

Section 4

DEVELOPMENT PLAN

4.1 DEVELOPMENT PLAN OVERVIEW

The purpose of the Development Plan is to detail the program for the physical development of the Azusa Pacific University. This Section comprises the following subsections describing the APU Illustrative Plan:

- Land Use
- Circulation
- Parking
- Utilities and Infrastructure

Each subsection includes the a statement of goals and objectives, quantitative and qualitative descriptions of existing conditions, and discussion of the requirements needed to support the cumulative development.

4.2 LAND USE

The Land Use Districts and Definitions are described in the sections below; related Permitted Uses are described in Section 5.2.2. Together, these Land Use Districts and Definitions and the Permitted Uses are the basis for the proposed Development Plan.

A portion of the West Campus is subject to a 1999 Disposition and Developmnet Agreement (DDA) covering the former “Krems Property” portion of the

West Campus. The DDA requires the development plan completion before June 2010. Final development approval shall be consistent with the DDA.

4.2.1 Goals and Objectives

The following are the goals and objectives of the Land Use Districts:

- Delineate and place land use areas and zones so as to maximize compatibility with adjacent and abutting land uses within the campus and as the campus interfaces with surrounding properties.
- Accommodate future growth of the University, and design and develop the campus to create a unified and distinct place that supports the educational mission of the University.
- Create land use areas of a sufficient size to allow flexibility for subsequent development and construction of facilities to be built within the land use area.
- Design and develop to “fit,” complement, and be compatible with the adjacent neighborhoods in the City.
- Allow for flexibility in the plan to accommodate changing educational needs and programs over the life of the plan.

4.2.2 Land Use Districts and Definitions

There are five generalized Land Use District categories that are used as the framework of the Land Use Plan:

- **Academic/Administration**—Areas serving directly academic and academic support functions, including classrooms, labs, libraries, administrative offices, and community oriented retail at the corner of Stein & Foothill.
- **Residential/ Recreation**—Primary areas for student nonclassroom activity, including residential, dining, and recreational activities.
- **Physical Education / Athletics**—Areas devoted to physical education, athletics, intramural sports, and university recreational use.
- **Open Space**—Essential open space areas required to implement the basic building/ open space/circulation layout of the East Campus and the West Campus.
- **Circulation, Parking, and Service**—Areas primarily devoted to the access, movement, and storage of motorized vehicles as well as maintenance and physical plant support areas.

Development Plan

The Land Use District categories provide for land use flexibility within similar precincts of the APU East and West campuses. For instance, the event center fits in several categories. It contains administrative offices for advancement and athletics and it is used for physical education classes, concerts, banquets, and athletic events. In addition, community oriented retail is a permitted use at the corner of Stein Lane and Foothill Boulevard. These land use districts and their expression on the Illustrative Land Use Plan diagrams (Exhibit 4A) are configured to identify and maintain significant elements of the Azusa Pacific University Illustrative Development Plan. The facilities shown on these diagrams are for illustrative purposes only. Minor adjustments to the boundaries shown in Exhibit 4A are permitted in order to account for the precise layout of buildings, facilities, parking, roads, and open spaces,

provided that the fundamental inter-relationships among the land uses and open spaces are maintained. The Economic and Community Development Department Director shall make the determination on the minor adjustments. Section 5.2.2 identifies the permitted uses within each category.

4.2.3 Cultural Resources

APU acknowledges that some members of the Azusa community value the marquee of the former Foothill Drive-In Theater. As part of its Specific Plan, the University has agreed to maintain the marquee in its current location and spend up to \$50,000 to reconstruct the sign. APU will also cooperate with the Azusa Historical Society in raising any additional funds necessary to reconstruct and maintain the marquee.

In addition, the University will retain and relocate the eastern wing of the Faculty Quad building on campus. According to the City’s historical resources consultants, this wing was likely a small residence built on the property circa 1910.

4.2.4 APU Illustrative Development Plan

Exhibits 4B and 4C show the APU Illustrative Development Plan for the Azusa Pacific University; this plan is an illustration of how facilities and open spaces could be distributed within the Land Use framework described in Section 4.2. These diagrams represent a physical implementation of the proposed development over a period of 20 years on land now owned by the

University. The APU Illustrative Development Plan diagrams indicate a possible and appropriate way in which buildings, open spaces, athletic fields, pathways, roadways, parking, and other facilities could be built on the APU sites in accordance with the Vision, Guiding Principles, and Goals (Section 3), Development Standards (Section 5), and Design Guidelines (Section 6) set forth in this APU Specific Plan. The phasing of the Specific Plan development is discussed in Section 7 (Implementation Plan). It should be noted that this Illustrative Development Plan represents one of a number of possible scenarios that conform to the standards of the Specific Plan. The facilities shown on these diagrams are for illustrative purposes only. Variations on this conceptual Illustrative Development

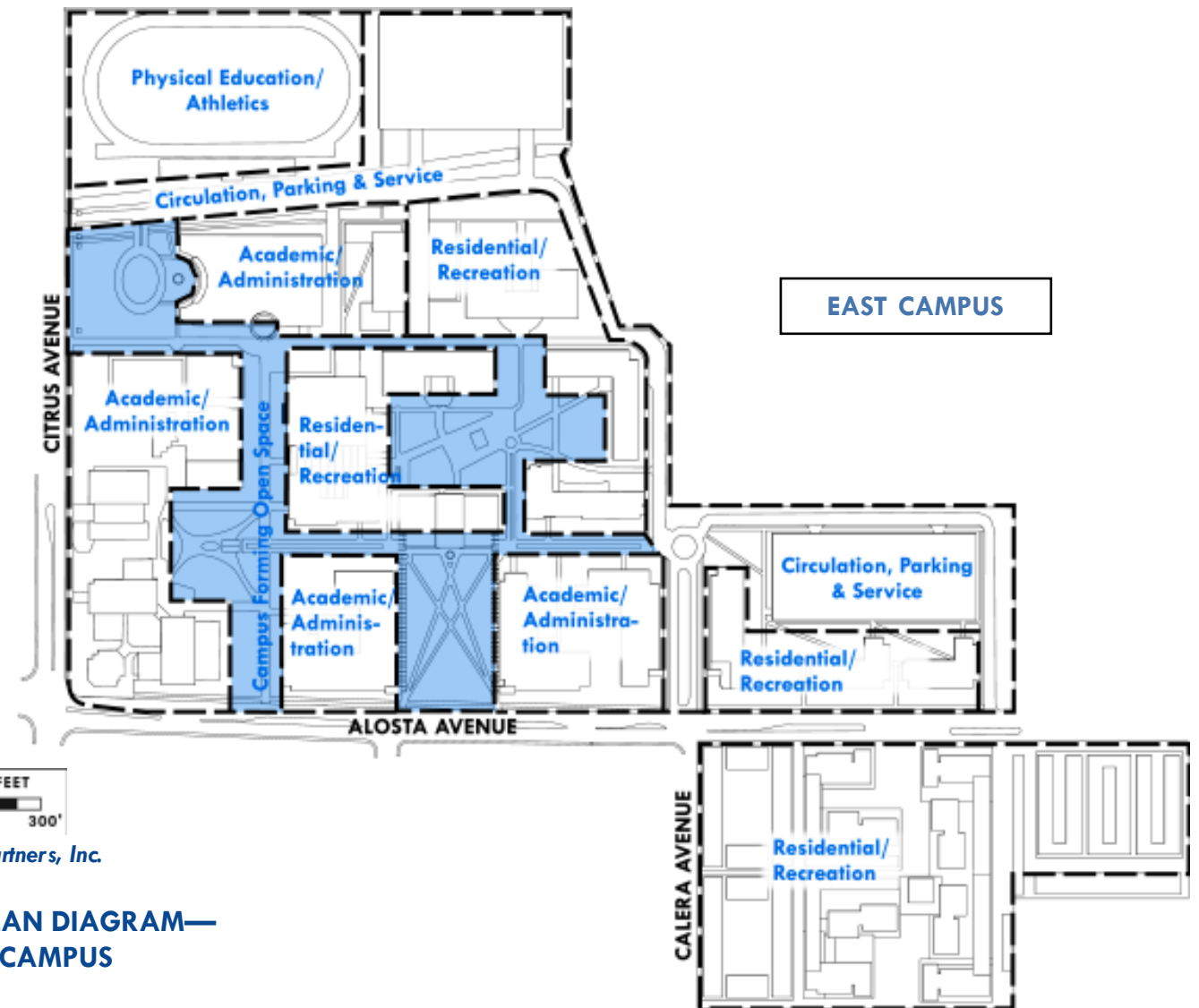
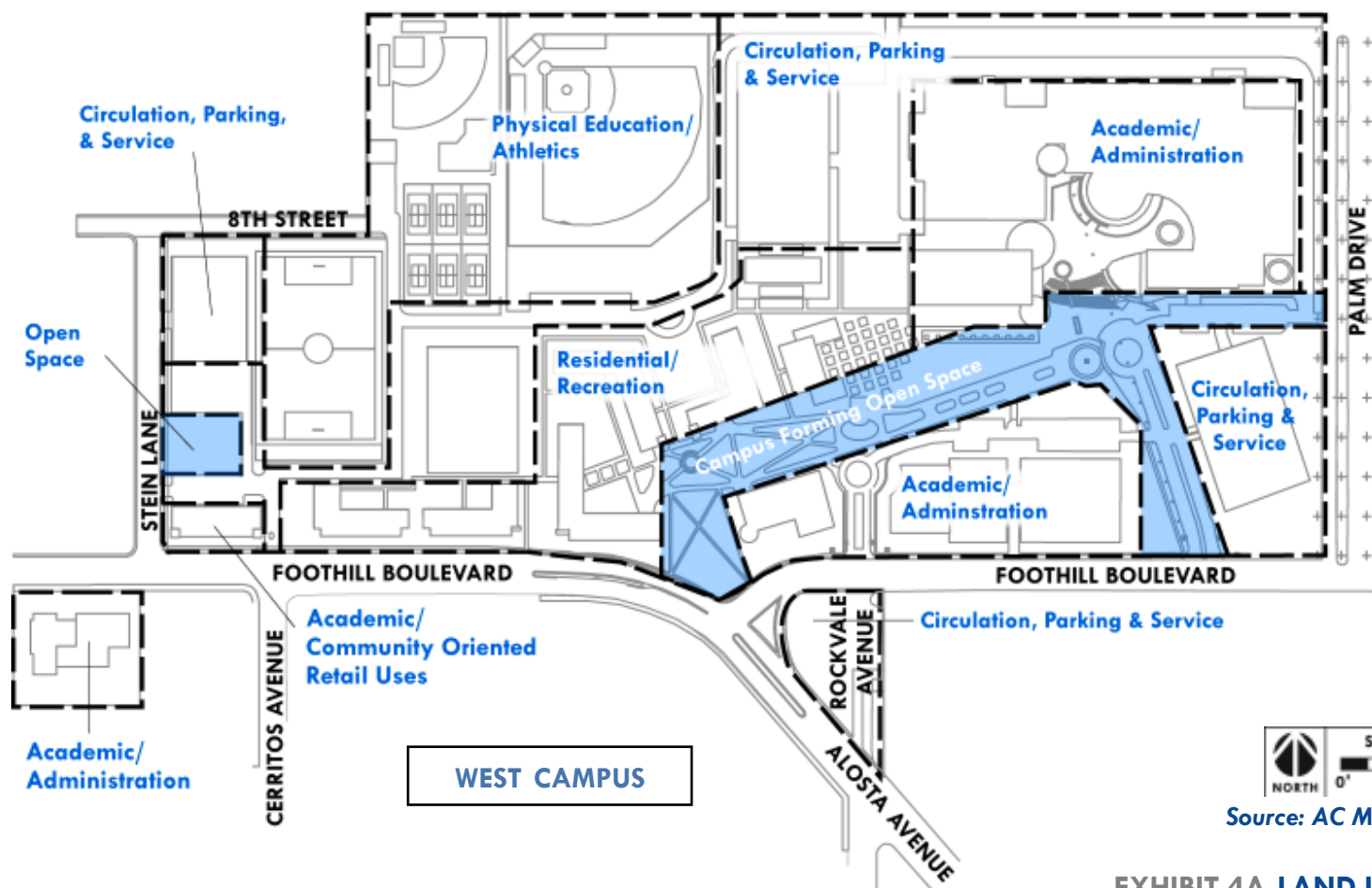


EXHIBIT 4A LAND USE PLAN DIAGRAM— WEST AND EAST CAMPUS



Source: AC Martin Partners, Inc.

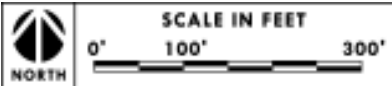
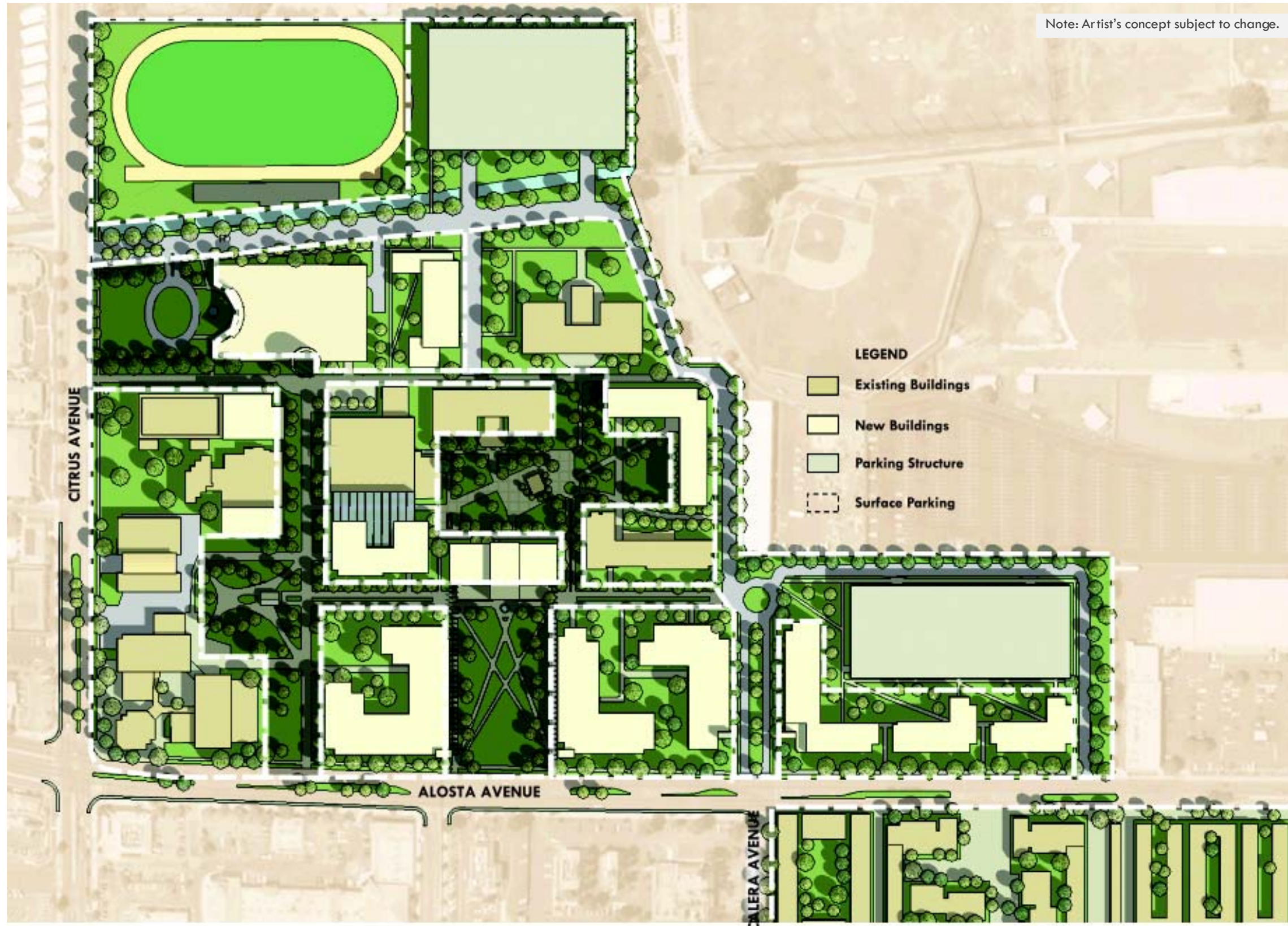


EXHIBIT 4B ILLUSTRATIVE DEVELOPMENT PLAN—WEST CAMPUS



Source: AC Martin Partners, Inc.

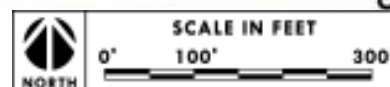


EXHIBIT 4C ILLUSTRATIVE DEVELOPMENT PLAN—EAST CAMPUS

Plan, including alternative configurations for building footprints and the arrangement of buildings, open space, and other campus facilities, if within the Specific Plan standards, are acceptable.

The Development Plan addresses the development on both campuses, and, consistent with the Planning Principles and Planning Objectives detailed in Section 3, distributes land uses and functions across both campuses. The Development Plan comprises academic and administrative facilities; student housing and recreation facilities; facilities for intercollegiate and intramural athletics; campus open space and pedestrian circulation; and parking, vehicle circulation, and service/maintenance facilities.

4.3 CIRCULATION

The following discussions of circulation and parking are based upon a detailed report on these issues by Kaku Associates. The report serves as an appendix to this Specific Plan, and is on file in the Economic and Community Development Department.

4.3.1 Goals

The following are the goals for the University's circulation and parking system:

- Move students, faculty, staff, and visitors to, from, and within the campus as efficiently as possible.
- Minimize the amount of vehicular traffic on City streets and maximize the ease of movement within the East Campus and West Campus and between the campuses.
- Provide for safe access to and from campus by all modes of transportation—private vehicle, public transit, bicycle, and walking.
- Maximize pedestrian safety on campus.
- Minimize the amount of land devoted to parking and vehicular roadways.

- Encourage students, faculty, and staff to use transportation modes other than private vehicles.

4.3.2 Existing Circulation and Traffic Patterns

The major surface streets serving the East Campus are Citrus Avenue in the north/south direction and Alostia Avenue in the east/west direction. The major surface streets serving the West Campus are Azusa Avenue and San Gabriel Avenue in the north/south direction and Foothill Boulevard in the east/west direction. Regional access to the APU campus is provided via Interstate-210. A detailed description of the primary roadways in the vicinity of the campus, as well as diagrams of the existing intersection lane configurations for twenty-seven key intersections, are provided in the Traffic and Parking Study for the APU Specific Plan (Kaku Associates 2002).

Analyzed in this study are the existing traffic patterns and accompanying intersection levels of service for these twenty-seven intersections. Utilizing criteria established by the City of Azusa, it was determined that all but four of the intersections currently operate at acceptable levels of service.

4.3.3 Circulation Plan

The future circulation is expected to be the same as the existing circulation with a few exceptions. The intersection of Alostia Avenue and Foothill Boulevard will be realigned to provide better movement along the main Alostia/Foothill corridor. Other potential roadway changes have yet to be finalized. Community and Regional Site Circulation is shown in Exhibit 4D.

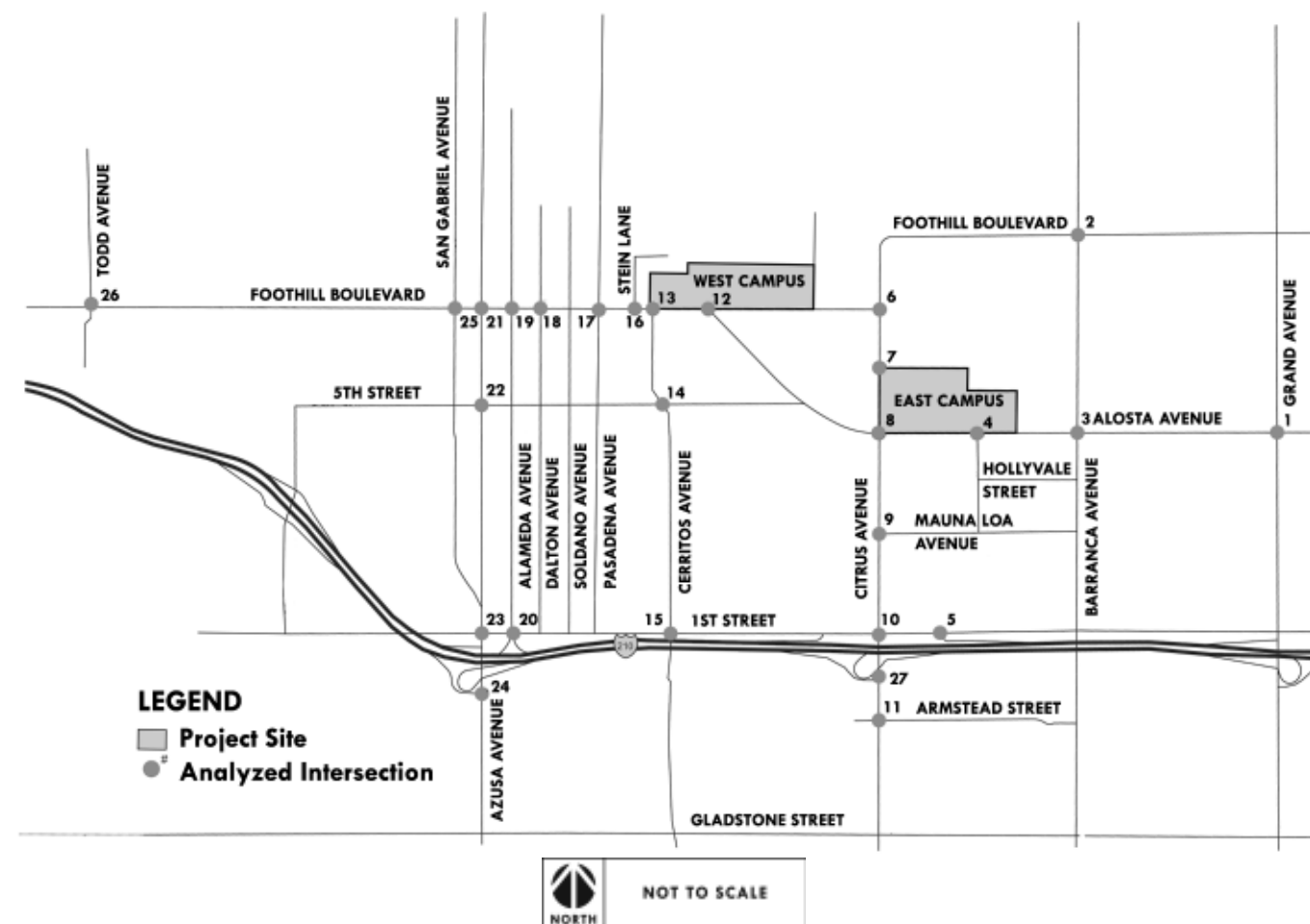


EXHIBIT 4D COMMUNITY AND REGIONAL SITE CIRCULATION

4.3.4 Community and Regional Circulation

The future traffic patterns and accompanying intersection levels of service are detailed in the Traffic and Parking Study for the APU Specific Plan (Kaku Associates 2002). Two future scenarios were analyzed: Cumulative Base, which includes any and all cumulative project traffic as well as projected area growth, and Cumulative plus Project, which is simply the Cumulative Base plus APU Project traffic. Utilizing criteria established by the City of Azusa, it was determined that fourteen of the twenty-seven analyzed intersections were significantly impacted under the Cumulative Base plus APU project traffic. The Kaku traffic study indicates that the following intersections are impacted and will require improvements:

- Calera Avenue and Alostia Avenue (AM & PM)
- Citrus Avenue and Alostia Avenue (AM & PM)
- Citrus Avenue and Foothill Boulevard (PM Only)
- Citrus Avenue and Mauna Loa Avenue (AM & PM)
- Citrus Avenue and Baseline Road (AM & PM)
- Cerritos Avenue and Foothill Boulevard (AM & PM)

- Stein Lane and Foothill Boulevard (AM & PM)
- Pasadena Avenue and Foothill Boulevard (PM Only)
- Azusa Avenue and Foothill Boulevard (AM & PM)
- Azusa Avenue and “1st” Street (AM Only)
- San Gabriel Avenue and Foothill Boulevard (PM Only)

Proposed off-site improvements in the form of possible mitigation measures are also outlined in the Kaku Associates study. It was concluded that all of the intersections could be successfully mitigated without drastically changing the characteristics of the circulation. Recommended off-site improvements include:

- Calera Avenue and Alostá Avenue—APU shall pay the University’s fair share to modify the intersection to provide an eastbound left-turn lane. This improvement would require striping modifications and modifications to the existing raised median.
- Citrus Avenue and Alostá Avenue—APU shall pay the University’s fair share to adjust the signal phasing to allow for a permitted southbound phase. This improvement would require modifications to the existing traffic signal equipment at the intersection.
- Citrus Avenue and Foothill Boulevard—APU shall pay the University’s fair share to adjust the signal phasing to allow for a protected eastbound left turn phase. This improvement would require modifications to the existing traffic signal equipment at the intersection.

- Citrus Avenue and Mauna Loa Avenue—APU shall pay the University’s fair share to convert the existing unsignalized intersection into a signalized intersection. This improvement would require the addition of traffic signal equipment at the intersection.
- Citrus Avenue and Baseline Road—APU shall pay the University’s fair share to modify the intersection to provide an additional northbound left-turn lane. This improvement would require striping modifications and modifications to the existing raised median.
- Cerritos Avenue and Foothill Boulevard—APU shall pay the University’s fair share to modify the intersection to provide a southbound left-turn lane, through lane, and two right-turn lanes and a northbound left-turn lane, shared-through/left-turn lane and a right-turn lane. This improvement would require striping modifications and modifications to the existing raised median.
- Pasadena Avenue and Foothill Boulevard—APU shall pay the University’s fair share to adjust the signal phasing to allow for a protected northbound phase. This improvement would require modifications to the existing traffic signal equipment at the intersection.
- Azusa Avenue and Foothill Boulevard—APU shall pay the University’s fair share to modify the intersection to provide a northbound right-turn lane. This improvement would require striping modifications and the removal of some on-street parking.

- Azusa Avenue and “1st” Street—APU shall pay the University’s fair share for a protected/permitted northbound phase and permitted southbound phase. This improvement would require modifications to the existing traffic signal equipment at the intersection.
- San Gabriel Avenue and Foothill Boulevard—APU shall pay the University’s fair share to modify the intersection to provide an additional westbound left-turn lane. This improvement would require striping modifications and modifications to the existing raised median.

4.3.5 Role of Transit

The study area is well served by public transportation. Foothill Transit provides bus routes through the area. The following are bus routes operating in the study area.

- FT-185 – Foothill Transit—Line 185 serves the areas of Azusa, West Covina, and Hacienda Heights. This line travels along San Gabriel Avenue and Foothill Boulevard within the study area.
- FT-187 – Foothill Transit—Line 187 serves the areas of Claremont, Montclair, and Pasadena. This line travels along Foothill Boulevard and Alostá Avenue within the study area.
- FT-280 – Foothill Transit—Line 280 serves the areas of Azusa and the Puente Hills Mall. This line travels along Azusa Avenue and San Gabriel Avenue within the study area.
- FT-281 – Foothill Transit—Line 281 serves the areas of Glendora, West Covina, and the Puente Hills Mall. This line travels along Foothill Boulevard, Barranca Avenue, Alostá Avenue, and Citrus Avenue within the study area.

- FT-494 – Foothill Transit—Line 494 serves the areas of Glendora, West Covina, and Downtown Los Angeles. This line travels along Foothill Boulevard within the study area.
- FT-498 – Foothill Transit—Line 498 serves the areas of Citrus College and Downtown Los Angeles. This line travels along Grand Avenue, Foothill Boulevard, Barranca Avenue, and Alostá Avenue within the study area.

APU provides shuttle service between the two campuses (shown in Exhibit 4E). When classes are in session during the academic school year, the shuttle service operates Monday through Friday with a fleet that includes trolleys, buses, and 15-passenger vans and operates on the following schedules:

- **Daytime Schedule: 6:45 A.M.—4:30 P.M.**
Three vehicles operate along a continuous route from East Campus at University Drive to West Campus at Centennial Drive, continuing onto West Campus at Cerritos Avenue before returning to East Campus at University Drive. Additionally, one vehicle operates on a reverse route, enabling a trolley to arrive at each location approximately every 5 to 7 minutes.
- **Evening Schedule: 4:30 P.M.—10:45 P.M.**
One vehicle operates from East Campus at University Drive to West Campus at Centennial Drive, continuing onto West Campus at Cerritos Avenue before stopping at University Park Apartments at Calera Avenue, and returning to East Campus at University Drive.

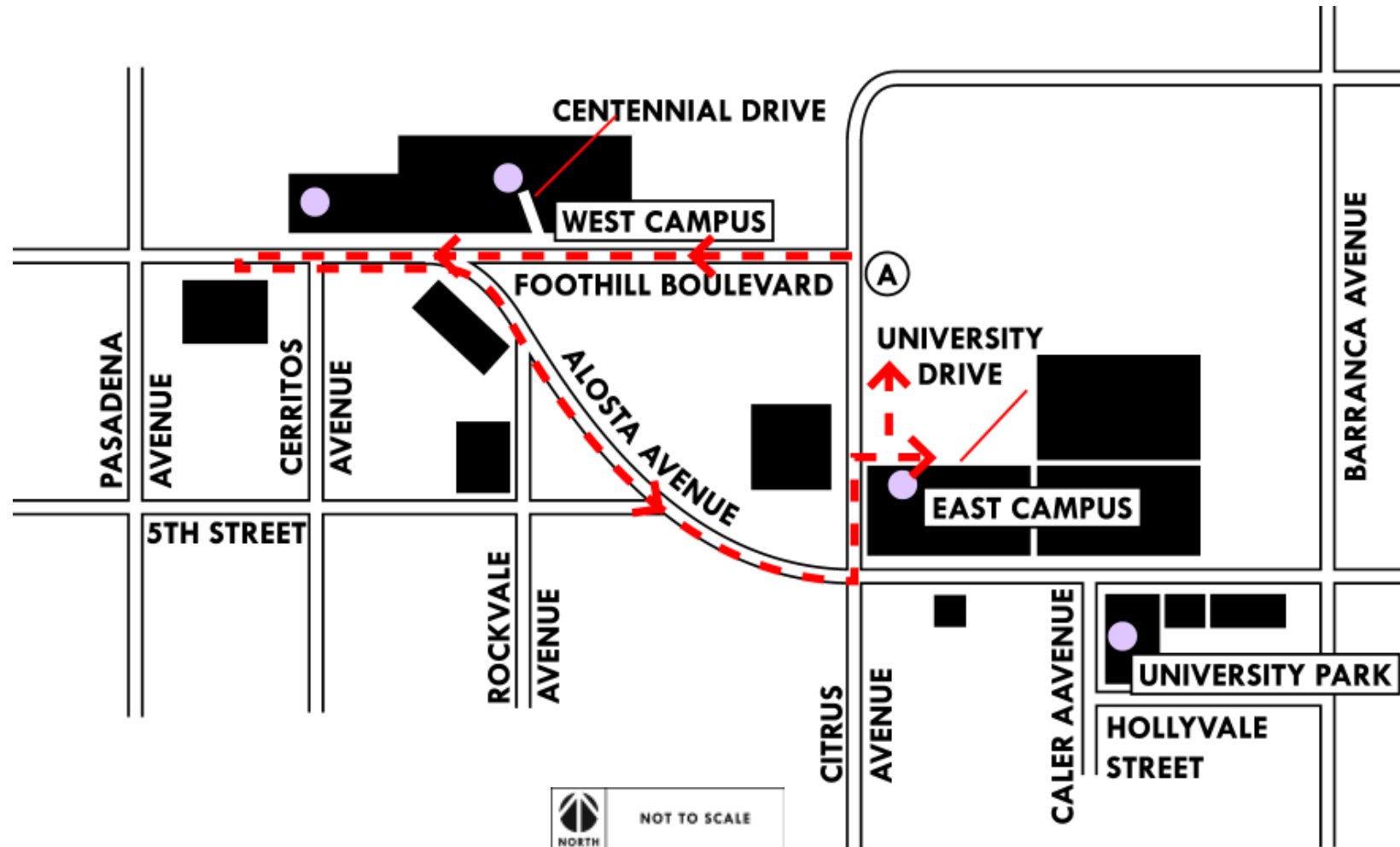


EXHIBIT 4E APU SHUTTLE ROUTE

4.3.6 Site Circulation

Exhibit 4F shows proposed vehicular circulation for both campuses. At the East Campus, the existing surface parking lots are ultimately to be replaced by two parking garages. Primary internal access to the site will be provided by one entrance/exit along Citrus Avenue and two entrances/exits along Alostia Avenue. One entrance/exit along Alostia Avenue at Calera Avenue will be new, and the University Drive entrance/exit along Citrus Avenue will be relocated north from the existing Citrus Avenue access point. In the Kaku Associates study, included as an appendix to this report, it is recommended that a traffic signal be placed at this intersection, with an optional right-hand turn pocket. At the West Campus, the existing parking lots are ultimately to be replaced by three parking structures and several small surface lots. Primary internal access to the site will be provided by two

entrances/exits along Foothill Boulevard, both of which will be new, replacing the existing site access points. The Centennial Drive entrance/exit will be shifted to the east; an entrance/exit is placed at Cerritos Avenue. A third entrance/exit along Foothill Boulevard at N. Rockvale Avenue will function primarily as a drop-off point, having access only to one of the small surface lots. The far east entrance/exit just west of Palm Drive will remain open to provide access to the parking garage just to the west of this drive and for fire department access to the northern buildings on the west campus. Access to the West Campus may require shared usage with future roadway design proposed for Palm Drive. Future access concepts will be jointly reviewed by APU and Rosedale representatives and in context with accepted traffic engineering criteria.

Service and emergency access to the site and circulation to the site will primarily adhere to the same characteristics as the general traffic, with a few exceptions. Additional access points will be available to the service and emergency vehicles. These vehicles will also be able to use specially designated internal roadways.

Though the two campuses are currently separated by approximately one-half mile, the impact of this on students is reduced by the APU shuttle service. Ridership on the shuttle currently averages 3,000 each weekday during which classes are held. The University agrees to continue APU trolley service in the future during the undergraduate school year. Several shuttle stops will be included on each campus at points to be determined by APU. This service will aid in reducing the vehicular traffic between the East and West Campuses as well as within each campus.

4.4 PARKING

The APU Specific Plan will use the Azusa City Development Code parking regulations to determine the required parking supply for Azusa Pacific University campuses. At full buildout, the APU Specific Plan is projected to require 1,391 parking spaces for the University’s faculty and staff, and 1,697 spaces for its students. Proposed locations for parking structures and surface parking facilities are shown in Exhibit 4F.

Each October, APU will provide the City of Azusa’s Economic and Community Development Director with the official number of undergraduate and graduate students from the University’s record, the number of faculty and staff, and verification of the number and location of parking spaces on the campuses to accommodate the student enrollment, faculty, and staff.

4.4.1 Pedestrian Circulation

Exhibits 4G and 4H shows the pedestrian circulation system within each campus. Connections have been made between internal campus pathways and the City sidewalk system. Pedestrian entries to the East Campus have been distributed along both Citrus and Alostia Avenues; pedestrian entries to the West Campus have been distributed along Foothill Boulevard.

APU is working with the City of Azusa to make the streets adjacent to the University more pedestrian friendly, especially along Foothill Boulevard and Citrus Avenue. This will not only provide a safe pedestrian and bicyclist circulation system and improve the amenities but it will also increase pedestrian and bicyclist travel between the two campuses, thereby reducing the amount of vehicle traffic.

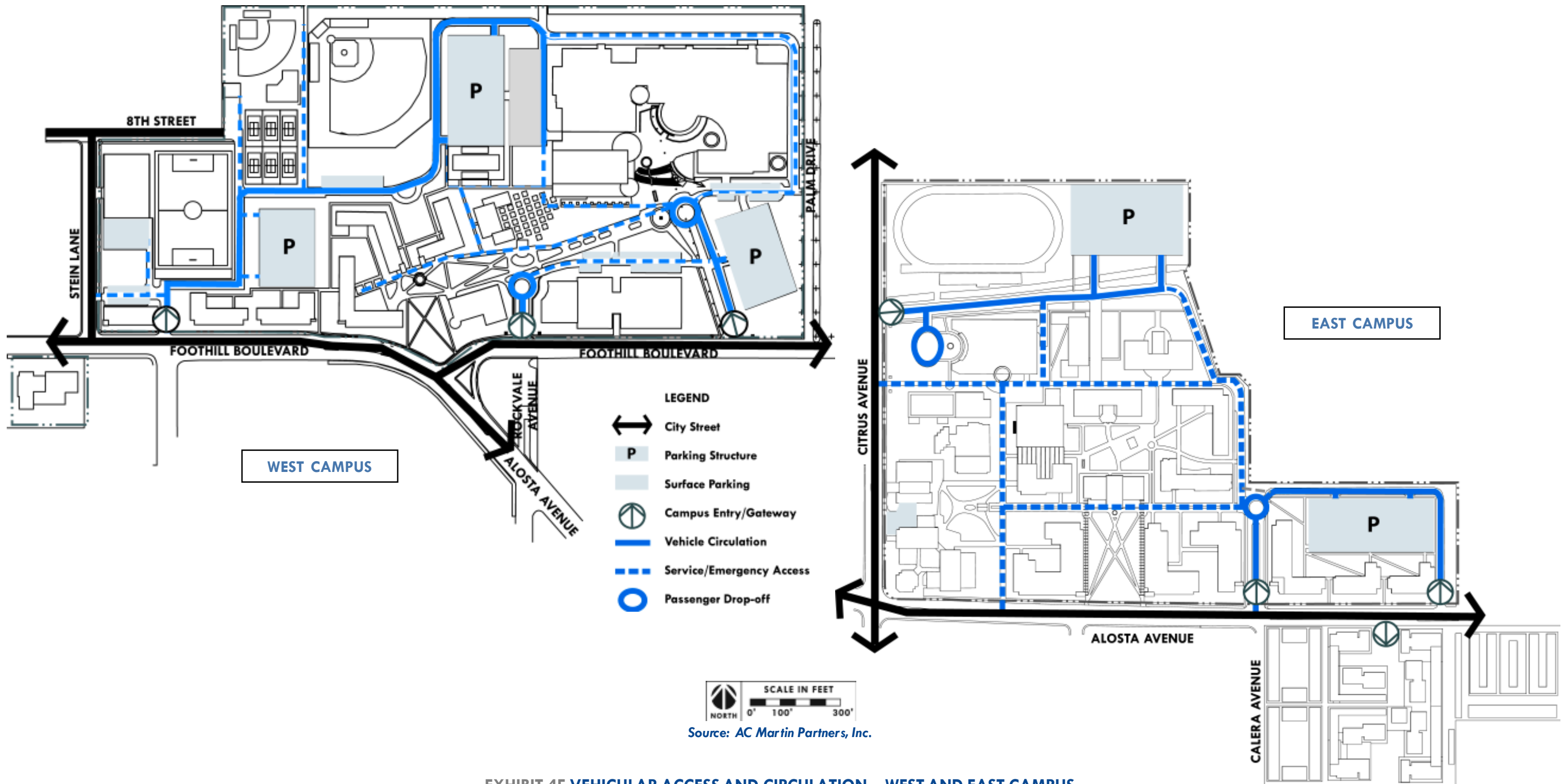


EXHIBIT 4F VEHICULAR ACCESS AND CIRCULATION—WEST AND EAST CAMPUS

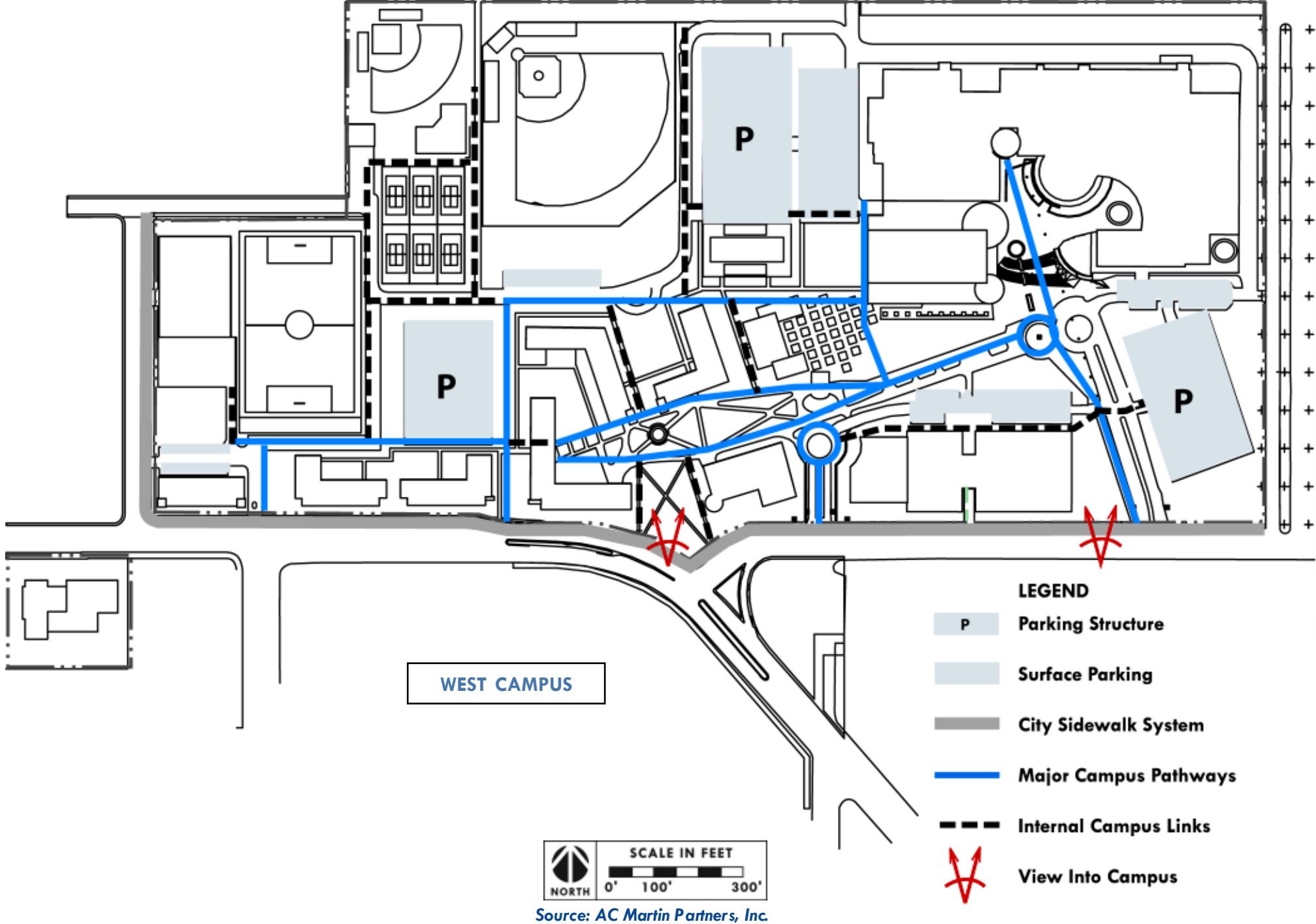


EXHIBIT 4G PEDESTRIAN CIRCULATION SYSTEM—WEST CAMPUS

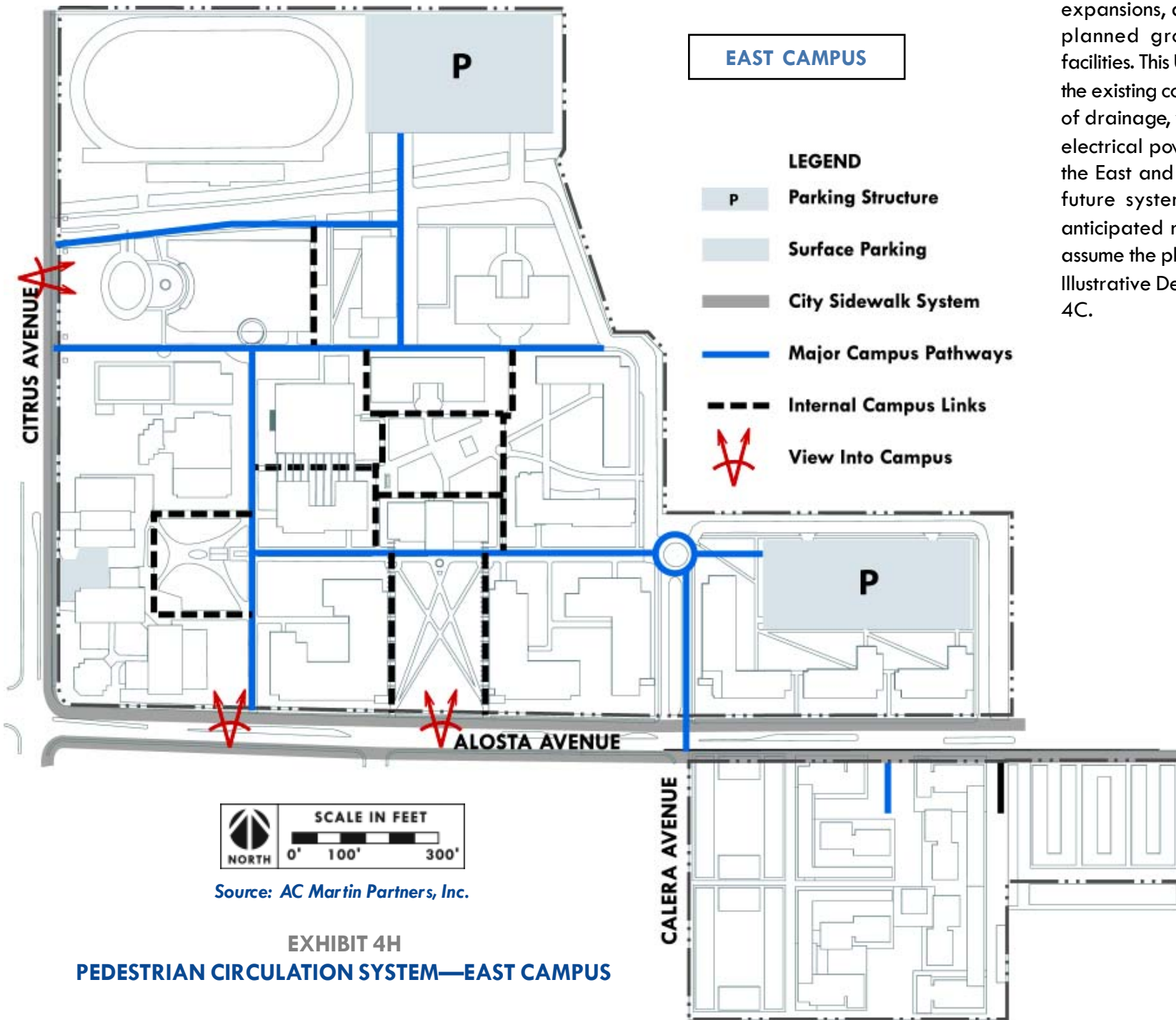
4.5 UTILITIES AND INFRASTRUCTURE

The Azusa Pacific University Specific Plan addresses the need to develop future utility system upgrades, expansions, and abandonments to accommodate the planned growth and reconfiguration of campus facilities. This Utilities and Infrastructure section examines the existing conditions and planned future development of drainage, water, fire protection, sewer, natural gas, electrical power, and telecommunications systems for the East and West Campuses of APU. The proposed future system configurations are based upon the anticipated needed capacities for each system and assume the physical campus layout as indicated on the Illustrative Development Plan shown in Exhibits 4B and 4C.

4.5.1 Goals

The following are goals for the University's utilities and infrastructure system:

- Provide adequate electrical power, telecommunication data, natural gas, wastewater, drainage, water supply, and fire protection to support existing and future needs of the campus.
- Provide system designs that can be efficiently constructed, expanded, and maintained.
- Minimize long-term operating costs.
- Provide system designs that are safe to operate and maintain.
- Provide system designs that anticipate actions by service providers.
- Provide system designs that conserve natural resources.
- Provide system designs that permit reasonable use of the campus facility during maintenance or localized system failure.
- Provide system designs that are flexible and adaptable to changes in technology.
- Identify and replace existing systems with short payback periods.
- Phase infrastructure in a timely manner to assure adequate service for new development.
- Promote systems that minimize visual impacts on the campus and the surrounding community.



4.5.2 Drainage

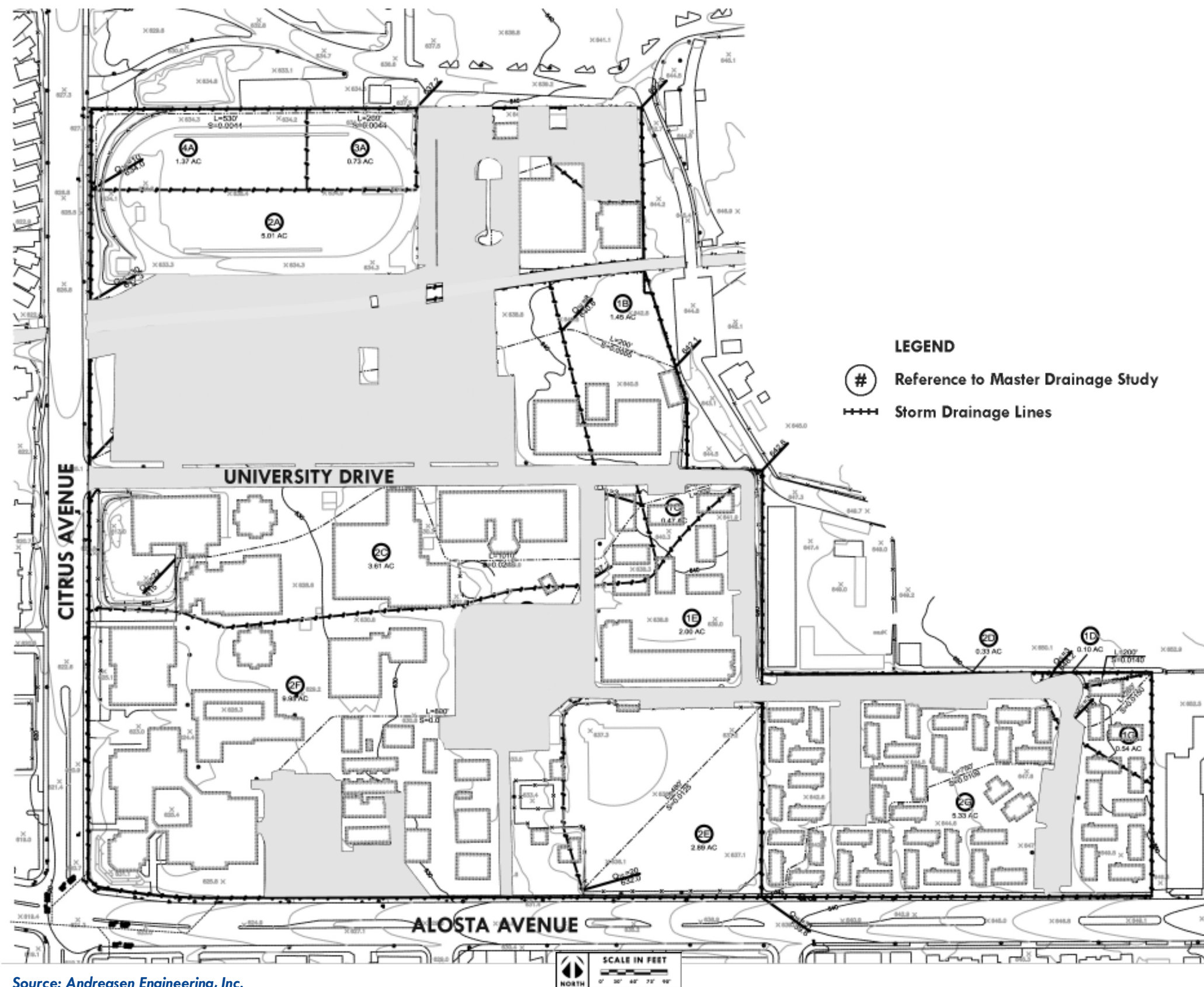
The following discussion of drainage is based upon a Master Drainage Study, prepared by Andreasen Engineering, Inc. (refer to Appendix D). Existing conditions are illustrated in Exhibits 4I and 4K.

**4.5.2.1 EAST CAMPUS DRAINAGE:
EXISTING CONDITIONS**

The East Campus is bounded on the north and east by Citrus College, on the west by Citrus Avenue, and on the south by Alostia Avenue. Stormwater runoff for the north area of the East Campus, including the football stadium and the Facilities Management areas, is a combination of surface and subsurface drainage. Drainage is conducted to the Little Dalton Wash, a paved drainage channel maintained by the County of Los Angeles. A portion of the adjacent parking lot (Parking Lot A), south of the Wash, drains on the surface to this channel as well. The remainder of Parking Lot A and the front yards of the existing buildings drain onto the surface. The north-facing roofs of buildings drain to roof drains, with additional overflow drainage to the surface. The roof drains discharge through the curb face to University Avenue. The surface drainage also flows to University Avenue, which carries the drainage to Citrus Avenue.

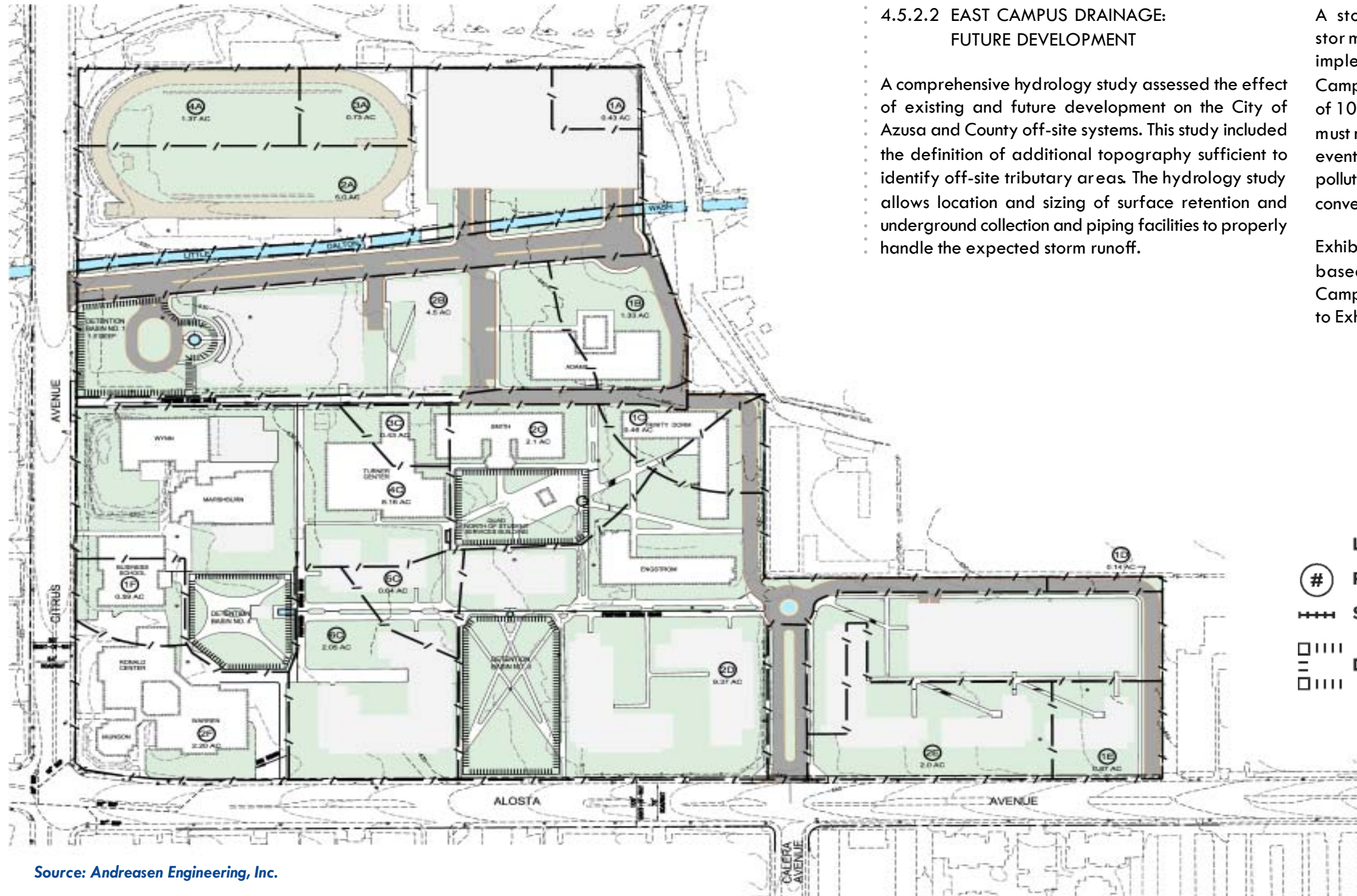
Runoff from the roofs of the buildings adjacent to Citrus Avenue, and the open campus areas just east of them, comprise a smaller drainage area. Stormwater from this smaller area is collected in inlets, transported through pipes, and then discharged through the curb face at three locations on Citrus Avenue. The remainder of the campus drains utilize surface drainage on parking lots and driveways as well as sidewalk culverts leading to either Alostia Avenue or Citrus Avenue. All drainage is eventually picked up by the City of Azusa storm drain system at the northeast corner of Alostia and Citrus.

An insignificant amount of off-site Citrus College drainage enters the APU campus along their common boundaries to the east, and their common boundary adjacent to the Shire residential area to the north.



Source: Andreasen Engineering, Inc.

EXHIBIT 4I EXISTING DRAINAGE—EAST CAMPUS



Source: Andraesen Engineering, Inc.

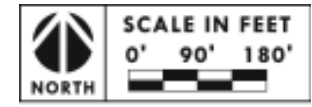


EXHIBIT 4J PROPOSED DRAINAGE—EAST CAMPUS

4.5.2.2 EAST CAMPUS DRAINAGE:
FUTURE DEVELOPMENT

A comprehensive hydrology study assessed the effect of existing and future development on the City of Azusa and County off-site systems. This study included the definition of additional topography sufficient to identify off-site tributary areas. The hydrology study allows location and sizing of surface retention and underground collection and piping facilities to properly handle the expected storm runoff.

A stormwater pollution prevention plan and a stormwater urban mitigation plan also must be implemented for all new construction on the East Campus. All future development that creates an area of 100,000 square feet or more of impermeable area must mitigate the first $\frac{3}{4}$ inch of rainfall for each storm event and be designed to minimize the introduction of pollutants from the site runoff into the public stormwater conveyance system.

Exhibit 4J illustrates a proposed drainage system based upon the general topography of the East Campus and the East Campus Illustrative Plan (refer to Exhibit 4B).

LEGEND

- Reference to Master Drainage Study
- Storm Drainage Lines
- Detention Basins

4.5.2.3 WEST CAMPUS DRAINAGE:
EXISTING CONDITIONS

Existing West Campus drainage conditions are illustrated in Exhibit 4K.

The West Campus is bounded on the north by the Burlington Northern Santa Fe railroad right-of-way and the Monrovia Nursery beyond; on the west by Stein Lane and a residential area adjacent to Eighth Street; on the south by Foothill Boulevard; and on the east by Palm Drive, a private street. Drainage from the easterly areas of the site, incorporating the Darling Library, Duke Academic Center, and the Felix Event Center addition, drains via a system of inlets and storm drain pipelines to the City of Azusa’s 42-inch-diameter storm drain located at the intersection of Foothill Boulevard and Rockvale Avenue. The 675 East Foothill site drains through surface drainage to Foothill Boulevard. Stormwater runoff from the Azusa Square Property area of the West Campus is collected in a system of surface inlets and underground storm drains, which carries the water to the City of Azusa storm drain system within Foothill Boulevard.

Drainage occurs from the railroad grade onto the West Campus property. It varies from severe on the far west, to moderate on the east, to almost nonexistent in the center. Drainage also occurs from Palm Drive onto the West Campus during heavy watering of the adjacent plants.

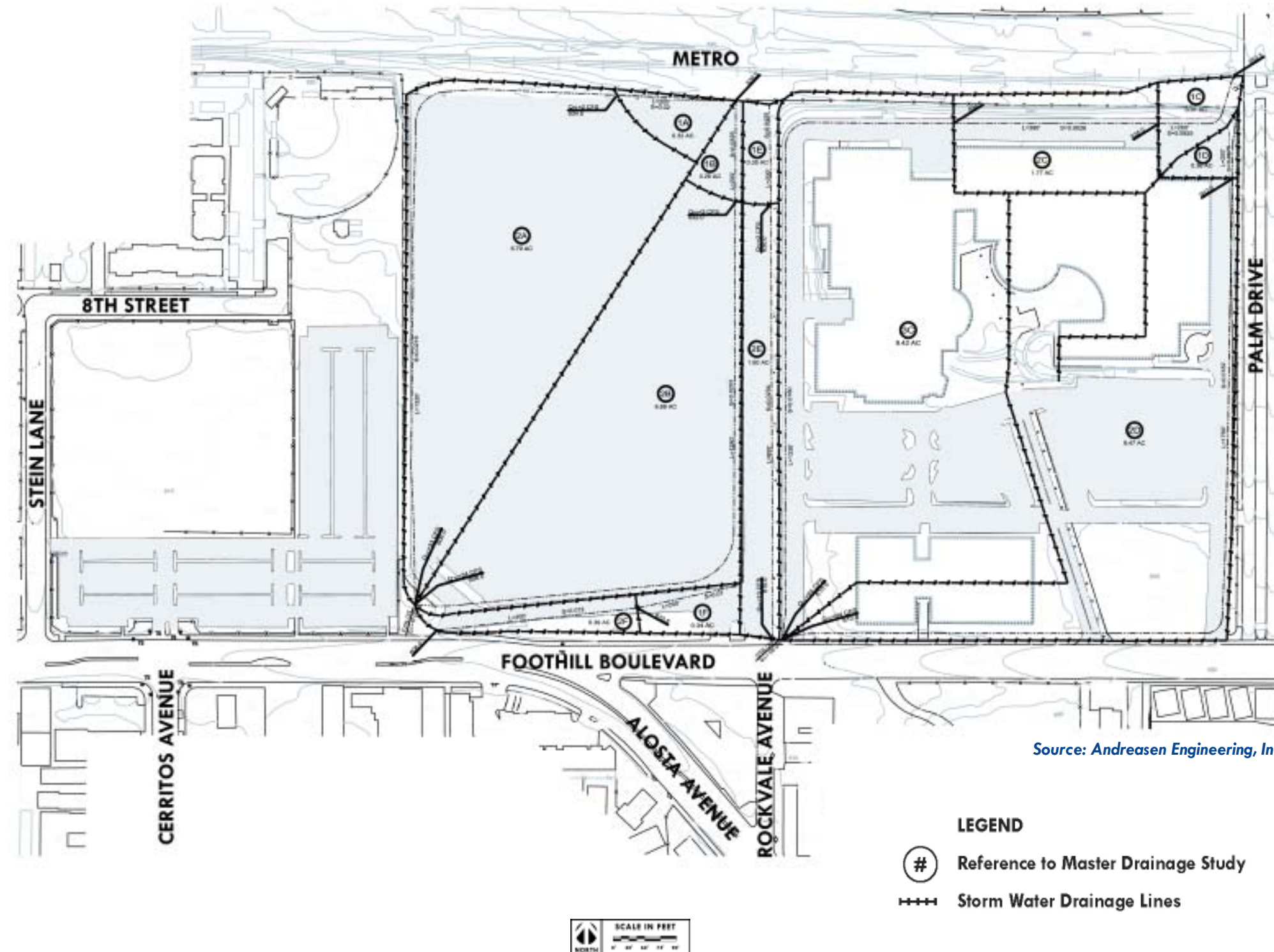


EXHIBIT 4K EXISTING DRAINAGE—WEST CAMPUS

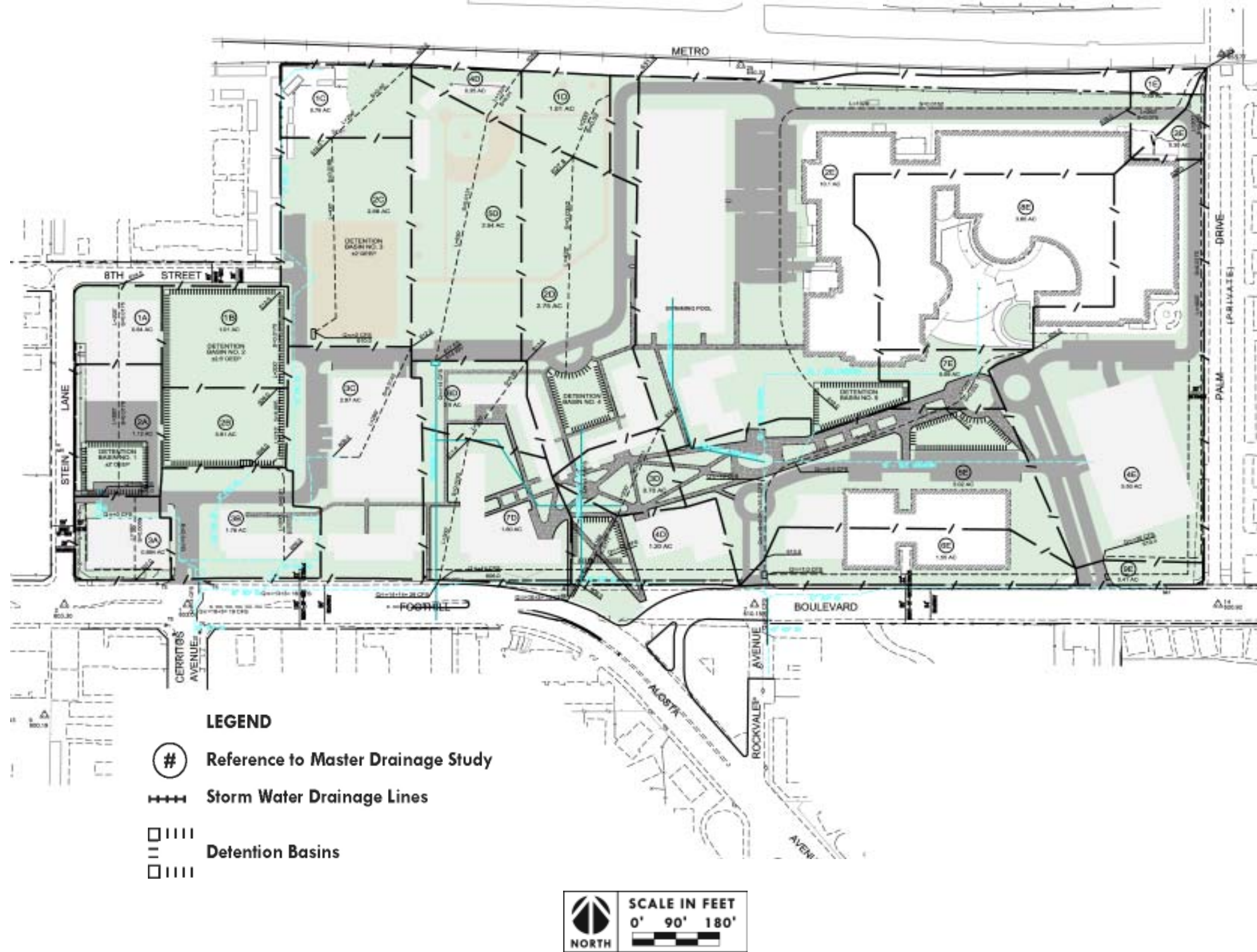


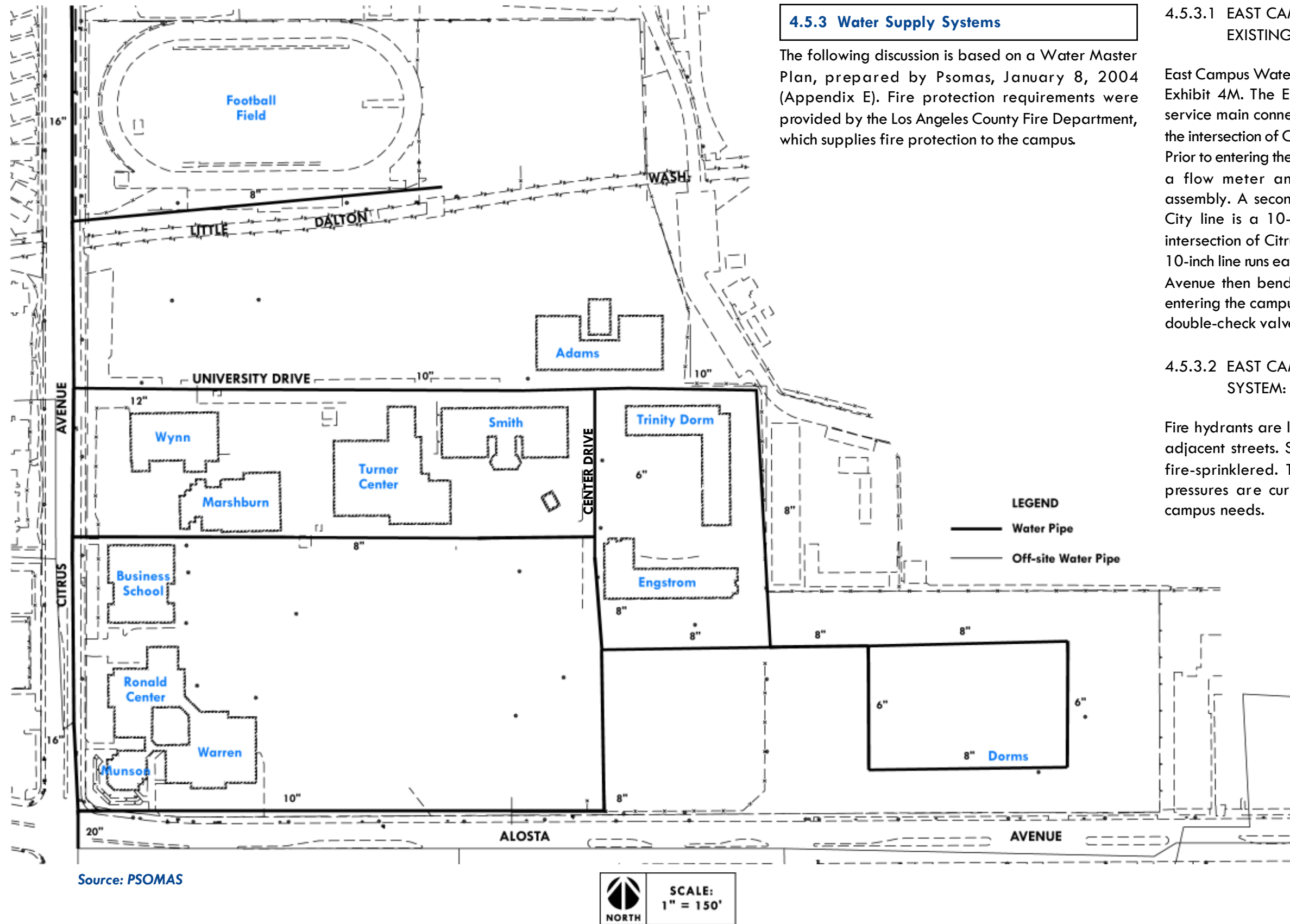
EXHIBIT 4L PROPOSED DRAINAGE—WEST CAMPUS

4.5.2.4 WEST CAMPUS DRAINAGE:
FUTURE DEVELOPMENT

As in the case of the East Campus, a comprehensive hydrology study was prepared to assess the effect of existing and future development of the West Campus on the City of Azusa off-site systems. This study included the definition of additional topography sufficient to identify off-site tributary areas. The hydrology study allows location and sizing of surface retention and underground collection and piping facilities to properly handle the expected storm runoff.

A stormwater pollution prevention plan and a stormwater urban mitigation plan also must be implemented for all new construction on the West Campus. All future development which creates an area of 100,000 square feet or more of impermeable area must mitigate the first 3/4 inch of rainfall for each storm event and be designed to minimize the introduction of pollutants from the site runoff into the public stormwater conveyance system.

Exhibit 4L illustrates a proposed drainage system based upon the general topography of the West Campus and the West Campus Illustrative Development Plan (refer to Exhibit 4B).



Source: PSOMAS

4.5.3 Water Supply Systems

The following discussion is based on a Water Master Plan, prepared by Psomas, January 8, 2004 (Appendix E). Fire protection requirements were provided by the Los Angeles County Fire Department, which supplies fire protection to the campus.

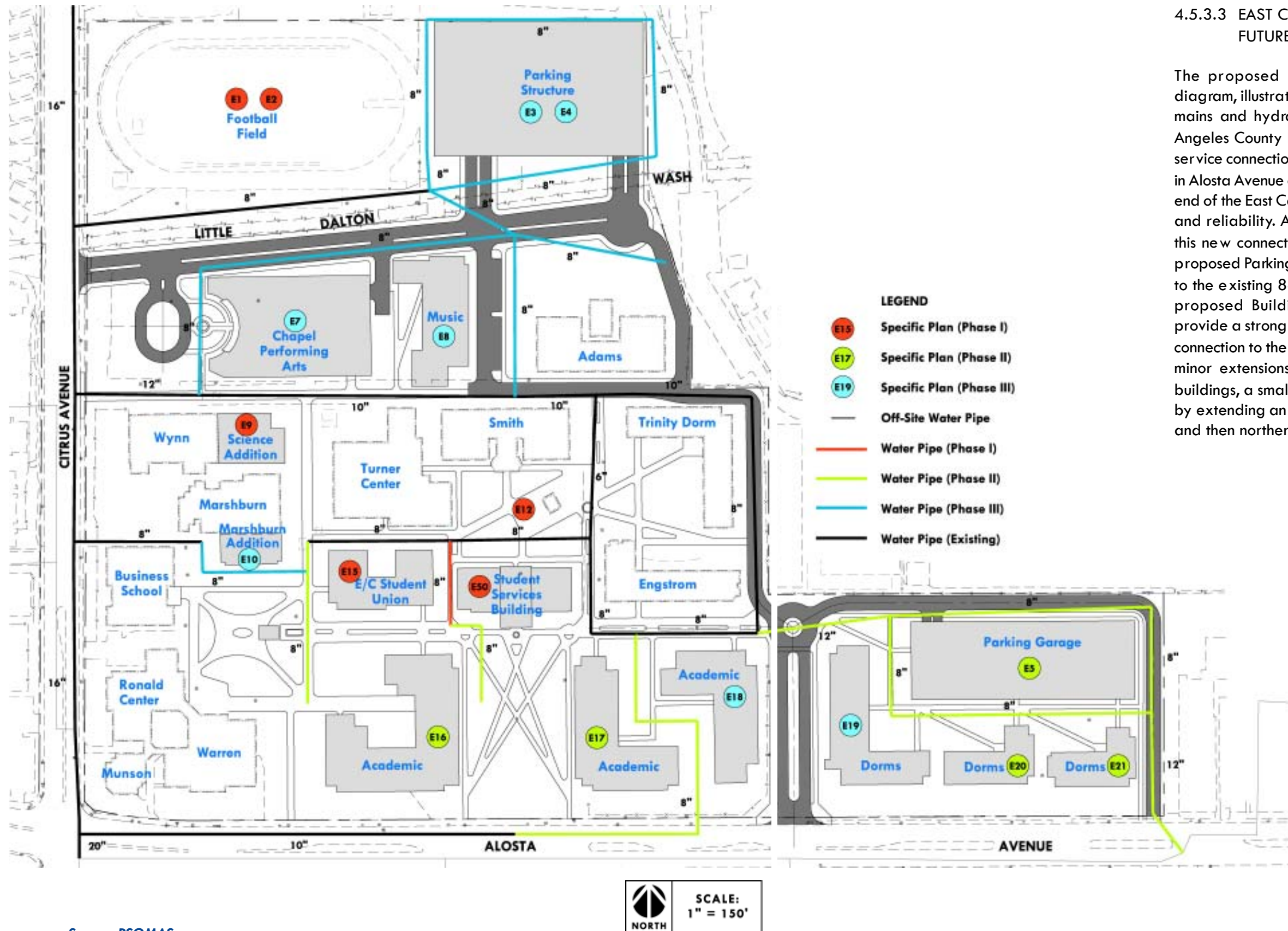
4.5.3.1 EAST CAMPUS WATER SUPPLY SYSTEM: EXISTING SYSTEM

East Campus Water supply systems are diagrammed in Exhibit 4M. The East Campus has a single 12-inch service main connecting to the City's 16-inch main at the intersection of Citrus Avenue and University Avenue. Prior to entering the campus, flows are diverted through a flow meter and 12-inch double-check valve assembly. A second connection to the same 16-inch City line is a 10-inch service main located at the intersection of Citrus Avenue and Alostia Avenue. This 10-inch line runs easterly along the north side of Alostia Avenue then bends north just east of Campus Lane entering the campus through a flow meter and 8-inch double-check valve assembly.

4.5.3.2 EAST CAMPUS FIRE PROTECTION SYSTEM: EXISTING SYSTEM

Fire hydrants are located throughout campus and on adjacent streets. Some of the campus buildings are fire-sprinklered. The City has indicated that their pressures are currently adequate to serve future campus needs.

EXHIBIT 4M EXISTING WATER SYSTEM—EAST CAMPUS



4.5.3.3 EAST CAMPUS WATER SUPPLY SYSTEM:
FUTURE DEVELOPMENT

The proposed East Campus Water Plan system diagram, illustrated in Exhibit 4N, indicates new water mains and hydrants that are required to meet Los Angeles County Fire Department regulations. A new service connection will be installed to the City’s system in Alostia Avenue east of Calera Avenue at the easterly end of the East Campus to provide system redundancy and reliability. A 12-inch line will be extended from this new connection, then an 8-inch loop around the proposed Parking Garage E5, and a 12- line westerly to the existing 8-inch lines at the northeast corner of proposed Building E18. These improvements will provide a strong loop through the East Campus with a connection to the City system at each end. Other than minor extensions to serve the additional proposed buildings, a smaller loop will be added to the system by extending an 8-inch line in Alostia Avenue easterly and then northerly between proposed Buildings E17

Source: PSOMAS

EXHIBIT 4N PROPOSED WATER SYSTEM—EAST CAMPUS

and E18. New 8-inch loops are also projected around the proposed Music and Chapel/Performing Arts Complex (Buildings E7 and E8) and the proposed Parking Structure across Little Dalton Wash tied together with a new 8-inch line across the Wash. It is expected that most, if not all, future buildings will be fire-sprinklered. The current network of hydrants should be augmented to meet current Los Angeles County Fire Department guidelines. Regulations generally require the placement of on-site hydrants for areas of the site beyond the maximum allowable distances from public hydrants. Spacing of on-site hydrants is generally required to be no more than a 300-foot path of travel. Distance modifications may be allowed based on type of construction, whether the building is sprinklered, and other factors.

A properly looped and valved system is necessary in order to provide the most secure fire protection water system, as well as to provide redundancy should a portion of the system need maintenance. In 2003, modifications were made to the current system, which were deemed necessary to effect this goal. These modifications are shown in Exhibit 4M. This provides the entire center of the East Campus with a much-needed second connection to the City's system to allow for redundancy during maintenance of the current connection and to provide consistently adequate pressures for fire flows in all parts of the system.

New building construction will also provide associated back flow preventers, post indicator valves, and fire department connections for new building sprinkler systems. Public fire hydrants will be added on Alosta Avenue to provide proper coverage for campus buildings, existing and new, to the easterly limits of APU property (a total of at least four new hydrants). Total of at least eleven new on-site hydrants, and the four new public hydrants on Alosta, will be needed to provide proper coverage of the Campus.

4.5.3.4 WEST CAMPUS WATER SUPPLY SYSTEM: EXISTING SYSTEM

The West Campus also has multiple connections to the City's distribution system. At the intersection of Foothill Boulevard and Rockvale Avenue an 8-inch service main is connected to a 12-inch City main. A second connection approximately 500 feet north of the previous consists of an 8-inch service main that runs east through the campus. At the north end of the campus just downstream from the Rockvale Booster Pump Station, the campus has multiple connections to a 14-inch City main. And finally, along the west side of the campus, a 3-inch and small-service connection to the City's 10-inch main is made at the Eighth Street cul-de-sac east of Stein Lane. The West Campus water supply systems are diagramed in Exhibit 4O.

4.5.3.5 WEST CAMPUS FIRE PROTECTION SYSTEM: EXISTING SYSTEM

All current West Campus buildings are equipped with fire sprinklers. The converted Duke Academic Complex, Darling Library, and Building 2 fire sprinklers take their service from the 14-inch main north of the building. The Felix Event Center addition is equipped with fire sprinklers and served from the 12-inch City main to the west of the building. The existing Building 1 adjacent to Foothill Boulevard is equipped with fire sprinklers and served from the 8-inch main in Foothill Boulevard. Sufficient fire hydrant coverage is provided by hydrants located at intervals around the perimeter of these existing buildings.

4.5.3.6 WEST CAMPUS WATER SUPPLY SYSTEM: FUTURE DEVELOPMENT

The proposed system diagram on Exhibit 4P indicates new water mains to meet Los Angeles County Fire Department requirements. The existing, undersized 6-inch City line in Foothill Boulevard from Pasadena Avenue to Alosta Avenue will be replaced with a new 8- and 10-inch pipeline. A new service connection will be installed to the 10-inch portion of this new line and

extend a 10-inch loop through Campus between proposed Buildings W37 and W38, south and east of the new Parking Structure W30, and then east to the City's existing 12-inch pipeline in Rockvale Avenue, where a new service connection will be made. These improvements provide a strong loop in the western portion of the West Campus with multiple connections to the City system for reliability. Service lines can then be run from these lines to the north, serving the proposed Aquatics Facility and Parking Garage, and to the south, serving the proposed dormitories (Buildings W39-41) and Building W44. The existing 8-inch line in Foothill Boulevard east will be extended to Centennial Lane then up Centennial to connect to the existing 8-inch pipeline providing a loop in the eastern portion of the West Campus. It is expected that most, if not all, future buildings will be fire-sprinklered. APU shall add on-site fire hydrants to their system to meet

the requirements of the Los Angeles County Fire Department, whose guidelines generally require on-site hydrants for areas of the site beyond the maximum allowable distances from public hydrants. The spacing of these on-site hydrants is generally required to be no more than a 300-foot path of travel. Distance modifications can be allowed, considering type of construction, whether the building is sprinklered, etc.

Needed fire protection for the West Campus may be obtained by connecting each new building directly to the City's 16-inch main in the south side of Foothill Boulevard, which is a part of the higher pressure City "776" system. At the time that the new buildings are in design, pressure tests shall be taken to determine whether the 6-inch main in Foothill Boulevard is able to deliver the required delivery pressures and flows due to its limited size.



Future Water Supply System Development

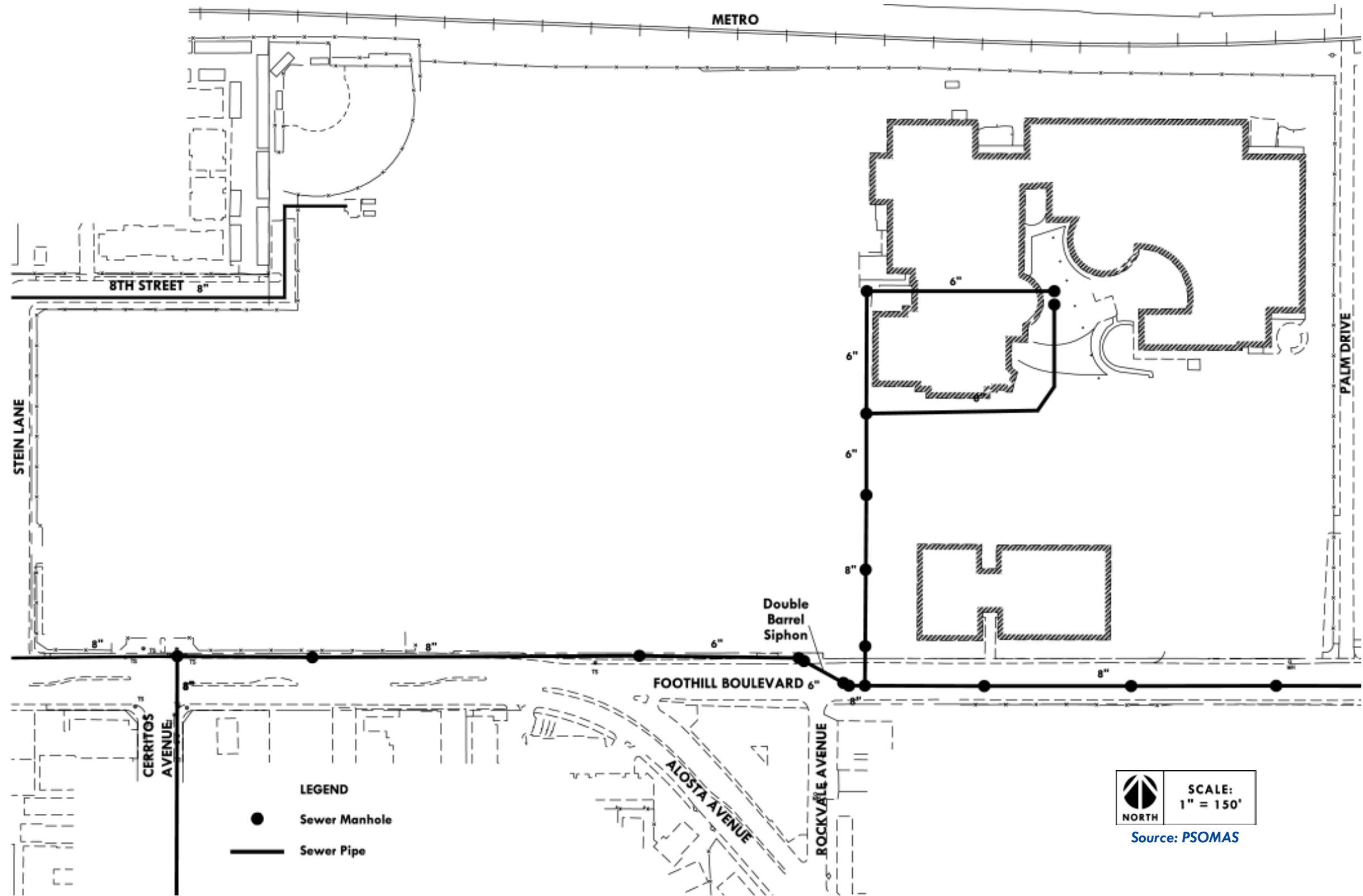


EXHIBIT 40 EXISTING SEWER SYSTEM—WEST CAMPUS

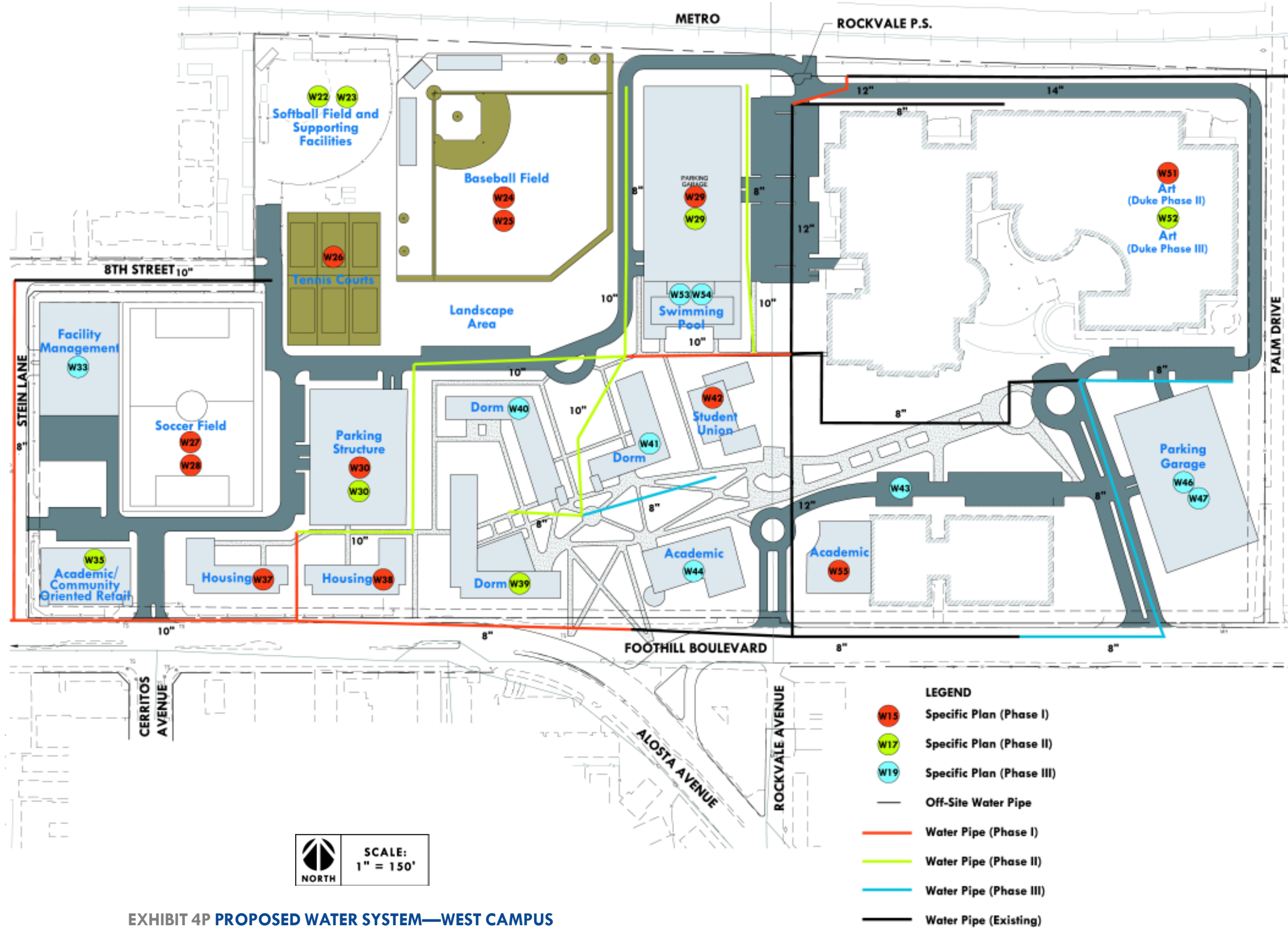
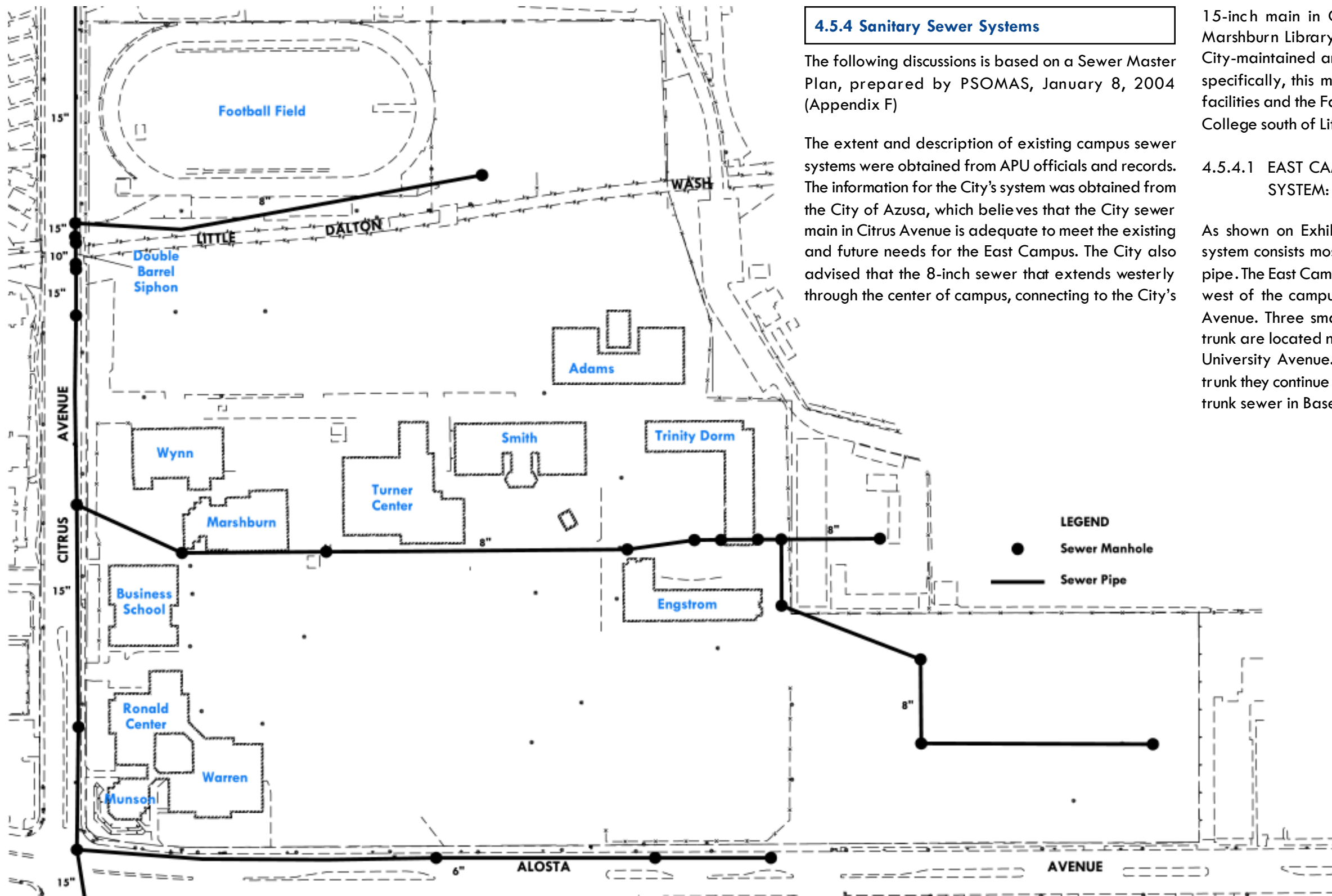


EXHIBIT 4P PROPOSED WATER SYSTEM—WEST CAMPUS



4.5.4 Sanitary Sewer Systems

The following discussions is based on a Sewer Master Plan, prepared by PSOMAS, January 8, 2004 (Appendix F)

The extent and description of existing campus sewer systems were obtained from APU officials and records. The information for the City's system was obtained from the City of Azusa, which believes that the City sewer main in Citrus Avenue is adequate to meet the existing and future needs for the East Campus. The City also advised that the 8-inch sewer that extends westerly through the center of campus, connecting to the City's

15-inch main in Citrus after passing south of the Marshburn Library and the Wynn Science Center, is City-maintained and is in a 10-foot easement. More specifically, this main also serves all of the athletic facilities and the Facilities Maintenance area of Citrus College south of Little Dalton Wash.

4.5.4.1 EAST CAMPUS SANITARY SEWER SYSTEM: EXISTING SYSTEM

As shown on Exhibit 4Q, the APU sewer collection system consists mostly of 6- and 8-inch vitrified clay pipe. The East Campus has two 8-inch trunks connecting west of the campus to a 15-inch City trunk in Citrus Avenue. Three smaller connections to this same City trunk are located north of Alost Avenue and south of University Avenue. Once sewer flows enter the City trunk they continue south in Citrus Avenue to the LACSD trunk sewer in Base Line Road.

Source: PSOMAS

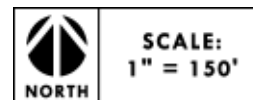
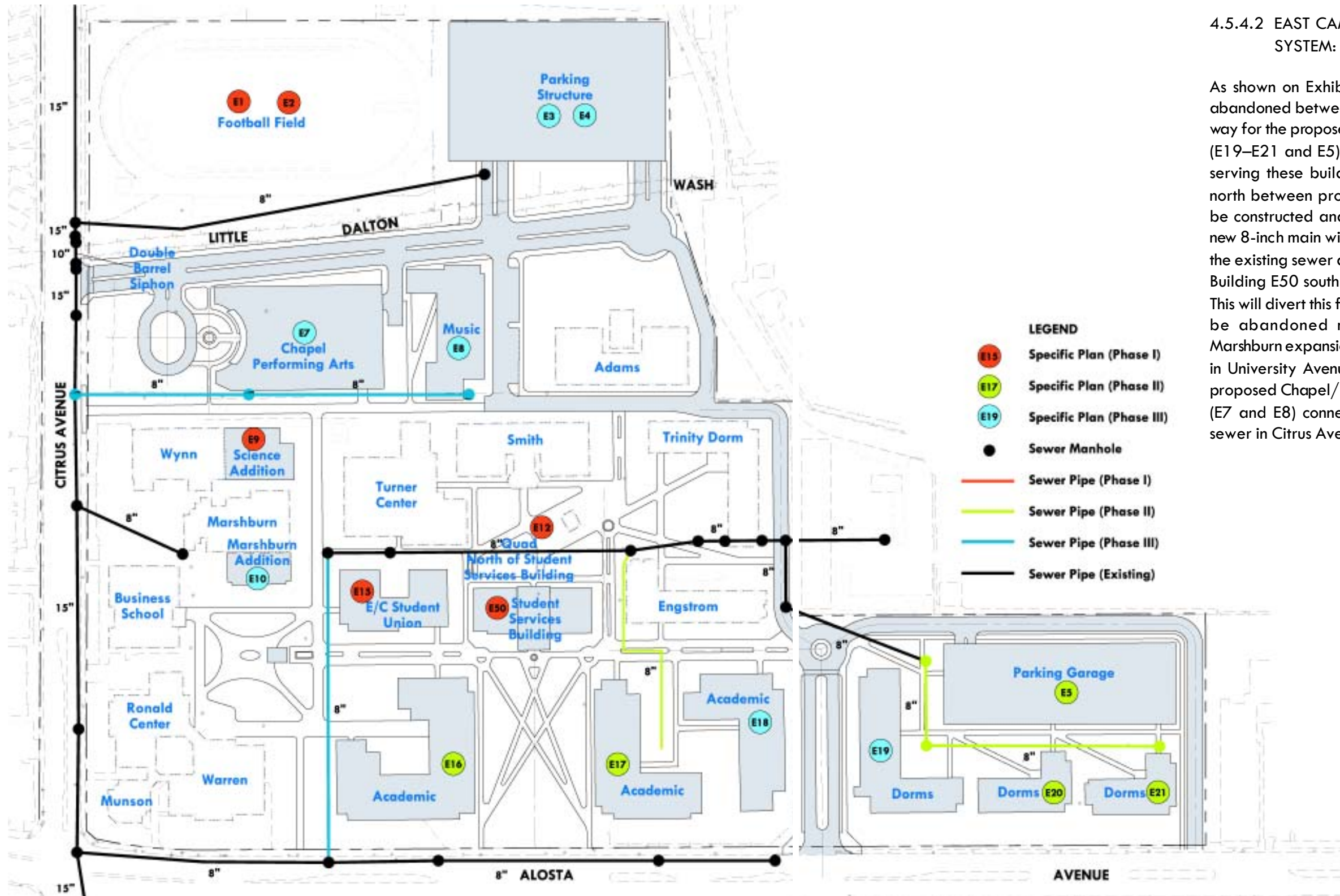


EXHIBIT 4Q EXISTING SEWER SYSTEM—EAST CAMPUS

4.5.4.2 EAST CAMPUS SANITARY SEWER SYSTEM: FUTURE DEVELOPMENT

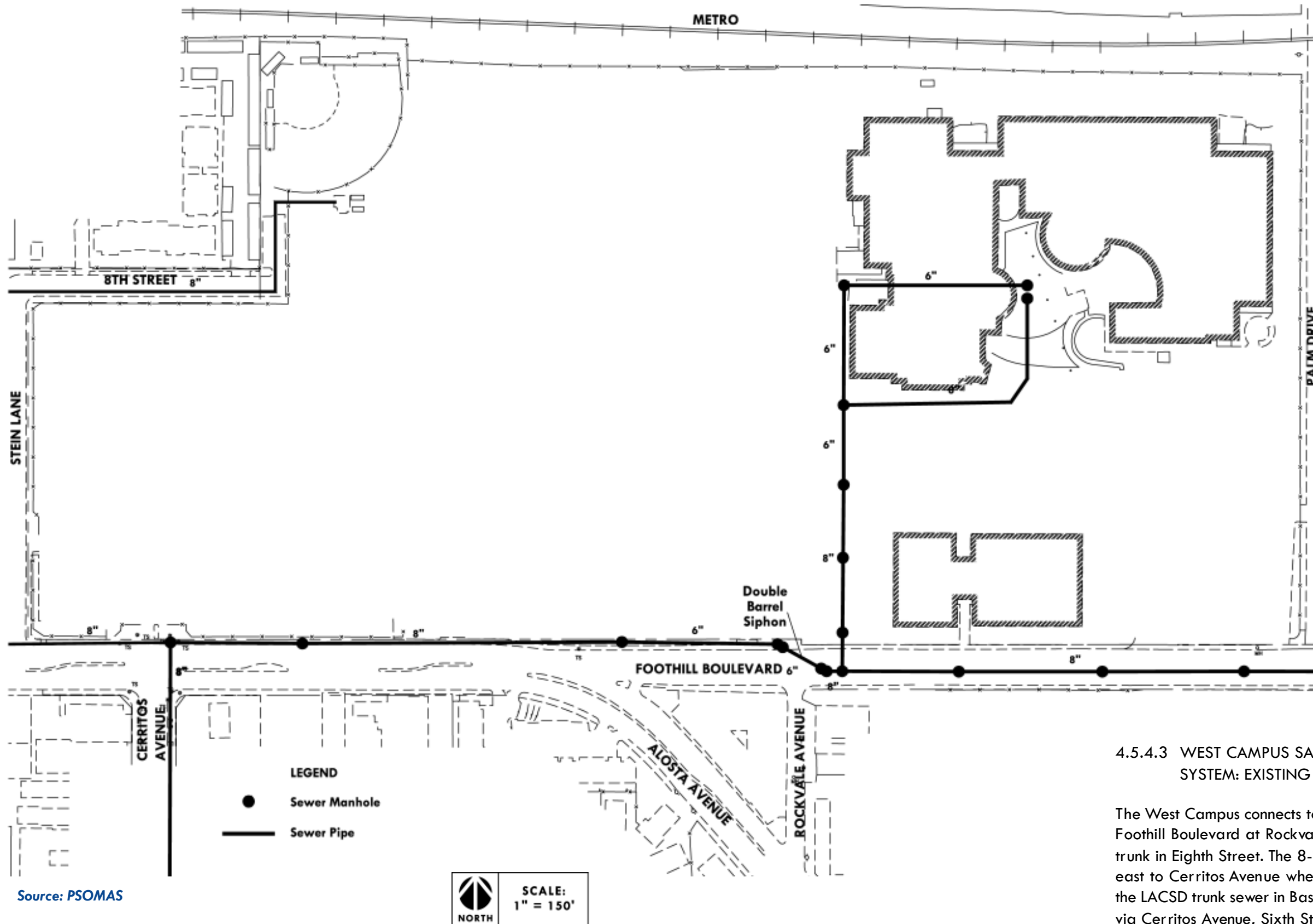
As shown on Exhibit 4R, the existing sewers will be abandoned between the Shire Way buildings, making way for the proposed dormitories and parking garage (E19–E21 and E5) and construct a new 8-inch sewer serving these buildings. A new 8-inch main, running north between proposed Buildings E17 and E18 will be constructed and will serve these two buildings. A new 8-inch main will be constructed running south from the existing sewer at the northwest corner of proposed Building E50 south to the City main in Alosta Avenue. This will divert this flow so that the line running west can be abandoned making way for the proposed Marshburn expansion (Building E10). A new 8-inch main in University Avenue will be constructed serving the proposed Chapel/Performing Arts and Music Buildings (E7 and E8) connecting to the existing 15-inch City sewer in Citrus Avenue.



Source: PSOMAS



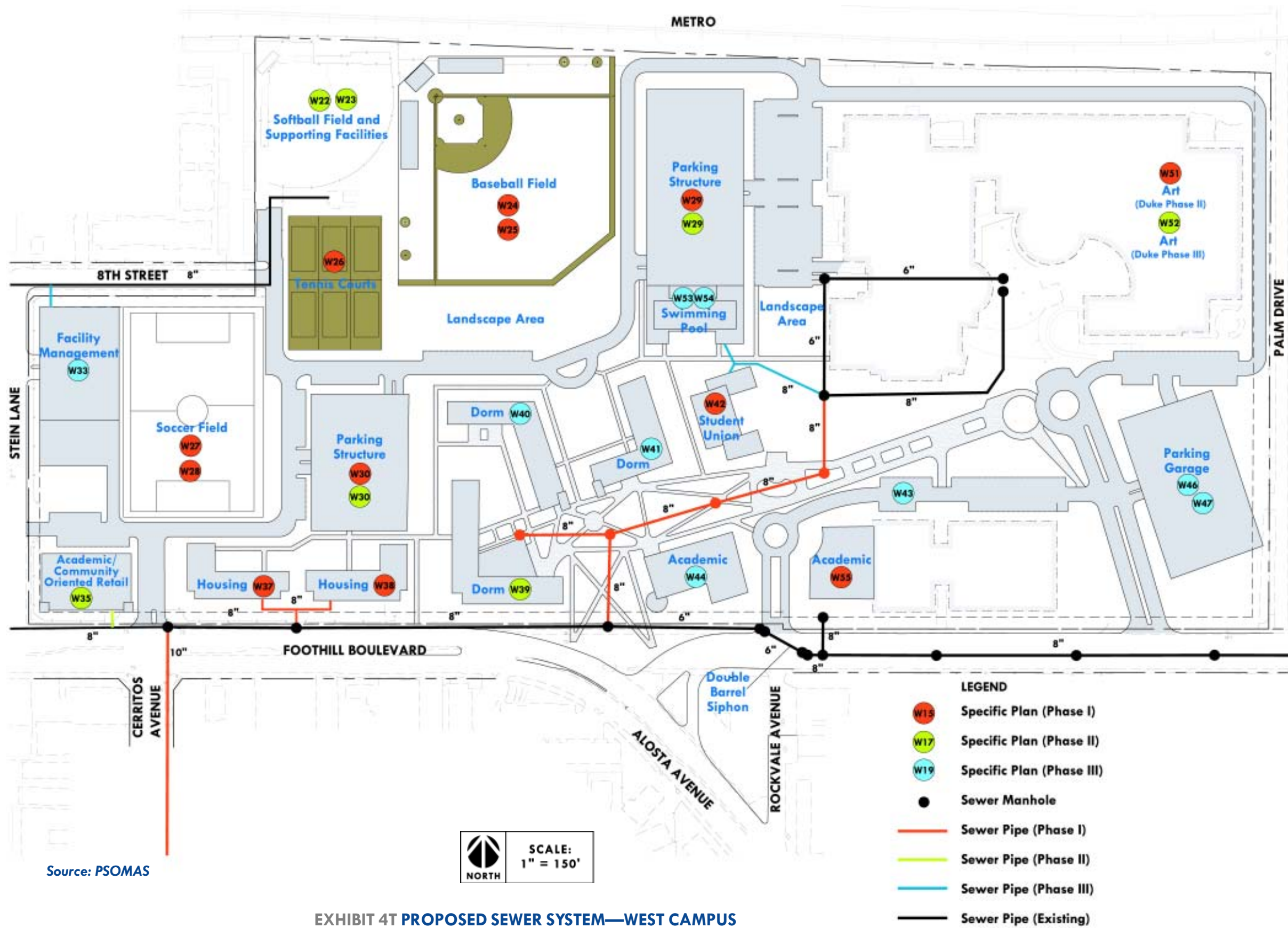
EXHIBIT 4R PROPOSED SEWER SYSTEM—EAST CAMPUS



4.5.4.3 WEST CAMPUS SANITARY SEWER SYSTEM: EXISTING SYSTEM

The West Campus connects to an 8-inch City trunk in Foothill Boulevard at Rockvale Avenue and a 6-inch trunk in Eighth Street. The 8-inch trunk conveys flows east to Cerritos Avenue where they are diverted to the LACSD trunk sewer in Base Line Road to the south via Cerritos Avenue, Sixth Street, Pasadena Avenue, an alley north of Base Line Road, and Alameda Avenue. This is shown on Exhibit 4S

EXHIBIT 4S EXISTING SEWER SYSTEM—WEST CAMPUS



Source: PSOMAS

EXHIBIT 4T PROPOSED SEWER SYSTEM—WEST CAMPUS

IS SANITARY SEWER:
.OPMENT

ch line will be abandoned to
d Building W55 and to add
sed Aquatics Facility, Student
ions. A new 8-inch sewer main
from the upstream end of this
sterly to the existing City main
is extension will also provide
ed Buildings W39–W41 and
the proposed sewer system.

Development Plan

Based on an analysis of the existing City sewer system downstream of the Campus, two deficiencies are anticipated off-site of Campus as flows increase. The first is the existing 8-inch pipe in Cerritos Avenue from Foothill Boulevard immediately downstream of Campus. This reach is approximately 700 feet in length and should be replaced with at least a 10-inch pipe, assuming that no additional new City developments are tributary. The second off-site deficiency is just upstream of the City connection to the Los Angeles County Sanitation District trunk sewer. About 575 feet of existing 12-inch sewer needs to be replaced with a 15- to 18-inch-diameter line in Alameda Avenue from the LACSD trunk in Base Line Road to the alley north of Base Line Road. It should be noted that not only the Campus, but the proposed development on the Monrovia Nursery property to the north of the Campus also contributes to this deficiency and any replacement cost should be shared with that developer as well as any other development that may be tributary.

4.5.5 Natural Gas

The Southern California Gas Company (The Gas Company) will provide gas to the Azusa Pacific Campus to meet all anticipated needs. Gas Company planners will coordinate the locations of all on-campus facilities to respect utility and other infrastructure locations as identified elsewhere in this Specific Plan.

4.5.6 Electrical Power

4.5.6.1 EAST CAMPUS ELECTRICAL POWER: EXISTING SYSTEM

The existing electrical backbone distribution system is comprised of 480V-3-phase services for various campus buildings fed from a series of utility-owned-and-maintained transformer installations (Exhibit 4U).

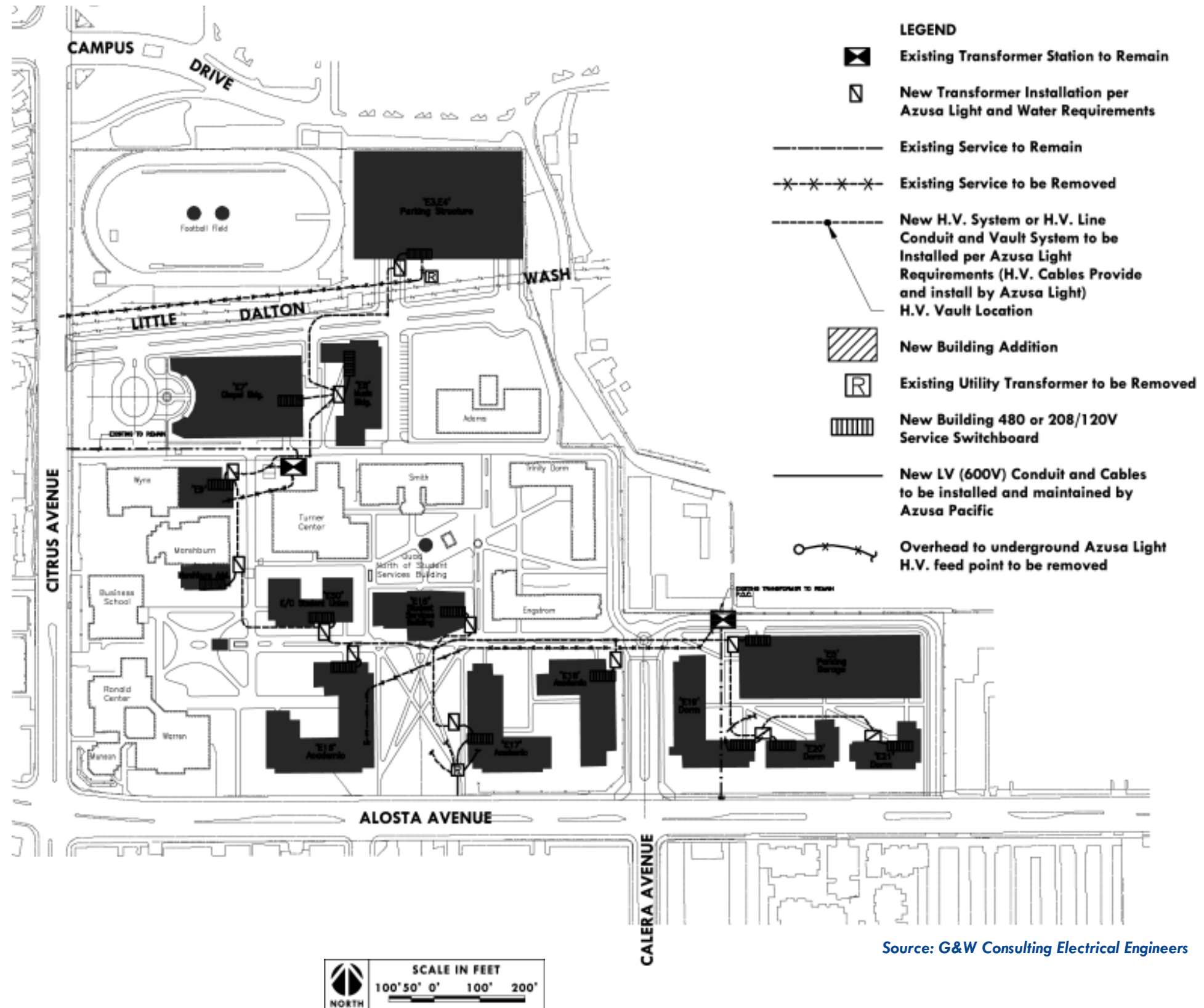


EXHIBIT 4U ELECTRICAL DISTRIBUTION PLAN—EAST CAMPUS

Currently as new buildings are added, Azusa Light and Water (AL&W) extends their 12 kV High Voltage if necessary and establishes a new transformer station location. This is usually a transformer pad type installation. This system extension requires the following participation on the part of Azusa Pacific University:

- APU furnishes and installs all underground substructures (vaults, conduits, etc.) per AL&W specifications and method of service
- APU furnishes and installs or pays AL&W the actual cost of 12 kV lines needed to meet the additional loads created by this Specific Plan whether located on or off campus. The work will be done per AL&W specifications and includes cables and underground substructures
- All low voltage (600 V) cables are provided, installed and maintained by APU at their cost
- “Right of Ways” are required for all 12 kV line extensions and transformer installations
- All electric utility work and requirements will be based on AL&W tariff rules and regulations as amended from time to time

It should be noted that the electrical services in the housing area south of Alostia Avenue are public utilities and are not provided by APU.

4.5.6.2 EAST CAMPUS ELECTRICAL POWER: PROPOSED SYSTEM

The proposed expansion to the East Campus is based upon the addition or expansion of some fifteen buildings and approximately 1,600,000 square feet of academic facilities. These are comprised of academic buildings, residence halls, parking structures, libraries, and other university-related facilities. The expansion is to be constructed in three phases over the next 20 years.

Electrical load projections have been made for the above and are tabulated in Table 4A (East Campus Projected Electrical Load Evaluation). The total projected connected load is approximately 14,326 kVA. An additional value of 2,500 kVA of existing load at the campus is to remain.

4.5.6.3 WEST CAMPUS ELECTRICAL POWER: EXISTING SYSTEM

As shown on Exhibit 4V, the existing electrical backbone distribution system is comprised of 480V-3-phase

services for various campus buildings fed from a series of AL&W-owned and-maintained transformer installations. The existing installation is similar in construction and maintenance responsibility to the East Campus installation.

4.5.6.4 WEST CAMPUS ELECTRICAL POWER: PROPOSED SYSTEM

The proposed Specific Plan development of the West Campus is based upon the addition or expansion of some twelve buildings and approximately 1,000,000

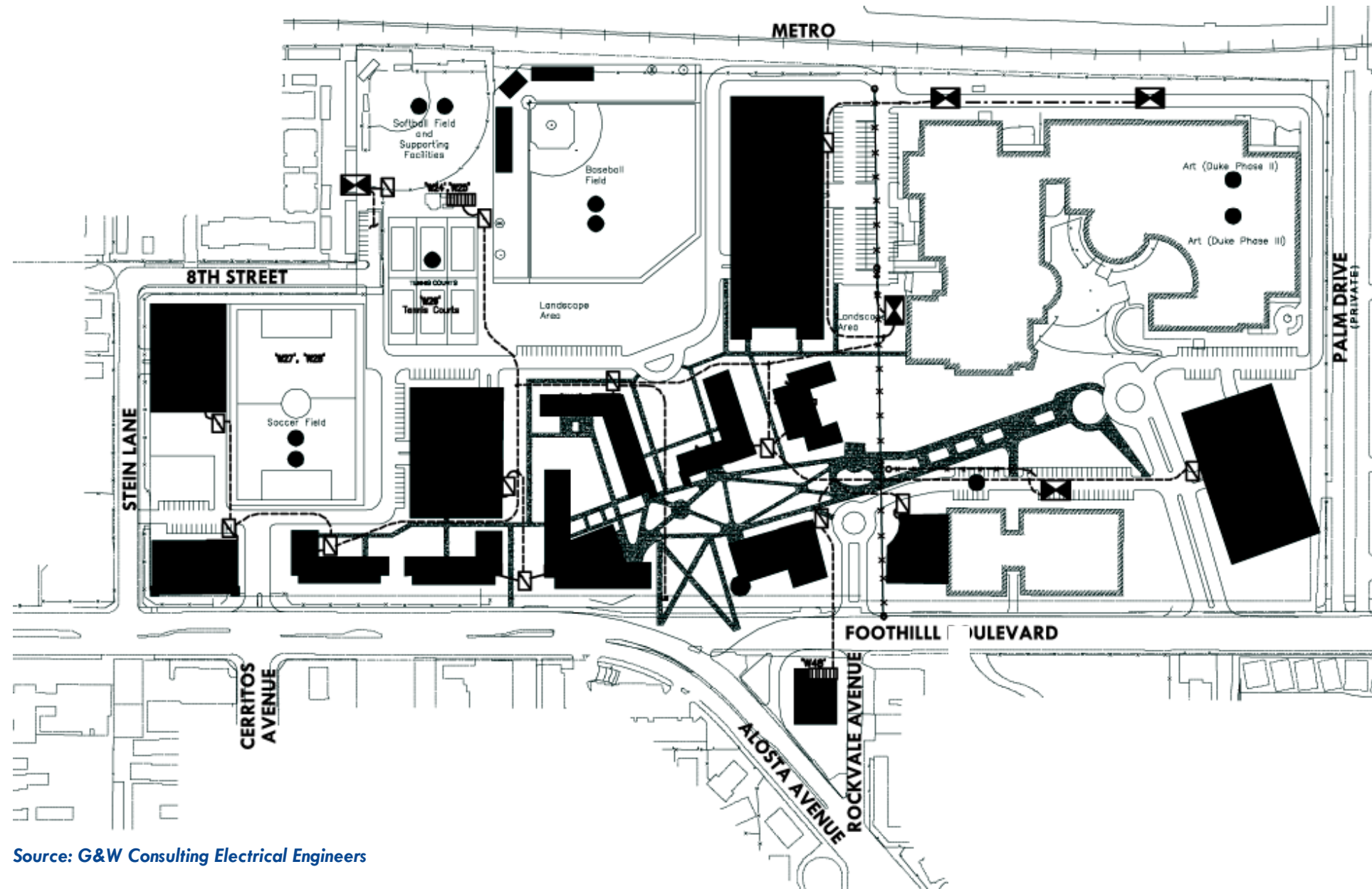
square feet of academic facilities. These are comprised of academic buildings, residence halls, parking structures, libraries, and other university related facilities. The expansion is to be constructed in three phases over the next 20 years.

Electrical load projections have been made for the above and are tabulated in Table 4B (West Campus Projected Electrical Load Evaluation). The total projected connected load is approximately 9,532 KVA. An additional value of 3,000 KVA of existing load at the campus is to remain.











TABLE 4A EAST CAMPUS PROJECTED ELECTRICAL LOAD EVALUATION

	Building Description	Building I.D.	Size (1000 SF)	Building Type	Load Factor (WATTS/SF)	Total KVA (Conn.)	Demand KVA (EST)	EST. Service Load (Amps)	Project Service Size-480V (Amps)
Phase I	Wynn Addition	E9	40.45	Acad/Off	25	1,011	506	1,214	1,600
	Stud Center	E15	50.5	Acad/Off	18	909	455	1,091	1,200
	Acad Bldg.	E50	50.6	Acad/Off	18	911	455	1,093	1,200
Phase II	Acad Bldg.	E17	82	Acad/Off	18	1,476	738	1,771	2,000
	Prk Struct	E5	390.5	Parking	1.5	586	293	703	800
	Acad Bldg.	E16	121.5	Acad/Off	18	2,187	1,094	2,624	3,000
	Housing	E20	48	Res	18	864	432	1,037	1,200
	Housing	E21	46	Res	18	828	414	994	1,000
Phase III	Housing	E19	86.5	Res	18	1,557	779	1,868	2,000
	Acad Bldg	E18	75	Acad/Off	18	1,350	675	1,620	2,000
	Marshburn Add'n	E10	21.6	Acad/Off	18	389	194	467	600
	Per Art/Chap	E7	51.4	Acad/Off	18	925	463	1,110	1,200
	Music Bldg	E8	27	Acad/Off	18	486	243	583	600
	prk Struct	E3	460.5	Parking	1.5	691	345	829	1,000
	Equip Stor.	E4	8.7	Acad/Off	18	157	78	188	400
	Subtotal			1,560			14,326	7,163	17,191

Source: G&W Consulting Electrical Engineers



Source: G&W Consulting Electrical Engineers

- LEGEND**
-  Existing Transformer Station to Remain
 -  New Transformer Installation per Azusa Light and Water Requirements
 -  Existing Service to Remain
 -  Existing Service to be Removed
 -  New H.V. System or H.V. Line Conduit and Vault System to be Installed per Azusa Light Requirements (H.V. Cables Provide and install by Azusa Light) H.V. Vault Location
 -  New Building Addition
 -  Existing Utility Transformer to be Removed
 -  New Building 480 or 208/120V Service Switchboard
 -  New LV (600V) Conduit and Cables to be installed and maintained by Azusa Pacific
 -  Overhead to underground Azusa Light H.V. feed point to be removed

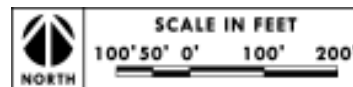


EXHIBIT 4V ELECTRICAL DISTRIBUTION PLAN—WEST CAMPUS

TABLE 4B WEST CAMPUS PROJECTED ELECTRICAL LOAD EVALUATION

	Building Description	Building I.D.	Size (1000 SF)	Building Type	Load Factor (WATTS/SF)	Total KVA (Conn.)	Demand KVA (EST)	EST. Service Load (Amps)	Project Service Size-480V (Amps)
Phase I	Student Ctr	W42	14.7	Acad/Off	18	265	132	318	400
	Acad Bldg	W55	35.5	Acad/Off	18	639	320	767	800
	Housing	W37	47.9	Res	18	862	431	1,035	1,200
	Housing	W38	47.6	Res	18	857	428	1,028	1,200
	Ath Support	W25	10.6	Acad/Off	18	191	95	229	400
	Ath Support	W28	7	Acad/Off	18	126	63	151	200
	Phase II	Prk Struct	W29	322	Parking	1.5	483	242	580
Housing		W39	76.8	Res	18	1,382	691	1,659	2,000
Prk Struct		W30	222	Parking	1.5	333	167	400	600
Acad Retail		W35	41.7	Acad/Off	18	751	375	901	1,000
Acad Bldg		W48	8	Acad/Off	18	144	72	173	200
Phase III		Fac/Maint	W33	30	Admin	15	450	225	540
	Acad Bldg	W44	47	Acad/Off	18	846	423	1,015	1,200
	Housing	W40	61	Res	18	1,098	549	1,318	1,600
	Housing	W41	52.5	Res	18	945	473	1,134	1,200
	Prk Struct/ Aquatic Center	W47,W53, W54	107.3	Parking/ Athletic	1.5	161	80	193	400
	Subtotal		1,132			9,532	4,766	11,439	

Source: G&W Consulting Electrical Engineers

4.5.7 Telecommunication Systems (Technology Infrastructure)

APU is a totally wireless campus and will continue to use the most up to up to date wireless service.

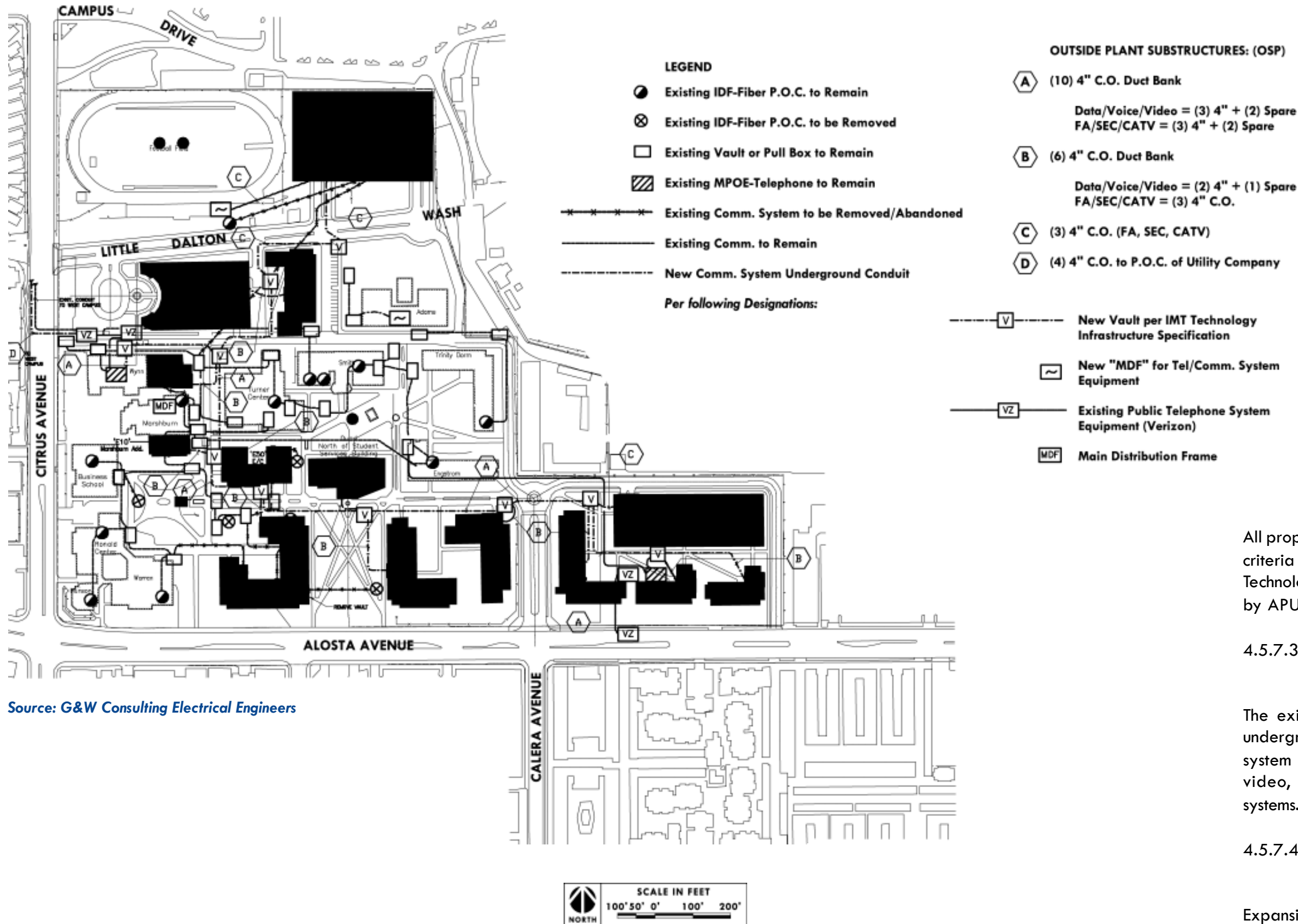
4.5.7.1 EAST CAMPUS TELECOMMUNICATION SYSTEM: EXISTING SYSTEM

The existing technology infrastructure includes an underground substructure and interconnecting conduit system supporting telecommunications, voice, data, video, audio, multimedia, fire alarm, and CATV systems. Fiber optic cable is installed between the centralized MDF (Main Distribution Frame) and the individual IDF (Intermediate Distribution Frame) locations at each building. The existing IDF locations are also the point of termination for voice, data, video, fire alarm, and CATV.

4.5.7.2 EAST CAMPUS TELECOMMUNICATION SYSTEM: PROPOSED SYSTEM

Expansion of the Telecommunication System includes the extension of new conduit substructures throughout the campus for the installation of new IDF terminations at each new building as they are brought on line. The existing data network MDF is expected to remain at this time in the Marshburn Building and the MPOE (voice MDF) is expected to remain at this time in the Wynn Science Building, both on the west side of campus. In addition to the above, many of the current cable systems feeding buildings to be demolished, will be removed.

Exhibit 4W indicates a proposed East Campus substructure location and routing plan. This drawing includes proposed locations for individual IDF termination points for each new building as well as indication of facilities to be removed. It is also coordinated with Exhibit 4U for the Electrical power distribution system to allow for possible common utility duct bank installation. A minimum of 36 inches of vertical or horizontal duct bank spacing for all parallel running power duct banks is required.



Source: G&W Consulting Electrical Engineers

EXHIBIT 4W TELECOMMUNICATION DISTRIBUTION PLAN—EAST CAMPUS

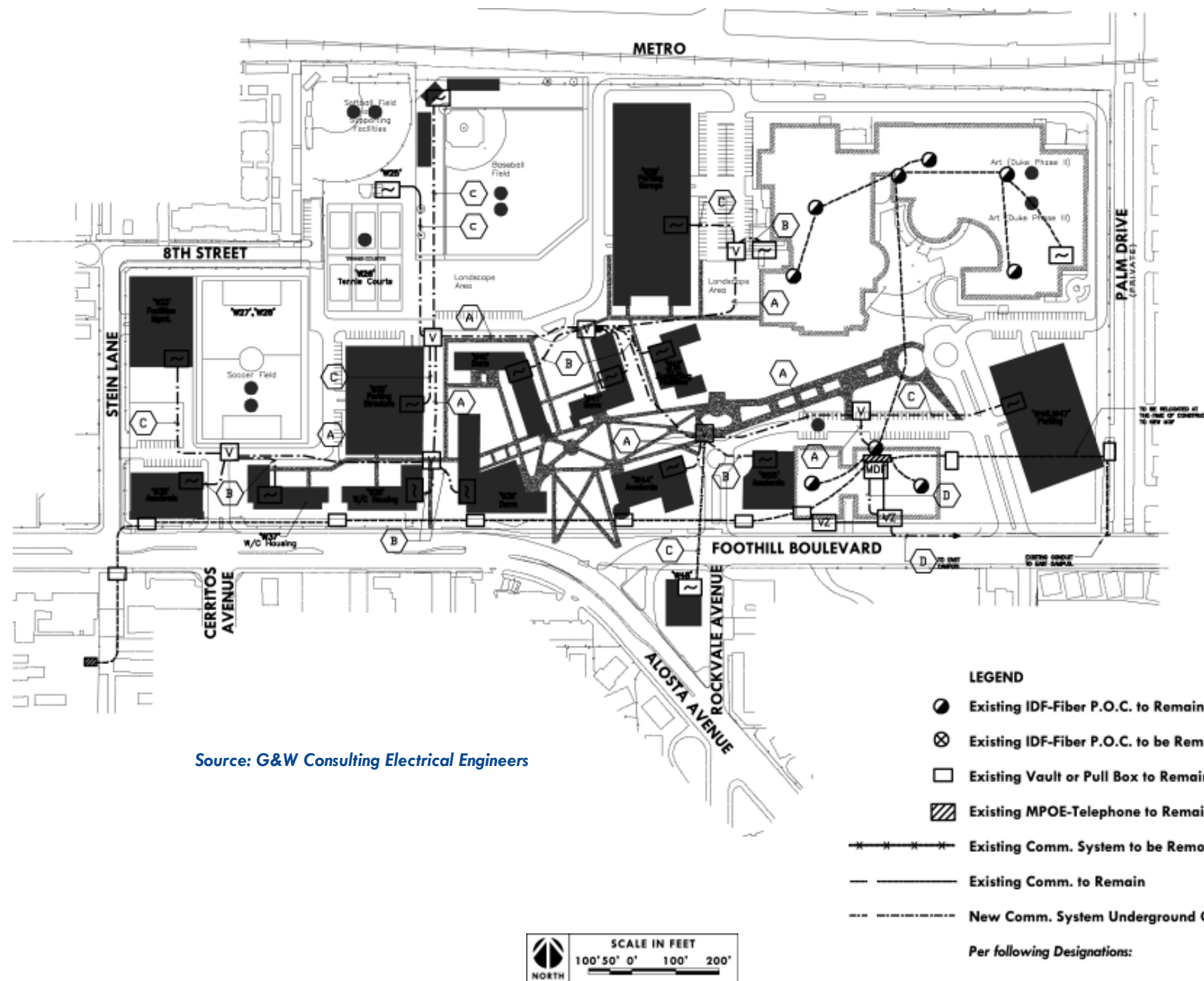
All proposed installations are to meet the construction criteria as outlined in the Azusa Pacific University "IMT Technology Infrastructure Specification" as provided by APU.

4.5.7.3 WEST CAMPUS TELECOMMUNICATION SYSTEM: EXISTING SYSTEM

The existing technology infrastructure includes an underground substructure and interconnecting conduit system supporting telecommunications, voice, data, video, audio, multimedia, fire alarm, and CATV systems. These are as defined in Section 4.6.7.1 above.

4.5.7.4 WEST CAMPUS TELECOMMUNICATION SYSTEM: PROPOSED SYSTEM

Expansion of the Telecommunication System includes the extension of new conduit and substructures throughout the campus for the installation of new IDF terminations at each new building as they are brought on line. The existing MDF located in Building No. 1 is



Source: G&W Consulting Electrical Engineers

EXHIBIT 4X TELECOMMUNICATION DISTRIBUTION PLAN—WEST CAMPUS

expected to remain at this time. A new point of connection to the public telephone system will be installed a later stage of construction.

In addition to the above, many of the current cable systems feeding buildings to be demolished, will be removed.

Exhibit 4X indicates a proposed West Campus substructure location and routing plan. This drawing includes proposed locations for individual IDF termination points for each new building as well as indication of facilities to be removed. It is also coordinated with Exhibit 4V for the electrical power distribution system to allow for possible common utility duct bank installation.

All future installations are to meet the construction criteria as outlined in the Azusa Pacific University "IMT Technology Infrastructure Specification," as provided by APU.

New development will require full coordination with the City of Azusa and the County of Los Angeles.

OUTSIDE PLANT SUBSTRUCTURES: (OSP)

- (A)** (10) 4" C.O. Duct Bank
Data/Voice/Video = (3) 4" + (2) Spare
FA/SEC/CATV = (3) 4" + (2) Spare
- (B)** (6) 4" C.O. Duct Bank
Data/Voice/Video = (2) 4" + (1) Spare
FA/SEC/CATV = (3) 4" C.O.
- (C)** (3) 4" C.O. (FA, SEC, CATV)
- (D)** (4) 4" C.O. to P.O.C. of Utility Company

- (V)** New Vault per IMT Technology Infrastructure Specification
- (MDF)** New "MDF" for Tel/Comm. System Equipment
- (VZ)** Existing Public Telephone System Equipment (Verizon)
- (MDF)** Main Distribution Frame

