
Appendix H

Hydrology and Water Quality Technical Memorandum

MEMORANDUM

To: Kara Peterson, San Diego State University
From: Perry Russell, Dudek
Subject: SDSU Imperial Valley Off-Campus Center – Calexico, Affordable Student Housing Project – Hydrology and Water Quality Technical Memorandum
Date: December 12, 2024
cc: Sarah Lozano, Mollie Brogdon, Dudek; Michael Haberkorn, Gatzke Dillon & Ballance
Attachment: A – Figures

Dudek has conducted an evaluation pursuant to the requirements of the California Environmental Quality Act (CEQA), California Public Resources Code 21000 et seq., to analyze the potential impacts related to hydrology and water quality associated with construction and operation of the proposed San Diego State University (SDSU) Calexico Affordable Student Housing Project (Project or proposed Project), to be located at the SDSU Imperial Valley Off-Campus Center, located in Calexico, California. This technical memorandum provides the results of the hydrology and water quality analysis.

1 Project Overview and Background

In September 2003, the CSU certified an environmental impact report for the SDSU Imperial Valley Master Plan Project (State Clearinghouse No. 2002051010) and approved a Campus Master Plan for the expansion and improvement of the SDSU Imperial Valley Off-Campus Center, which includes locations in Calexico and Brawley, both located in Imperial County (SDSU 2003). The Off-Campus Center is an extension of SDSU's main campus in San Diego and furthers the University's regional educational mission to provide additional educational opportunities to the outlying communities of Imperial County. The previously certified and approved Campus Master Plan and EIR provided the authorization necessary for enrollment of 850 full-time equivalent (FTE)¹ students at the Off-Campus Center, corresponding associated faculty and staff, and a framework for development of the facilities necessary to serve this projected enrollment and campus population.

The Off-Campus Center - Calexico is approximately 8.3 acres in size and is located in the City of Calexico (City). Most of the Calexico location is built out, consisting of several educational and support facilities. The environmental impacts associated with development of the Off-Campus Center – Calexico were evaluated at a program level of review in the 2003 EIR. In the CSU's continuing effort to build out the Imperial Valley Off-Campus Center and provide additional educational opportunities, SDSU presently proposes construction and operation of a four-building complex that would provide affordable student housing at the Calexico location for 80 students and a resident manager. Additional details regarding the proposed housing is provided below.

¹ A full-time equivalent (FTE) student is one full-time student taking 15 course credits, or 3 part-time students each taking 5 course credits.

2 Project Location and Existing Conditions

The Off-Campus Center – Calexico is located at 720 Heber Avenue in downtown Calexico, approximately 0.5 miles north of the United States–Mexico border (see Figure 1, Regional Map). Regional access to the Off-Campus Center is provided via SR-111 and SR-98 to the north. The Calexico location is bordered by four streets: Heber Avenue to the west, Sherman Street to the north, Blair Avenue to the east, and 7th Street to the south. Residential uses bound the Calexico complex to the north, east, south, and west. Other surrounding uses include Calexico High School, located northeast, and Calexico City Hall, located immediately south. The Off-Campus Center - Calexico currently consists of 17 buildings and an associated surface parking lot (see Figure 2, Vicinity Map, and Figure 3A, Existing Campus Master Plan).

As a state entity, the CSU/SDSU is not subject to local government plans, regulations, and guidelines, such as those contained in the City’s General Plan. The above notwithstanding, for information purposes, the Off-Campus Center - Calexico is zoned as Open Space and is designated as Public Facilities in the City’s General Plan (City of Calexico 2015a).

The proposed Project site is approximately 0.58 acres in size (25,320 square feet) and is located at the southeast corner of the campus, at the northwest corner of East 7th Street and Blair Avenue (see Figure 2). The entirety of the Project site has previously been graded and is relatively flat in nature, with an average elevation of 3.5 feet above mean sea level. The Project site encompasses the locations identified in the Campus Master Plan as future Building 21 (see Figure 3A and Figure 3B, Proposed Campus Master Plan). The Project site consists of vacant and undeveloped land with two trees located along the northern boundary of the site. A chain-link fence separates the Project site from the recently removed temporary Campus Buildings 201, which were located immediately west of the Project site.

3 Project Description

3.1 Affordable Student Housing Complex

The proposed Project would involve the construction of a single-story, four-building complex approximately 12,840 square feet in size that would provide for affordable student housing. The complex would include three student housing buildings, including one smaller live-in unit building, and a community building. Two of the three proposed residential buildings would each be approximately 5,500 square feet in size and would include five four-bedroom, two-bathroom apartment units, totaling 40 student beds per building (two student beds per bedroom, 80 student beds in total). The third proposed residential building would be a live-in manager unit that would consist of a single two-bedroom, one-bathroom apartment. The proposed live-in unit would also include approximately 100 square feet of office space that is intended to provide a space for tenant meetings, social services, or counseling. All apartment units would also be equipped with a living area and kitchen. The proposed community building program would be approximately 840 square feet and include laundry, mail, restroom, electrical, and maintenance facilities. The mail room would be located outside, under the shaded amenity patio of the community building (see Table 1).

Table 1. Affordable Student Housing Complex Area Calculations

	Quantity	Area (Square Feet)	Beds
Residential Buildings (3)			
4-Bedroom, 8-Bed Unit	5	5,150	40
4-Bedroom, 8-Bed Unit	5	5,150	40
Live-In Unit	1	1,000	2
Office (Included in Live-In Unit)	N/A	N/A	N/A
<i>Subtotal</i>	<i>11</i>	<i>11,300</i>	<i>82</i>
Community Building (1)			
Laundry Room	1	300	N/A
Service Rooms	4	450	N/A
Restroom	2	100	N/A
Mail/Package (Outside)	1	270	N/A
<i>Subtotal</i>	<i>N/A</i>	<i>1,150</i>	<i>N/A</i>
Other			
Trash/Recycling Enclosure	1	850	N/A
Open Space	N/A	2,300	N/A
Landscaping/hardscaping	N/A	12,500	N/A
<i>Subtotal</i>	<i>N/A</i>	<i>13,650</i>	<i>N/A</i>
Combined Total	N/A	26,100	82

Note: N/A = not applicable.

All square foot amounts presented in the table are approximate amounts only and may not add to the site plan area totals described in this document due to rounding.

Other on-site proposed amenities include a courtyard, bike racks, and a community waste enclosure. The courtyard would be approximately 1,600 square feet and would be centrally located in the proposed complex (see Figure 4, Site Plan). Approximately 15 bike racks would be provided throughout the Project site. A community waste enclosure at the northeast corner of the Project site would allow residents a convenient place to dispose of waste and recyclables.

3.1.1 Operation

The Off-Campus Center - Calexico, including the Project site, is owned and operated by the CSU/SDSU. The CSU Board of Trustees, on behalf of SDSU, is the lead agency responsible for certifying the adequacy and completeness of this document and approval of the proposed Project. SDSU and the IVCCD have received joint funding under the State of California Higher Education Student Housing Grant Program to construct the proposed Project.

To support basic housing needs for students in the Imperial Valley, SDSU and IVCCD have executed a 30-year master lease agreement that details operation of the Project. This agreement dictates that 40 of the 82 proposed student beds would be reserved for IVCCD students who attend the Imperial Valley College in Imperial. Likewise, 40 of the proposed 82 beds, would be reserved for SDSU Off-Campus Center - Calexico students. A 2-bedroom unit would also provide living space for on-site management. SDSU would be responsible for operating, managing, and maintaining the proposed Project once operational.

Student beds made available under the proposed Project would be leased/rented to eligible low-income students. Eligible low-income students are defined as having 30% of 50% of the Annual Median Income for Imperial County. In the event, after a good faith outreach effort, there is not sufficient demand from students meeting the eligibility requirements within 90 days of the start of the fall semester, unassigned beds may be leased at market rates to SDSU and IVCCD students not meeting the low-income eligibility requirements. In addition to meeting the low-income criteria, eligible students would be required to be enrolled students and take a minimum average of 12 degree-applicable units per semester term, or the quarterly equivalent (with exceptions permitted), to facilitate timely degree completion.

3.1.2 Other Project Elements

Building and Site Design

The proposed buildings have been designed to reflect the character and massing of the existing Off-Campus Center - Calexico, as well as the surrounding neighborhood. Building design is centered around a courtyard-style housing complex and would consist of smooth stucco walls with downspouts and rafters, punctuated by composite terra cotta-colored roof tile accents and windows. Maximum building heights would range from 14 feet to 18 feet.

Landscaping, Other Site Improvements, and Lighting

The Project would include approximately 16,000 square feet of on-site landscaping and hardscape improvements (i.e., pedestrian walkways). All proposed landscaping would consist of drought-tolerant, indigenous plants. The landscape scheme would include shrubs, hedges, and a variety of trees. A total of 39 trees would be added to the Project site including five fan palms, eight mesquite trees, six evergreen elms, and 20 yucca trees.

All exterior on-site lighting would be hooded or shielded, directed downward, and would be compliant with applicable standards for lighting control and light pollution reduction (i.e., Title 24, American National Standards Institute/Illuminating Engineering Society).

The proposed complex would be secured via an iron security fence that would measure 6 feet in height and run approximately 64 linear feet, connecting to the proposed buildings. Access to the complex would only be available to residents and their guests via two pedestrian gates located at the northwestern corner and southern portion of the proposed complex. The gates would be equipped with security card access for residents.

Utilities and Public Services

New points of connection for domestic water, fire supply water, sewer, storm drainage and electrical connections from existing utility lines would be required to serve the proposed Project. Potable water service, as well as sewer collection services at the Project site, would be provided by the City. The Project would connect to an existing sanitary sewer maintenance access line located in Blair Avenue via new 6-inch mains. Connections for water (including domestic, fire, and irrigation) would be from an existing water main located in Blair Avenue. Distribution water pipes would be extended underground to serve each proposed building. A new water meter would be located in the proposed maintenance room in the community building. Adequate water treatment capacity and supply and sewer treatment capacity exists within the City's water and sewer system to accommodate the Project; therefore, no capacity upgrades to infrastructure would be necessary.

Stormwater drainage includes two stormwater catch basins. One basin would be located on the eastern boundary of the Project site, and the second would be situated immediately east of the existing chain-link fence at the western boundary of the Project site. The proposed catch basins would function as both water quality and flood control features, by filtering out surface water contaminants and slowing stormwater runoff prior to stormwater discharge into the City's stormwater system via one new storm drain located in the southeast corner of the Project site.

Electrical services within the Project area are provided by Imperial Irrigation District, which provides electric power to over 158,000 customers in the Imperial Valley in addition to areas of Riverside and San Diego counties (IID 2024). New utility connections and infrastructure would be required to support electrical services on site. The Project would connect to on-site electrical power infrastructure via an existing 12kV, three phase, three wire, 60 Hertz overhead line routed along East 7th Street. No natural gas usage is proposed for the Project.

The Project would require a new point of connection for on-site telecommunications and would connect to the existing AT&T communications via the on-campus minimum point of entry.

Access, Circulation, and Parking

Regional access to the Project site is provided via SR-111 and SR-98 to the north. Local access is provided via Blair Avenue and East 7th Street. Parking to the Project site is available in the existing campus parking lot, immediately north of the Project site, which has sufficient capacity to serve the proposed Project. On-site circulation improvements would consist of additional paved pathway/pedestrian walkway features throughout the proposed complex and along the northern boundary of the Project site (see Figure 4). Emergency access would be provided directly adjacent to the Project site on East 7th Street and Blair Avenue.

3.1.3 Design Standards and Energy Efficiency

In May 2014, the CSU Board of Trustees broadened the application of sustainable practices to all areas of the university by adopting the first systemwide sustainability policy, which applies sustainable principles across all areas of university operations, including facility operations and utility management. In May 2024, the CSU Sustainability Policy was updated to expand on existing sustainability goals (CSU 2024). The CSU Sustainability Policy seeks to integrate sustainability into all facets of the CSU, including academics, facility operations, the built environment, and student life (CSU 2018). Relatedly, the state has also strengthened energy-efficiency requirements in the California Green Building Standards Code (Title 24 of the California Code of Regulations).

As a result, all CSU new construction, remodeling, renovation, and repair projects, including the proposed Project, would be designed with consideration of optimum energy utilization, low life cycle operating costs, and compliance with all applicable state energy codes and regulations. Progress submittals during design are monitored for individual envelope, indoor lighting, and mechanical system performances. In compliance with these goals, the proposed Project would be equipped with solar ready design features that would facilitate and optimize the future installation of a solar photovoltaic (PV) system.

3.1.4 Off-Site Improvements

Off-site improvements would include the resurfacing of a portion of Blair Avenue adjacent to the eastern boundary of the Project site that would be disturbed as a result of trenching to make necessary connections to the existing

water main and sanitary sewer maintenance access. Any area disturbed as a result of this connection within Blair Avenue would be resurfaced to existing conditions. All off-site improvements would occur within the Blair Avenue right-of-way.

3.1.5 Construction

Construction would be performed by qualified contractors. Plans and specifications would incorporate stipulations regarding standard CSU/SDSU requirements and acceptable construction practices, such as those set forth in the SDSU Stormwater Management Plan, CSU Seismic Policy, The CSU Office of the Chancellor Guidelines, and the CSU Sustainability Policy, regarding grading and demolition, safety measures, vehicle operation and maintenance, excavation stability, erosion control, drainage alteration, groundwater disposal, public safety, and dust control.

Construction Timeline

Construction of the proposed Project would take approximately 17 months to complete and is estimated to begin as early as January 2024 and be completed by May 2026, with occupancy planned for fall 2026. Construction activities would generally occur Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m., with the potential for weekend construction on Saturday between 9:00 a.m. and 5:00 p.m. No construction would occur on Sundays or holidays or at night.

Construction Activities

A construction mobilization or staging area would be located immediately northeast of the proposed Project site and would occupy approximately 8,000 square feet. The area would be located east of existing Campus Building 6, west of Blair Avenue, and south of the existing parking lot (see Figure 2 and Figure 3A). To accommodate use of this area, four trees would be removed.

Construction would include site preparation, grading and excavation, utility installation/trenching, building foundation pouring, building construction, and landscaping. Excavation depths are anticipated to be 3 feet below grade. The majority of waste (i.e., excavated gravel/soil) generated during Project construction would be balanced/used within the site. Approximately 2,600 cubic yards of soil would be removed from the site and exported to Republic Services Allied Imperial Landfill, approximately 12 miles north. The entire Project site, including construction mobilization area (approximately 34,000 square feet in total) would be disturbed as a result of Project construction. Two trees would be removed from the Project site to accommodate the proposed Project.

Table 2 displays the construction equipment anticipated to be used during construction.

Table 2. Anticipated Construction Equipment

Aerial Lifts	Pressure Washers
Air Compressors	Pumps
Cement and Mortar Mixers	Rollers
Concrete/Industrial Saws	Rough Terrain Forklifts
Dumpers/Tenders	Rubber-Tired Dozers
Excavators	Rubber-Tired Loaders
Forklifts	Scrapers

Table 2. Anticipated Construction Equipment

Generator Sets	Signal Boards
Graders	Skid Steer Loaders
Off-Highway Tractors	Surfacing Equipment
Off-Highway Trucks	Sweepers/Scrubbers
Other Construction Equipment	Tractors/Loaders/Backhoes
Other General Industrial Equipment	Trenchers
Other Material Handling Equipment	Welders
Plate Compactors	

Source: Dorsey and Nielson Construction Inc, pers. comm., 2024

Construction Waste

The Project would generate construction debris during on-site clearing activities. In accordance with Section 5.408 of the California Green Building Standards Code, the Project would implement a construction waste management plan for recycling and/or salvaging for reuse of at least 65% of nonhazardous construction/demolition debris. Additionally, the Project would be required to meet Leadership in Energy and Environmental Design v4 requirements for waste reduction during construction. Solid waste generated during construction would be hauled off site to the Republic Services Allied Imperial Landfill at 104 East Robinson Road in Imperial, California.

4 Analysis Methodology

The analysis presented here considers the potential hydrology and water quality impacts of the proposed Project relative to existing conditions. Establishment of the Project site’s existing hydrology and water quality conditions has been prepared using information contained in the previously certified 2003 EIR (SDSU 2003), combined with updated information, as applicable, from the California Department of Water Resources, Federal Emergency Management Agency, and the Colorado River Basin Regional Water Quality Control Board (RWQCB).

5 Hydrology and Water Quality

5.1 Existing Conditions

Hydrology and Drainage

Water used to irrigate virtually the entire Imperial Valley originates from the Colorado River. Local drainage patterns within Imperial Valley have been altered through agricultural activities. The Imperial Irrigation District maintains approximately 1,600 miles of irrigation drainage structures, which collect surface water runoff and subsurface drainage from some 32,200 miles of agriculture (tile) drains and channel the flow into the New River and Alamo River, which ultimately drain to the Salton Sea. The canals and laterals are often open and unprotected (SDSU 2003).

Surface runoff from the SDSU Off-Campus Center - Calexico flows into the City drainage system (SDSU 2003), which in turn flows into the New River, located approximately 0.7 miles southwest of the Off-Campus Center - Calexico.

The New River is a sub-watershed of the larger Salton Sea Watershed. The New River starts in Mexicali, Mexico, approximately 15 miles south of the United States–Mexico International Border, and flows north through Calexico, the Imperial Valley, and then into the Salton Sea, approximately 66 miles north of Calexico (see Figure 5, Hydrology Map). The sub-watershed covers approximately 750 square miles, 63% of which is in Mexico and 37% of which is in the United States (City of Calexico 2015).

Water Quality

The SDSU Off-Campus Center - Calexico is located in the Colorado River Basin (Basin), under jurisdiction of the RWQCB, Colorado River Basin Region. The Basin encompasses the eastern portions of San Bernardino, Riverside, and San Diego Counties and all of Imperial County. The Imperial Valley Planning Area consists of 2,500 square miles in the southern portion of the region. The West Basin (the portion of the Basin that does not drain to the Colorado River) contains the Alamo River, the New River, and some Imperial Valley agricultural drains. These surface water features are among the most contaminated and poorest quality water resources in the state. The New River, located approximately 0.7 miles southwest of the Off-Campus Center - Calexico and one of the few natural surface drainage features in the region, has a total dissolved solids concentration between 2,000 and 4,000 parts per million and is classified as brackish rather than freshwater. The New River flows into Imperial Valley from Mexico with very high loads of sewage and industrial waste. As the New River flows through Imperial Valley, drainage from agricultural operations dramatically increases its flows. The New River is unsuitable for either domestic or agricultural uses.

In accordance with state policy for water quality control, RWQCB employs a range of beneficial use definitions for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The RWQCB Water Quality Control Plan for the Colorado River Basin (RWQCB Colorado River Basin Plan) has identified existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction. Beneficial uses of the New River include freshwater replenishment, industrial service supply (potential), water contact recreation (limited to fishing), non-contact water recreation, warm freshwater habitat, wildlife habitat, and preservation of rare, threatened, or endangered species (Colorado River Basin RWQCB 2019).

Under Clean Water Act Section 303(d), the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. The New River water quality impairments include ammonia, bifenthrin, chlordane, chloride, chlorpyrifos, cyhalothrin (lambda), cypermethrin, dichlorodiphenyldichloroethane, dichlorodiphenyldichloroethylene, dichlorodiphenyltrichloroethane, diazinon, dieldrin, disulfoton, hexachlorobenzene, imidacloprid, indicator bacteria, malathion, mercury, naphthalene, nutrients, organic enrichment/low dissolved oxygen, polychlorinated biphenyls, pyrethroids, sediment, selenium, toxaphene, toxicity, and trash (SWRCB 2024a).

A total maximum daily load defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. RWQCB has developed total maximum daily loads for select reaches of water bodies. According to the State Water Resources Control Board, bacteria, which are pathogen-indicator organisms, impair the entire segment of the New River. Pollution is most severe at the United States–Mexico International Border due to discharges of wastes from Mexico. The bacterial concentrations exceed the water quality objectives established to protect recreational beneficial uses of the New River. As a result, a New River pathogen

total maximum daily load was approved by the U.S. Environmental Protection Agency in August 2002. This total maximum daily load addresses bacterial concentrations in the New River (SWRCB 2011).

Flooding

Flooding occurs in varying degrees throughout Imperial County. Floodwaters rise either from sudden downpours or because of slow heavy precipitation. Flood zones identified on Federal Emergency Management Agency Flood Insurance Rate Maps are identified as a Special Flood Hazard Area (SFHA). An SFHA is defined as the area that will be inundated by the flood event having a 1% chance of being equaled or exceeded in any given year. The 1%-annual-chance flood is also referred to as the base flood or 100-year flood. "Floodways" are areas within the SFHA that include the channel of a river/watercourse and adjacent land areas, which in an unobstructed condition can discharge a 100-year flood/base flood without any increase in water surface elevations. The Off-Campus Center - Calexico is not located within an SFHA (FEMA 2024).

Groundwater

The SDSU Off-Campus Center - Calexico is located in the Imperial Valley Planning Area of the West Colorado River Basin, in the Imperial Hydrologic Subunit. Isolated aquifers of good quality groundwater are present in the Imperial Hydrologic Subunit, but overall groundwater quality is generally poor. Groundwater resources are generally unsuitable for domestic consumption under federal and state drinking water standards. Groundwater is stored in the Pleistocene sediments of the Imperial Valley floor. These fine-grained lake sediments inhibit groundwater movement, and tile-drain systems are utilized to dewater the sediments to a depth below the root zone of crops and to prevent the accumulation of saline water on the surface. Few wells have been drilled in these lake sediments because the yield is poor, and the water is generally saline. The few wells in Imperial Valley are for domestic use only. Factors that diminish groundwater reserves are consumptive use, evapotranspiration, evaporation from soils where groundwater is near the surface, and losses through outflow and export. In addition, poor groundwater quality is considered to result from infiltration of agricultural runoff and pre-existing subsurface salt deposits. RWQCB has designated groundwaters in the Imperial Hydrologic Subunit for the beneficial uses of municipal and industrial supply (SDSU 2003).

The Imperial County groundwater basins are not adjudicated and are all designated by the California Department of Water Resources as having a very low priority regarding enacting the Sustainable Groundwater Management Act (DWR 2024). Low and very low priority basins are not required to prepare Groundwater Sustainability Plans. Groundwater is managed by Imperial County's Groundwater Ordinance contained in Title 9, Division 22, Section 92201 of Imperial County's Code of Ordinances.

The City of Calexico's Department of Public Works provides potable water services to users within the incorporated City limits, which includes the SDSU Off-Campus Center - Calexico. The Imperial Irrigation District distributes raw water from the Colorado River to the City, including the Off-Campus Center - Calexico (SDSU 2003). Groundwater is not used as a potable or nonpotable water source on the Off-Campus Center - Calexico.

6 Impact Analysis and Conclusions

6.1 Thresholds of Significance

The significance criteria used to evaluate the impacts of the proposed Project related to hydrology and water quality are based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact to hydrology and water quality under CEQA would occur if the proposed Project would:

- a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - i) result in substantial erosion or siltation on- or off-site;
 - ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off site;
 - iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
 - iv) impede or redirect flood flows.
- d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

6.2 Impact Analysis

- a) ***Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?***

Impacts relative to this significance criteria and threshold are separately addressed in the contexts of Project construction and operation.

Construction

Construction impacts related to water quality were evaluated in Section 3.11, Water Quality, of the 2003 EIR, which concluded that the potential surface water and groundwater quality impacts during construction would be less than significant with implementation of a construction stormwater pollution prevention plan (SWPPP), as required by the Clean Water Act (SDSU 2003).

Project construction activities, such as grading, excavation, and trenching, would result in disturbance of soils on the Project site. Construction site runoff can contain soil particles and sediments from these activities.

Dust from construction sites, in addition to spills or leaks from heavy equipment and machinery, staging areas, or building sites can also enter runoff and water bodies. Typical pollutants could include petroleum products and heavy metals from equipment, as well as products such as paints, solvents, and cleaning agents, which could contain hazardous constituents. Sediment from erosion of graded or excavated surface materials, leaks or spills from equipment, or inadvertent releases of construction materials could result in water quality degradation if runoff containing the sediment entered receiving waters in sufficient quantities to exceed water quality objectives. However, contributions of sediment from construction and construction-related pollutants would be minor and not measurable in the context of the watershed.

Stormwater best management practices (BMPs) would be installed during grading and construction to minimize the potential for soil erosion and potential off-site migration of construction related pollutants. BMPs would be consistent with construction site runoff controls detailed in the SDSU Stormwater Management Plan (SDSU 2022), including good site management housekeeping, non-stormwater management, erosion controls, sediment controls, and run-on/runoff controls. Typical construction BMPs would include straw wattles, sediment basins, sediment fences, covering stockpiled soil, vehicle track-out controls at entrance/exit points, limitations on work periods during storm events, temporary secondary containment around portable toilets and equipment fueling areas, and on-site storage of absorbent pads for potential small spills. After construction, the Project site would be developed with impermeable surfaces and approximately 16,000 square feet of on-site landscaping, thus eliminating the potential for soil erosion. Based on the SDSU Stormwater Management Plan, construction sites less than 1 acre (such as the Project site) would be inspected weekly by the Environmental Health and Safety staff for proper BMP implementation. If the Environmental Health and Safety staff deems a project is not in compliance with minimum BMPs set forth in the construction contract language, they would provide the contractor with a copy of their site inspection/audit report and include a list of actions required to bring the site into compliance. Staff would re-inspect the site within 72 hours after notifying the contractor of the deficiencies. Non-stormwater discharges during construction would include periodic application of water for dust control purposes. Because dust control is necessary during windy and dry periods to prevent wind erosion and dust plumes, water would be applied in sufficient quantities to wet the soil but not so excessively as to produce runoff from the construction site. Water applied for dust control would either quickly evaporate or locally infiltrate into shallow surface soils. Water would only be applied in a manner that does not generate runoff. Therefore, water applied for dust control would not result in appreciable effects on groundwater or surface water features and thus would not cause or contribute to exceedances of water quality objectives contained in the RWQCB Colorado River Basin Plan.

No new information or substantial changes in circumstances have occurred requiring new or additional analysis regarding construction-related impacts to water quality at the Project site. Based on implementation of the above practices, potential Project impacts relating to violation of surface water and groundwater quality standards or waste discharge requirements during construction would be **less than significant**, and no mitigation is required.

Operation

The analysis presented in Section 3.11, Water Quality, of the 2003 EIR, concluded that no significant impacts to water quality are expected because the City has an established storm drain system. In addition, the 2003 EIR concluded that the existing SDSU Off-Campus Center - Calexico is a developed and urban use; therefore,

no increase in impervious surfaces are anticipated (SDSU 2003). The 2003 EIR did not include mitigation measures related to water quality.

The Project site is predominantly unpaved and includes turf and trees, which allows stormwater to infiltrate into the subsurface, thus reducing stormwater runoff, erosion, and downstream sedimentation of the New River. Similarly, following construction, the Project site would be developed with impermeable surfaces and 18,100 square feet of on-site landscaping, thus eliminating the potential for soil erosion and off-site siltation of the New River. Runoff from building rooftops, driveways, and landscaped areas can contain nonpoint source pollutants such as sediment, trash, oil, grease, heavy metals, pesticides, herbicides, and/or fertilizers. Concentrations of pollutants carried in urban runoff are extremely variable, depending on factors such as the volume of runoff reaching the storm drains, time since the last rainfall, and degree to which street cleaning occurs. Without design features to capture and treat stormwater runoff, the increase in the developed area could have adverse water quality impacts on downstream drainages and the New River.

SDSU is enrolled under State Water Resources Control Board Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit 2013-0001 DWQ, which provides permit coverage for non-traditional MS4s, such as public campuses (SWRCB 2024b). Stormwater drainage systems would be located throughout the Project site and would direct all stormwater on site to two stormwater catch basins. One basin would be located on the eastern boundary of the Project site, and the second would be situated immediately east of the existing chain-link fence on the western boundary of the Project site. In compliance with the Small MS4 General Permit and the SDSU Stormwater Management Plan (SDSU 2022), the catch basins would include bio-retention features. Section 10 of the SDSU Stormwater Management Plan includes post-construction stormwater management protocol, including development, implementation, and enforcement of a program to address discharges of post-construction stormwater runoff from impervious areas for new development and redevelopment projects. The program includes site design measures, low impact development design standards, source control measures, stormwater treatment and baseline hydromodification, alternative designs for bioretention, an alternative post-construction stormwater management program, and operation and maintenance of post-construction stormwater management measures. As a result, the proposed catch basins would function as both water quality and flood control features, by filtering out surface water contaminants and slowing stormwater runoff prior to off-site stormwater discharge. In addition, proposed landscaping would further reduce potential adverse water quality impacts by reducing impervious surfaces, which increase runoff, collect pollutants, and contribute to adverse water quality impacts.

With construction of proposed bio-retention features and landscaping, water quality impacts would be minimized such that the Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts would be **less than significant**, and no mitigation is required.

- b) ***Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

The initial study (IS) prepared for the 2003 EIR determined that no impact would occur regarding decreased groundwater supplies or groundwater recharge (SDSU 2003) based on the following set of facts: The City's

Department of Public Works provides potable water services to users within the incorporated City limits, which includes the SDSU Off-Campus Center - Calexico. The Imperial Irrigation District distributes raw water from the Colorado River to the City, including the Off-Campus Center - Calexico. Groundwater is not used as a potable or nonpotable water source on the Off-Campus Center - Calexico. As a result, no impacts would occur with respect to groundwater supplies.

Following Project construction, changes in land cover (e.g., increases in impervious surfaces) ultimately could affect the amount of stormwater that percolates into the ground versus the amount that runs off into the downstream storm drains and the New River. However, construction of the proposed buildings and associated pedestrian walkways would have a nominal effect on groundwater recharge due to the small scale of the proposed impervious surfaces, in comparison to existing conditions. In addition, the Project would include bio-retention basins that will be located throughout the Project site, and approximately 16,000 square feet of on-site landscaping. These pervious areas will slow runoff and enhance groundwater recharge.

As such, direct impacts of the proposed Project on the local groundwater table would be negligible. The Project would not substantially interfere with groundwater recharge such that the Project may impede sustainable groundwater management of the underlying groundwater basin. Impacts would be **less than significant**.

- c) ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***
- i) ***result in substantial erosion or siltation on- or off-site;***
 - ii) ***substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off site; or***
 - iii) ***create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?***

Impacts related to changes in drainage patterns and potential increased runoff were evaluated in Section 3.8, Hydrology/Flood Control, of the 2003 EIR, which concluded that the majority of the SDSU Off-Campus Center - Calexico consists of impervious surfaces and is surrounded by urban development (SDSU 2003). No increase in impervious surfaces would occur because of the project, and as a result, the project would not have an adverse impact on the hydrology of the site or surrounding area. In the absence of significant impacts, no mitigation was required.

The proposed Project would involve the construction of additional improvements that would increase the impervious surface area; these include the proposed buildings, pedestrian walkways, and landscaping. As discussed for Threshold a, the Project site is predominantly unpaved and includes turf and trees, which allows stormwater to infiltrate into the subsurface, thus reducing stormwater runoff, erosion, and downstream flooding. Similarly, following construction, the Project site would be developed with impermeable surfaces and approximately 16,000 square feet of on-site landscaping, thus eliminating the potential for soil erosion and siltation of the downstream New River.

In compliance with the Phase II Small MS4 General Permit, stormwater drainage systems would be located throughout the Project site and would direct all stormwater on site to two bio-retention basins. One basin would be located on the eastern boundary of the Project site, and the second would be situated immediately east of the existing chain-link fence on the western boundary of the Project site. These basins would function as both water quality and flood control features, by filtering out surface water contaminants and slowing stormwater runoff prior to off-site stormwater discharge. In addition, proposed landscaping would further reduce stormwater runoff velocities and minimize the potential for off-site flooding of City streets and storm drains. With construction of proposed bio-retention basins and landscaping, stormwater runoff impacts would be minimized such that the Project would not result in siltation of the downstream New River, flooding of adjacent streets and storm drains, and polluted runoff. Impacts relative to existing drainage patterns would be **less than significant**, and no additional mitigation is required.

iv) impede or redirect flood flows?

The IS prepared for the 2003 EIR determined that no impact would occur regarding 100-year flood hazard areas (SDSU 2003).

The SDSU Off-Campus Center - Calexico is not located within an SFHA. Therefore, neither construction nor operation of the proposed Off-Campus Center - Calexico buildings would impede or redirect flood flows, and **no impacts** would occur relative to flood flows.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The IS prepared for the 2003 EIR determined that no impact would occur regarding flooding, including flooding as a result of failure of a levee or dam or inundation by seiche, tsunami, or mudflow (SDSU 2003).

As discussed for Threshold c-iv, the SDSU Off-Campus Center - Calexico is not located within an SFHA. The Project site is not located in proximity to the Pacific Ocean and would therefore not be susceptible to tsunamis. A seiche is oscillations in an enclosed body of water, such as a lake or reservoir, typically because of seismically induced ground shaking. No such bodies of water are located adjacent to the Off-Campus Center - Calexico; therefore, the proposed buildings would not be susceptible to seiches. Since adoption of the 2003 EIR, the CEQA significance criteria have been revised (per Appendix G of the 2023 CEQA Statute and Guidelines), and impacts related to failure of a levee or dam or inundation by mudflow are no longer evaluated under CEQA. Therefore, flooding related to levees, dams, and mudflows have not been evaluated in this memo.

For the reasons provided, neither construction nor operation of the proposed SDSU Off-Campus Center - Calexico buildings would risk the release of pollutants due to Project inundation. As such, **no impacts** related to pollutant release would occur.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The 2003 EIR and IS prepared for the 2003 EIR did not specifically address conflict with or obstruction of implementation of a water quality control plan or sustainable groundwater management plan. Therefore, a

discussion regarding this issue is provided below. Impacts related to construction and operation of the proposed Project are addressed separately.

Construction

As previously discussed, stormwater BMPs would be installed during grading and construction to minimize the potential for soil erosion and potential off-site migration of construction related pollutants. BMPs would be consistent with construction site runoff controls detailed in the SDSU Stormwater Management Plan (SDSU 2022), including good site management housekeeping, non-stormwater management, erosion controls, sediment controls, and run-on/runoff controls. After construction, the Project site would be developed with impermeable surfaces and approximately 16,000 square feet of on-site landscaping, thus eliminating the potential for soil erosion. These measures would substantially reduce the potential for impacts to surface water quality occurring during construction. Therefore, the Project would not conflict with or obstruct implementation of water quality objectives contained in the RWQCB Colorado River Basin Plan and impacts from construction would be **less than significant**.

Operations

The proposed Project would be subject to the requirements of the RWQCB Colorado River Basin Plan, which outlines water quality objectives for all surface water resources within the Basin, including the nearby New River. Compliance with the Colorado River Basin Plan is implemented through waste discharge requirements for all surface water discharges, including stormwater. Imperial County, as a Permittee under the State Water Resources Control Board Phase II Small MS4 General Permit (2013-0001 DWQ), is required to implement stormwater BMPs that comply with water quality objectives, including capturing and treating stormwater runoff. The Project would include construction of numerous biofiltration features and landscaping, which would ensure that the Project is consistent with the Colorado River Basin Plan's water quality objectives.

Further, groundwater would not be used as a water source for the Project. Water would be supplied from the Colorado River via the All American Canal. Therefore, the Project would not conflict with or obstruct implementation of the Colorado River Basin Plan or a Groundwater Sustainability Plan (under the Sustainable Groundwater Management Act). As a result, **no impacts** would occur.

7 References

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MEMORANDUM

SUBJECT: SDSU IMPERIAL VALLEY OFF-CAMPUS CENTER - CALEXICO, AFFORDABLE STUDENT HOUSING PROJECT - HYDROLOGY AND WATER QUALITY TECHNICAL MEMORANDUM

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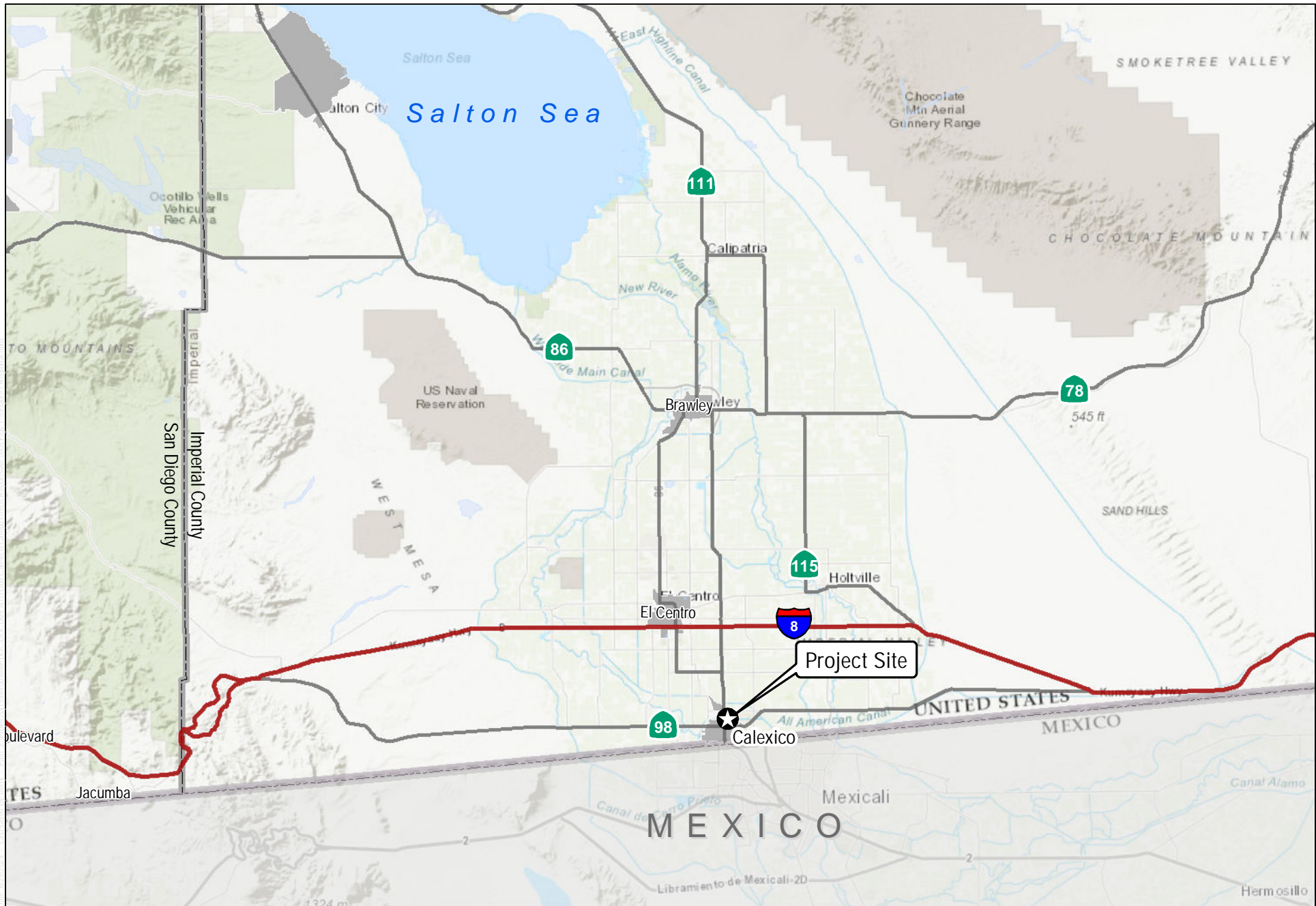
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Attachment A

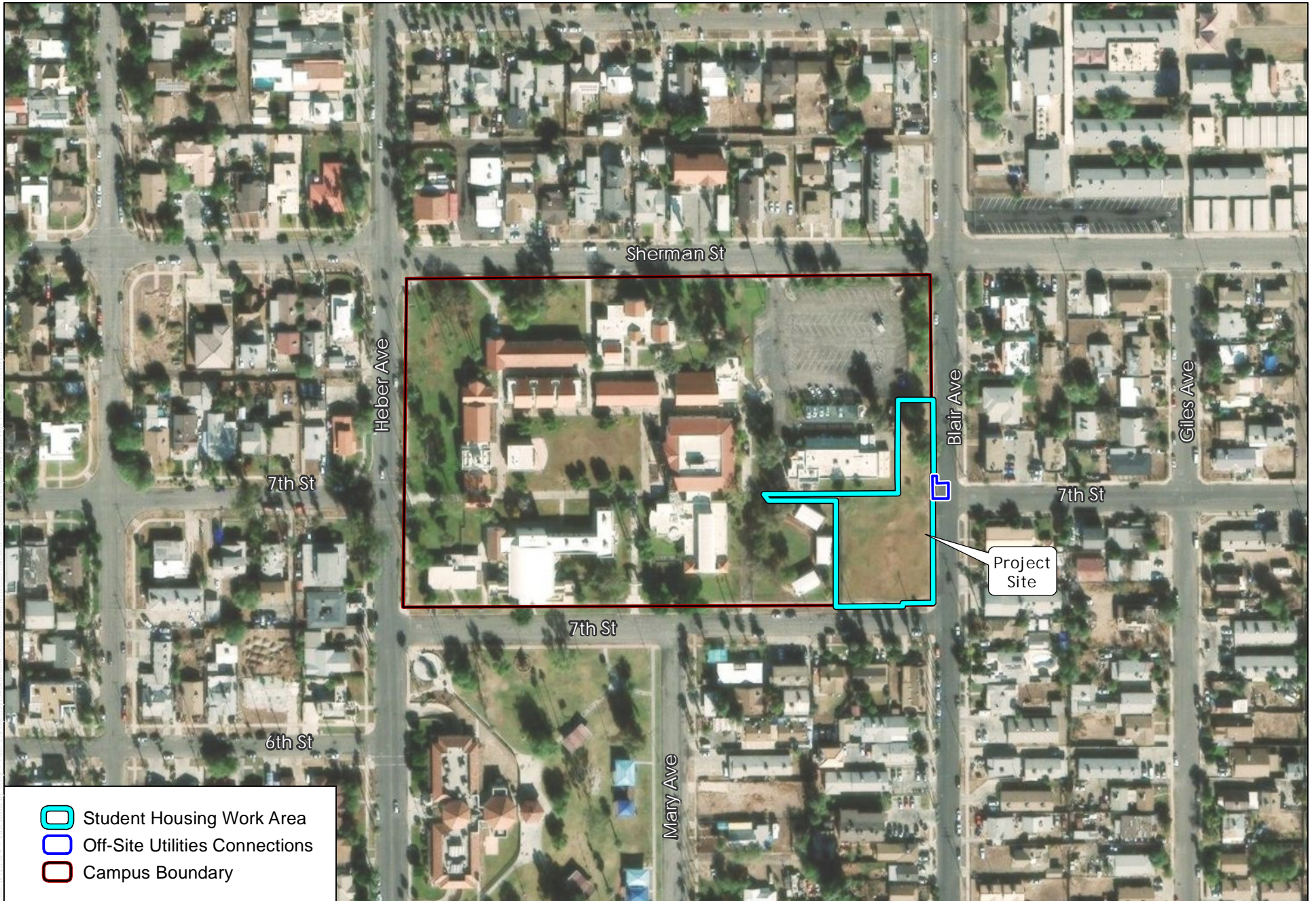
Figures



SOURCE: ESRI



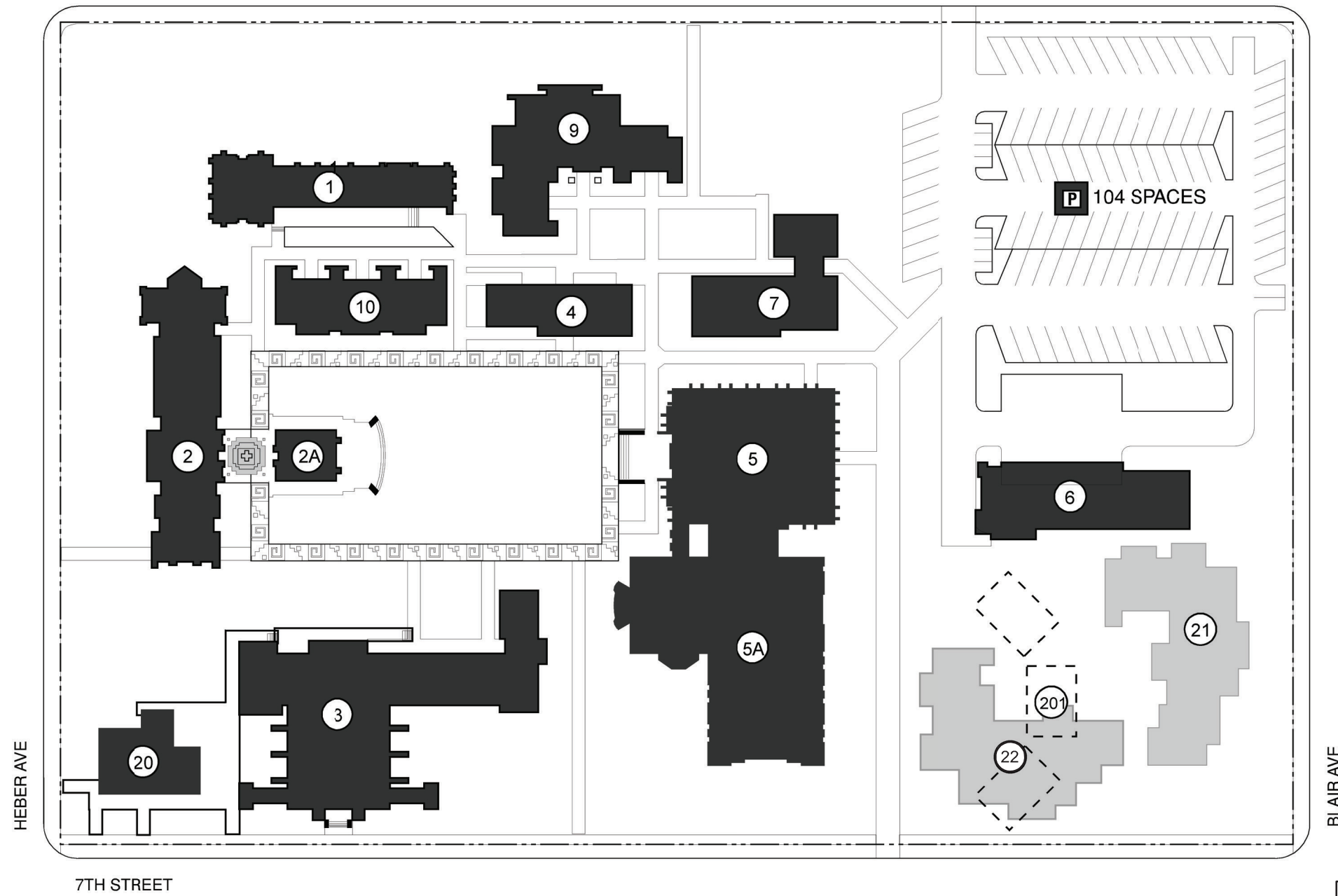
FIGURE 1
Regional Map



SOURCE: AERIAL-ESRI MAPPING SERVICE 2023; DEVELOPMENT-SDSU 2024

FIGURE 2
Vicinity Map

SHERMAN STREET



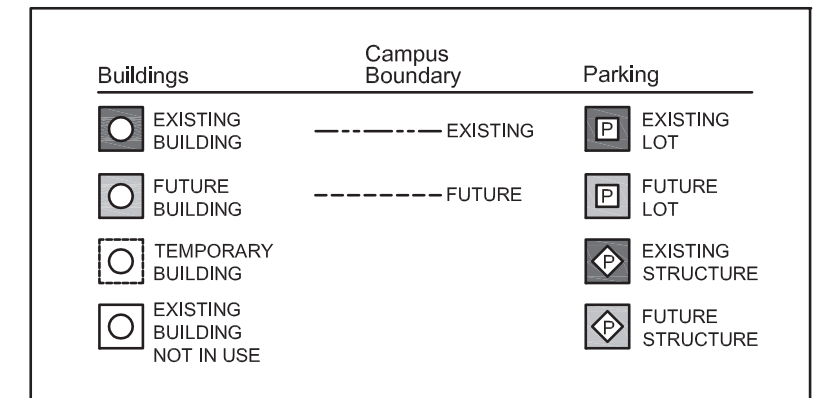
SDSU-IVC BUILDING LEGEND

- 1. North Classroom
- 2. Administration
- 2A. Art Gallery
- 3. Auditorium
- 4. Classrooms
- 5. Library
- 5A. Library Addition
- 6. Physical Plant
- 7. Computer Building/Campus Store
- 8. Student Affairs
- 9. Faculty Offices East
- 10. Faculty Offices West
- 20. Student Center
- 21. Classroom Building/Classroom Building East
- 22. Classroom Building South
- 201. Temporary Buildings

San Diego State University

Imperial Valley Campus - Calexico
 Campus Master Plan
 Master Plan Enrollment: 850 FTE
 Approval Date: February 1980
 Revised Date: September 2003
 Main Campus Acreage: 8.4

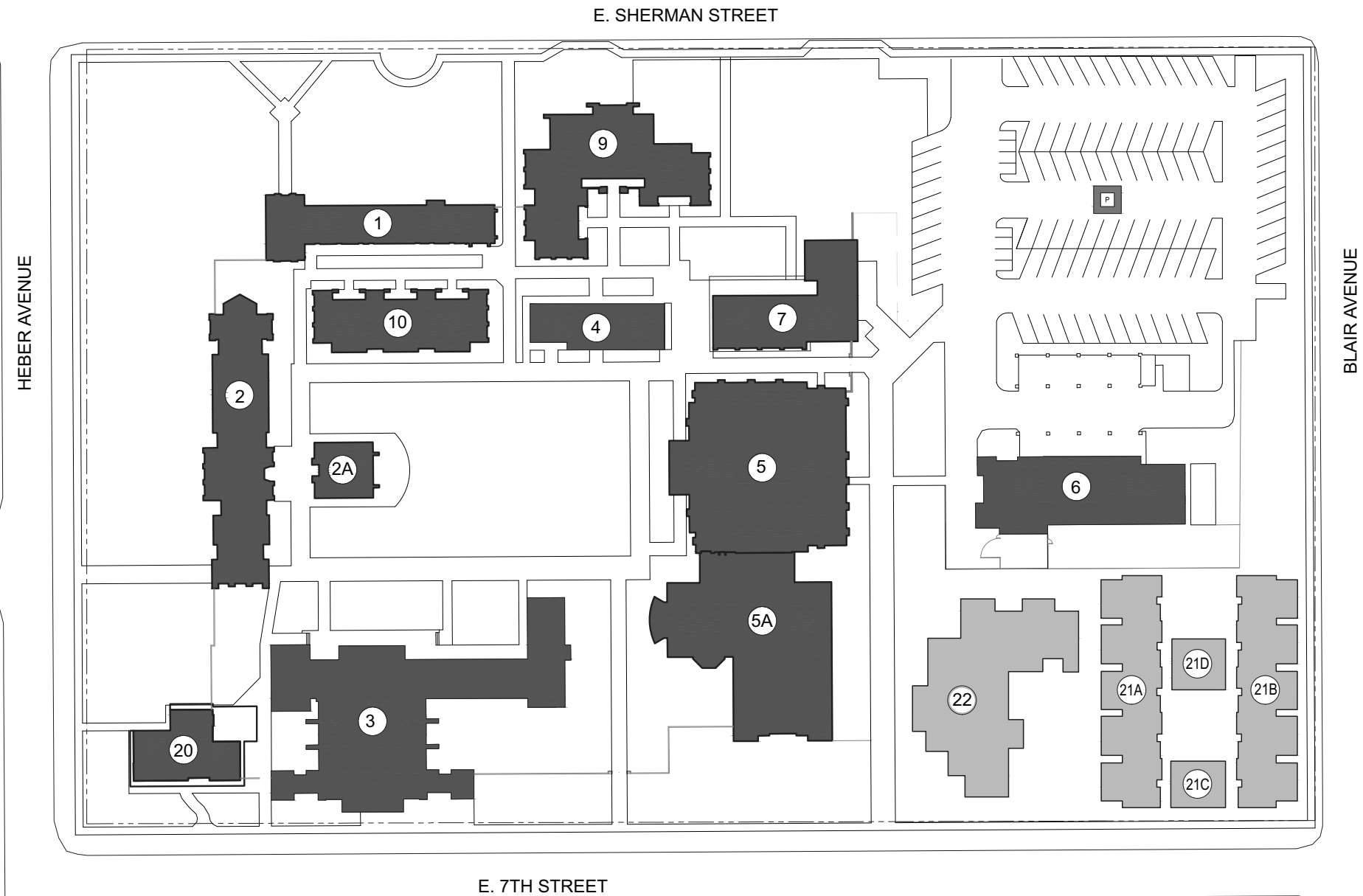
SOURCE: SDSU 2003



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FIGURE 3A

Existing Campus Master Plan

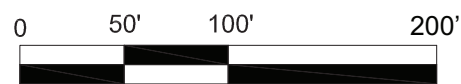


SDSU-IVC BUILDING LEGEND

- 1. North Classroom
- 2. Administration
- 2A. Art Gallery
- 3. Auditorium
- 4. Classrooms
- 5. Library
- 5A. Library Addition
- 6. Physical Plant
- 7. Computer Building/Campus Store
- 8. Student Affairs
- 9. Faculty Offices East
- 10. Faculty Offices West
- 20. Student Center
- 21A. Student Housing West
- 21B. Student Housing East
- 21C. Student Housing Office
- 21D. Student Housing Community Center
- 22. Classroom Building South

**PROPOSED
San Diego State University**

Imperial Valley Campus - Calexico
 Campus Master Plan
 Master Plan Enrollment: 850 FTE
 Approval Date: 1980
 Revised Date: September 2003
 Main Campus Acreage: 8.4



Buildings	Campus Boundary	Parking
EXISTING BUILDING	EXISTING	EXISTING LOT
FUTURE BUILDING	FUTURE	FUTURE LOT
TEMPORARY BUILDING		EXISTING STRUCTURE
EXISTING BUILDING NOT IN USE		FUTURE STRUCTURE

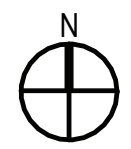
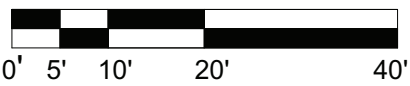
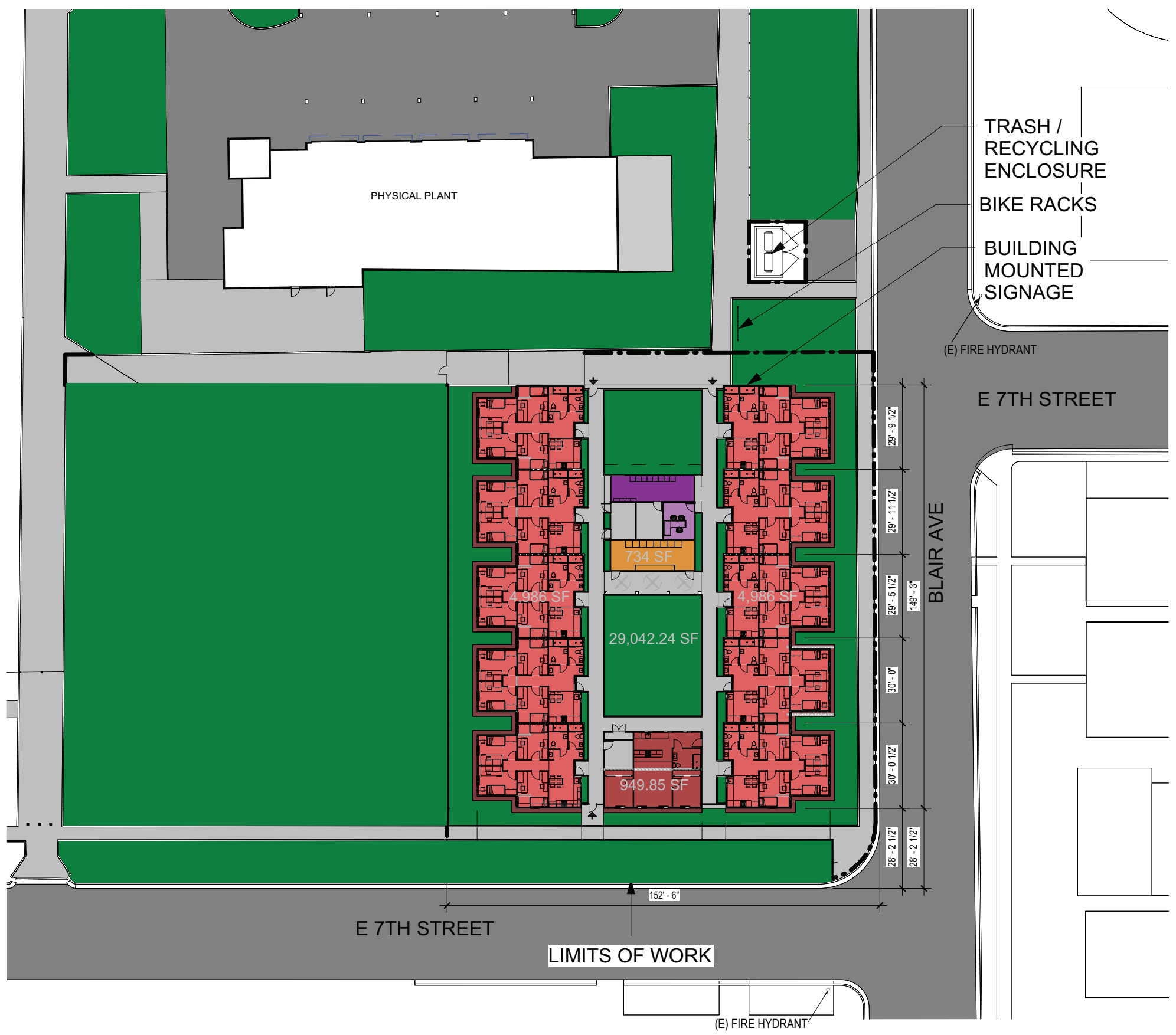
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SOURCE: SDSU 2024

FIGURE 3B
 Proposed Campus Master Plan

LEGEND

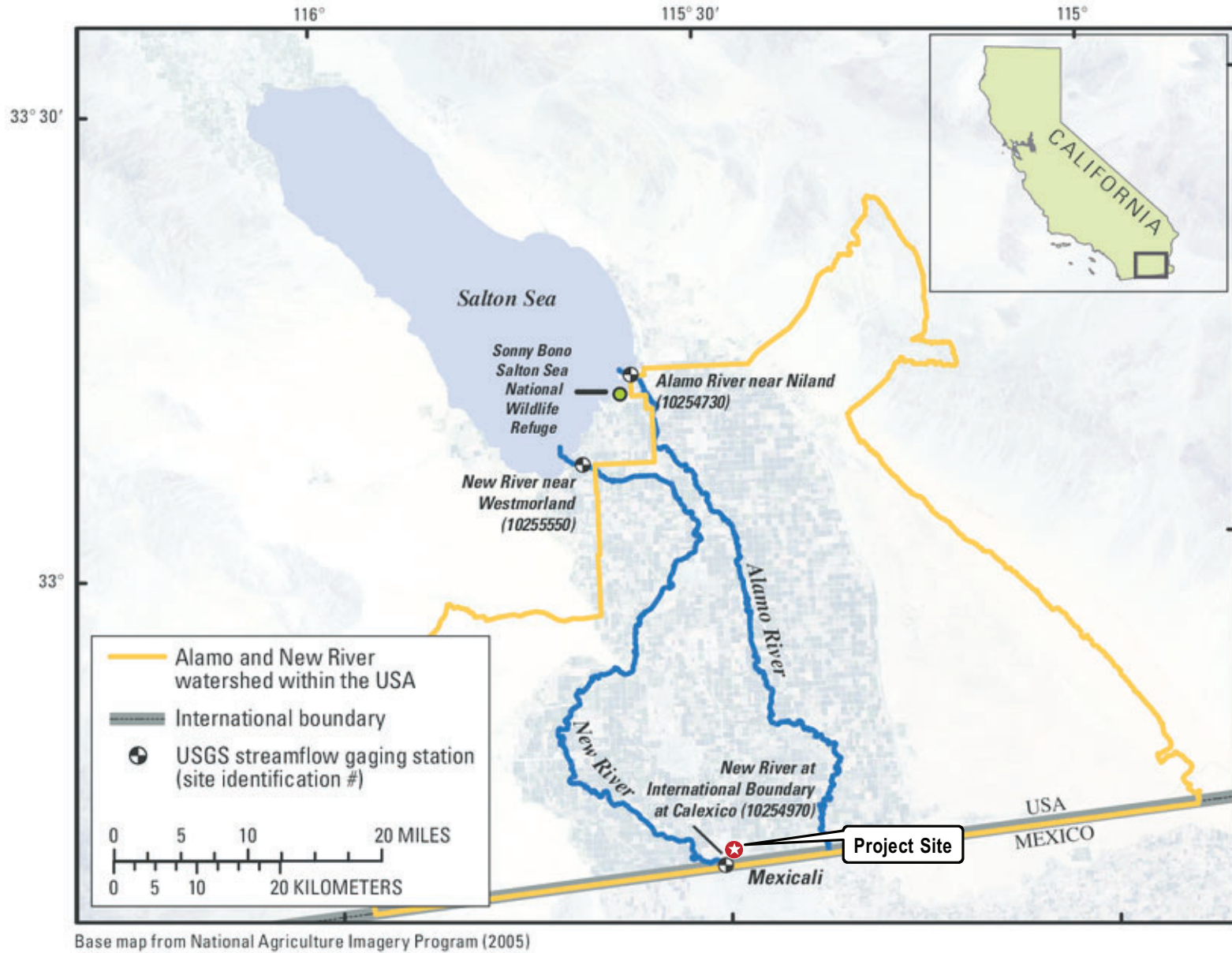
- BEDROOM
- LAUNDRY
- LIVE-IN APARTMENT
- LOBBY
- MAIL/UPS
- SERVICE



SOURCE: SDSU 2024

FIGURE 4
Site Plan

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SOURCE: RESEARCHGATE.NET, ACCESSED JUNE 25, 2024

