lane and a second westbound (WB) left-turn lane.
   - Modify the traffic signal as needed.

2) Atlantic Avenue/East 29th Street
   - Restrict EB left-turn movements from 29th Street to northbound (NB) Atlantic Avenue.

6) Atlantic Avenue/East 27th Street
   - Restrict EB left-turn movements from 27th Street to NB Atlantic Avenue.

7) Atlantic Avenue/Willow Street
- No physical mitigation measure is feasible; any additional turn lanes would require widening and additional right-of-way.

9) Long Beach Boulevard/Willow Street
- No physical mitigation measure is feasible; any additional turn lanes would require widening and additional right-of-way.

13) Long Beach Boulevard/Spring Street
- Widen and/or restripe to provide an exclusive NB and southbound (SB) right-turn lane.
- Modify the traffic signal, as needed.

21) Long Beach Boulevard/Wardlow Road
- No physical mitigation measure is feasible; any additional turn lanes would require widening and additional right-of-way.

22) Long Beach Boulevard/I-405 NB Ramps
- Install a traffic signal.

23) I-405 SB Ramps/Crest Drive
- Restripe to provide an exclusive WB right-turn lane.

29) Pasadena Avenue/Spring Street
- Widen and/or restripe to provide an exclusive NB left-turn lane and an EB right-turn lane.
- Install a traffic signal.

Measure Transportation-2

The following improvements are potential recommendation measures identified to mitigated significantly impacted intersections. The proposed project can be expected to pay a fair share of the construction costs to implement these mitigation measures.

1) Atlantic Avenue/Spring Street
- Widen and/or restripe to provide an exclusive northbound (NB) and southbound (SB) right-turn lane.
- Widen and/or restripe to provide a second eastbound (EB) and westbound (WB) left-turn lane.
- Modify the traffic signal, as needed.

7) Atlantic Avenue/Willow Street
- No physical mitigation measure is feasible; any additional turn lanes would require widening and additional right-of-way.

9) Long Beach Boulevard/Willow Street
- No physical mitigation measure is feasible; any additional turn lanes would require widening and additional right-of-way.

13) Long Beach Boulevard/Spring Street
- Widen and/or restripe to provide an exclusive NB, SB, and EB right-turn lane.
- Widen and/or restripe to provide a second EB through lane.
- Modify the traffic signal, as needed.

21) Long Beach Boulevard/Wardlow Road
- No physical mitigation measure is feasible; any additional turn lanes would require widening and additional right-of-way.

Impacts would be mitigated through the specified scenario or other comparable scenarios that adhere to the same performance standards.

Measure Transportation-3

Construction and operation impacts to parking for each element of the proposed project shall be mitigated through the implementation of a parking program or comparable measure that provides sufficient long-term parking to meet City of Long Beach code requirements. Long Beach Memorial Medical Center shall keep the City of Long Beach informed of any modifications to the parking program for the proposed project. Construction parking plans shall be submitted to the City of Long Beach at least 30 days prior to the anticipated issuance of a grading permit for each element of the proposed project. Operation parking plans shall be submitted to the City of Long Beach at least 30 days prior to the anticipated issuance of occupancy permits or operation of the specified element of the proposed project.

Roadway Realignment

Construction

Miller Children's Hospital shall submit a construction parking plan to address the 195 parking spaces that are expected to be removed from Lot K as a result of the construction of the roadway realignment element of the proposed project. The parking analysis identified the availability of 259 excess parking spaces available within the Long Beach Memorial Medical Center campus. It is anticipated that the loss of the 195 parking spaces shall be offset through the use of 195 of the existing available 259 parking spaces.

Operation

Miller Children's Hospital shall submit an operation parking plan to address the permanent need for 195 parking spaces to replace parking spaces that are expected to be removed from Lot K as a result of the roadway realignment element of the proposed project. The parking analysis identified the availability of 259 excess parking spaces available within the Long Beach Memorial Medical Center campus. During construction, it is anticipated that the permanent loss of the 195 parking spaces shall be offset through the use of 195 of the existing available 259 parking spaces.

Miller Children's Hospital–Pediatric Inpatient Tower Phase I, Utility Trench, and Central Plant Building

Construction

Miller Children's Hospital shall submit a construction parking plan to address the 155 parking spaces that are expected to be removed from demolition of Parking Lot F (86-space parking structure), existing maintenance yard (14 spaces), and the additional temporary loss of spaces during construction from Lot K (55 spaces) as a result of the construction of the Miller Children's Hospital pediatric inpatient tower Phase I, utility trench, and central plant building element of the proposed project. The parking analysis identified the availability of 259 excess parking spaces available within the Long Beach Memorial Medical Center campus. It is anticipated that the loss of the 70 parking spaces shall be offset through the use of 70 of the existing available 259 parking spaces. The remaining 85 spaces shall be offset through the use of 85 of the 121 available spaces in Lot N.

Operation

Miller Children's Hospital shall submit an operation parking plan to address the permanent need for 254 additional parking spaces (replace 100 spaces lost as a result of construction, provide 144 spaces for operation of Miller Children's Hospital pediatric inpatient tower Phase I, and provide 10 spaces for operation of the central plant building). The parking analysis identified the availability of 259 excess parking spaces available within the Long Beach Memorial Medical Center campus. It is anticipated that the permanent loss of the 254 parking spaces shall be offset through the use of existing available parking spaces, Lot N, lease of off-site parking spaces, and construction of new parking spaces at the central plant building. The 86 spaces lost from Lot F and the 144 additional spaces required to operate Miller Children's Hospital pediatric inpatient tower Phase I would be provided through the use of 70 existing available spaces within the Long Beach Memorial Medical Center campus, use of the 121 spaces in Lot N, and use of 53 spaces to be leased off site at Lot L (296 space lot). A 10-car parking area would be provided at the central plant building to support operations.

Todd Cancer Institute Phase I

Construction

The Long Beach Memorial Medical Center shall submit a construction parking plan to address the 306 parking spaces that are expected to be removed from Parking Lot A, including 171 spaces permanently removed by the footprint of the building and additional 135 parking spaces to be temporarily removed as a result of construction staging. It is anticipated that the loss of the 306 parking spaces shall be offset through the use of 163 spaces to be leased off site at Lot L, and 143 spaces to be leased off site at Lot M.

Operation

Miller Children's Hospital shall submit an operation parking plan to address the permanent need for 589 additional parking spaces (replace 171 spaces lost as a result of construction, and provide 418 spaces for operation of Todd Cancer Institute Phase I). It is anticipated that the loss of the 589 parking spaces shall be offset through the use of 243 spaces to be leased off site at Lot L, 238 spaces to be leased off site at Lot M, 68 spaces to be provided through development of Lot P on site, and 40 spaces to be provided through development of Lot Q.

Miller Children's Hospital–Pediatric Outpatient Building

Construction

Miller Children's Hospital shall submit a construction parking plan to address the 43 parking spaces that are expected to be removed from Lot K. It is anticipated that the loss of the 43 parking spaces shall be offset through the use of 43 spaces to be provided through development of Lot R.

Operation

Miller Children's Hospital shall submit an operation parking plan to address the permanent need for 443 additional parking spaces (replace 43 spaces lost as a result of construction and provide 400 spaces for operation of the Miller Children's Hospital pediatric outpatient building). It is anticipated that the permanent need for 443 parking spaces shall be offset through the use of 31 spaces in Lot Q, 96 spaces in Lot R, 72 spaces in Lot S, 87 spaces in Lot T, and 157 spaces provided by development of a 1,404-space parking structure within the existing footprint of Lot K, which would also accommodate the 189 parking spaces removed as a result of construction of the parking structure itself.

Todd Cancer Institute Phase II

Construction

The Long Beach Memorial Medical Center shall submit a construction parking plan to address the 275 parking spaces that would be lost to construction (68 parking spaces) and construction staging (207 parking spaces). It is anticipated that the loss of the 275 parking spaces shall be offset through the provision of 275 parking spaces in a 1,404-space parking structure to be developed within the existing footprint of Lot K.

Operation

The Long Beach Memorial Medical Center shall submit a construction parking plan to address the 280 parking spaces that would be lost to construction (68 parking spaces) and operation of the Todd Cancer Institute Phase II (212 parking spaces). It is anticipated that the loss of the 280 parking spaces shall be offset the provision of 280 parking spaces in the 1,404-space parking structure to be developed within the existing footprint of Lot K.

Miller Children's Hospital–Link Building

Construction

Not required.

Operation

Miller Children's Hospital shall submit an operation parking plan to address the 50 parking spaces to support operation of the MCH link building. It is anticipated that the 50 parking spaces required to support operation of the MCH link building shall be provided in the 1,404-space parking structure to be constructed within the existing footprint of Lot K.

Miller Children's Hospital–Pediatric Inpatient Tower Phase II

Construction

Miller Children's Hospital shall submit a construction parking plan to address the 20 parking spaces that would be lost to construction staging. It is anticipated that the loss of the 20 parking spaces shall be provided in the 1,404-space parking structure to be constructed within the existing footprint of Lot K.

Operation

Miller Children's Hospital shall submit an operation parking plan to address the 184 parking spaces required to support operation of the Miller Children's Hospital pediatric inpatient tower Phase II. It is anticipated that the 184 parking spaces, required to operate the Miller Children's Hospital pediatric inpatient tower Phase II, shall be provided in the 1,404-space parking structure to be constructed within the existing footprint of Lot K.

3.11.7 Level of Significance after Mitigation

Implementation of mitigation measures Transportation-1 and Transportation–2 would reduce significant impacts related to traffic and transportation to below the level of significance. The impacts to 3 of 10 intersections would not be mitigated below the level of significance for the year 2008 planning horizon. The impacts to 5 of 10 intersections would not be mitigated to below the level of significance for the year 2014 planning horizon. The study area intersections are projected to operate at LOS D or better with a V/C ratio less than 1.00 during the peak hours if all of the recommended off-site improvements for interim years 2008 and 2014 are accomplished.

Implementation of mitigation measure Transportation-3 would reduce construction and operation impacts on parking to below the level of significance.

3.12 UTILITIES AND SERVICE SYSTEMS

As a result of the analysis undertaken in the Initial Study for the Long Beach Memorial Medical Center Expansion (proposed project),[1] the City of Long Beach (City) Department of Planning and Building determined that the proposed project may result in environmental impacts to utilities and service systems. Therefore, this issue is being carried forward for detailed analysis in this Environmental Impact Report (EIR). This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts to utilities and service systems and to identify potential alternatives.

The analysis of utilities and service systems includes a description of the regulatory framework that guides the decision-making process, existing conditions of the proposed project area, thresholds for determining if the proposed project would result in significant impacts, anticipated impacts (direct, indirect, and cumulative), mitigation measures, and level of significance after mitigation.

The potential for impacts to utilities and service systems has been analyzed in accordance with the methodologies and information provided by the Land Use element of the Long Beach General Plan,[2] the Open Space element of the Long Beach General Plan,[3] and the City of Long Beach Municipal Code.[4]

3.12.1 Regulatory Framework

State

California Urban Water Management Planning Act

The California Urban Water Management Planning Act (CUWMPA)[5] requires urban water suppliers to initiate planning strategies to ensure an appropriate level of reliability in its water service. The CUWMPA states that every urban water supplier that provides water to 3,000 or more customers, or that provides more than 3,000 acre-feet of water service annually, should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple-dry years. The CUWMPA describes the contents of Urban Water Management Plans, as well as methods for urban water suppliers to adopt and implement the plans. Under the CUWMPA, the proposed project would be subject to the City of Long Beach Stormwater Management Plan (LBSWMP).

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[1] City of Long Beach, Department of Planning and Building. 20 August 2004. *Initial Study for the Long Beach Memorial Medical Center Expansion Project*. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[2] City of Long Beach, Department of Planning and Building. July 1991. *Land Use Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[3] City of Long Beach, Department of Planning and Building. 30 April 1973. *Open Space Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[4] City of Long Beach, 1982. City of Long Beach Municipal Code (Ord. C-5831 § 1, 1982), Chapter 21. Available at: http://www.longbeach.gov/apps/cityclerk/lbmc/title-21/frame.htm

[5] State of California. 1983. Urban Water Management Planning Act. California Water Code, Section 10610 et seq. Available at: http://www.leginfo.ca.gov/calaw.html

Local

County of Los Angeles General Plan

Public Facilities Element

The Public Facilities element of the County of Los Angeles General Plan[6] describes existing systems in the County of Los Angeles that provide water supply and distribution, flood protection, water conservation, sewerage, water reclamation, and solid waste disposal. This document sets forth County policy on these systems by identifying a series of five broad goals and 25 supporting policies. There are five goals presented in the Public Facilities element that are relevant to the evaluation of the proposed project.

- Mitigation of hazards and elimination of adverse impacts in providing water and waste services
- Protection of the health, safety, and welfare of all residents in providing water and waste services
- Improved systems of resource use, recovery, and reuse
- Efficient water and waste management services
- A high quality of coastal water, surface water, and groundwater

Policies in support of these goals include improving coordination among operating agencies of all water and waste management systems, promoting the advancement of technology to reduce the volume of liquid waste, and facilitating the recycling of wastes such as metal, glass, paper, and textiles. The County of Los Angeles General Plan provides land use guidance for the area within which the proposed project would be located.

City of Long Beach Stormwater Management Plan

The CUWMPA requires water suppliers to develop water management plans every five years to identify short-term and long-term water demand management measures to meet growing water demands during normal, dry, and multiple-dry years.[7] The LBSWMP[8] is being implemented to meet the objectives of effectively prohibiting non-storm water discharges and reducing the discharge of pollutants to the maximum extent practicable (MEP), such that these discharges will not adversely impact the beneficial uses of receiving waters. Essentially, the City's ultimate objective is to comply with the federal Clean Water Act and the state Porter-Cologne Water Quality Control Act.

[6] County of Los Angeles, Department of Regional Planning. 1993. *Streamlined County of Los Angeles General Plan*. Contact: 320 West Temple Street, Room 1348, Los Angeles, CA 90012.

[7] State of California. 1983. Urban Water Management Planning Act. California Water Code, Section 10610 et seq. Available at: http://www.leginfo.ca.gov/calaw.html

[8] City of Long Beach. Revised August 2001. *Stormwater Management Plan*. Available at http://www.lbstormwater.org/plan/

The LBSWMP is a comprehensive program containing several elements, practices, and activities aimed at reducing or eliminating pollutants in storm water to the MEP. The programs that are relevant to the proposed project that contribute toward preventing and mitigating storm water pollution include the following:

- Street Maintenance, which consists of Street Sweeping, Sidewalk and Alley Cleaning, and Maintenance Operations
- Sewage Systems Operations and Maintenance
- Storm Drain Systems Operation and Maintenance
- Municipal Facilities Maintenance
- Public Construction Activities
- Landscaping Maintenance

The LBSWWP also addresses the planning of development projects and construction of projects not within the public street right-of-ways.

Los Angeles County Integrated Waste Management Plan

The California Integrated Waste Management Act of 1989 (AB 939) requires that the responsibility for solid waste management be shared between state and local governments. The State of California has directed the County of Los Angeles to prepare and implement a local integrated waste management plan in accordance with AB 939. The Los Angeles County Integrated Waste Management Plan Executive Summary presents the countywide goals and objectives for integrated solid waste management and describes the County of Los Angeles's system of governmental solid waste management infrastructure and the current system of solid waste management in the cities and unincorporated areas of the County. This document also summarizes the types of programs planned for individual jurisdictions and describes countywide programs that could be consolidated.[9]

The Los Angeles County Integrated Waste Management Plan, 2000 Annual Report on the Countywide Summary Plan and Countywide Siting Element, describes the County of Los Angeles's approach to dealing with a broad range of solid waste issues, including processing capacity, markets for recovered materials, waste reduction mandates, waste disposed at Class I and Class II disposal facilities, allocation of orphan waste (waste that comes from an unknown origin), the accuracy of the State Disposal Reporting System (DRS), and California Integrated Waste Management Board (CIWMB) enforcement policy. This document also reports the Los Angeles County Integrated Waste Management Task Force recommendations that can be implemented at the state and local levels to improve the current waste management system. The task force's recommendations focus on improving the quality of programs, rather than relying on quantity measurements in complying with the State of California's waste reduction mandates.[10] The proposed project would be subject to the Los Angeles County Integrated Waste Management Plan.

[9] County of Los Angeles, Department of Public Works. 1997. *Los Angeles County Integrated Waste Management Summary Plan, Executive Summary*. Contact: 900 South Fremont Avenue, Alhambra, CA 91803.

[10] County of Los Angeles, Department of Public Works. 2001. *Los Angeles County Integrated Waste Management Plan, 2000 Annual Report on the Countywide Summary Plan and Countywide Siting Element*. Contact: 900 South Fremont Avenue, Alhambra, CA 91803.

3.12.2 Existing Conditions

Wastewater Treatment

Existing sewer lines serve the proposed project area (Figure 3.12.2-1, *Existing Sanitary Sewer, Storm Drain, and Water Lines in the Proposed Project Vicinity*). Sanitary sewer service is provided by the Long Beach Water Department. In Atlantic Avenue, from 28th Street north to Columbia Street, there is an existing 18-inch sewer line east of the Atlantic Avenue centerline. This sewer line connects to an existing 21-inch sewer line located approximately at the centerline of Columbia Street. From this point, the sewer line flows west to Long Beach Boulevard then flows south in an 18-inch sewer line that connects to a manhole west of the Long Beach Boulevard centerline and north of Patterson Street.

The majority of wastewater from the City of Long Beach is treated at the Joint Water Pollution Control Plant (JWPCP) of the County Sanitation District of Los Angeles, which is operated by the County of Los Angeles. The remaining portion of the City's wastewater is delivered to the Long Beach Water Reclamation Plant. The Long Beach Water Reclamation Plant provides primary, secondary, and tertiary treatment for 25 million gallons of wastewater per day. The plant serves a population of approximately 250,000 people, including a portion of the 460,000 residents of the City of Long Beach, with nearly 5 million gallons per day of the treated water directed for reuse at more than 40 sites (Appendix K, *Utilities Analysis*).[11] The City of Long Beach Water Department operates and maintains nearly 765 miles of sanitary sewer line and delivers more than 40 million gallons per day to County of Los Angeles sanitation facilities located on the north and south sides of the City of Long Beach.

Storm Drain System

There are existing 12-, 15-, 18-, and 21-inch storm drain lines located in Willow Street (Figure 3.12.2-1). The regional storm drain system is sized in a manner to handle the storm water flows from surrounding areas, accounting for numerous acres of land area that feed into the local storm drain system. Storm water runoff from areas east of Atlantic Avenue and areas north of Spring Street are conveyed to a 54-inch storm drain that traverses east-west through the hospital site. A pump station is located at the west side of the railroad tracks, which leads the storm water toward the Los Angeles River.[12]

Water Supply

Water service is provided by the City of Long Beach Water Department. An existing 12-inch water line is located approximately 15 feet east of Long Beach Boulevard centerline between Willow Street and Spring Street. At Patterson Street, an 8-inch water line connects from the Long Beach Boulevard 12-inch water line to the Atlantic Avenue 8-inch water line (Figure 3.12.2-1). There are existing fire hydrants and water service vaults behind the existing curb line. Fire hydrant laterals are present on larger water services lines.

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[11] Moffatt & Nichol. 12 October 2004. *Long Beach Memorial Medical Center Expansion, Utilities Analysis*. Prepared for: Long Beach Memorial Medical Center, 2801 Atlantic Avenue, Long Beach, CA 90801. Prepared by: Moffatt & Nichol, 250 West Wardlow Road, Long Beach, CA 90807.

[12] Moffatt & Nichol. 12 October 2004. *Long Beach Memorial Medical Center Expansion, Utilities Analysis*. Prepared for: Long Beach Memorial Medical Center, 2801 Atlantic Avenue, Long Beach, CA 90801. Prepared by: Moffatt & Nichol, 250 West Wardlow Road, Long Beach, CA 90807.

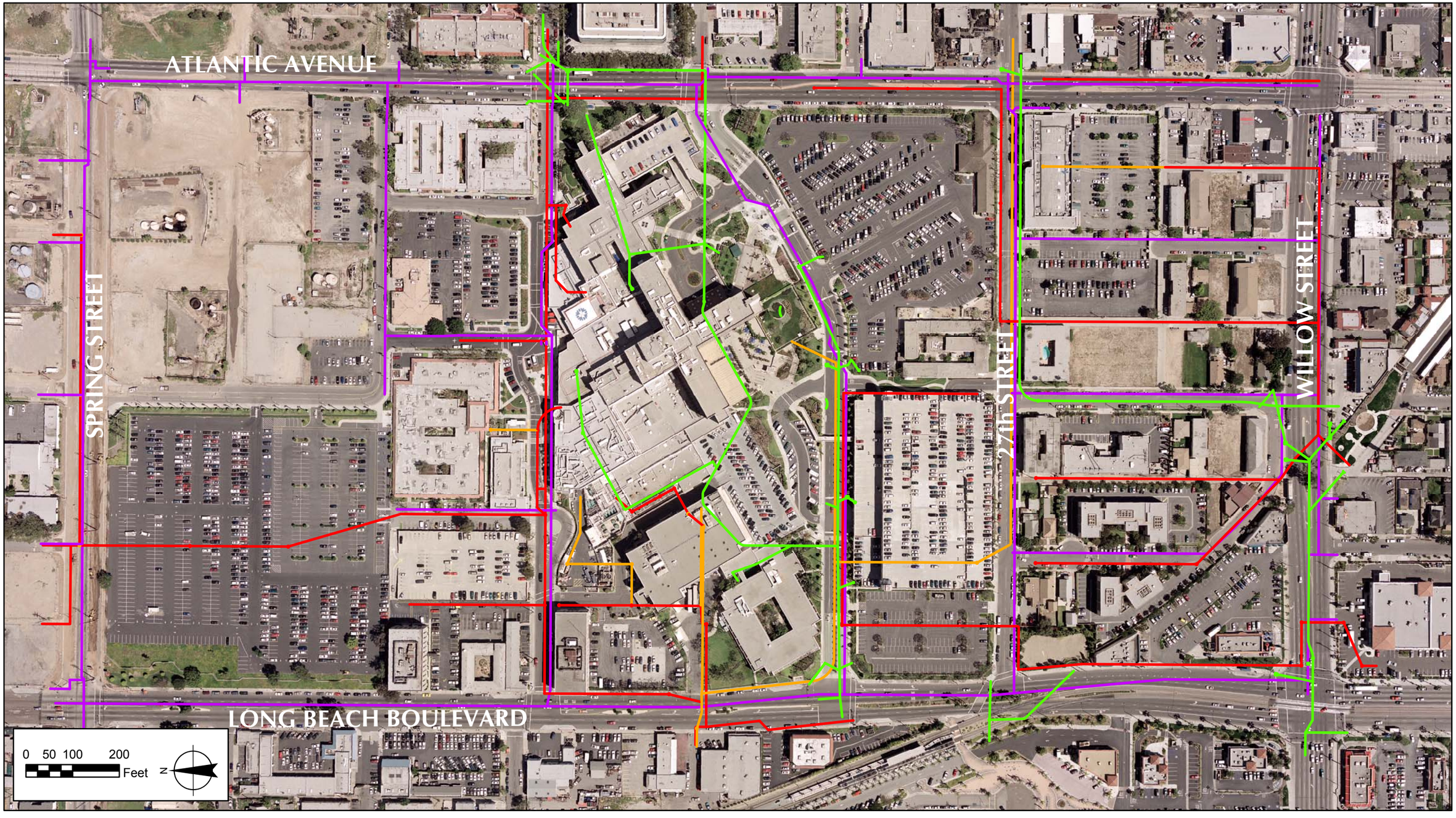

FIGURE 3.12.2-1
Existing Sanitary Sewer, Storm Drain,
and Water Lines in the Proposed Project Vicinity

Potable water would be supplied by the City of Long Beach Water Department. According to the 2002 Water Quality Report of the City of Long Beach Water Department, approximately 46 percent of the water serving the City of Long Beach is supplied by groundwater, and the remaining 54 percent is provided through purchased, imported surface water. The City of Long Beach Water Department purchases treated surface water from the Metropolitan Water District of Southern California and treats groundwater pumped from 29 wells around the Long Beach area at its groundwater treatment plant.

Solid Waste

Long Beach Memorial Medical Center (LBMMC) waste is collected under private contract to a certified waste hauler, which takes the waste to the Sunshine Canyon, Puente Hills, Brea Canyon, and Prima Desheca permitted landfills in Los Angeles and Orange Counties. The waste hauler anticipates that the proposed project's approximately 50-percent expansion in capacity could be accommodated by these existing permitted landfills.[13] Only the Puente Hills landfill is certified to receive red-bag hazardous medical waste. The cost of accepting red-bag waste at the landfill is approximately 50 percent more per ton; therefore, implementation of a waste disposal separation program would reduce the costs of disposal and allow use of the other permitted landfills on a continuing basis.

3.12.3 Significance Threshold

The potential for the proposed project to result in impacts related to utilities and service systems was analyzed in relation to the questions contained in Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines:

A project would normally be considered to have a significant impact to utilities and service systems when the potential for any one of the following seven thresholds occurs:

- Exceeds wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Requires or results in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Requires or results in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Lacks sufficient water supplies available to serve the proposed project from existing entitlements and resources or will require new or expanded entitlements
- Results in a determination by the wastewater treatment provider that serves or may serve the proposed project that it does not have adequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments

[13] Gerald Perissi, *Personal Communication*, 7 July 2004. General Manager, BFI, Inc., Gardena Division, 14905 South San Pedro, Gardena, CA 90247.

- Is not served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs

- Does not comply with federal, state, and local statutes and regulations related to solid waste

3.12.4 Impact Analysis

Wastewater Treatment

The proposed project would include an approximately 50-percent increase in the capacity and a commensurate increase in wastewater treatment requirements. Sewer laterals serving the Miller Children's Hospital (MCH) outpatient building, link building, and central plant building would connect to an 18-inch sewer line in Atlantic Avenue. The City of Long Beach Water Department is presently completing a study of ways to improve the available capacity in the 18-inch and 21-inch trunk sewer that passes around and through the LBMMC campus (Campus). This work is being prepared in anticipation of receiving the LBMMC sewer connection application for the new buildings. Within the proposed project area, manholes would be adjusted to the street design grade. Sewer laterals serving the Todd Cancer Institute (TCI) would connect to the 15-inch City of Long Beach sewer line in an easement running north and south through the LBMMC property east of the proposed TCI building. Capacity of the 15-inch sewer line in the adjacent easement would require further study and discussions with the City of Long Beach Water Department. The 15-inch sewer line traversing the parking lot in a north-south direction from Spring Street to Columbia Street is anticipated to be relocated on the ultimate build-out of TCI.[14]

The proposed project would not result in significant impacts relating to the wastewater treatment requirements of the Los Angeles Regional Water Quality Control Board[15] or result in the expansion or construction of new water or wastewater treatment facilities. The proposed project would, therefore, not result in the evaluation of constituents regulated by wastewater treatment requirements. All wastewater from the proposed project would flow into the existing sewer system. Incorporation of best management practices (BMP) would be capable of reducing the amount of polluted runoff from parking lots and landscaped areas, therefore making the runoff from the site less polluted than the existing condition. Therefore, the proposed project would not be expected to result in an exceedance of wastewater treatment requirements, or the expansion or construction of new water or wastewater treatment facilities.

Storm Drain System

The proposed improvements do not carry a component that would otherwise increase storm water runoff beyond normal rainfall amounts, as it is in the existing condition.

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[14] Moffatt & Nichol. 12 October 2004. *Long Beach Memorial Medical Center Expansion, Utilities Analysis*. Prepared for: Long Beach Memorial Medical Center, 2801 Atlantic Avenue, Long Beach, CA 90801. Prepared by: Moffatt & Nichol, 250 West Wardlow Road, Long Beach, CA 90807.

[15] California Regional Water Quality Board, Los Angeles Region (4). 13 June 1994. *Water Quality Control Plan Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*. Contact: 320 West Fourth Street, Suite 200, Los Angeles, CA 90013.

Storm water drainage conditions that result from the planned project would be substantially the same as existing conditions. The drainage would continue to follow a similar pattern, with similar velocities and quantities.[16]

The proposed project would not result in significant impacts related to the need for new or expanded storm water drainage systems. The proposed project's storm water would be accommodated by the existing storm drain system. The drainage would continue to follow a similar pattern, with similar velocities and quantities. Therefore, the proposed project would not be expected to result in significant impacts to storm drain systems.

Water Supply

Implementation of the proposed project would have a less than significant impact on the supply of water resources. The existing 8-inch water line in Long Beach Memorial Drive is in conflict with the proposed location of the acute care building. The 8-inch water line would be relocated to the realigned Patterson Street and connected to an existing 8-inch water line east of the Atlantic Avenue centerline. Additional 6-inch fire water lines would be installed to new fire hydrant locations.

The City of Long Beach Water Department has informed the Long Beach Memorial Medical Center that there are sufficient supplies to serve the proposed project from existing entitlements and resources (Appendix K). Therefore, the proposed project would not be expected to exceed existing entitlements allocated for the City of Long Beach.

Solid Waste

Both the construction and operational phases of the proposed project would be expected to generate wastes requiring disposal in accordance with local and state laws, including recycling requirements. Because construction of the proposed project would result in outpatient cancer services encompassing approximately 125,930 gross square feet of new space and approximately 200,000 gross square feet in the MCH, additional medical waste would be generated at the site. Medical waste is considered to be hazardous waste and is governed by the State of California Medical Waste Management Act (MWMA), which is enforced by the City of Long Beach as its own local enforcement agency in a (Certified Unified Program Agency) CUPA agreement with the City of Signal Hill.

Implementation of the proposed project would generate solid waste during both construction and operation. Construction of the proposed project would require the demolition of the WIC Building (4,500 square feet [SF]) and parking structure (50,216 SF), thereby generating solid waste from building debris, which constitutes a significant impact requiring the consideration of mitigation to ensure compliance with the California Solid Waste Management Act of 1989.

Postdevelopment-related activities over the life of the proposed project would increase the generation of solid waste. The increase could result in a potentially significant impact to the County of Los Angeles's solid waste management infrastructure, requiring the consideration of mitigation measures that would ensure compliance with the California Solid Waste Reuse and Recycling Access Act of 1991.

[16] Moffatt & Nichol. 12 October 2004. *Long Beach Memorial Medical Center Expansion, Utilities Analysis*. Prepared for: Long Beach Memorial Medical Center, 2801 Atlantic Avenue, Long Beach, CA 90801. Prepared by: Moffatt & Nichol, 250 West Wardlow Road, Long Beach, CA 90807.

3.12.5 Cumulative Impact

The incremental impact of the proposed project, when added to the related past, present, or reasonably foreseeable, probable future projects listed in Section 2, Project Description, Table 2.6-1, *List of Related Projects*, would not result in cumulative impacts related to utilities and service systems. Because the impacts from utilities and service systems expected from the implementation of the proposed project do not affect lands outside the boundaries of the proposed project site, these impacts do not create any cumulative impacts on the environment outside of the proposed project boundaries.

3.12.6 Mitigation Measures

Measure Utilities-1

Diversion of at least 50 percent of the construction solid waste shall be undertaken to ensure compliance with applicable federal, state, and local statutes related to solid waste and reduce direct and cumulative impacts from construction to below the level of significance. Prior to advertising for construction bids for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench, the Office of Statewide Health Planning and Development (OSHPD) shall ensure that the plans and specifications include the requirement for the construction contractor to comply with the Solid Waste Management Act of 1989. To ensure conformance with the Solid Waste Management Act of 1989, the OSHPD shall require the construction contractor to manage the solid waste generated during construction of each element of the proposed project by diverting at least 50 percent of it from disposal in landfills, particularly Class III landfills, through source reduction, reuse, and recycling of construction and demolition debris. The construction contractor shall submit a construction solid waste management plan to the OSHPD for approval prior to initiation of demolition activities for the MCH pediatric inpatient tower Phase I, central plant building, and utility trench. The construction contractor shall demonstrate compliance with the solid waste management plan through the submission of monthly reports during demolition activities that estimate total solid waste generated and diversion of 50 percent of the solid waste.

Measure Utilities-2

Diversion of at least 50 percent of the construction solid waste shall be undertaken to ensure compliance with applicable federal, state, and local statutes related to solid waste and reduce direct and cumulative impacts from construction to below the level of significance. Prior to advertising for construction bids for Todd Cancer Institute (TCI) Phases I and II, Miller Children's Hospital (MCH) pediatric outpatient building, MCH link building, roadway realignment, and parking facilities, the City of Long Beach shall ensure that the plans and specifications include the requirement for the construction contractor to comply with the Solid Waste Management Act of 1989. To ensure conformance with the Solid Waste Management Act of 1989, the City of Long Beach shall require the construction contractor to manage the solid waste generated during construction of each element of the proposed project by diverting at least 50 percent of it from disposal in landfills, particularly Class III landfills, through source reduction, reuse, and recycling of construction and demolition debris. The construction contractor shall submit a construction solid waste management plan to the City of Long Beach for approval prior to initiation of demolition activities for TCI Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities. The construction contractor shall demonstrate compliance with the solid waste management plan through the submission of monthly reports during demolition activities that estimate total solid waste generated and diversion of 50 percent of the solid waste.

Measure Utilities-3

The Office of Statewide Health Planning and Development (OSHPD) shall review the plans and specifications for the Miller Children's Hospital pediatric inpatient tower Phases I and II and central plant building to ensure that the existing Long Beach Memorial Medical Center service area has adequate trash and recycling receptacles for compliance with applicable federal, state, and local statutes related to solid waste and to reduce direct and cumulative impacts from project operation and maintenance to below the level of significance. Such compliance may be partially attained through the provision of a service area for the central plant building. Prior to advertising for construction bids for each new building, the OSHPD shall ensure that the plans and specifications designating locations for trash receptacles and recycling receptacles are in conformance with the California Solid Waste Reuse and Recycling Access Act of 1991. Wherever trash receptacles are provided throughout the proposed project site, a recycling receptacle for plastic, aluminum, and metal shall also be provided. Signs encouraging patrons to recycle shall be posted near each recycling receptacle.

Measure Utilities-4

The City of Long Beach shall review the plans and specifications for the Todd Cancer Institute Phases I and II, Miller Children's Hospital (MCH) pediatric outpatient building, MCH link building, and parking facilities to ensure that adequate service areas are provided for trash and recycling receptacles for compliance with applicable federal, state, and local statutes related to solid waste and to reduce direct and cumulative impacts from project operation and maintenance to below the level of significance. Prior to advertising for construction bids for each new building, the City of Long Beach shall ensure that the plans and specifications designating locations for trash receptacles and recycling receptacles are in conformance with the California Solid Waste Reuse and Recycling Access Act of 1991. Wherever trash receptacles are provided through the proposed project site, a recycling receptacle for plastic, aluminum, and metal shall also be provided. Signs encouraging patrons to recycle shall be posted near each recycling receptacle.

3.12.7 Level of Significance after Mitigation

Implementation of mitigation measures Utilities-1 through Utilities-4 would reduce potential impacts related to utilities and service systems to below the level of significance.