2.8 Hydrology and Water Quality

The section identifies the existing groundwater, surface water, water quality, stormwater, and flooding conditions within the vicinity of the PSR Analysis Areas and the former CGSP Area, and analyzes the potential effects of the Proposed Project on these conditions. Information contained in this section has been incorporated from the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements Groundwater Resources (DPLU 2007g), County of San Diego Guidelines for Determining Significance Surface Water Quality (DPLU 2007j), County of San Diego Guidelines for Determining Significance Hydrology (DPLU 2007i), County of San Diego General Plan Conservation and Open Space Element (County 2011a), the 2011 PEIR Appendix D Groundwater Study (DPLU 2010c), the California Regional Water Quality Control Plan for the San Diego Basin as amended (CRWQCB 2012), and additional resources as cited throughout the section.

A summary of the hydrology and water quality impacts identified in Section 2.8.3 is provided below.

Hydrology and Water Quality Summary of Impacts

Issue Topic	Project Direct Impact	Cumulative Impact	Impact After Mitigation
Water Quality Standards and Requirements	Potentially significant	Potentially significant	Significant and unavoidable
Groundwater Supplies and Recharge	Potentially significant	Potentially significant	Significant and unavoidable
Erosion or Siltation	Potentially significant	Potentially significant	Less than significant
Flooding	Potentially significant	Less than significant	Less than significant
Exceed Capacity of Storm Water Systems	Potentially significant	Less than significant	Less than significant
Housing within a 100-Year Flood Hazard Area	Potentially significant	Less than significant	Less than significant
Impeding or Redirecting Flood Flows	Potentially significant	Less than significant	Less than significant
Dam Inundation and Flood Hazards	Potentially significant	Less than significant	Less than significant
Seiche, Tsunami, and Mudflow Hazards	Potentially significant	Less than significant	Less than significant

2.8.1 Existing Conditions

Section 2.8.1 of the 2011 PEIR included a discussion of existing conditions related to hydrology and water quality in the unincorporated County. The existing conditions described for hydrology and water quality in the 2011 PEIR are virtually the same as the existing conditions evaluated in this SEIR; except for surface water quality and the Borrego Valley Groundwater Basin. The updated existing conditions for surface water quality and the Borrego Valley Groundwater Basin are discussed below due to updated reports that establish new baseline conditions in these areas. All references used in the 2011 PEIR were reviewed to ensure they are still valid today, and are hereby incorporated by reference.

Surface Water Quality

Preparation of the 2011 PEIR began before the U.S. Environmental Protection Agency approved the 2008-2010 CWA Section 303(d) List in October 2011, and therefore did not include the most recent updates to the list of 303(d) water bodies for the San Diego Region. The following

discussion identifies surface water quality issues facing Watershed Management Areas (WMA) associated with the Proposed Project. Table 2.8-1 provides the most current information relevant to the WMA associated with the PSR Analysis Areas and the former CGSP Area.

Carlsbad WMA

Major environmental concerns in the Carlsbad WMA include surface water quality degradation, sewage spills, beach closures, sedimentation, habitat degradation and loss, invasive species, and eutrophication. Thirteen water bodies in the Carlsbad WMA have been placed on the CWA 303(d) list (Table 2.8-1). Sources of these pollutants are varied and include urban runoff, agricultural runoff, sewage spills, livestock/domestic animals, and other natural sources. PSR Analysis Areas NC3A, NC22, NC37, NC38+, and SD15 are in the Carlsbad WMA.

Salton Sea Transboundary WMA

Replenishment of the Salton Sea watershed is predominantly from farm drainage and seepage and occasional storm runoff from the Anza-Borrego, Coachella Valley, Imperial Valley, and the Mexicali Valley in Mexico. No Salton Sea Transboundary WMA waterbodies located within San Diego County are listed on the CWA 303(d) list. PSR Analysis Areas DS8 and DS24 are in the Salton Sea Transboundary WMA.

San Diego River WMA

Major environmental concerns in the San Diego River WMA include surface water quality degradation, flooding, habitat degradation and loss, sediment, invasive species, and eutrophication. Table 2.8-1 presents the 11 water bodies in the San Diego River WMA that have been placed on the CWA 303(d) list. Factors that may be impairing water quality in this WMA include urban runoff, agricultural runoff, mining operations, sewage spills, sand mining, and other natural sources. PSR Analysis Area CD14 is in the San Diego River WMA.

San Dieguito WMA

Major concerns in the San Dieguito WMA include surface water quality degradation, habitat degradation and loss, invasive species, and eutrophication. There are several important natural areas within the San Dieguito watershed that sustain a number of threatened and endangered species. Table 2.8-1 presents the nine water bodies in the San Dieguito WMA that have been placed on the CWA 303(d) list. Pollution in the watershed is generated mainly from agricultural and residential land uses. PSR Analysis Area NC18A is in the San Dieguito WMA.

San Luis Rey WMA

Major environmental concerns in the San Luis Rey River WMA include surface water quality degradation, habitat loss, invasive species, and channel bed erosion. Five water bodies in the San Luis Rey WMA have been placed on the CWA 303(d) list (Table 2.8-1). Potential sources of contaminants are varied and include both anthropogenic and natural sources. PSR Analysis Areas BO18+, FB2+, FB17, FB19+, VC7+, VC51, VC57+, VC67, PP30, and former CGSP Subareas CG1, CG2, CG3, CG4, CG5, CG6, CG7, and CG8 are in the San Luis Rey WMA.

Santa Margarita River WMA

Major environmental concerns affecting the Santa Margarita River WMA include surface water and groundwater quality degradation, habitat loss, invasive species, and channel bed erosion. Thirteen water bodies in the Santa Margarita River WMA have been placed on the CWA 303(d) list (Table 2.8-1). The upper portion of the Santa Margarita River watershed in Riverside County

has been under continuous development, and potential sources of contaminants include urban runoff, agriculture/nurseries, septic tanks, natural sources, and unknown point and non-point sources. PSR Analysis Area FB21+ is in the Santa Margarita River WMA.

Tijuana River WMA

Major environmental concerns in the Tijuana River WMA include surface water quality degradation, trash, sedimentation, eutrophication, habitat degradation and loss, flooding, erosion, and invasive species. The Tijuana River WMA has a variety of water quality issues, many of which stem from runoff that enters the watershed from Mexico, and is outside of the County jurisdiction. Eight water bodies within the Tijuana River WMA have been placed on the CWA 303(d) list (Table 2.8-1). The sources of the pollutants are varied and include urban runoff, sewage spills, industrial discharges, agricultural/orchards, livestock/domestic animals, natural sources, and septic systems. PSR Analysis Areas ME26 and ME30A are in the Tijuana River WMA.

Borrego Valley Groundwater Basin

In 2015, the USGS worked with the Borrego Water District to prepare a Borrego Valley Aquifer Report. Although water quality has historically been and is currently acceptable within the Borrego Valley Aquifer, the report concluded that there are locations where declining groundwater levels have led to a decline in water quality. The report shows that total dissolved solids (TDS) and nitrate in the upper aquifer have historically exceeded their water quality thresholds of 500mg/L and 10mg/L, respectively. At the time of the report the source of nitrate was unknown. TDS and sulfate are the only constituents that show increasing concentrations with simultaneous declines in groundwater levels. Additionally, TDS and nitrates were generally highest in the upper aquifer and in the northern part of Borrego Valley where agricultural activities are primarily concentrated. The report concluded that little recharge is occurring under current (1900-2000) climatic conditions and nearly all the natural recharge is occurring adjacent to the mountain fronts (USGS 2015). It is possible that water quality impacts occur as decreased water levels induce flow of poor quality water found in deeper formational materials of the aquifer. This condition may eventually necessitate additional treatment of groundwater to make the water suitable as a drinking water supply, at a sizeable cost.

2.8.2 Regulatory Framework

Section 2.8.2 of the 2011 PEIR included a discussion of regulatory framework related to hydrology and water quality in the unincorporated County, including the PSR Analysis Areas and the former CGSP Area. The regulations described in the 2011 PEIR are the same as the regulations evaluated in this SEIR, with the exception of Sustainable Groundwater Management Act of 2014, and updates to the San Diego Basin Plan and San Diego Regional Municipal Separate Storm Sewer Systems Permit. No changes to those regulations have been identified that would alter the conclusions from the 2011 PEIR. All references used from the 2011 PEIR were reviewed to ensure they are still valid today, and are hereby incorporated by reference.

Sustainable Groundwater Management Act of 2014

Since the adoption of the General Plan, California enacted the Sustainable Groundwater Management Act (2014). The Act requires the formation of local groundwater sustainability agencies to address conditions in their local water basins and adopt locally-based management plans. The requirements of the Act include (1) developing regulations to revise groundwater basin boundaries; (2) adopting regulations for evaluating and implementing Groundwater Sustainability Plans and coordination agreements; (3) identifying basins subject to critical conditions of

overdraft; (4) identifying water available for groundwater replenishment; and (5) publishing BMPs for the sustainable management of groundwater.

The Act requires that groundwater basins reach sustainable yield and sets a 20-year timeline for implementation. Critically overdrafted basins, such as the Borrego Valley Aquifer, must achieve groundwater sustainability by 2040 or 2042. Critically overdrafted high and medium priority basins must be managed under a Groundwater Sustainability Plan by January 31, 2020. Other high and medium priority basins must be managed under Groundwater Sustainability Plans by January 31, 2022. The Act recognizes that groundwater is managed at the local or regional level and that there are geographic, geologic, and hydrologic differences accounting for groundwater supply. The goal of the legislation is reliable groundwater management, which is defined as "the management and use of groundwater in a manner that can be maintained during the 5 to 7-year planning period and 20-year implementation horizon without causing undesirable results". Undesirable results are defined as any of the following effects:

- Chronic lowering of groundwater levels (not including overdraft during a drought if a basin is otherwise managed)
- Significant and unreasonable reduction of groundwater storage
- Significant and unreasonable seawater intrusion
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies
- Significant and unreasonable land subsidence that substantially interferes with surface land uses
- Depletions of interconnected surface water that have significant and unreasonable adverse effects on beneficial uses of surface water

The County of San Diego has been coordinating with the Borrego Water District to develop a Groundwater Sustainability Plan for the Borrego groundwater basin. The plan will include well metering and mandatory groundwater measurements, and will provide the roles and responsibilities of the Department of Water Resources and the State Water Resources Control Board.

San Diego Basin Plan Update

The San Diego Regional Board Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan: (1) designates beneficial uses for surface and ground waters; (2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State antidegradation policy; (3) describes implementation programs to protect the beneficial uses of all waters in the Region; and (4) describes surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan.

In 2016 the Basin Plan was updated and amendments included incorporating the California Water Regional Control Board On-site Wastewater Treatment Systems Policy; changing the nitrate water quality objective for groundwater, with exception of the Warner Valley Hydrologic Areas, to 45 mg/L nitrate; adding implementation provisions for the nitrate groundwater objective to protect surface water quality where groundwater and surface water are interconnected; and repealing Appendix D Conditions for Conditional Waivers of Waste Discharge Requirements and the corresponding concise summary of these Conditions for Conditional Waivers provided in Title 23 CCR Section 3989.

San Diego Regional Municipal Separate Storm Sewer Systems Permit

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) regulates discharges from Phase I municipal separate storm sewer systems (MS4s) in the San Diego Region under the Regional MS4 Permit. The Regional MS4 Permit covers 39 municipal, county government, and special district entities (referred to jointly as Co-permittees) located in San Diego County, southern Orange County, and southwestern Riverside County who own and operate large MS4s which discharge stormwater (wet weather) runoff and non-storm water (dry weather) runoff to surface waters throughout the San Diego Region. The Regional MS4 Permit, Order No. R9-2013-0001, was adopted on May 8, 2013 and covers the San Diego County Co-permittees. The 2013 permit is similar to previous iterations in that it identifies waste discharge requirements for urban runoff, although the focus is shifted from establishing minimum action levels to identifying the anticipated outcome of those actions, thereby allowing co-permittee efforts and resources to focus on achieving identified goals to improve water quality. In 2015, two orders were adopted (Order No. R9-2015-0001 and R9-2015-0100), amending the Regional MS4 Permit to extend coverage to Orange and Riverside County Co-permittees.

2.8.3 Analysis of Project Impacts and Determination of Significance

2.8.3.1 Issue 1: Water Quality Standards and Requirements

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines, and the County Guidelines for Determining Significance Surface Water Quality (DPLU 2007j), the Proposed Project would have a significant impact if it would violate any water quality standards, otherwise degrade water quality or violate any waste discharge requirements.

Impact Analysis

The 2011 PEIR determined that future development would result in potentially significant direct and indirect impacts related to water quality standards and requirements. The discussion of impacts related to water quality standards and requirements from implementation of the General Plan can be found in Section 2.8.3.1 of the 2011 PEIR, and is hereby incorporated by reference.

The following section evaluates the potential for the Proposed Project to violate any water quality standards or otherwise degrade water quality by examining potential surface water quality issues and groundwater quality issues within the PSR Analysis Areas and former CGSP Area. Waste discharge requirements associated with wastewater are addressed in Section 2.16 (Utilities and Service Systems) of this SEIR.

Surface Water Quality

Development of future land uses as identified in the Proposed Project would have the potential to contribute to a violation of water quality standards or degradation of surface water quality. The following discussion of impacts is organized into two subsections: (1) Impacts from Construction Activities, and (2) Impacts Following Construction.

Impacts from Construction Activities

The increased development densities in the PSR Analysis Areas and the former CGSP Area allowed under the Proposed Project would have the potential to result in substantial additional sources of polluted runoff, which would have short-term impacts on surface water quality through

activities such as demolition, clearing and grading, excavation of undocumented fill materials, stockpiling of soils and materials, concrete pouring, painting, and asphalt surfacing. Typically, construction activities involve various types of equipment such as dozers, scrapers, graders, loaders, compactors, dump trucks, cranes, water trucks, and concrete mixers. Additionally, soils are typically stockpiled, in addition to other construction materials that would be used later during construction. Pollutants associated with these construction activities that would substantially degrade water quality include soils, debris, other materials generated during demolition and clearing, fuels and other fluids associated with the equipment used for construction, paints, other hazardous materials, concrete slurries, and asphalt materials.

Pollutants associated with construction would degrade water quality if they are carried away by storm water or non-storm water into surface waters. Sediment is often the most common pollutant associated with construction sites because of the associated earth-moving activities and areas of exposed soil. Sediment that is carried off site can result in turbidity in surface waters, which can impact aquatic species. In addition, when sediment is deposited into a receiving water it can smother species, alter the substrate and habitat, and alter the drainage course. Hydrocarbons (e.g. fuels, asphalt materials, and oils) and hazardous materials (e.g. paints and concrete slurries) would potentially impact aquatic plants and animals downstream. Debris and trash would potentially be washed into existing storm drainage channels to downstream surface waters potentially impacting wildlife and aesthetic value.

Under the NPDES permit program, a Storm Water Pollution Prevention Plan (SWPPP) is prepared and the BMPs identified in the SWPPP are implemented for construction sites greater than one acre to reduce the occurrence of pollutants in surface water. In compliance with applicable construction permits, the development of future land uses as part of the Proposed Project would continue to implement BMPs that minimize disturbance, protect slopes, reduce erosion, and limit or prevent various pollutants from entering surface water runoff. While these measures help prevent degradation of water quality associated with construction sites greater than one acre, smaller construction activities would still have the potential to contribute pollutants such as soils, debris and other materials in quantities that would exceed water quality standards and otherwise significantly degrade water quality.

Impacts Following Construction

Equipment and hazardous materials associated with construction would be removed from construction sites after development of the proposed land uses is complete, which would reduce the potential for pollutants to be discharged. However, there are multiple constituents that have the potential to degrade surface water quality which are associated with land use operations after development is constructed. Land uses proposed within the PSR Analysis Areas and the former CGSP Area would increase urban runoff containing oil, grease, metals, pathogens, TDS, sediments, or toxic chemicals. For example, sediment discharge from streets and landscaped areas; nutrients from fertilizers; household hazardous waste that is improperly disposed of; heavy metals; organic compounds; trash and debris deposited in drain inlets by new residents; oil and grease; bacteria and viruses; and pesticides from landscaping, agriculture or home use. Generally, these constituents can be referred to as non-point source pollutants. Increased runoff from the development of future land uses as part of the Proposed Project would result in the contribution of non-point source pollution into surface and groundwater bodies. However, future projects would be required to incorporate Low Impact Development BMPs, where applicable and feasible, as a requirement of the NPDES permit. These BMPs would reduce the potential adverse environmental impacts associated with non-point source pollution.

The NPDES permit program, as authorized by the SDCWA, controls water pollution by regulating point sources that discharge pollutants into waters of the U.S. Point sources, which require an NPDES permit, are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use an existing septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. Implementation of the Proposed Project would continue to require NPDES permits for any future projects subject to this regulation. Additionally, processes developed by the SWRCB and the Regional Water Quality Control Board to improve water quality, such as stormwater permits for new development and construction, would continue to be required for land uses and development implemented under the Proposed Project.

Within both the incorporated and unincorporated County, over 70 water bodies do not meet water quality standards. Table 2.8-1 identifies the PSR Analysis Area WMAs that contain impaired water bodies as defined by the CWA 303(d) list. This table also shows the major pollutant/stressor for each impaired water body. Generally, pollutants of concern include elevated coliform bacteria levels, elevated levels of iron, manganese, phosphorus, nitrogen, total dissolved solids, and various other pollutants. Development associated with the Proposed Project would contribute both point and non-point source pollutants to surface water bodies within WMAs that are in violation of water quality requirements.

Groundwater Quality

The 2011 PEIR included a Groundwater Study (DLPU 2010c) to evaluate existing water quality conditions. The Groundwater Study evaluated the impacts that maximum buildout under the General Plan would have on groundwater. The PSR Analysis Areas and the former CGSP Area were within the scope of this study. The following discussion summarizes the results of the Groundwater Study in terms of the contaminants most likely to violate water quality standards. It should be noted that there is no water quality data available over a vast portion of the County; therefore, it is likely that there are additional areas within the unincorporated County, including the PSR Analysis Areas and the former CGSP Area, with groundwater quality problems that are currently unknown.

The 2011 PEIR Groundwater Study determined that implementation of the General Plan would result in potentially significant impacts to water quality from proposing land uses in groundwater dependent areas. PSR Analysis Areas that would be required to utilize groundwater resources to accommodate growth include those in the Desert (DS8 and DS24), Fallbrook (FB18 within PSR Analysis Area FB2+), Mountain Empire (ME26 and ME30A), and Pala-Pauma areas (PP30). The former CGSP Area would not rely on groundwater resources to serve water demands. Groundwater quality conditions in these areas are not currently contaminated and would potentially accommodate future growth associated with the Proposed Project; however, future growth would potentially lead to contamination due to the introduction of contaminants associated with increased population and increased impervious surface. Also, water quality impacts would occur as decreased water levels would induce flow of high salinity, poor quality connate water found in deeper formational materials of the aquifer. If continuing unabated, this would eventually necessitate the additional costly treatment of groundwater to make the water suitable as a drinking water supply.

Groundwater that has contaminants that exceed the federal and State primary maximum contamination levels is not considered potable. In addition, small lots on septic systems have the potential to contribute nitrates in quantities that degrade water quality and contribute to the continual degradation of existing water quality impacted areas. The majority of the PSR Analysis

Areas would use septic systems (on varying lot sizes) in the near future, due to a lack of access to sewer service.

All discretionary projects, including grading permits, are subject to review by the County for impacts to water quality. Storm Water Management Plans are prepared for essentially all actions associated with increases to impervious surfaces. Larger projects receive more in-depth analysis and have more stringent requirements pursuant to the Watershed Protection Ordinance. Projects that propose the use of groundwater must demonstrate a viable water supply that meets state standards. Samples must be analyzed for radionuclides, nitrates, and other contaminants depending on location. If applicable standards cannot be met, alternative sources or treatment is required. In addition, septic systems are reviewed by the Department of Environmental Health. Potential impacts to water quality from septic systems are addressed as part of this review and, if necessary, would also be addressed as part of the CEQA compliance for a specific project.

Future development allowed by the Proposed Project would contribute pollutants such as sediments, hydrocarbons, and paints in quantities that would otherwise significantly degrade surface water quality. It is also anticipated that non-point source pollutants, caused from the development of future land uses within the PSR Analysis Areas and former CGSP Area, would degrade surface water quality. Additionally, the County Groundwater Study determined there would be potentially significant impacts to water quality from proposing land uses in groundwater dependent areas that are currently experiencing groundwater contamination. Therefore, proposed land uses would have the potential to exacerbate existing groundwater quality impacts. **The Proposed Project would result in a potentially significant impact to water quality standards and requirements (Impact HY-1).**

Adoption of the Valley Center Community Plan Residential Policy 8 Revision would allow for additional minimum lot size flexibility for residential clustering only within SR-2 or SR-4 areas and only within the sewer service area; however, the adoption would not result in an increase in the number of allowed dwelling units. Therefore, implementation of Valley Center Community Plan Residential Policy 8 Revision would not result in an impact related to water quality standards and requirements.

2.8.3.2 Issue 2: Groundwater Supplies and Recharge

Based on Appendix G of the CEQA Guidelines, and the County Guidelines for Determining Significance Groundwater Resources (DPLU 2007g), the Proposed Project would have a significant impact if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Impact Analysis

The 2011 PEIR determined that future development would result in potentially significant direct and indirect impacts to groundwater supply and recharge. The discussion of impacts related groundwater supplies and recharge from implementation of the General Plan can be found in Section 2.8.3.2 of the 2011 PEIR, and is hereby incorporated by reference.

PSR Analysis Areas that would be required to utilize groundwater resources to accommodate increased development densities include the Desert (DS8 and DS24), Fallbrook (FB18 within PSR Analysis Area FB2+), Mountain Empire (ME26 and ME30A), and Pala-Pauma (PP30). The former

CGSP Area would not be required to utilize groundwater. Neither PSR Analysis Areas ME26 nor ME30A are located within a water service district; therefore, water service is not available and groundwater is the only option. PSR Analysis Areas DS8 and DS24 are within the Borrego Water District service area and that district is reliant on groundwater. A more detailed discussion of groundwater as it relates to Borrego Valley is provided below. In Fallbrook, FB18 (within PSR Analysis Area FB2+) is proposed for land use designation RL-20, and it is outside the SDCWA service area boundary but within the San Luis Rey Municipal Water District. The San Luis Rey District has neither water-related infrastructure nor access to local or imported water resources, as the District relies entirely on private wells. All 11 parcels in PP30 are located within the Pauma Municipal Water District. The Pauma District is a group of parcel owners that opted to provide their own water, either from on-site wells or other means. Currently, none of the parcels in PP30 have water service. Figure 2.8-2 shows areas with potential low well yields throughout the County.

The estimated increase in potential dwelling units and corresponding estimated potential population increase for the groundwater dependent areas are as follows: Desert (542 dwelling units and 1,171 people), Fallbrook (10 dwelling units and 29 people on six parcels in FB18), Mountain Empire (55 dwelling units and 155 people), and Pala-Pauma (122 dwelling units and 405 people). Imported water service is unlikely to be available for the foreseeable future within the areas identified above for a number of reasons, including (1) lack of infrastructure, (2) limited water resources, (3) cost of importing water, and (4) discretionary approvals needed to extend the SDCWA boundaries further to the east. The groundwater dependent PSR Analysis Areas, aside from the Desert Subregion discussed below, will result in an increase of 187 potential dwelling units, increasing the groundwater draw to a total of 93.5 acre feet per year. The demand is based on a required 0.5 acre feet per year per dwelling unit.

Analysis Areas ME26, ME30A, PP30, and the FB18 portion of Analysis Area FB2+ would be subject to minimum lot size restrictions of the County's Groundwater Ordinance, which supersede zoning minimum lot sizes, and are based on average annual precipitation. The ME26 Analysis Area is in an area of 18-21 inches of average annual precipitation, with a corresponding Groundwater Ordinance minimum lot size of 5 acres. This limitation would not be inconsistent with the allowed density associated with the SR-10 designation proposed. The ME30A Analysis Area is in an area of 15-18 inches of average annual precipitation, with a corresponding Groundwater Ordinance minimum lot size of 8 acres. The southern portion of ME30A is proposed for an SR-4 designation and the density associated with SR-4 is not feasible under this lot size limitation. The PP30 Analysis Area is in an area of 18-21 inches of average annual precipitation, with a corresponding Groundwater Ordinance minimum lot size of 5 acres. The eastern portion of PP30 is proposed for an SR-2 designation and the density associated with SR-2 is not feasible under this lot size limitation. The FB18 portion of the FB2+ Analysis Area is in an area of 15-18 inches of average annual precipitation, with a corresponding Groundwater Ordinance minimum lot size of 8 acres. This limitation would not be inconsistent with the allowed density associated with the RL-20 designation proposed for the FB18 portion.

The issues regarding access and utilization of groundwater in PSR Analysis Areas FB18 (within FB2+), ME26, ME30A, and PP30 would be potentially significant.

Borrego Valley

The USGS in cooperation with the Borrego Water District performed a groundwater study in 2015 to assess groundwater resources and assist in sustainable groundwater management of the Borrego Valley Groundwater Basin. As of January 2007, the 2011 PEIR determined there were approximately 3,725 existing, private unbuilt parcels in Borrego Valley. Of these, roughly 3,166 (85 percent) were estimated to have legal lot status; therefore, there are over 3,000 future

residential units without any further subdivision. The 2011 PEIR Groundwater Study indicated that the General Plan Referral Map would allow for additional growth of up to 8,689 residential dwelling units. The combination of legally buildable lots and General Plan maximum buildout, the current General Plan would allow for up to 11,855 residential dwelling units. The 2015 USGS Groundwater Study (USGS 2015) determined that recent groundwater demand has been near 19,000 acre feet per year. Each of the additional 11,855 dwelling units would require 0.5 acre feet per year for a cumulative demand of 5,927.5 acre feet per year. The implementation of the Proposed Project would result in an increased demand of 270.5 acre feet per year, based on the 541 potential dwelling unit increase. Based on estimated current groundwater demand and estimated groundwater recharge identified within the USGS Groundwater Study, Borrego Springs would have to reduce the amount of groundwater use by at least 70 percent to be sustainable, not including the increased demand that would result from the Proposed Project. This number would be evaluated and refined as part of the development of the Groundwater Sustainability Plan required under the Sustainable Groundwater Management Act.

Through the County Groundwater Ordinance and CEQA Groundwater Guidelines projects are currently reviewed on a case-by-case basis when proposing to use groundwater. Pump tests and modeling are typically required to demonstrate a viable water supply. Based on the information from the 2015 USGS Groundwater Study, groundwater use reductions are anticipated to be significant and may necessitate reconsideration of the land use designations within Borrego Springs to properly align land use designations with reduced development potential given the anticipated groundwater use restrictions under the Sustainable Groundwater Management Act.

Future development of land uses consistent with the Proposed Project would increase groundwater demand and exacerbate the present unsustainable use of groundwater resources. **Therefore, the Proposed Project would result in a potentially significant impact to groundwater supplies and recharge (Impact HY-2)**.

Adoption of the Valley Center Community Plan Residential Policy 8 Revision would allow for additional minimum lot size flexibility for residential clustering only within SR-2 or SR-4 areas and only within the sewer service area; however, the adoption would not result in an increase in the number of allowed dwelling units. Therefore, implementation of Valley Center Community Plan Residential Policy 8 Revision would not result in an impact related to groundwater supplies and recharge.

2.8.3.3 Issue 3: Erosion or Siltation

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and the County Guidelines for Determining Significance for Groundwater Resources, Surface Water Quality and Hydrology, the Proposed Project would have a significant impact if it would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site.

Impact Analysis

The 2011 PEIR determined that future development would result in potentially significant direct and indirect impacts related to erosion or siltation. The discussion of impacts related to erosion or siltation from implementation of the General Plan can be found in Section 2.8.3.3 of the 2011 PEIR, and is hereby incorporated by reference.

The following section describes the potential impacts that would indirectly result from activities that would potentially alter the existing drainage pattern of a site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site. The Proposed Project does not directly propose development within any PSR Analysis Areas or former CGSP Area; however, the Proposed Project involves proposed increases in development potential.

Impacts from Construction Activities

Areas proposed for commercial or industrial designations on all or a portion of the PSR Analysis Areas include SD15 (General Commercial - portion), VC67 (Medium Impact Industrial - portion), and former CGSP Subareas CG6 and CG8 (Rural Commercial - portion of both Subareas). Land-disturbing construction activities, such as the grading and excavation of land for construction of new building foundations, roads, driveways, and trenches for utilities, have the potential to result in localized temporary or permanent alteration of drainage patterns, or hydromodification. Hydromodification refers to changes in the magnitude and frequency of stream flows as a result of urbanization, and the resulting impacts on the receiving channels in terms of erosion, sedimentation, and degradation of in-stream habitat. This can lead to indirect effects on communities and sensitive biological resources downstream in the watershed, including the deposition of pollutants and sediment to the watershed outlets; an increase in polluted runoff to surface and groundwater receiving bodies, and an increase in the flood potential downstream.

New construction and development in the PSR Analysis Areas and the former CGSP Area would continue to implement the NPDES permit program, which requires a SWPPP to be prepared and BMPs to be identified for construction sites greater than one acre. All land disturbance activities would be subject to the discharge prohibitions and additional requirements stated in the County Watershed Protection Ordinance. Additionally, the MS4 permit, required by NPDES, requires the development of a hydromodification management plan. Pursuant to California Regional Water Quality Control Board Order 2007-0001, provision D.1.g, hydromodification management plans shall be prepared with the purpose of managing increases in runoff discharge rates and durations from specific projects, where such increased rates and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force. Additional existing regulations include but are not limited to the following: NPDES, which regulates point source and nonpoint source discharges to surface waters of the U.S.; the County Grading, Clearing and Watercourses Ordinance, which requires work to be conducted in such a manner as to protect against both short-term and long-term erosion and instability; Watershed Protection Ordinance, which protects water resources and improves water quality; and Low Impact Development, which establishes storm water management techniques. As a result of these requirements, discretionary projects are reviewed for hydrology similar to reviews for stormwater quality. Regulations require site design to account for hydrology and drainage studies for projects with significant increases in impervious surfaces. Projects are discouraged from diverting or increasing flows that cross a site. Larger projects (those with 50 acres of disturbance or greater) are subject to hydromodification requirements and must develop a project-level hydromodification management plan. Adherence to existing regulations at the federal, State, and local level would reduce erosion by minimizing site disturbance and controlling internal construction erosion

Impacts Following Construction

The Proposed Project involves proposed increases in development potential, including more buildings, roadways, landscaping, and other features within the PSR Analysis Areas and former CGSP Area that would be anticipated to result in permanent alterations to existing drainage

patterns by converting pervious surfaces to impervious surfaces. Allowing the permanent development of impervious surfaces within the PSR Analysis Areas and former CGSP Area would increase runoff and potentially result in new erosion problems or the worsening of existing erosion problems. **Future development consistent with the land uses designated by the Proposed Project would result in alterations to existing drainage patterns in a manner that would result in substantial erosion or siltation on and off site. Therefore, impacts following construction would be potentially significant (Impact HY-3)**.

Adoption of the Valley Center Community Plan Residential Policy 8 Revision would allow for additional minimum lot size flexibility for residential clustering only within SR-2 or SR-4 areas and only within the sewer service area; however, the adoption would not result in an increase in the number of allowed dwelling units. Therefore, implementation of Valley Center Community Plan Residential Policy 8 Revision would not result in an impact related to erosion or siltation.

2.8.3.4 Issue 4: Flooding

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines, and the County Guidelines for Determining Significance Hydrology, the Proposed Project would have a significant impact if it would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.

Impact Analysis

The 2011 PEIR determined that future development would result in potentially significant direct and indirect impacts related to flooding. The discussion of impacts related to flooding from implementation of the General Plan can be found in Section 2.8.3.4 of the 2011 PEIR, and is hereby incorporated by reference.

The following section describes the potential impacts that would indirectly result from activities that would potentially alter the existing drainage pattern of a site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site. The Proposed Project does not directly propose development within any of the PSR Analysis Areas or former CGSP Area; however, it would increase development potential.

Impacts from Construction Activities

Land-disturbing construction activities associated with the development of future land uses allowable under the Proposed Project, such as grading and excavation, construction of new building foundations, roads, driveways, and trenches for utilities, would have the potential to result in the localized alteration of drainage patterns. Temporary ponding and/or flooding would result from such activities, from temporary alterations of the drainage system (reducing its capacity of carrying runoff), or from the temporary creation of a sump condition due to grading.

Under the NPDES permit program, a SWPPP is prepared and identified BMPs are implemented for construction sites greater than one acre which reduce the likelihood of alterations in drainage to result in these impacts. In compliance with applicable construction permits, the development of future land uses allowed under the Proposed Project would implement BMPs, such as the following:

- **Minimizing disturbed areas.** Clearing of land is limited to that which will be actively under construction in the near term, new land disturbance during the rainy season is minimized, and disturbance to sensitive areas or areas that would not be affected by construction is minimized.
- **Stabilizing disturbed areas.** Temporary stabilization of disturbed soils is provided whenever active construction is not occurring on a portion of the site, and permanent stabilization is provided by finish grading and permanent landscaping.
- **Protecting slopes and channels.** Outside of the approved grading plan area, disturbance of natural channels is avoided, slopes and crossings are stabilized, and increases in runoff velocity caused by the project is managed to avoid erosion to slopes and channels.
- **Controlling the site perimeter.** Upstream runoff is diverted around or safely conveyed through the project and is kept free of excessive sediment and other constituents.
- **Controlling internal erosion.** Sediment-laden waters from disturbed, active areas within the site are detained.

Implementation of appropriate BMPs, as part of compliance with construction permits for construction sites greater than one acre, would reduce the potential for the development of future land uses as part of the Proposed Project to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in flooding on or off site.

Impacts Following Construction

The development of future land uses allowed under the Proposed Project would convert permeable surfaces to impermeable surfaces, such as residences and roadways. An increase in impermeable surfaces may substantially alter the existing drainage pattern of a site or area by increasing the amount and rate of surface runoff in a manner which would have the potential to result in flooding off site. Additionally, impermeable surfaces and development would potentially create a diversion from the natural runoff pattern in a manner that would have the potential to result in flooding. In undeveloped areas, rainfall collects and is stored on vegetation, in the soil column, or in surface depressions. When this storage capacity is filled, runoff flows slowly through the soil as subsurface flow. In contrast, developed areas, where much of the land surface is covered by roads and buildings, have less capacity to store rainfall. Impermeable surfaces such as roads, roofs, parking lots, and sidewalks store little water, reduce infiltration of water into the ground, and accelerate runoff to ditches and streams. Even in suburban areas, where lawns and other permeable landscaping would be common, rainfall can saturate thin soils and produce overland flow, which runs off quickly. As a result of accelerated runoff from development or construction activities, the peak discharge, volume, and frequency of floods would increase in nearby streams (Konrad 2003).

Federal and State regulations exist that reduce the potential for on-site or off-site flooding from drainage pattern alteration. These include but are not limited to the following: National Flood Insurance Act, which establishes flood-risk zones within floodplain areas; National Flood Insurance Reform Act, which reduces the risk of flood damage to properties; Cobey-Alquist Floodplain Management Act, which protects people and property from flooding hazards; County BOS Policy I-45, which identifies procedures to use when proposed projects impact floodways; County Flood Damage Prevention Ordinance, which regulates development within all areas of special flood hazards and areas of flood-related erosion hazards, and establishes policies that minimize public and private losses due to flood conditions; the County Grading, Clearing and

Watercourses Ordinance, which prohibits work within watercourses that would result in flood hazards; and RPO, which prohibits development of permanent structures for human habitation in a floodway. As discussed above in Section 2.8.3.3 for Issue 3, these and other regulations result in a substantial amount of review by the County on the hydrologic impacts of proposed projects. Through these reviews, studies are performed and design changes or mitigation is required when necessary.

The development of the PSR Analysis Areas and the former CGSP Area would have the potential to result in substantial alteration of existing drainage patterns and increase the rate or amount of surface runoff as a result of an overall estimated increase of 1,826 potential dwelling units, in addition to areas that are proposed for commercial and industrial designations as discussed above. The disturbance is anticipated to be significant as nearly all of the PSR Analysis Areas and former CGSP Areas are undeveloped. **Future development consistent with the land uses designated by the Proposed Project would increase impermeable surfaces, such as roofs, concrete, and asphalt; which would alter existing drainage patterns and potentially increase the level of peak flood flows through reduced infiltration. Therefore, the Proposed Project would result in a potentially significant impact (Impact HY-4)**.

Adoption of the Valley Center Community Plan Residential Policy 8 Revision would allow for additional minimum lot size flexibility for residential clustering only within SR-2 or SR-4 areas and only within the sewer service area; however, the adoption would not result in an increase in the number of allowed dwelling units. Therefore, implementation of Valley Center Community Plan Residential Policy 8 Revision would not result in an impact related to flooding.

2.8.3.5 Issue 5: Exceed Capacity of Storm Water Systems

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact if it would 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.

Impact Analysis

The 2011 PEIR determined that future development would result in potentially significant direct and indirect impacts related to stormwater systems. The discussion of impacts related to stormwater systems from implementation of the General Plan can be found in Section 2.8.3.5 of the 2011 PEIR, and is hereby incorporated by reference.

Drainage facilities including storm drains, culverts, inlets, channels, curbs, roads, or other such structures are designed to prevent flooding by collecting stormwater runoff and directing flows to either the natural drainage course and/or away from urban development. If drainage facilities are not adequately designed, built, or properly maintained, the capacity of the existing facilities can be exceeded resulting in flooding and increased sources of polluted runoff.

Land disturbing construction activities associated with development allowed under the Proposed Project, such as grading and excavation of project sites, and construction of new building foundations, roads, driveways, and trenches for utilities would result in the localized alteration of drainage patterns. These alterations would have the potential to result in temporarily exceeding the capacity of storm water facilities if substantial drainage is rerouted. Under the NPDES permit program, construction activities on sites larger than one acre, would require a SWPPP and identified BMPs to reduce the likelihood that existing stormwater facilities would be exceeded.

Additionally, all ground disturbing activities, allowable under the Proposed Project land uses, would be required to comply with the Watershed Protection Ordinance.

Implementation of the Proposed Project would allow increased development densities that would have the potential to increase the amount of impermeable surfaces within the PSR Analysis Areas and the former CGSP Area and potentially result in an excess of polluted runoff that would exceed the capacity of existing drainage facilities. Stormwater discharges are generated by precipitation and runoff from land, pavement, building rooftops, and other surfaces. Stormwater runoff accumulates pollutants, such as oil and grease, chemicals, nutrients, metals, and bacteria, as it travels across land. Residential, commercial, and industrial land uses allowed under the Proposed Project would increase the amount of impermeable surfaces within the PSR Analysis Areas and the former CGSP Area from the development of building rooftops, pedestrian paths and sidewalks, roads, and driveways associated with these land uses. Generally, higher density/intensity land uses, as is proposed within all PSR Analysis Areas and the former CGSP Area, when compared with lower density land uses, are attributable to higher concentrations of impermeable surfaces. Substantial increased runoff volumes would have the potential to overload existing drainage facilities and increase flows and velocity which would potentially result in flooding, increased erosion, and impacts to downstream receiving waters and habitat integrity.

In most cases, future development of land uses as part of the Proposed Project would incorporate swales, ditches, and storm drains where appropriate to convey runoff. Regulations that apply to this issue are the same as those discussed above in Section 2.8.3.1 for Issue 1, Section 2.8.3.3 for Issue 3, and Section 2.8.3.4 for Issue 4. In some cases, detention facilities would be proposed to attenuate post-development flows; however, if drainage facilities are not adequately designed, built, or properly maintained, existing stormwater facilities would potentially overflow or fail. **The Proposed Project would result in a potentially significant impact associated with capacity of stormwater systems (Impact HY-5)**.

Adoption of the Valley Center Community Plan Residential Policy 8 Revision would allow for additional minimum lot size flexibility for residential clustering only within SR-2 or SR-4 areas and only within the sewer service area; however, the adoption would not result in an increase in the number of allowed dwelling units. Therefore, implementation of Valley Center Community Plan Residential Policy 8 Revision would not result in an impact related to capacity of storm drainage systems.

2.8.3.6 Issue 6: Housing within a 100-year Flood Hazard Area

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact if it would place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

Impact Analysis

The 2011 PEIR determined that future development would result in potentially significant direct and indirect impacts related to housing within a 100-year flood hazard area. The discussion of impacts related to housing within a 100-year flood hazard area from implementation of the General Plan can be found in Section 2.8.3.6 of the 2011 PEIR, and is hereby incorporated by reference.

Flooding can inundate and cause water damage to structures, bury structures, knock them off their foundations, or completely destroy them by the impact of high velocity water and debris,

which can include sizable boulders. Impacts resulting from flooding include the loss of life and/or property; health and safety hazards; disruption of commerce, water, power, and telecommunications services; loss of agricultural lands; and infrastructure damage and flood relief.

Federal, State and local regulations exist that would reduce impacts related to the placement of housing within a 100-year flood hazard area. These include but are not limited to the following: National Flood Insurance Act, which establishes flood-risk zones within floodplain areas; National Flood Insurance Reform Act, which reduces the risk of flood damage to properties; Cobey-Alquist Floodplain Management Act, which protects people and property from flooding hazards; County BOS Policy I-45, which identifies procedures to use when proposed projects impact floodways; County Flood Damage Prevention Ordinance, which regulates development within all areas of special flood hazards and areas of flood-related erosion hazards and establishes policies that minimize public and private losses due to flood conditions; the County Grading, Clearing and Watercourses Ordinance, which requires the lowest floor of structures to be elevated to or above the level of the 100-year flood; County Subdivision Ordinance, which requires mapping and drainage easements to avoid certain drainages; and RPO, which prohibits development of permanent structures for human habitation in a floodway. As a result of these regulations, development within floodplains and development that would have the potential to adversely affect flooding hazards are highly regulated and addressed at all levels of the County development review process.

Table 2.8-2 and Table 2.8-5 identify acreages of the PSR Analysis Areas and the former CGSP Area, including acreages within a 100-year Federal Emergency Management Agency (FEMA) floodway and floodplain, respectively. Table 2.8-3 and Table 2.8-4 identify acreages of the PSR Analysis Areas and the former CGSP Area, including acreages within a County 100-year floodway and floodplain, respectively. It should be noted that floodways are located entirely within a delineated floodplain; this is shown in Figure 2.8-3 through Figure 2.8-6. The PSR Analysis Areas within a 100-year FEMA floodplain include DS8 (169 acres), DS24 (110 acres), FB2+ (29 acres), NC38+ (19 acres), PP30 (145 acres), VC57+ (163 acres), VC67 (14 acres), and former CGSP Subareas CG2, CG3, CG4, and CG5 (21 acres). The PSR Analysis Areas within a 100-year County floodplain include FB2+ (26 acres), ME30A (91 acres), PP30 (143 acres), VC57+ (143 acres), VC67 (14 acres), and former CGSP Subareas CG2, CG3, CG4, CG5, CG6, and CG7 (24 acres). PSR Analysis Areas ME30A and PP30 do not propose any land use changes for the areas located within a FEMA or County delineated floodplain, and PSR Analysis Area VC67 is proposed for Medium Impact Industrial; therefore, PSR Analysis Areas ME30A, PP30, and VC67 would not result in an impact regarding increased housing within a 100-year floodplain. PSR Analysis Areas DS8, DS24, FB2+, NC38+, VC57+ and former CGSP Subareas CG2, CG3, CG4, and CG5 propose approximately 511 acres of village residential, semi-rural, and rural land uses that would potentially experience increased land use intensity within a FEMA 100-year floodplain as a result of the Proposed Project. Additionally, PSR Analysis Areas and former CGSP Subareas FB2+, VC57+, CG2, CG3, CG4, CG5, CG6, and CG7 propose approximately 193 acres of semi-rural and rural land uses that would potentially experience increased land use intensity within a County 100-year floodplain as a result of the Proposed Project. Increased development of residential land uses in the floodplain would reduce the County's ability to respond to floodplain issues and result in a greater potential for conflicts with flooding hazards. **The Proposed Project would result in a potentially significant impact associated with housing located within a 100-year flood hazard area (Impact HY-6)**.

Adoption of the Valley Center Community Plan Residential Policy 8 Revision would allow for additional minimum lot size flexibility for residential clustering only within SR-2 or SR-4 areas and only within the sewer service area; however, the adoption would not result in an increase in the

number of allowed dwelling units. Therefore, implementation of Valley Center Community Plan Residential Policy 8 Revision would not result in an impact related to housing within a 100-year floodplain.

2.8.3.7 Issue 7: Impeding or Redirecting Flood Flows

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact if it would place within a 100-year flood hazard area structures which would impede or redirect flood flows.

Impact Analysis

The 2011 PEIR determined that future development would result in potentially significant direct and indirect impacts related to impeding or redirecting flood flows. The discussion of impacts related to impeding or redirecting flood flows from implementation of the General Plan can be found in Section 2.8.3.7 of the 2011 PEIR, and is hereby incorporated by reference. Regulations that apply to this issue are the same as those discussed above in Section 2.8.3.6 for Issue 6. Development along stream channels and floodplains can alter the capacity of a channel to convey water and can increase the height of the water surface corresponding to a given discharge. Structures that encroach on a floodplain, such as bridges, can increase upstream flooding by narrowing the width of the channel and increasing the channel resistance to flow, resulting in the water being at a higher level as it flows past the obstruction, creating a backwater that would inundate a larger area upstream.

If structures were proposed in the 100-year floodway or floodplain, they would have the potential to impede or redirect flood flows. Table 2.8-2 through Table 2.8-5 identify proposed land uses that would occur within a 100-year FEMA or County floodplain. Approximately 669 acres within PSR Analysis Areas DS8, DS24, FB2+, NC38+, PP30, VC57+, VC67, and former CGSP Subareas CG2, CG3, CG4, and CG5 fall within a FEMA 100-year floodplain, and approximately 440 acres within PSR Analysis Areas FB2+, ME30A, PP30, VC57+, VC67, and former CGSP Subareas CG2, CG3, CG4, CG5, CG6, and CG7 fall within a County 100-year floodplain. As noted above, PSR Analysis Areas ME30A and PP30 do not propose any land use changes for the areas located within a FEMA or County floodplain; therefore, PSR Analysis Areas ME30A and PP30 would not result in an impact regarding impeding or redirecting flood flows. However, the proposed land uses for PSR Analysis Areas DS8, DS24, FB2+, NC38+, PP30, VC57+, VC67, and former CGSP Subareas CG2, CG3, CG4, CG5, CG6, and CG7 have the potential to contain structures that would impede or redirect flood flows. **The Proposed Project would result in a potentially significant impact associated with structures which would impede flood flows (Impact HY-7)**.

Adoption of the Valley Center Community Plan Residential Policy 8 Revision would allow for additional minimum lot size flexibility for residential clustering only within SR-2 or SR-4 areas and only within the sewer service area; however, the adoption would not result in an increase in the number of allowed dwelling units. Therefore, implementation of Valley Center Community Plan Residential Policy 8 Revision would not result in an impact related to impeding or redirecting flood flows.

2.8.3.8 Issue 8: Dam Inundation and Flood Hazards

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact if it would expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding because of the failure of a levee or dam.

Impact Analysis

The 2011 PEIR determined that future development would result in potentially significant direct and indirect impacts related to dam inundation and flood hazards. The discussion of impacts related to dam inundation and flood hazards from implementation of the General Plan can be found in Section 2.8.3.8 of the 2011 PEIR, and is hereby incorporated by reference. Certain land uses proposed for the PSR Analysis Areas and the former CGSP Area have a higher risk of exposing people or structures to flooding hazards associated with the failure of a levee or dam because they allow for higher density development. To present a hazard, land uses must be in an area subject to flooding or levee/dam inundation. As identified in Table 2.8-6, Henshaw Dam would pose a risk to the PSR Analysis Areas FB2+ and PP30. None of the other PSR Analysis Areas or the former CGSP Area are at risk of dam inundation.

The Proposed Project would designate approximately 241 acres of semi-rural and rural lands in PSR Analysis Areas FB2+ and PP30 within the Henshaw Dam inundation risk area. The proposed land use densities in the dam inundation area for FB2+ is one dwelling unit per 20 acres (RL-20), and for PP30 is one dwelling unit per 2 acres (SR-2) and one dwelling unit per 40 acres (RL-40). While PSR Analysis Area PP30 has 215 acres of land within the Henshaw Dam inundation zone, the majority of the land proposed for SR-2 designation is located outside of the dam inundation zone. Residences or other structures for human habitation placed in one of these dam inundation zones would potentially cause adverse effects related to the implementation of the Henshaw Dam Evacuation Plan and the Multi-Jurisdictional Hazard Mitigation Plan.

Regulations that apply to flooding are the same as those discussed above in Section 2.8.3.6 for Issue 6. In contrast to flood hazards, few regulations exist for dam inundation areas. The County maintains maps of dam inundation areas and reviews discretionary projects against them. Through compliance with CEQA, projects are reviewed for their consistency with the Office of Emergency Services policies related to dam inundation areas. These policies discourage uses such as group care, hospitals, schools, and similar uses, that would have the potential to impair evacuation efforts should the need arise. If another suitable site cannot be found for these uses, it is possible that impacts can be mitigated through a site-specific evacuation plan.

The development of future land uses in PSR Analysis Areas FB2+ and PP30 as allowed under the Proposed Project would result in the potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding because of a levee or dam failure, or by placing persons or housing in areas subject to flooding risks. **The Proposed Project would result in potentially significant impacts associated with dam inundation and flood hazards (Impact HY-8)**.

Adoption of the Valley Center Community Plan Residential Policy 8 Revision would allow for additional minimum lot size flexibility for residential clustering only within SR-2 or SR-4 areas and only within the sewer service area; however, the adoption would not result in an increase in the number of allowed dwelling units. Therefore, implementation of Valley Center Community Plan Residential Policy 8 Revision would not result in an impact related to dam inundation and flood hazards.

2.8.3.9 Issue 9: Seiche, Tsunami and Mudflow Hazards

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact if it would expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow.

Impact Analysis

The 2011 PEIR determined that future development would result in potentially significant direct and indirect impacts related to seiche, tsunami, or mudflow hazard. The discussion of impacts related to seiche, tsunami, or mudflow hazards from implementation of the General Plan can be found in Section 2.8.3.9 of the 2011 PEIR, and is hereby incorporated by reference.

Mudflows

Debris flows, also known as mudflows, are shallow water-saturated landslides that travel rapidly down slopes carrying rocks, brush, and other debris. Mudflows are the most common disaster in San Diego. A mudflow occurs naturally as a result of heavy rainfall on a slope that contains loose soil or debris. There is a high potential for mudflows to occur in some areas of the unincorporated County as a result of large amounts of precipitation in a relatively small time frame. The PSR Analysis Areas and former CGSP Subareas that contain and/or are surrounded by steep slopes, or mountainous areas include BO18+, CD14, FB2+, FB17, FB19+, FB21+, ME26, ME30A, NC3A, NC18A, NC22, NC37, PP30, SD15, VC7+, VC51, VC57+, and former CGSP Subareas CG1, CG3, CG4, CG5, and CG6. These areas would potentially be subject to mudflows in the event of large amounts of precipitation. Additionally, many areas near PSR Analysis Areas and the former CGSP Area have high wildland fire susceptibility and are subsequently susceptible to flash floods and debris flows during rainstorms. **The Proposed Project would result in a potentially significant impact associated with mudflow hazards (Impact HY-9)**.

Seiche

A seiche is a standing wave in a completely or partially enclosed body of water. Areas located along the shoreline of a lake or reservoir are susceptible to inundation by a seiche. High winds, seismic activity, or changes in atmospheric pressure are typical causes of seiches. The size of a seiche and the affected inundation area is dependent on different factors including size and depth of the water body, elevation, source, and if human made, the structural condition of the body of water in which the seiche occurs.

In the unincorporated County semi-arid climate, naturally occurring enclosed water bodies are not common. Instead most enclosed water bodies are reservoirs built by local municipalities and water districts to provide water service to local residents and businesses. Typically, all land around the reservoirs' shorelines are in public holdings, such as the City of San Diego or Helix Water District, restrict private land development and minimize risk of inundation from seiches. The PSR Analysis Areas and the former CGSP Area are not susceptible to a seiche; therefore, no impact would occur.

Tsunami

A tsunami is a very large ocean wave caused by an underwater earthquake or volcanic eruption. Tsunamis can cause flooding to coastlines and inland areas less than 50 feet above sea level and within one mile of the shoreline. All PSR Analysis Areas and the former CGSP Area are

located more than one mile inland and are not susceptible to inundation or flooding due to a tsunami; therefore, no impact would occur.

Adoption of the Valley Center Community Plan Residential Policy 8 Revision would allow for additional minimum lot size flexibility for residential clustering only within SR-2 or SR-4 areas and only within the sewer service area; however, the adoption would not result in an increase in the number of allowed dwelling units. Therefore, implementation of Valley Center Community Plan Residential Policy 8 Revision would not result in an impact related to seiche, tsunami, or mudflow hazards.

2.8.4 Cumulative Impacts

The geographic scope of cumulative impact analysis for hydrology and water quality includes drainage basins, watersheds, water bodies or groundwater basins within the Proposed Project areas. Section 1.11 (Cumulative Project Assessment Overview) of this SEIR provides an update of new projects since the adoption of the General Plan that are considered in this cumulative analysis.

2.8.4.1 Issue 1: Water Quality Standards and Requirements

Construction and development associated with cumulative regional land use projects, such as those identified in adjacent city and county general plans and regional transportation plans, would contribute both point and non-point source pollutants to downstream receiving waters that have the potential to violate water quality standards. Development and construction proposed under most cumulative projects would be subject to regulations that require compliance with water quality standards, including the SDCWA, Porter-Cologne Water Quality Control Act, NPDES, applicable basin plans, and local regulations. While cumulative projects would be expected to follow the regulations listed above, when combined, they would still have the potential to result in a significant cumulative water quality impact. Therefore, **a significant cumulative impact to water quality standards would occur from proposed cumulative projects**.

As discussed above, the Proposed Project would contribute both non-point and point source pollutants in quantities that have the potential to violate water quality standards or waste discharge requirements. **Therefore, the Proposed Project, in combination with cumulative projects, would have the potential to result in a significant cumulative impact associated with water quality standards and requirements (Impact HY-10)**.

2.8.4.2 Issue 2: Groundwater Supplies and Recharge

Groundwater basins typically serve localized areas and, therefore, any cumulative impacts would generally be localized. The area of cumulative analysis for groundwater supplies and recharge includes the groundwater dependent areas of the unincorporated County and the immediately adjacent jurisdictional areas that share groundwater basins with County areas. Due to the rural nature of land uses throughout the unincorporated County, potential groundwater impacts would be potentially significant. For example, the Inland Land Development project, which proposes to develop 331 dwelling units in the Desert Subregion where PSR Analysis Areas DS8 and DS24 are located, would contribute to groundwater supply and recharge impacts. Cumulative projects, such as those listed in Tables 1-10 to 1-14, occurring in areas that rely on groundwater (Desert Subregion, areas of Fallbrook CPA, Mountain Empire Subregion, and Pala-Pauma Subregion) would be required to utilize groundwater to accommodate any potential growth. Therefore, **a**

significant cumulative impact to groundwater supplies and recharge would occur from proposed cumulative projects.

The impacts evaluated in Section 2.8.3.2 are cumulative in nature because they represent the combined influence of numerous past, present, and future users of the groundwater aquifers. **Therefore, the Proposed Project, in combination with cumulative projects, would contribute to a significant cumulative impact associated with groundwater supplies and recharge (Impact HY-11)**.

2.8.4.3 Issue 3: Erosion or Siltation

Cumulative projects identified in this analysis would result in multiple developments that would potentially alter existing drainage patterns in a manner that would result in substantial erosion or siltation. It is reasonably foreseeable that some cumulative projects would occur simultaneously, which would compound the impacts of erosion and siltation and therefore create a significant cumulative impact. Cumulative projects, such as regional transportation projects, development consistent with general plans, and tribal developments would be expected to increase impervious surfaces within the region and, therefore, increase the potential for runoff to occur that would lead to erosion and siltation impacts. While cumulative projects would be expected to follow regulations, such as NPDES or others as applicable, when combined, they would still have the potential to result in a significant cumulative erosion and siltation impact. Therefore, **a significant cumulative impact to erosion or siltation would occur from proposed cumulative projects**.

As discussed above, implementation of the Proposed Project has the potential to result in new erosion or worsen existing erosion problems. **Therefore, the Proposed Project, in combination with the identified cumulative projects, would have the potential to result in a significant cumulative impact associated with erosion or siltation (Impact HY-12)**.

2.8.4.4 Issue 4: Flooding

Cumulative projects would result in land uses and development that would convert permeable surfaces to impermeable surfaces, such as through the construction of buildings, parking lots, and roadways. New development proposed under cumulative projects would have the potential to alter existing drainage patterns, increase the amount of runoff and potentially increase flooding in the San Diego region. Cumulative projects that disturb land would be subject to regulations that reduce the potential for existing drainages to be altered in such a way which would result in flooding on or off site. Under the NPDES permit program, a SWPPP is prepared and identified BMPs are implemented for construction sites greater than one acre which reduce the likelihood of alterations in drainage to result in these impacts. Therefore, the cumulative impact to flooding would not occur from the proposed cumulative projects.

As discussed above, the Proposed Project includes land use designations that would have the potential to increase the amount and rate of surface runoff in a manner which has the potential to result in flooding on or off site. However, the Proposed Project, in combination with the identified cumulative projects, would not result in a significant cumulative impact associated with changes in drainage patterns that would result in on or offsite flooding.

2.8.4.5 Issue 5: Exceed Capacity of Storm Water Systems

Many of the cumulative projects included in this analysis are proposed to accommodate the expected population growth within the region. Impermeable surfaces, constructed under

implementation of these cumulative projects, would have the potential to contribute substantial quantities of runoff which would exceed the capacity of existing stormwater drainage systems, while contributing to substantial additional sources of polluted runoff. However, a cumulative project that would exceed the capacity of a stormwater system would be unlikely to contribute to a cumulative impact, because the area of exposure would be limited to the immediate surrounding area. Additionally, the majority of cumulative projects would be subject to CEQA and/or NEPA review, and local regulations that require development to construct or retrofit storm water drainage systems so that they would not cause flooding; therefore, a significant cumulative impact would not occur.

As discussed above, the Proposed Project would have the potential to contribute substantial quantities of runoff which would exceed the capacity of existing stormwater systems; however, the Proposed Project would not contribute to a significant cumulative impact associated with the capacity of stormwater systems.

2.8.4.6 Issue 6: Housing within a 100-year Flood Hazard Area

Cumulative projects, such as those proposed in adjacent jurisdictions and county general plans, would potentially place housing within a 100-year flood hazard area. For example, the Mesquite Trails Ranch Project located in the Desert Subregion, where PSR Analysis Areas DS8 and DS24 are located, proposes 480 dwelling units within the 100-year floodplain of Coyote Creek. However, most cumulative projects in California would be required to conform with applicable regulations, such as the National Flood Insurance Act, National Flood Insurance Reform Act, and Cobey-Alquist Floodplain Management Act. Due to existing regulations, a cumulative impact would not occur; therefore, the Proposed Project, in combination with the identified cumulative projects, would not result in a significant cumulative impact associated with housing within a flood hazard area.

2.8.4.7 Issue 7: Impeding or Redirecting Flood Flows

Cumulative projects included in this analysis have the potential to place residential land uses, commercial land uses, industrial land uses and various other land uses, with the potential to contain structures, within a FEMA or County 100-year floodplain. Placing structures within a 100-year floodplain would impede or redirect flood flows, thereby causing a significant impact. However, it is expected that most cumulative projects in California would be required to comply with applicable regulations, such as the National Flood Insurance Act, National Flood Insurance Reform Act, and Cobey-Alquist Floodplain Management. Therefore, it is expected that through implementation of required regulations, a cumulative impact would not occur. The Proposed Project, in combination with the identified cumulative projects, would not result in a significant cumulative impact associated with impeding or redirecting flood flows.

2.8.4.8 Issue 8: Dam Inundation and Flood Hazards

It is reasonably foreseeable that cumulative projects would place housing or structures within dam inundation areas, thereby increasing the potential for a significant risk of loss, injury or death involving flooding. However, multiple regulations exist, such as the National Flood Insurance Act, National Flood Insurance Reform Act, Cobey-Alquist Floodplain Management Act, and local regulations, that would be expected to mitigate any potential impacts to a level below significant; therefore, a cumulative impact would not occur. The Proposed Project, in combination with the identified cumulative projects, would not contribute to a significant cumulative impact associated with dam inundation and flood hazards.

2.8.4.9 Issue 9: Seiche, Tsunami and Mudflow Hazards

Cumulative projects in surrounding jurisdictions on the coast have the potential to expose people or structures to loss, injury or death involving inundation of a tsunami, due to the inherent risk involved with coastal development. Additionally, cumulative projects would be located in the vicinity of natural water bodies that have the potential to be affected by a seiche, thereby exposing people and structures to flooding from this natural disaster. Mudflows would also potentially affect cumulative projects, especially in surrounding jurisdictions that have been affected by the extreme wildfire events in the recent past. Many of cumulative projects would be subject to CEQA and/or NEPA review, in addition to compliance with applicable regulations such as the National Flood Insurance Act, National Flood Insurance Reform Act, Cobey-Alquist Floodplain Management Act and local regulations, that would be expected to mitigate any potential impacts to a level below significant; therefore, a cumulative impact would not occur. The Proposed Project, in combination with the identified cumulative projects, would not contribute to a significant cumulative impact associated with seiche, tsunami, and mudflow hazards.

2.8.5 Mitigation

2.8.5.1 Issue 1: Water Quality Standards and Requirements

Implementation of the following adopted General Plan policies and 2011 PEIR mitigation measures would reduce direct **Impact HY-1** and cumulative **Impact HY-10** but **not to a level below significant; therefore, the impacts would remain significant and unavoidable**. Additional mitigation measures have been identified that would fully reduce impacts but the County has determined these measures as infeasible, as discussed below.

Infeasible Mitigation Measures

The County has determined the following measures to be infeasible; these measures will not be implemented.

- Provide a water treatment system that reduces constituents to below the maximum contamination levels in all groundwater impaired areas. This measure would require treatment plants in many areas of the County, which would potentially result in numerous environmental impacts and conflict with the project objective to minimize public costs and infrastructure.
- In groundwater quality impaired areas, require water to be imported from other sources. This measure would not be feasible based on the existing lack of infrastructure needed to import water to impaired areas. To provide such infrastructure would conflict with the project objectives to minimize public costs of infrastructure and services and correlate their timing with new development.
- In groundwater quality impaired areas, place a moratorium on building permits and development applications. This measure would be inconsistent with the land use designations proposed for the project. It would also conflict with goals of the Housing Element to provide sufficient housing stock and would not achieve one of the primary objectives of the Proposed Project which is to accommodate a reasonable amount of growth.

Because the measures listed above have been found to be infeasible by the County and would not be implemented, impacts would remain significant and unavoidable. Chapter 4 (Project

Alternatives) provides a discussion of land use alternatives to the Proposed Project that would result in some reduced impacts associated with water quality standards and requirements as compared to the Proposed Project.

Adopted General Plan Policies

Policy COS-4.2: Drought-Efficient Landscaping. Require efficient irrigation systems and in new development encourage the use of native plant species and non-invasive drought tolerant/low water use plants in landscaping.

Policy COS-4.3: Storm Water Filtration. Maximize storm water filtration and/or infiltration in areas that are not subject to high groundwater by maximizing the natural drainage patterns and the retention of natural vegetation and other pervious surfaces. This policy shall not apply in areas with high groundwater, where raising the water table could cause septic system failures and/or moisture damage to building slabs.

Policy COS-4.4: Groundwater Contamination. Require land uses with a high potential to contaminate groundwater to take appropriate measures to protect water supply sources.

Policy COS-5.2: Impervious Surfaces. Require development to minimize the use of directly connected impervious surfaces and to retain stormwater run-off caused from the development footprint at or near the site of generation.

Policy COS-5.3: Downslope Protection. Require development to be appropriately sited and to incorporate measures to retain natural flow regimes, thereby protecting downslope areas from erosion, capturing runoff to adequately allow for filtration and/or infiltration, and protecting downstream biological resources.

Policy COS-5.5: Impacts of Development to Water Quality. Require development projects to avoid impacts to the water quality in local reservoirs, groundwater resources, and recharge areas, watersheds, and other local water sources.

Policy LU-6.5: Sustainable Storm Water Management. Ensure that development minimizes the use of impervious surfaces and incorporates other Low Impact Development (LID) techniques as well as a combination of site design, source control, and stormwater best management practices, where applicable and consistent with the County's LID Handbook.

Policy LU-6.9: Development Conformance with Topography. Require development to conform to the natural topography to limit grading; incorporate and not significantly alter the dominant physical characteristics of a site; and to utilize natural drainage and topography in conveying stormwater to the maximum extent practicable.

Policy LU-14.1: Wastewater Facility Plans. Coordinate with wastewater agencies and districts during the preparation or update of wastewater facility master plans and/or capital improvement plans to provide adequate capacity and assure consistency with the County's land use plans.

Policy LU-14.2: Wastewater Disposal. Require that development provide for the adequate disposal of wastewater concurrent with the development and that the infrastructure is designed and sized appropriately to meet reasonably expected demands.

Policy LU-14.3: Wastewater Treatment Facilities. Require wastewater treatment facilities serving more than one private property owner to be operated and maintained by a public agency. Coordinate the planning and design of such facilities with the appropriate agency to be consistent with applicable sewer master plans.

Policy LU-14.4: Sewer Facilities. Prohibit sewer facilities that would induce unplanned growth. Require sewer systems to be planned, developed, and sized to serve the land use pattern and densities depicted on the Land Use Map. Sewer systems and services shall not be extended beyond either Village boundaries or extant Urban Limit Lines, whichever is more restrictive, except:

- When necessary for public health, safety, or welfare;
- When within existing sewer district boundaries;
- When necessary for a conservation subdivision adjacent to existing sewer facilities; or
- Where specifically allowed in the Community Plan.

Adopted 2011 PEIR Mitigation Measures

Hyd-1.1: Update and implement the County of San Diego's Jurisdictional Urban Runoff Management Program (JURMP).

Hyd-1.2: Implement and revise as necessary the Watershed Protection Ordinance to reduce the adverse effects of polluted runoff discharges on waters and to encourage the removal of invasive species and restore natural drainage systems.

Hyd-1.3: Establish and implement LID standards for new development to minimize runoff and maximize infiltration.

Hyd-1.4: Revise and implement the Stormwater Standards Manual requiring appropriate measures for land use with a high potential to contaminate surface water or groundwater resources.

Hyd-1.5: Utilize the County Guidelines for Determining Significance for Surface Water Quality, Hydrology, and Groundwater Resources to identify adverse environmental effects.

Hyd-1.6: Implement, and revise as necessary, Board Policy I-84 requiring that discretionary project applications include commitments from available water and sanitation districts.

Hyd-1.7: Ensure County planning staff participation in the review of wastewater facility long range and capital improvement plans.

Hyd-1.8: Allow wastewater facilities contingent upon approval of Major Use Permit to ensure facilities are adequately sized.

Hyd-1.9: Review septic system design, construction, and maintenance in cooperation with the Regional Water Quality Control Board through the Septic Tank Permit Process.

Hyd-1.10: Coordinate with the State Water Resources Control Board to develop statewide performance and design standards for conventional and alternative On-site Wastewater Treatment Systems.

2.8.5.2 Issue 2: Groundwater Supplies and Recharge

Implementation of the following adopted General Plan policies and 2011 PEIR mitigation measures would reduce direct **Impact HY-2** and cumulative **Impact HY-11** but **not to a level below significant; therefore, the impacts would remain significant and unavoidable**.

Additional mitigation measures have been identified that would fully reduce impacts but the County has determined these measures as infeasible, as discussed below.

Infeasible Mitigation Measures

The County has determined the following measures to be infeasible; these measures will not be implemented.

- In areas with potentially impacted groundwater supplies, require all proposed discretionary projects to share well water through a well sharing agreement. This mitigation measure would prove to be infeasible or unenforceable, because such agreements would only apply to current landowners and would not be binding on future owners of the affected properties.
- In areas with inadequate groundwater supply, project proponents shall be required to secure water contracts with other groundwater providers to import water through the construction of new infrastructure from another groundwater basin that is not impacted, prior to the issuance of discretionary permits. This mitigation measure is considered infeasible because piping in groundwater from an off-site source would be a complex and costly process which would involve any number of issues, including (1) water rights issues; (2) need to obtain proper permits to encroach on public roadways or other private properties to convey the water; (3) potential need to the create a new water district/water company; and (4) accelerated deterioration of the groundwater basin that is providing the imported water. Additionally, requiring complex piping to import groundwater from an alternative location has the potential to result in multiple secondary environmental impacts, including cultural resources, biological resources, and hydrology/water quality. Although some water districts within the unincorporated County have imported water from another groundwater basin in the past, requiring that all development obtain water contracts, as described above, would put an undue burden on both the developer and water district. Implementing this mitigation measure would also contradict the General Plan objective to promote environmental stewardship that protects the range of natural resources and habitats that uniquely define the County character and ecological importance, because it would result in multiple secondary environmental impacts to both unincorporated County groundwater and surface resources. In addition, this solution may not be sustainable for all projects in the long-term. Implementation of this mitigation measure would also conflict with the project objective to minimize costs of infrastructure and services because this mitigation measure would require extensive infrastructure costs to implement. Therefore, for the reasons listed above, this measure is considered infeasible.
- In groundwater dependent areas with inadequate groundwater supply, project proponents shall be required to secure water contracts with other water providers to truck in water from local water districts or other sources such as an off-site well, prior to the issuance of discretionary permits. This mitigation measure is considered infeasible because trucked water is not a guaranteed, sustainable, long-term source of water, since a water district can rescind or preclude the selling of trucked water in times of drought and limited water supplies. Additionally, implementation of this mitigation measure would conflict with the project objective to maintain environmentally sustainable communities and reduce greenhouse gas emissions that contribute to climate change, because it would require extensive vehicle travel and is not a sustainable solution. Therefore, this would not be a feasible mitigation measure.
- In groundwater dependent areas with inadequate groundwater supply, project proponents shall be required to secure water contracts with the SDCWA in order to import water from

SDCWA facilities. This mitigation measure is considered infeasible due to the lack of infrastructure in place to convey the water, the limited availability of water within the desert southwest, the cost of providing these services, and the discretionary approval to extend the SDCWA boundary, which is outside of the County's jurisdiction. Implementation of this mitigation measure would also conflict with the project objective to minimize costs of infrastructure and services, because the implementation of this mitigation measure would result in extensive infrastructure costs.

- Implement a Countywide moratorium on building permits and development applications in any areas of the County that would have the potential to adversely impact groundwater supplies and recharge. This would effectively result in no new impacts to groundwater supplies and recharge within the unincorporated County. However, this measure would impede the County's ability to implement the General Plan Update because it would prohibit future development in areas identified for increased growth within the General Plan. This mitigation measure would also conflict with the project objective to support a reasonable share of projected regional population growth. Therefore, for the reasons listed above, this mitigation measure would not be implemented.

Because the measures listed above have been found to be infeasible by the County and would not be implemented, impacts would remain significant and unavoidable. Chapter 4 (Project Alternatives) provides a discussion of land use alternatives to the Proposed Project that would result in some reduced impacts associated with groundwater supply and recharge as compared to the Proposed Project.

Adopted General Plan Policies

Policy COS-4.1: Water Conservation. Reduce the waste of potable water through use of efficient technologies and conservation efforts that minimize the County's dependence on imported water and conserve groundwater resources.

Policy LU-8.1: Density Relationship to Groundwater Sustainability. Require land use densities in groundwater dependent areas to be consistent with the long-term sustainability of groundwater supplies, except in the Borrego Valley.

Policy LU-8.2: Groundwater Resources. Require development to identify adequate groundwater resources in groundwater dependent areas, as follows:

- In areas dependent on currently identified groundwater overdrafted basins, prohibit new development from exacerbating overdraft conditions. Encourage programs to alleviate overdraft conditions in Borrego Valley.
- In areas without current overdraft groundwater conditions, evaluate new groundwater-dependent development to assure a sustainable long-term supply of groundwater is available that will not adversely impact existing groundwater users.

Policy LU-13.1: Adequacy of Water Supply. Coordinate water infrastructure planning with land use planning to maintain an acceptable availability of a high quality sustainable water supply. Ensure that new development includes both indoor and outdoor water conservation measures to reduce demand.

Policy LU-13.2: Commitment of Water Supply. Require new development to identify adequate water resources, in accordance with State law, to support the development prior to approval.

Adopted 2011 PEIR Mitigation Measures

In addition to the 2011 PEIR mitigation measures listed below, mitigation measures Hyd-1.1, Hyd-1.2, Hyd-1.3, Hyd-1.4, and Hyd-1.5 listed in Section 2.8.5.1 for Issue 1 would reduce **Impact HY-2** and cumulative **Impact HY-11** but **not to a level below significant** and are incorporated here by reference.

Hyd-2.1: Implement, and revise as necessary, Board Policy I-84 requiring that discretionary project applications include commitments from available water districts. Also implement and revise as necessary Board Policy G-15 to conserve water at County facilities.

Hyd-2.2: Implement the Groundwater Ordinance to balance groundwater resources with new development. Also revise the Ordinance Relating to Water Conservation for Landscaping (currently Zoning Ordinance Sections 6712 through 6725) to further water conservation through the use of recycled water.

Hyd-2.3: Establish a water credits program between the County and the Borrego Water District to provide a streamlined and consistent process for the permanent cessation of outdoor water intensive uses such as irrigated agricultural or golf course land.

Hyd-2.4: Coordinate with the San Diego County Water Authority and other water agencies to coordinate land use planning with water supply planning and implementation and enhancement of water conservation programs.

Hyd-2.5: Implement and revise as necessary the Resource Protection Ordinance and Policy I-68 Proposed Projects in Flood Plains / Floodways to restrict development in flood plains/floodways.

2.8.5.3 Issue 3: Erosion or Siltation

The following General Plan policies and 2011 PEIR mitigation measures would mitigate the Proposed Project direct **Impact HY-3** and cumulative **Impact HY-12** related to erosion or siltation to a level below significant**.**

Adopted General Plan Policies

General Plan policies COS-5.3, LU-6.5, and LU-6.9 listed in Section 2.8.5.1 for Issue 1 are applicable to the issue of erosion or siltation and are incorporated here by reference.

Adopted 2011 PEIR Mitigation Measure

In addition to the 2011 PEIR mitigation measures listed below, mitigation measures Hyd-1.2, Hyd-1.3, and Hyd-1.5 listed in Section 2.8.5.1 for Issue 1 would reduce direct **Impact HY-3** and cumulative **Impact HY-12** to a level below significant and are incorporated here by reference.

Hyd-3.1: Implement and revise, as necessary, ordinances to require new development to be located down and away from ridgelines, conform to the natural topography, not significantly alter dominant physical characteristics of the site, and maximize natural drainage and topography when conveying storm water.

Hyd-3.2: Implement and revise as necessary the RPO to limit development on steep slopes. Also incorporate Board Policy I-73, the Hillside Development Policy, into the RPO

to the extent that it will allow for one comprehensive approach to steep slope protections.

Hyd-3.3: Implement the Grading, Clearing and Watercourses Ordinance to protect development sites against erosion and instability.

2.8.5.4 Issue 4: Flooding

The following General Plan policies and 2011 PEIR mitigation measures would mitigate the Proposed Project direct **Impact HY-4** related to flooding to a level below significant**.**

Adopted General Plan Policies

Policy LU-6.5: Sustainable Storm Water Management. Ensure that development minimizes the use of impervious surfaces and incorporates other Low Impact Development (LID) techniques as well as a combination of site design, source control, and stormwater best management practices, where applicable and consistent with the County's LID handbook.

Policy LU-6.10: Protection from Hazards. Require that development be located and designed to protect property and residents from the risks of natural and man-induced hazards.

Policy S-9.2: Development in Floodplains. Limit development in designated floodplains to decrease the potential for property damage and loss of life from flooding and to avoid the need for engineered channels, channel improvements, and other flood control facilities. Require development to conform to federal flood proofing standards and siting criteria to prevent flow obstruction.

Policy S-10.2: Use of Natural Channels. Require the use of natural channels for County flood control facilities except where necessary to protect existing structures from a current flooding problem and where natural channel use is deemed infeasible. The alternative must achieve the same level of biological and other environmental protection, such as water quality, hydrology, and public safety.

Policy S-10.3: Flood Control Facilities. Require flood control facilities to be adequately sized, constructed, and maintained to operate effectively.

Policy S-10.4: Storm Water Management. Require development to incorporate low impact design, hydromodification management, and other measures to minimize storm water impacts on drainage and flood control facilities.

Policy S-10.6: Storm Water Hydrology. Ensure development avoids diverting drainage, increasing velocities, and altering flow rates to off-site areas to minimize adverse impacts to the area's existing hydrology.

Adopted 2011 PEIR Mitigation Measures

In addition to the 2011 PEIR mitigation measures listed below, mitigation measures Hyd-1.1, Hyd-1.2, Hyd-1.3, Hyd-1.4, Hyd-1.5, and Hyd-2.5 listed in Sections 2.8.5.1 and 2.8.5.2 for Issues 1 and 2 would reduce direct **Impact HY-4** and cumulative **Impact HY-13** to a level below significant and are incorporated here by reference.

Hyd-4.1: Implement the Flood Damage Prevention Ordinance to reduce flood losses in specified areas.

Hyd-4.2: Implement the Grading, Clearing and Watercourses Ordinance to limit activities affecting watercourses.

Hyd-4.3: Implement and revise as necessary Board Policies such as: Policy I-68, which establishes procedures for projects that impact floodways; Policy I-45, which defines watercourses that are subject to flood control; and Policy I-56, which permits, and establishes criteria for, staged construction of off-site flood control and drainage facilities by the private sector when there is a demonstrated and substantial public, private or environmental benefit.

2.8.5.5 Issue 5: Exceed Capacity of Storm Water Systems

The following General Plan policies and 2011 PEIR mitigation measures would mitigate the Proposed Project direct **Impact HY-5** related to capacity of stormwater systems to a level below significant.

Adopted General Plan Policies

In addition to the adopted General Plan policy listed below, General Plan policies COS-4.2, COS-4.3, COS-4.4, COS-5.2, COS-5.3, COS-5.5, LU-6.5, LU-6.9, LU-14.1, LU-14.2, LU-14.3, and LU-14.4 listed in Section 2.8.5.1 for Issue 1, and LU-6.10, S-9.2, S-10.2, S-10.3, S-10.4, and S-10.6 listed in Section 2.8.5.4 for Issue 4 are applicable to exceeding capacity of storm water systems and are incorporated here by reference.

Policy S-10.5: Development Site Improvements. Require development to provide necessary on-site and off-site improvements to storm water runoff and drainage facilities.

Adopted 2011 PEIR Mitigation Measures

Mitigation measures Hyd-1.1, Hyd-1.2, Hyd-1.3, Hyd-1.4, Hyd-1.5, Hyd-2.5, Hyd-3.1, Hyd-4.1, Hyd-4.2, and Hyd-4.3 listed in Sections 2.8.5.1 through 2.8.5.4 for Issues 1 through 4 would reduce **Impact HY-5** to a level below significant and are incorporated here by reference.

2.8.5.6 Issue 6: Housing within a 100-year Flood Hazard Area

The following General Plan policies and 2011 PEIR mitigation measures would mitigate the Proposed Project direct **Impact HY-6** related to housing within a 100-year flood hazard area to a level below significant.

Adopted General Plan Policies

Policy COS-5.1: Impact to Floodways and Floodplains. Restrict development in floodways and floodplains in accordance with policies in the Flood Hazards section of the Safety Element.

Policy LU-6.12: Flooding. Document and annually review areas within floodways and 100- and 200-year floodplains to ensure areas subject to flooding are accurately mapped in accordance with AB 162 (enacted January 1, 2008).

Policy S-9.1: Floodplain Maps. Manage development based on federal floodplain maps. County maps shall also be referred to and in case of conflict(s) between the County flood plain maps and the federal floodplain maps, the more stringent of restrictions shall apply.

Policy S-9.2: Development in Floodplains. Limit development in designated floodplains to decrease the potential for property damage and loss of life from flooding and to avoid the need

for engineered channels, channel improvements, and other flood control facilities. Require development to conform to federal flood proofing standards and siting criteria to prevent flow obstruction.

Policy S-9.3: Development in Flood Hazard Areas. Require development within mapped flood hazard areas be sited and designed to minimize on-site and off-site hazards to health, safety, and property due to flooding.

Policy S-9.4: Development in Villages. Allow new uses and development within the floodplain fringe (land within the floodplain outside of the floodway) only when environmental impacts and hazards are mitigated. This policy does not apply to floodplains with unmapped floodways. Require land available outside the floodplain to be fully utilized before locating development within a floodplain. Development within a floodplain may be denied if it will cause significant adverse environmental impacts.

Policy S-9.5: Development in the Floodplain Fringe. Prohibit development in the floodplain fringe when located on Semi-Rural and Rural Lands to maintain the capacity of the floodplain. This policy shall not apply when the lot is entirely within the floodplain or when sufficient land for development on a project site is not available and where clustering is not feasible to minimize encroachment on floodplains. In those instances, require development to minimize impacts to the capacity of the floodplain.

Policy S-10.1: Land Uses within Floodways. Limit new or expanded uses in floodways to agricultural, recreational, and other such low-intensity uses and those that do not result in any increase in flood levels during the occurrence of the base flood discharge, do not include habitable structures, and do not substantially harm, and fully offset, the environmental values of the floodway area. This policy does not apply to minor renovation projects, improvements required to remedy an existing flooding problem, legal sand or gravel mining activities, or public infrastructure.

Adopted 2011 PEIR Mitigation Measures

In addition to the 2011 PEIR mitigation measure listed below, mitigation measures Hyd-1.2, Hyd-1.5, Hyd-2.5, Hyd-4.1, and Hyd-4.2 listed in Section 2.5.8.1, 2.5.8.2, and 2.5.8.4 for Issues 1, 2, and 4 would reduce **Impact HY-6** to a level below significant and are incorporated here by reference.

Hyd-6.1: Implement the RPO to prohibit development of permanent structures for human habitation or employment in a floodway and require planning of hillside developments to minimize potential soil, geological and drainage problems.

2.8.5.7 Issue 7: Impeding or Redirecting Flood Flows

The following General Plan policies and 2011 PEIR mitigation measures would mitigate the Proposed Project direct **Impact HY-7** related to impeding or redirecting flood flows to a level below significant.

Adopted General Plan Policies

General Plan policies COS-5.1, LU-6.12, S-9.1, S-9.2, S-9.3, S-9.4, S-9.5, and S-10.1 listed in Section 2.8.5.6 for Issue 6 are applicable to impeding or redirecting flood flows and are incorporated here by reference.

Adopted 2011 PEIR Mitigation Measures

Mitigation measures Hyd-1.2, Hyd-1.5, Hyd-2.5, Hyd-4.1, Hyd-4.2, Hyd-4.3, and Hyd-6.1 listed in Sections 2.8.5.1, 2.8.5.2, 2.8.5.4, and 2.8.5.6 for Issues 1, 2, 4, and 6 would reduce **Impact HY-7** to a level below significant and are incorporated here by reference.

2.8.5.8 Issue 8: Dam Inundation and Flood Hazards

The following General Plan policies and 2011 PEIR mitigation measures would mitigate the Proposed Project direct **Impact HY-8** related to dam inundation and flood hazards to a level below significant**.**

Adopted General Plan Policies

In addition to the adopted General Plan policy listed below, General Plan policies COS-5.1, LU-6.12, S-9.1, S-9.2, S-9.3, S-9.4, S-9.5, and S-10.1 listed in Section 2.8.5.6 for Issue 6 are applicable to dam inundation and flood hazards and are incorporated here by reference.

Policy S-9.6: Development in Dam Inundation Areas. Prohibit development in dam inundation areas that may interfere with the County's emergency response and evacuation plans.

Adopted 2011 PEIR Mitigation Measures

In addition to the 2011 PEIR mitigation measures listed below, mitigation measures Hyd-1.2, Hyd-1.5, Hyd-2.5, Hyd-4.1, Hyd-4.2, Hyd-4.3, and Hyd-6.1 listed in Sections 2.8.5.1, 2.8.5.2, 2.8.5.4, and 2.8.5.6 for Issues 1, 2, 4, and 6 would reduce **Impact HY-8** to a level below significant and are incorporated here by reference.

Hyd-8.1: Perform regular inspections and maintenance of County reservoirs to prevent dam failure.

Hyd-8.2: Review discretionary projects for dam inundation hazards through application of the County Guidelines for Determining Significance for Hydrology and Guidelines for Determining Significance for Emergency Response Plans.

2.8.5.9 Issue 9: Seiche, Tsunami and Mudflow Hazards

The following General Plan policies and 2011 PEIR mitigation measures would mitigate the Proposed Project direct **Impact HY-9** related to seiche, tsunami and mudflow hazards to a level below significant**.**

Adopted General Plan Policies

General Plan policies COS-5.1 and S-9.3 listed in Section 2.8.5.6 for Issue 6, and S-8.1, S-8.2, and S-9.6 listed in Section 2.8.5.8 for Issue 8 are applicable to the issue of seiche, tsunami and mudflow hazards and are incorporated here by reference.

Adopted 2011 PEIR Mitigation Measures

Mitigation measures Hyd-3.1, Hyd-3.2, and Hyd-3.3 listed in Section 2.8.5.3 for Issue 3 would reduce **Impact HY-9** to a level below significant and are incorporated here by reference.

2.8.6 Conclusion

The discussion below provides a synopsis of the conclusion reached in each of the above impact analyses, and the level of impact that would remain after adopted General Plan goals and policies, 2011 PEIR mitigation measures, and applicable regulations are implemented.

2.8.6.1 Issue 1: Water Quality Standards and Requirements

The Proposed Project would contribute to surface water quality contaminants and would place land uses in groundwater quality impaired areas resulting in a potentially significant direct impact to water quality standards and requirements. Additionally, the Proposed Project would result in a cumulatively considerable contribution to a significant cumulative impact associated with groundwater quality standards and requirements. Implementation of the adopted General Plan policies and 2011 PEIR mitigation measures, in addition to compliance with applicable regulations, would reduce Proposed Project impacts but not to a level below significant. **Therefore, direct Impact HY-1 and cumulative Impact HY-10 associated with groundwater quality would be significant and unavoidable.**

2.8.6.2 Issue 2: Groundwater Supplies and Recharge

Groundwater supply and recharge impacts would occur in: (1) areas that experience a 50 percent reduction of groundwater in storage; (2) areas that may be currently impacted by the combined drawdown of existing wells; (3) areas that experience a high frequency of low well yield; and (4) Borrego Valley. Therefore, the Proposed Project would result in a potentially significant direct impact. Additionally, the Proposed Project would result in a significant cumulative impact associated with groundwater supplies and recharge. Implementation of the adopted General Plan policies and 2011 PEIR mitigation measures, in addition to compliance with applicable regulations, would reduce Proposed Project impacts, although not to a level below significant. **Therefore, direct Impact HY-2 and cumulative Impact HY-11 would be significant and unavoidable.**

2.8.6.3 Issue 3: Erosion or Siltation

The Proposed Project would increase runoff that has the potential to cause new erosion or worsen existing erosion problems resulting in potentially significant direct Impact HY-3. The potential effects on erosion or siltation would be reduced to a level below significant by implementing existing regulations, adopted General Plan goals and policies, and 2011 PEIR mitigation measures, which are repeated in Section 2.8.5.3 for Issue 3 of this SEIR. No additional measures would be required to reduce Proposed Project impacts on erosion or siltation.

Additionally, the Proposed Project would result in a potentially significant cumulative Impact HY-12 associated with erosion or siltation. However, implementation of the adopted General Plan policies and 2011 PEIR mitigation measures, in addition to compliance with applicable regulations, would mitigate the Proposed Project cumulative impacts to a level below significant.

2.8.6.4 Issue 4: Flooding

The Proposed Project would convert permeable surfaces to impermeable surfaces, possibly creating flooding on or off site, resulting in potentially significant Impact HY-4. The potential direct effects on flooding would be reduced to a level below significant by implementing existing

regulations, adopted General Plan goals and policies, and 2011 PEIR mitigation measures, which are listed in Section 2.8.5.4 for Issue 4 of this SEIR. No additional measures would be required to reduce Proposed Project flooding impacts. Additionally, the Proposed Project would not contribute to a potentially significant cumulative impact associated with flooding.

2.8.6.5 Issue 5: Exceed Capacity of Storm Water Systems

The Proposed Project could exceed the capacity of existing stormwater drainage facilities resulting in potential direct significant Impact HY-5. The potential direct effects on stormwater drainage systems would be reduced to a level below significant by implementing existing regulations, adopted General Plan goals and policies, and 2011 PEIR mitigation measures, which are repeated in Section 2.8.4.5 for Issue 5 of this SEIR. No additional measures would be required to reduce Proposed Project impacts on storm drainage systems. Additionally, the Proposed Project would not contribute to a significant cumulative impact associated with the capacity of storm water systems.

2.8.6.6 Issue 6: Housing within a 100-year Flood Hazard Area

The Proposed Project would include land designated for residential land use within a 100-year flood hazard area resulting in potential direct significant Impact HY-6. The potential direct effects on housing within a 100-year flood hazard area would be reduced to a level below significant by implementing existing regulations, adopted General Plan goals and policies, and 2011 PEIR mitigation measures, which are repeated in Section 2.8.4.6 for Issue 6 of this SEIR. No additional measures would be required to reduce Proposed Project impacts on housing within a 100-year flood hazard area. Additionally, the Proposed Project would not contribute to a significant cumulative impact associated with housing within a flood hazard area.

2.8.6.7 Issue 7: Impeding or Redirecting Flood Flows

Implementation of the Proposed Project could impede or redirect flood flows resulting result in potential direct significant Impact HY-7. The potential direct effects on impeding or redirecting flood flows would be reduced to a level below significant by implementing existing regulations, adopted General Plan goals and policies, and 2011 PEIR mitigation measures, which are repeated in Section 2.8.4.7 for Issue 7 of this SEIR. No additional measures would be required to reduce Proposed Project impacts on impeding or redirecting flood flows. Additionally, the Proposed Project would not contribute to a significant cumulative impact associated with impeding or redirecting flood flows.

2.8.6.8 Issue 8: Dam Inundation and Flood Hazards

The Proposed Project would result in inundation risk associated with dam failure resulting in potentially significant Impact HY-8. The potential direct effects on dam inundation and flood hazards would be reduced to a level below significant by implementing existing regulations, adopted General Plan goals and policies, and 2011 PEIR mitigation measures, which are repeated in Section 2.8.4.8 for Issue 8 of this SEIR. No additional measures would be required to reduce Proposed Project impacts on dam inundation and flood hazards. Additionally, the Proposed Project would not contribute to a significant cumulative impact associated with dam inundation and flood hazards.

2.8.6.9 Issue 9: Seiche, Tsunami and Mudflow Hazards

The Proposed Project would result in an increased risk of exposing people or structures to damage in the event of a mudflow resulting in potentially significant Impact HY-9. The potential direct effects on seiches, tsunamis, and mudflow hazards would be reduced to a level below significant by implementing existing regulations, adopted General Plan goals and policies, and 2011 PEIR mitigation measures, which are repeated in Section 2.8.4.9 for Issue 9 of this SEIR. No additional measures would be required to reduce Proposed Project impacts on seiches, tsunamis, and mudflow hazards. Additionally, the Proposed Project would not contribute to a significant cumulative impact associated with seiches, tsunamis, and mudflow hazards.

Table 2.8-1 Watershed Management Areas Associated with PSR Analysis Area/ Former CGSP Area

Watershed Management Area (PSR Analysis Area/ Former CGSP Area)	Water Body Name	303(d) Impairments
Carlsbad WMA (NC3A, NC22, NC37, NC38+, NC41, NC48, SD15)	Agua Hedionda Creek	TDS, Manganese, Selenium, Sulfates
	Agua Hedionda Lagoon (7 acres)	Bacterial Indicators, Sedimentation/Siltation
	Buena Creek	DDT, Nitrate, Phosphate
	Buena Vista Creek	Sediment toxicity
	Buena Vista Lagoon (202 acres)	Bacterial Indicators, Nutrients, Sedimentation/Siltation
	Cottonwood Creek	DDT, sediment toxicity, selenium
	Encinitas Creek	Selenium, toxicity
	Escondido Creek	DDT, Enterococcus, Fecal Coliform, manganese, phosphate, selenium, sulfates, TDS, nitrogen, toxicity
	Lake San Marcos	Ammonia as Nitrogen, Nutrients, Phosphorus
	Loma Alta Creek	Selenium, toxicity
	Loma Alta Slough	Bacterial Indicators, Eutrophic
	Pacific Ocean Shoreline	Bacterial Indicators
	San Marcos Creek	DDE, Phosphorus, Sediment toxicity
Salton Sea Transboundary	None listed in 303(d)	Not listed
San Diego River Watershed (CD14)	Alvarado Creek	Selenium
	El Capitan Lake	Color, Manganese, pH, Phosphorous, Total Nitrogen as N
	Famosa Slough and Channel	Eutrophic
	Forrester Creek	Fecal Coliform, pH, TDS, Phosphorus, Selenium
	Los Coches Creek	Selenium
	Lower San Diego River	Fecal Coliform, Low Dissolved Oxygen, Phosphorus, TDS, Enterococcus, Nitrogen, Toxicity
	Mission Bay Shoreline	Enterococcus, Fecal Coliform, Total Coliform, copper
	Murray Reservoir	pH, Nitrogen
	Pacific Ocean Shoreline	Bacterial Indicators
	San Vicente Creek	Ammonia as Nitrogen, Benthic Community Effects, Total Nitrogen as N, Aquatic Toxicity
	San Vicente Reservoir	Chloride, Color, Manganese, pH, Sulfates, Total Nitrogen as N
San Luis Rey WMA (BO18+, FB2+, FB17, FB19+, VC7+, VC51, VC57+, VC67, PP30, CG1-CG8)	Guajome Lake	Eutrophic
	Keys Creek	Selenium
	Lower San Luis Rey River	Chloride, Enterococcus, Fecal Coliform, Phosphorus, TDS, Nitrogen, Toxicity
	Pacific Ocean Shoreline	Indicator Bacteria
	Upper San Luis Rey River	Nitrogen
Santa Margarita Watershed (FB21+)	De Luz Creek	Iron, Manganese, Nitrates, Sulfates
	Long Canyon Creek	Chlorpyrifos, E. Coli, Fecal Coliform, Iron, Manganese
	Lower Santa Margarita River	Enterococcus, Fecal Coliform, Posphorus, Nitrogen
	Murrieta Creek	Chlorpyrifos, Iron, Manganese, Nitrogen, Phosphorus, Toxicity

Table 2.8-1 Watershed Management Areas Associated with PSR Analysis Area/ Former CGSP Area

Watershed Management Area (PSR Analysis Area/ Former CGSP Area)	Water Body Name	303(d) Impairments
Santa Margarita Watershed (FB21+) cont.	Oceanside Harbor	Copper
	Rainbow Creek	Iron, Sulfates, TDS
	Redhawk Channel	Chlorpyrifos, Copper, Diazinon, E. Coli, Fecal Coliform, Iron, Manganese, Nitrogen, Phosphorus, TDS
	Sandia Creek	Iron, Sulfates, TDS
	Santa Gertrudis Creek	Chlorpyrifos, Copper, E. coli, Fecal Coliform, Iron, Manganese, Phosphorus
	Santa Margarita Lagoon	Eutrophic
	Temecula Creek	Chlorpyrifos, Copper, Phosphorus, TDS, Toxicity
	Upper Santa Margarita River	Phosphorus, Toxicity
	Warm Springs Creek	Chlopyrifos, E. coli, Fecal Coliform, Iron, Manganese, Phosphorus, Nitrogen
San Dieguito WMA (NC18A)	Cloverdale Creek	Phosphorus, TDS
	Felicita Creek	TDS, Aluminum
	Green Valley Creek	Sulfates, Chloride, Manganese, PCB
	Kit Carson Creek	TDS, PCP
	Lake Hodges	Color, Mercury, Nitrogen, Phosphorus, Turbidity, Manganese, pH
	Pacific Ocean Shoreline	Bacterial Indicators
	San Dieguito River	Enterococcus, Fecal Coliform, nitrogen, phosphorus, TDS, toxicity
	Santa Ysabel Creek	Toxicity
	Sutherland Reservoir	Color, Manganese, Total Nitrogen as N, pH
Tijuana River Watershed Management Area (ME26, ME30A)	Barrett Lake	Color, Manganese, pH, Total Nitrogen as N, Perchlorate
	Cottonwood Creek	Selenium
	Morena Reservoir	Ammonia as Nitrogen, Phosphorus, Color, Manganese, pH
	Pacific Ocean Shoreline, Tijuana HU	Bacteria Indicators
	Pine Valley Creek (Upper)	Turbidity
	Tecate Creek	Selenium
	Tijuana River	Bacteria Indicators, Euthrophic conditions, Low Dissolved Oxygen, Pesticides, Phosphorous, Solids, Synthetic Organics, Trace Elements, Trash, Sedimentation/Siltation, Selenium, Surfactants (MBAS), Total Nitrogen as N, Toxicity
	Tijuana River Estuary	Bacteria Indicators, Eutrophic conditions, Lead, Low Dissolved Oxygen, Nickel, Pesticides, Thallium, Trash, Turbidity

Source: Project Clean Water 2017

Table 2.8-2 PSR Analysis Areas/Former CGSP Area within the 100-year FEMA Floodway

PSR Analysis Area/ Former CGSP Subarea	Acreage	Proposed Land Use
NC38+	9	SR-1
CG2, CG3, CG4	8	SR-2/SR-4
Total:	**17**	

Source: County 2017

Table 2.8-3 PSR Analysis Areas/Former CGSP Area within the 100-year County Floodway

PSR Analysis Area/ Former CGSP Subarea	Acreage	Proposed Land Use
FB2+	6	SR-4/RL-20
ME30A	75	SR-4/RL-20
PP30	97	SR-2/RL-40
VC57+	72	SR-2
VC67	12	I-2
CG2, CG3, CG4	18	SR-2/SR-4
Total:	**280**	

Source: County 2017

Table 2.8-4 PSR Analysis Areas/Former CGSP Area within the 100-year County Floodplain

PSR Analysis Area/ Former CGSP Subarea	Acreage	Proposed Land Use
FB2+	26	SR-4/RL-20
ME30A	91	SR-4/RL-20
PP30	143	SR-2/RL-40
VC57+	143	SR-2
VC67	13	I-2
CG2, CG3, CG4, CG5, CG6, CG7	24	SR-2/SR-4
Total:	**440**	

Source: County 2017

Table 2.8-5 PSR Analysis Areas/Former CGSP Area within the 100-year FEMA Floodplain

PSR Analysis Area/ Former CGSP Subarea	Acreage	Proposed Land Use
DS8	169	VR-4.3
DS24	109	SR-1
FB2+	29	SR-4/RL-20
NC38+	19	SR-1
PP30	145	SR-2/RL-40
VC57+	163	SR-2
VC67	14	I-2
CG2, CG3, CG4, CG5	21	SR-2/SR-4
Total:	**669**	

Source: County 2017

Table 2.8-6 PSR Analysis Areas at Risk of Dam Inundation

PSR Analysis Area	Dam	Acreage
FB2+	Henshaw Dam	26
PP30	Henshaw Dam	215

Source: County 2017

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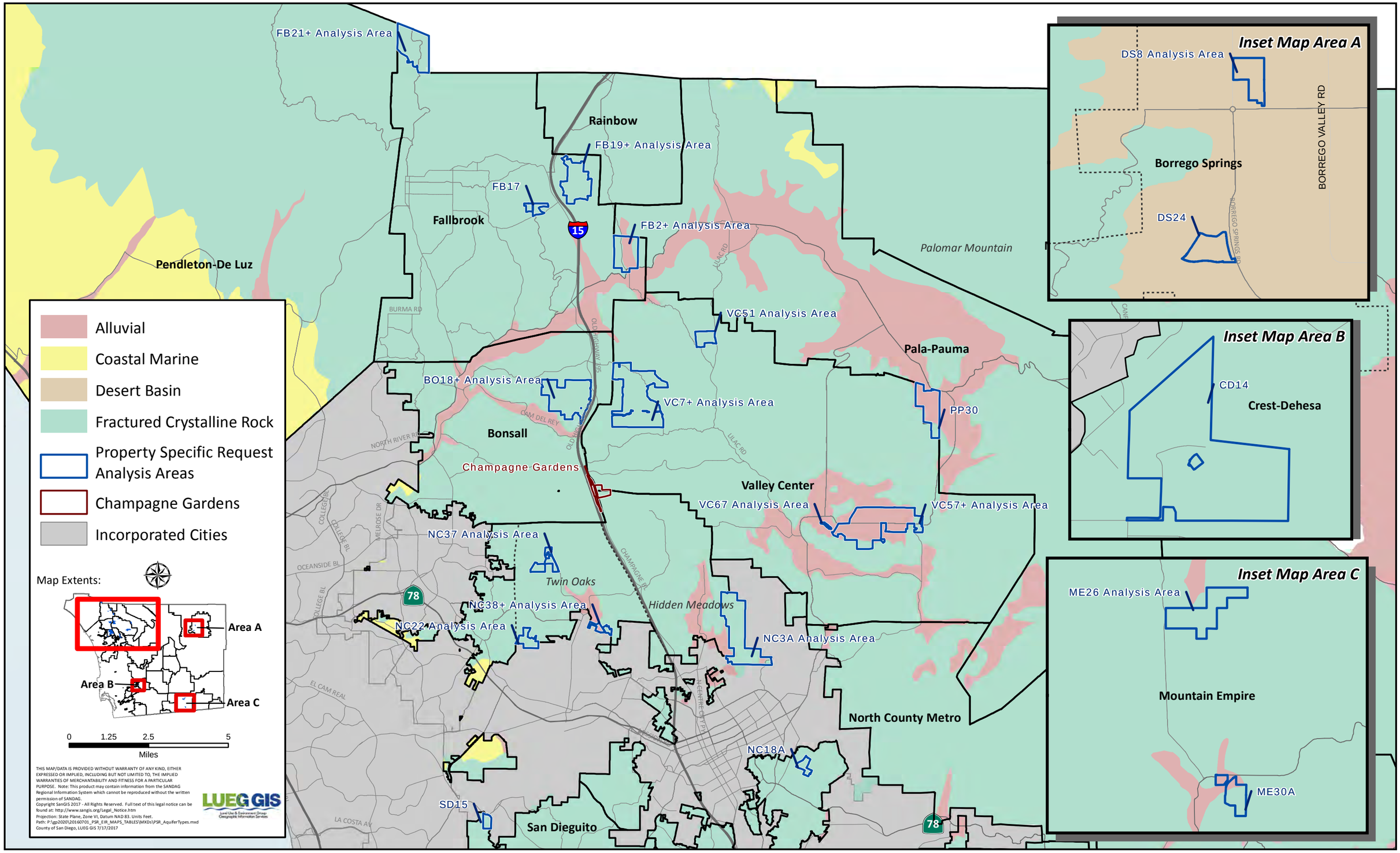
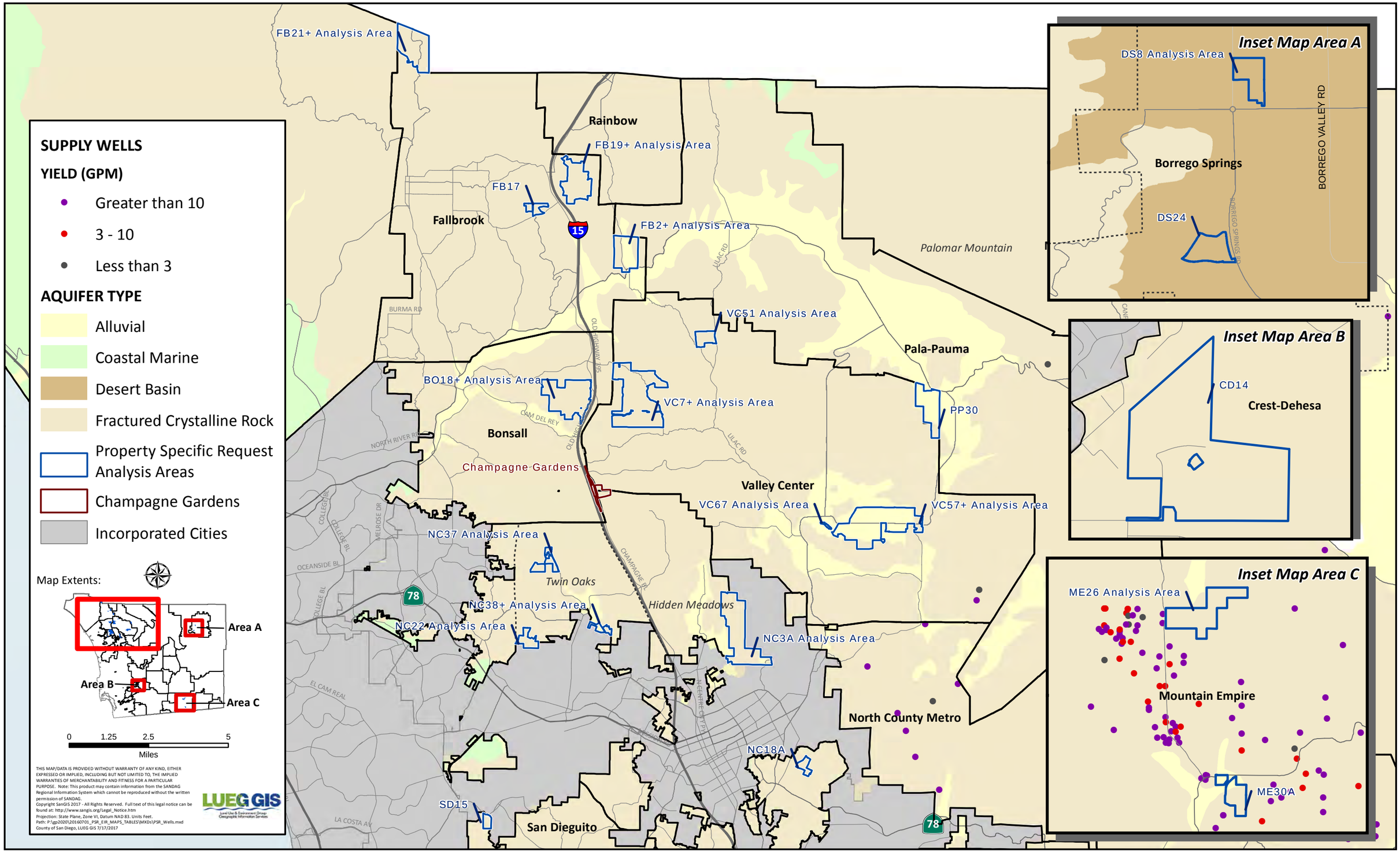


Source: SanGIS, County of San Diego, 2017

Aquifer Types Map

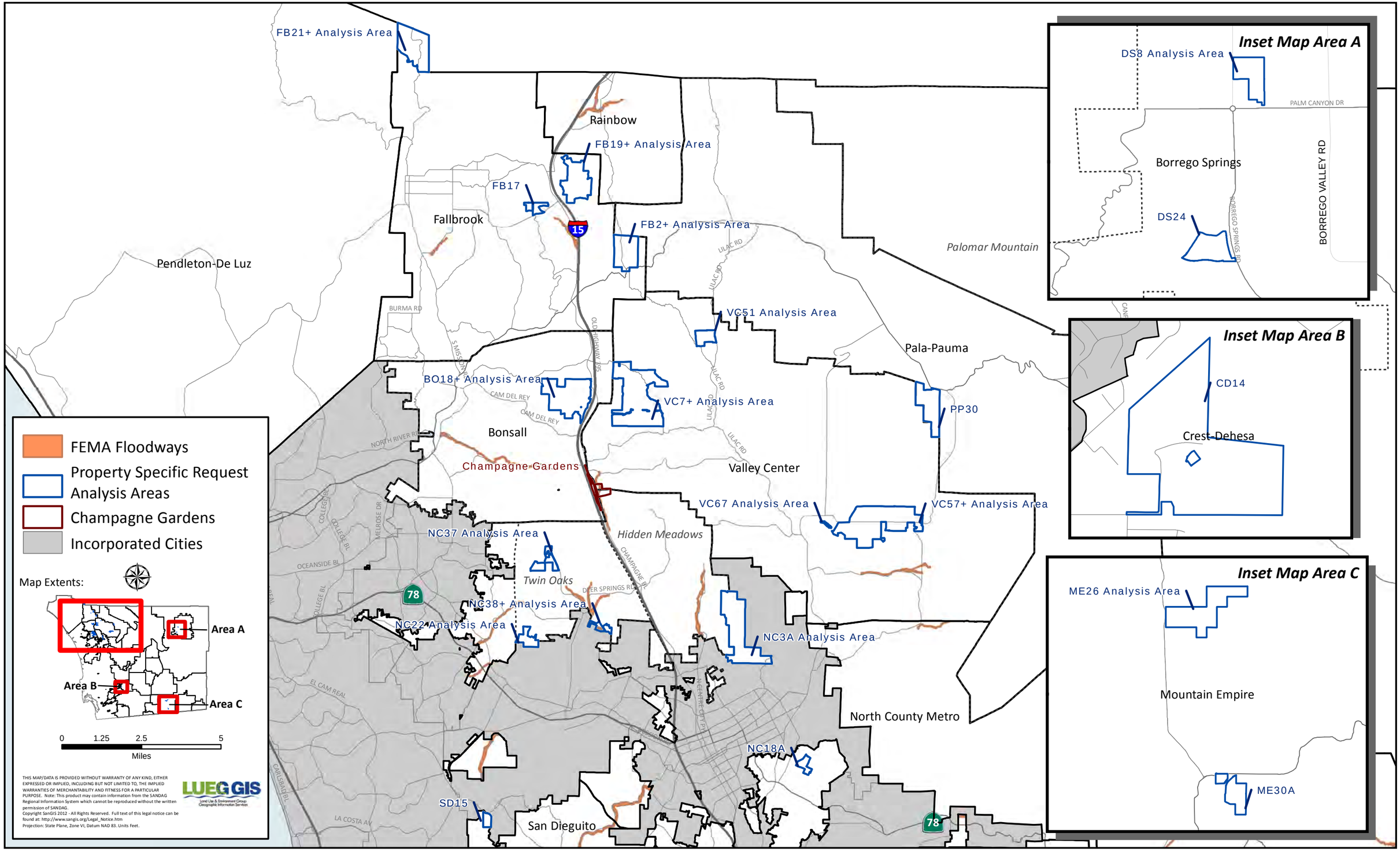
Figure 2.8-1



Source: SanGIS, County of San Diego, 2017

Potential Low Well Yield Map

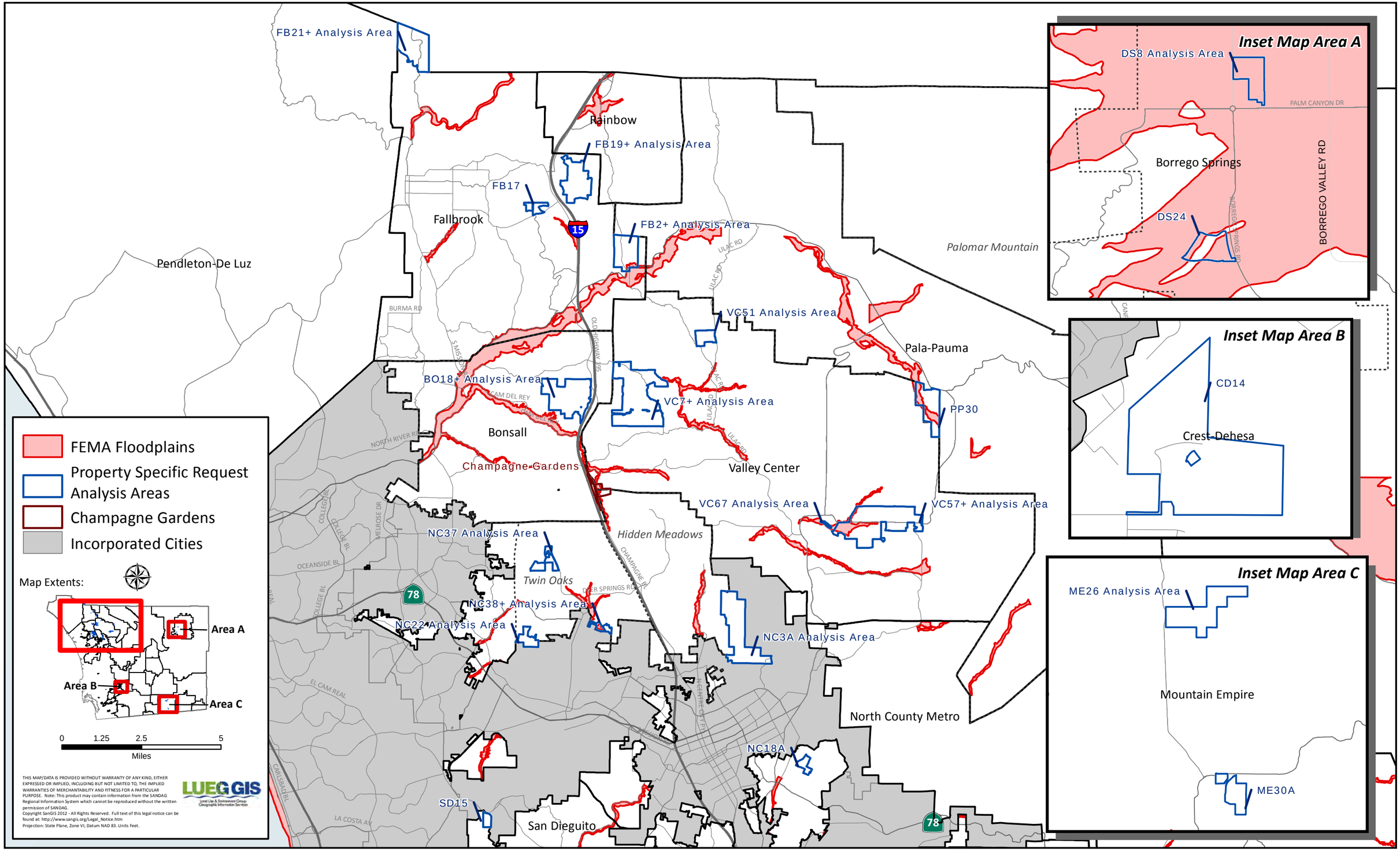
Figure 2.8-2



Source: SanGIS, County of San Diego, 2017

FEMA Floodways Map

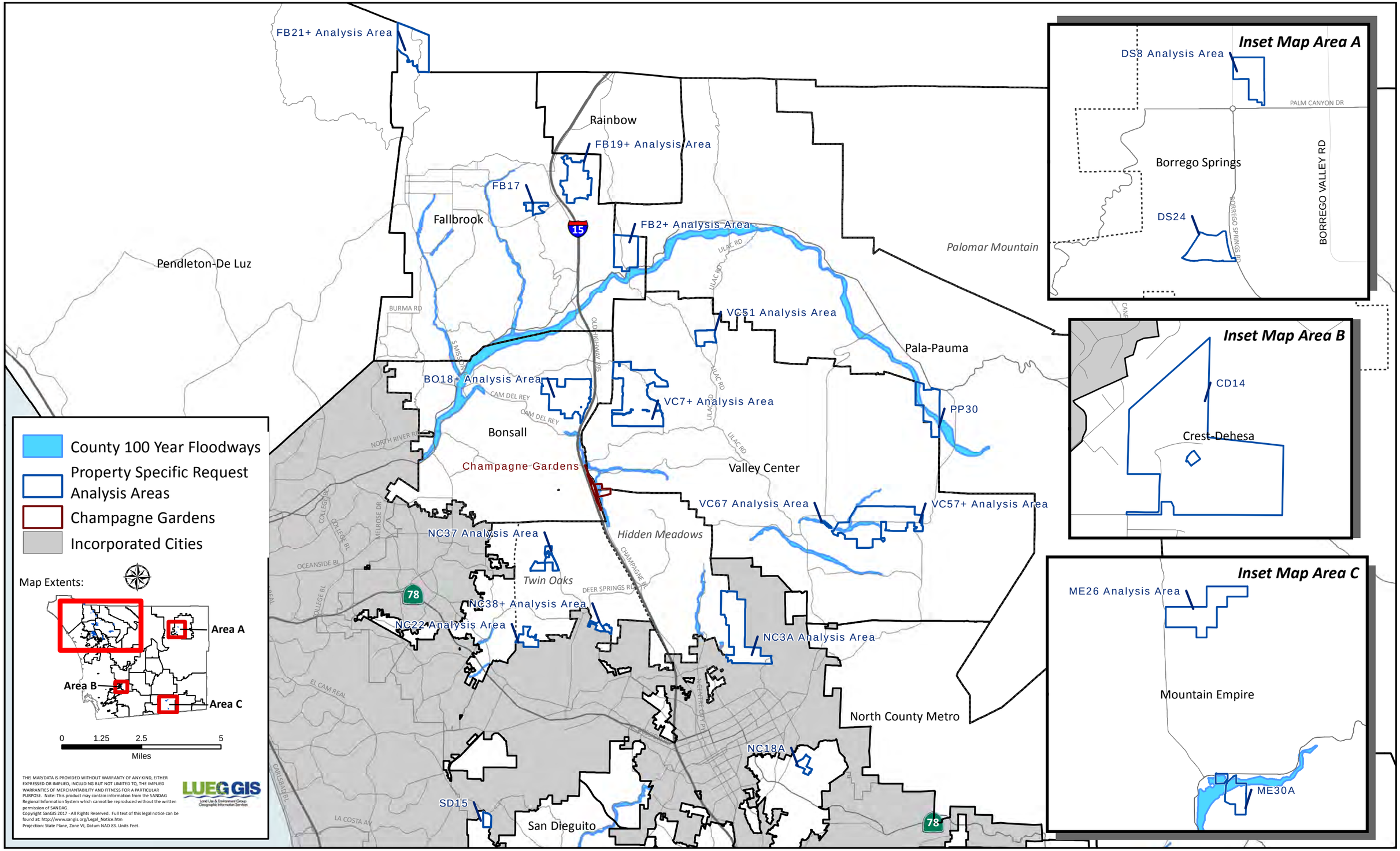
Figure 2.8-3



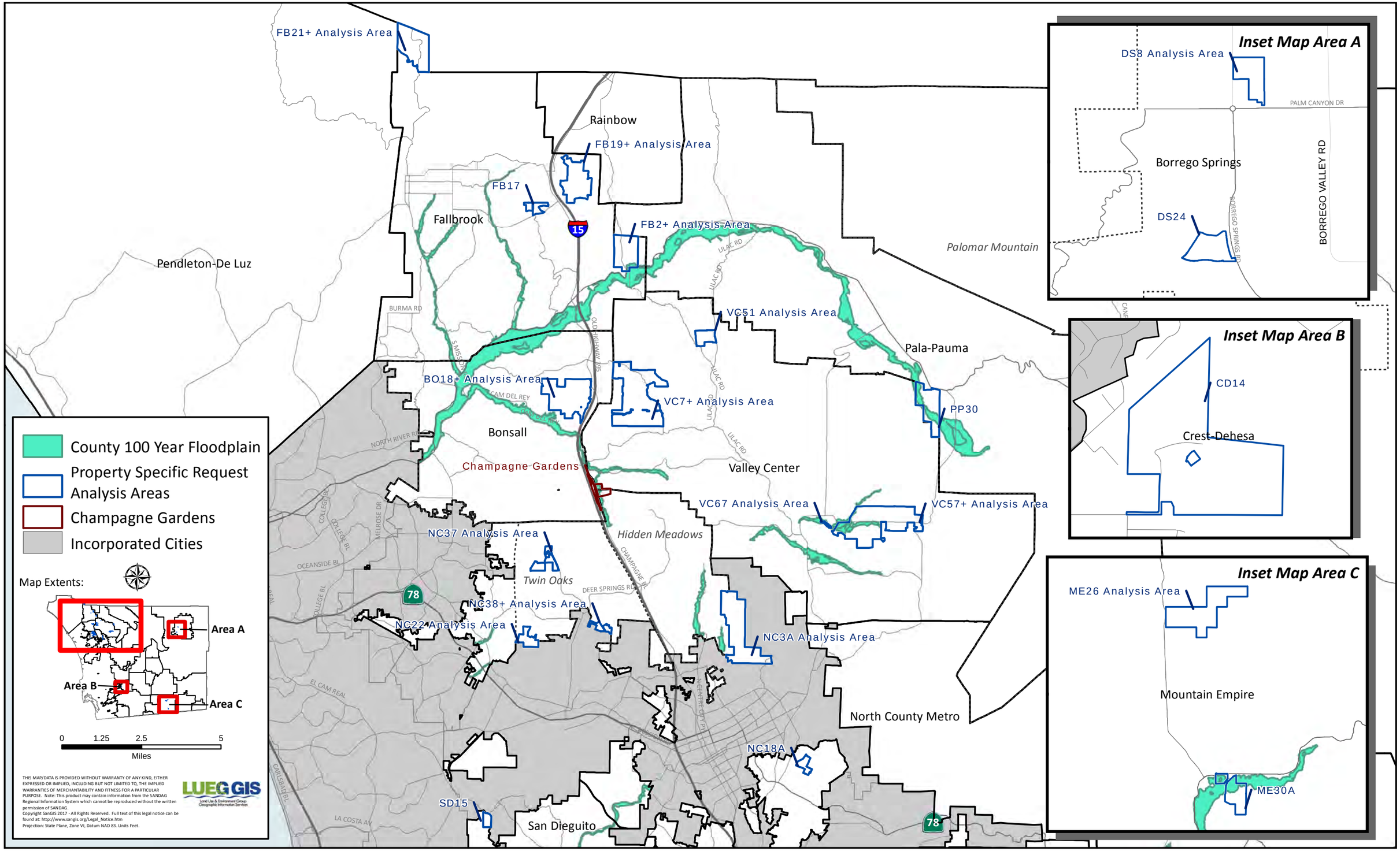
Source: SanGIS, County of San Diego, 2017

FEMA Floodplains Map

Figure 2.8-4



Source: SanGIS, County of San Diego, 2017



Source: SanGIS, County of San Diego, 2017

County 100 Year Floodplains Map

Figure 2.8-6