

CHAPTER 1.0 – PROJECT DESCRIPTION, LOCATION, AND ENVIRONMENTAL SETTING

1.1 Project Objectives

The purpose of the Cottonwood Sand Mine Project (hereafter referred to as “Proposed Project” or “Project”) is to extract construction aggregate resources and reclaim the site to a usable condition for beneficial end uses consistent with those allowed under the current General Plan and zoning designations for the site. The objectives of the Project are as follows:

1. Recover and process construction aggregates in a financially sound and efficient manner while meeting all local, state, and federal safety requirements.
2. Provide an open space resource within the County, that ultimately protects and enhances the Sweetwater River channel.
3. Provide reliable, high-quality, aggregate product in the amount of 570,000 tons per year (approximately one-quarter of San Diego County’s annual sand demand).
4. Maintain the existing low-flow channel of the Sweetwater River to accommodate water transfers from Loveland Reservoir to Sweetwater Reservoir.
5. Widen the existing flood channel of the Sweetwater River to more closely mimic conditions prior to golf course construction.
6. Reclaim areas of extraction to uses consistent with the County General Plan and Zoning Ordinance.

1.2 Project Description

1.2.1 Project’s Component Parts

The Project proposes sand mining activities on 251 acres of an approximately 280-acre site in the unincorporated community of Rancho San Diego in eastern San Diego County, north of State Route (SR) 94 and east of SR 54 (see Figure 1-1, *Regional Location*; Figure 1-2, *Project Vicinity [USGS Topography]*; and Figure 1-3, *Project Vicinity [Aerial Photograph]*). The Project includes the following discretionary actions:

- A Major Use Permit (MUP) PDS2018-MUP-18-023 to allow mining activities on 251.1 acres of the 279.8-acre property; and
- A Reclamation Plan (RP) PDS2018-RP-18-001 to specify the standards to which the site must be reclaimed upon completion of mining activities in accordance with the California Surface Mining and Reclamation Act of 1975 (SMARA).

The Project site is currently zoned as Open Space (S80, with 8-acre minimum lot sizes), Specific Planning Area (S88), and Holding Area (S90). The S80 designation is used to provide appropriate controls for areas considered generally unsuitable for intensive development, including hazard or

resource areas, public lands, recreation sites, or lands subject to open space easement or similar restrictions. The S90 zone is intended to prevent premature urban or non-urban development until more precise zoning regulations are prepared. Extractive use is allowed within the S80 and S90 classifications with the issuance of a MUP. The S88 zoning classification restricts extractive uses to site preparation, which allows the off-site removal of materials when it is secondary to the future use of the site. The parcels zoned as S88 are located in the southwestern corner of the Reclamation Plan boundary, within the Rancho San Diego Specific Plan area.

The Project proposes to convert the two golf courses within the Cottonwood Golf Club to a sand mining operation that would be conducted in three phases over 10 years. Approximately 214.4 acres of the approximately 280-acre site are proposed for extractive use (Figure 1-4, *Site Plan and Mine Phasing*). Surface areas included within the MUP boundary that are not disturbed by mining (i.e., that are outside of the mining phase boundaries shown on Figure 1-4) would be subject to removal of invasive species, as proposed within the river channel in the southwest portion of the site (refer to the discussion under “Revegetation and Erosion Control” in Section 1.2.1.2, *Reclamation Component*, below), or be left in their current condition. Specifically, the existing Sweetwater River channel and the majority of native habitat that currently exists on the site would be retained. As described in Section 1.2.2, setbacks would be established from the property boundary at a minimum of 100 feet from residential properties and 50 feet from other uses and would be provided for safety and protection of existing public and private property in proximity to the Project. This distance was determined to be adequate in conjunction with proposed noise reduction barriers, as evaluated in Subchapter 2.4, *Noise*, of this EIR relative to the distance of proposed activities from nearby sensitive receptors, as well as existing site topography. Setbacks are shown on the project plot plan (Figures 1-5a and 1-5b, *Plot Plan*).

The extraction process would occur in three phases, with three to four subphases of less than 30 acres each in each phase, and a fourth phase for cleanup, equipment removal, and final reclamation. Extraction activities are proposed to begin on the Lakes Course west of the Steele Canyon Road bridge. The total duration of mining operations that would be authorized by the MUP would be 10 years, with reclamation anticipated to last two additional years.

Reclamation of the site would include: (1) removal of all artificial structures; (2) grading and backfilling to achieve final landforms; (3) incorporation of accumulated wash fines and salvaged topsoil (as applicable); and (4) revegetation and monitoring (Figures 1-6a and 1-6b, *Reclamation Plan*). Final grading would begin after mining and backfilling have been completed within a given area, and as extractive operations proceed to the east. Reclamation would be an ongoing process starting in the second year as mining proceeds to the east and would continue in each 20- to 30-acre subphase over an approximately 10-year period, concluding two years after the completion of mining. The final landform is proposed to be a relatively flat plain that gently slopes downward from east to west, with a widened river channel bisecting the length of the site. The reclaimed river channel is expected to average approximately 250 to 300 feet in width and would be slightly higher in elevation than the existing low-flow channel. This low-flow channel would accommodate annual water transfers from Loveland Reservoir to Sweetwater Reservoir. Areas of extraction would be reclaimed to end uses consistent with the General Plan and zoning classifications, in accordance with the Project objectives. Revegetation monitoring would continue for a minimum of five years or until revegetation standards are met after this final phase. Each Project component is described in further detail below.

1.2.1.1 Sand Mining and Processing Component

The Project's mining operations would extract, process, and transport aggregate using conventional earth moving and processing equipment. Aggregate material extracted from the site would consist primarily of washed sand suitable for Portland cement concrete (PCC), but may also include fill sand, gravel, and rock. Approximately 4.3 million cubic yards (cy) (6.40 million tons) of material are proposed to be extracted. Mining and extraction activities are expected to produce approximately 3.8 million cy (5.7 million tons) of sand and gravel for market use, with a 10 percent waste factor from the total amount extracted that includes wash fines and materials undesirable for processing (approximately 427,000 cy). These materials would be retained on site and utilized for backfilling. Extraction operations would be limited to a maximum production of 380,000 cy (570,000 tons) of construction grade aggregate per calendar year. Material extracted and processed at the site would be suitable for construction uses and would be available to customers in San Diego County.

The Project would be developed in three continuous phases with 20- to 30-acre subphases in each major phase. Prior to the initiation of Phase 1, pre-mining activities such as the restriping of Willow Glen Drive between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bike lanes on both sides of the roadway, improvements to the access point from Willow Glen Drive to the Phase 1 excavation area, and installation of screening landscaping would be implemented. Phase 1 would begin with the placement of the processing plant and the conveyor line from the plant to the western portion of the property where excavation would begin. Processing facilities would be located near the center of the Project area, adjacent to Willow Glen Drive and west of the existing golf course parking lot. The plant site would consist of aggregate processing and washing facilities, three settling ponds, loadout area, and support structures and buildings (e.g., scale, office kiosk, and office trailer).

A portable conveyor line would be installed to transport excavated materials to the processing plant from the excavation areas where it would be washed. The conveyor line would be mobile to provide access within each phase and would be relocated as mining activity is concluded in each phase. The mobile conveyor is proposed to minimize the use of on-site roads to transport excavated material between the plant and excavation areas. The conveyor line would cross the channel on one of the existing golf course bridges during all operations south of the channel. Portions of the conveyor system located within the 100-year floodplain would either be anchored to prevent displacement by flowing water or removed at least 24 hours prior to forecast of significant rain (i.e., 0.5 inch or greater). The conveyors would also be anchored, as needed, during scheduled water transfers.

Existing vegetation and infrastructure within the golf courses would be removed as mining operations proceed, with approximately 20 to 25 acres subject to mining at any one time. Approximately six inches of topsoil would be stripped from the surface and placed in stockpiles along the upper edges of extraction areas. The stockpiles may be utilized in the construction of temporary noise barriers—which can be constructed of soil, masonry, wood, plastic, fiberglass, steel, or a combination of those materials—until needed for reclamation activities. When feasible, topsoil would be stripped from the surface and directly re-applied to areas that have reached final grade to avoid storing soil. Topsoil stockpiles would be clearly identified with signage. They

would not be disturbed until used for revegetation, if feasible, and would be covered or seeded with a recommended seed mix if not to be used within six months.

Excavation would average approximately 20 feet in depth below the existing ground surface (bgs) across the site; some areas would be excavated to a maximum depth of 40 feet bgs (Figures 1-5a and 1-5b). Excavation would not occur within the bottom of the existing low-flow channel in order to retain existing hydrologic characteristics. Slopes in working cuts may be temporarily steeper than 3:1 ratio (horizontal:vertical) during operations. If these steeper slopes are to be inactive for a period of three or more weeks, they would be graded to a slope ratio of 3:1 or shallower.

Wheeled, front-end-loaders and an excavator would mine the materials to approximately one foot above the existing water table and load directly into a conveyor hopper (fitted with parallel bars to screen out large cobbles and rock). Groundwater will likely be encountered and the excavation pit would be limited to five acres in size. This would be accomplished by backfilling mined out areas of the pit with wash fines, overburden, and imported materials prior to expanding the pit size. Mined-out pit areas would be backfilled to an elevation above groundwater level as the mining phases advance. In areas where excavation extends below the water table, an excavator would be utilized for pit excavation; dewatering would not be required. The excavator would stack excavated material nearby and a loader would deliver and offload the material into the hopper.

An access point is proposed to be constructed directly across from Muirfield Drive consisting of a concrete apron that would convert to gravel surface for a short distance on the property for use during Phase 1. This access point and the existing access point on the northwest corner of the property would be used for mobilization/demobilization of heavy equipment for Phase 1. Equipment proposed to be used on site would include the front-end loaders and excavator noted above, as well as a water truck for dust suppression; dozer for rough grading, leveling, and ripping; motor grader for finish grading and maintenance; skid steer loader for a variety of cleanup activities; and a pickup for transportation for site supervisors (Table 1-1, *Project Mobile Equipment*). All equipment would be properly permitted in accordance with San Diego County Air Pollution Control District (SDAPCD) requirements. Heavy equipment would be delivered to the subphase 1A and 1A-1 areas south of the Sweetwater River Channel by crossing the existing channel during the dry season (generally July through September) within a 16-foot-wide temporary crossing area shown on Figure 1-5a. Once excavation activities within these subphase areas have been completed, the heavy equipment would be mobilized to the subphase 1B area using the same crossing. Once extraction activities have been completed within subphase 1C, heavy equipment would be mobilized for use within the Phase 2 and 3 areas south of the Sweetwater River channel from the Muirfield Drive access point, utilizing Willow Glen Drive, Steele Canyon Road, Jamul Drive, and Ivanhoe Ranch Road for one-time equipment delivery. Heavy equipment would be delivered through the existing golf course maintenance gate located off Ivanhoe Ranch Road at the subphase 2B area and then taken to subphase 2A, as shown on Figure 1-5b. When equipment needs to be mobilized to subphase areas north of the channel, a 16-foot-wide temporary crossing would be utilized in the subphase 2C area, as conceptually shown on Figure 1-5b. For equipment mobilization/demobilization, channel crossings would only be used when there is no water flow in the channel. Excavation and reclamation activities within each subphase area would be scheduled to avoid the need to cross the channel when water may be flowing. An operating procedure would be established to maintain communication with Sweetwater Authority prior to, and during, water transfers to ensure channel crossings during water flows are avoided.

Washed fines and materials undesirable for processing would be transported to backfill areas in one of three ways: (1) low-profile haul truck/tractor-trailer, (2) conveyor and haul truck, and (3) haul truck. For backfill areas north of the channel in Phase 1, the fill materials would be loaded onto a low-profile haul truck or tractor-trailer by an excavator at the processing plant and hauled along the conveyor access road (conceptual alignment shown on Figure 1-5a) to the backfill areas. Clearance under the Steele Canyon Road bridge is approximately 11 feet in height, which would allow the low-profile haul truck (approximately 9 feet in height with a capacity of 20 cy) or tractor-trailer (approximately 8 feet in height with a capacity of 16 cy) to pass beneath without requiring removal of soil material beneath the bridge. For the subphase 1A and 1A-1 and Phase 2 and 3 backfill areas south of the channel, fill material would be delivered from the processing plant area utilizing a conveyor line across existing golf course bridges. Only one conveyor line would be installed across each bridge at a time. A separate conveyor would be used to transport excavated material to the processing plant; transport of fill material to backfill areas would not interfere with transport of excavated material from active mining areas. The conveyor would transport backfill material from the processing area to Phase 2 or 3 where it would be offloaded for distribution to backfill areas with a haul truck. In order to allow for clearance below the Steele Canyon Road bridge, a tractor-trailer would be used to transport backfill material offloaded from a conveyor positioned within the Phase 2 area south of the channel, under the Steele Canyon Road bridge to the subphase 1A and 1A-1 backfill areas. For Phase 2 and 3 areas north of the channel (subphases 2A and 3D), fill material would be transported from the processing plant via haul truck. Off-road hauling of wash fines is expected to require approximately four to six round trips per day for all modes of transport to backfill areas.

It is conservatively estimated that approximately 10 percent (427,000 cy) of the excavated material would be considered not suitable for processing and thus would be retained on site and utilized for backfilling needs. It is possible that a greater percentage of excavated material would be unsuitable for sale and thus available for backfilling. In addition, approximately 2.5 million cy would be imported to the site to meet the site's overall backfill requirements. The maximum number of truck trips necessary for importing the maximum anticipated amount of backfill material is conservatively estimated to be approximately 58 truck trips per day, over the 10-year operation of the project.¹

The imported material would consist of inert debris only. Inert debris would consist of excavated soil material from development projects, clean demolition materials, and possibly concrete, asphalt and rock. The Project would be conditioned to only accept materials suitable for the end use of the site. Imported inert debris would be transported to backfill areas using the same approach described above for wash fines and materials undesirable for processing.

Mine Phases

The Project would be developed in three main mining phases, with subphases of less than 30 acres per phase and a fourth phase for cleanup, equipment removal, and final reclamation. Mineral extraction would generally proceed in a southwest-to-northeast direction. Mine phase locations are

¹ The actual number of trucks may be less, where the same truck transporting material to the site would also transfer produced material away from the site ("deadhead trip"). However, to provide a conservative analysis, 58 additional truck trips per day is assumed.

illustrated on Figure 1-4, with acreages and the estimated duration and timing of each phase and subphase summarized in Table 1-2, *Mining Phases*. Table 1-3, *Existing and Proposed Facilities and Structures*, summarizes the improvements associated with the existing golf club and proposed mining operations, and when they are scheduled for removal.

Each phase would include three to four subphases. Site preparation activities would be conducted prior to initiation of extraction within a given subphase excavation area, including vegetation clearing, topsoil removal, and stockpile creation, as discussed above. Noise barriers would be constructed to the specifications identified in Subchapter 2.4, mitigation measure M-N-1, prior to initiation of extraction activities within 400 feet of noise sensitive land uses (NSLUs), as shown in Figures 2.4-3a through 2.4-3c. Excavation in each subphase would be completed before moving the conveyor and excavation equipment to the next subphase and reclamation would begin in the completed subphase. During each of the phases, it may be necessary to re-locate existing power distribution poles that cross the golf course. Relocation or removal of power poles would be completed in accordance with San Diego Gas & Electric (SDG&E) requirements.

Phase 1

Phase 1 would include site development for construction of the internal access road and processing plant pad, as well as installation of screening vegetation, the conveyor line, and the processing plant. A loading area, truck scale, office/scale house, two storage containers, and three connected settling ponds would be installed in the processing area. An unused residential structure located adjacent to Willow Glen Drive west of the Steele Canyon Road would be demolished and all demolition waste removed from the property. Following initial site development activities, extractive operations would commence in the approximately 94-acre area west of Steele Canyon Road. Extractive operations would involve removal of materials from the surface to approximately 15 to 40 feet bgs, utilizing front end loaders and an excavator. Approximately 79 acres are proposed to be included in Phase 1, including approximately 10 acres located in the southwestern portion of the Project site within the Sweetwater River channel that are proposed for habitat improvement (refer to Section 1.2.2.2, *Reclamation Component*, below). The remaining approximately 15 acres of the Phase 1 area, which includes the Sweetwater River channel, sensitive habitat areas, and setback areas, would not be disturbed.

Excavation would begin following site preparation activities (i.e., vegetation clearing, topsoil removal, stockpile creation) in the subphase 1A-1 area south of the river channel. As noted above, materials and heavy equipment utilized during extraction activities for subphases 1A-1 and 1A would be transported across the low-flow channel during the dry season (generally July through September) when water is not present; a conceptual crossing location is identified on Figure 1-5a. Mining equipment would remain in the subphase area for the duration of mining activities within each subphase. Noise barriers would be required to be installed when extraction activities would occur within 400 feet of NSLUs, as shown in Figures 2.4-3a and 2.4-3c for subphases 1A and 1C. Mineral excavation would then proceed to remove materials from the surface, generally in a southwest to northeast direction within each subphase. Excavation would extend approximately 20 to 25 feet bgs using an excavator and wheeled front-end loaders. During excavation of subphase 1-B and 1-C areas outside the existing channel, excavation may extend into the water table. Front-end loaders would transport the mined material to the loading bin connected to the conveyor line. Mined material would then be moved by conveyor to the processing plant where it

would be washed, screened, stockpiled, and loaded for delivery. As described above, material extracted from the site that is not designated as saleable product would be utilized as backfill to construct the final landform. For Phase 1, wash fines and imported material would be returned to backfill areas by a tractor-trailer using the on-site conveyor line roads and/or over the existing golf course bridges by conveyor to areas south of the channel.

Reclamation and revegetation within each subphase area would be performed following mining, while mining would move to the next subphase area. The subphase 1A-1 areas would be reclaimed and revegetated first to support visual screening. Once excavation is complete in subphase 1A, the conveyor line and excavating equipment would move to the subphase 1B area on the western edge of the Project site. Reclamation in the subphase 1A area would then begin with final grading/establishment of final slopes and incorporation of wash fines and topsoil, installation of irrigation equipment, and revegetation. This process is proposed to continue in subphases 1B and 1C, with excavation occurring at depths up to 40 feet bgs in both of these subphases (refer to Figure 1-5a). These areas have been identified for mining up to 40 feet bgs. Subphase 1C is the largest of the subphases at approximately 30 acres and is identified as an over-excavation area on Figure 1-6a. In addition to incorporation of wash fines, inert debris also would be utilized to achieve finished grades in this subphase.

Excavation in each subphase is expected to take approximately one year. Upon completion of mining activities in Phase 1, materials and equipment would be moved from the Phase 1 area via the access point at Muirfield Drive, trucked to the access point at Ivanhoe Ranch Road (existing maintenance entrance for golf course), and mobilized to the Phase 2 area. A permanent erosion control riprap structure would be installed on the west side of the Steele Canyon Road bridge following completion of excavation in Phase 1, in order to protect areas near the bridge from downstream erosion (see Figure 1-5a).

Phase 2

Prior to the initiation of extraction activities within the Phase 2 area, site preparation activities would be conducted, including vegetation clearing, topsoil removal, stockpile creation, and noise barrier construction (where extraction activities would occur within 400 feet of NSLUs, as shown in Figures 2.4-3b and 2.4-3c for Phase 2). Extraction would occur in a west-to-east direction from subphase 2A to 2C within an approximately 48.2-acre area east of the Steele Canyon Road bridge. Mined material would be moved by conveyor to the processing plant where it would be washed, screened, stockpiled, and loaded for delivery. In order to excavate within the northern portion of subphase 2A, equipment may be mobilized across the channel (during the dry season) or from the processing plant area. Both the conveyor crossing areas and conceptual 16-foot-wide temporary crossing for Phase 2 are shown on Figure 1-5b. The maximum depth of the excavation is expected to be 40 feet bgs, outside the low-flow channel in subphases 2B and 2C (refer to Figure 1-5b). The equipment would remain on site until excavation is completed for each subphase. Excavation in each subphase is expected to be completed in approximately one year; overall, Phase 2 is anticipated to last approximately three years. Upon conclusion of Phase 2, the conveyor line would be relocated to run from the processing plant to the eastern end of the Project site in preparation for Phase 3.

Reclamation of the Phase 2 subphases would begin as the final landforms are established in each subphase. As described above, both material extracted from the site that is not designated as saleable product as well as imported backfill (inert debris) would be utilized as backfill to construct the final landform. Reclamation would include establishment of all final slopes, incorporation of accumulated wash fines and topsoil, and revegetation. Three existing transmission towers owned by SDG&E would be avoided during Phase 2 excavation, leaving an “island” for the towers. An access ramp would be constructed on the western side of the island to connect to a 28-foot-wide access road within the existing SDG&E right-of-way easement that runs from the towers to the southern Project boundary. The ramp and slopes surrounding the towers would be lined, as needed, for access and to prevent erosion. Maintenance of this access road/ramp would ensure that SDG&E maintenance crews are able to access the towers during Project operations.

Phase 3

Excavation would continue for Phase 3 on approximately 78 acres east of the Phase 2 area. Phase 3 is anticipated to last approximately four years and would include four subphases. The same excavation and transportation procedures would be used as the two previous phases. Subphase 3A would be located at the northeast edge of the property. Excavation of each subphase would proceed westward. The maximum depth of excavation would be approximately 40 feet bgs in the eastern portion of subphase 3A (Figure 1-5b).

Reclamation in each of the Phase 3 subphases would begin as the final landforms are established. Reclamation would include establishment of all final slopes; incorporation of inert debris (within over-excavation areas identified on Figure 1-6b), accumulated wash fines, and topsoil; and revegetation.

Phase 4

Phase 4 would consist of removal of the processing plant, grading to final contours, final reclamation and revegetation efforts, cleanup, and equipment removal. This phase is expected to last approximately 8 to 10 months after the end of extraction activities in Phase 3. Revegetation monitoring would continue after this final phase for five years or until revegetation standards are met after this final phase.

Aggregate Processing

The Project would include a processing plant to wash and stockpile finished products. This would be located near the center of the Project area, adjacent to Willow Glen Drive and west of the existing golf course parking lot. The plant site would consist of aggregate processing and washing facilities, three settling ponds, and a loadout area, as well as support facilities (Figure 1-7a, *Processing Area Layout*). As described in Section 1.2.1.4, vegetative screening/landscaping would reduce visual exposure (Figure 1-7b, *Processing Area Landscape Screening*). Where existing or proposed fencing is not screened by existing or proposed vegetation, green screening mesh would be installed on perimeter fencing along Willow Glen Drive to screen Project operations from public view. Refer to Sections 1.2.1.4, *Landscaping*, and 1.2.1.5, *Fences*, for additional details.

The plant would screen and wash raw material into marketable PCC-grade construction aggregate material, including washed concrete sand, asphalt sand, pipe bedding, and some gravel. No

crushing would be necessary to process the materials extracted from the site. The plant and conveyor equipment are summarized in Table 1-4, *Plant and Conveyor Equipment*.

From the conveyor belt, material would be transferred to a blade mill, where material would be mixed with water to start the process of separating it into different sizes. Processing would occur through use of a screen deck plant capable of processing 400 tons per hour of raw material. The screen deck is a mechanical screening device that is used to separate granulated ore material into multiple grades by particle size. A screening machine consists of a drive that induces vibration, a screen media that causes particle separation, and a deck that holds the screen media and the drive (Figure 1-8, *Conditioner and Wet Screen – Profile*). This drive is used to cause the vibration that moves material down the screen media. As material becomes too fine to separate by a screen, the material is moved to a fine material screw, or sand screw, for washing. These fine material washers utilize a water bath and inclined augers to separate the fines (clay and silt) from the fine and very fine sands that are used in mortar and plaster. Fine materials are then piped to the first in a series of three settling ponds where fines settle. Clean water would be recycled through the process, with additional water provided by on-site groundwater wells as needed.

Once the processed aggregates are separated into different sizes, radial stacker conveyors would be used to stockpile the materials, and wash fines would be transferred to the settling ponds. Stockpiles would be up to 25 feet in height and located near the plant. The two primary stockpiles would consist of washed concrete sand and gravel. Other smaller stockpiles may be located within the loadout area, depending on the material being processed at the time; these stockpiles are not expected to exceed 15 feet in height. Customer trucks would be loaded with finished products from stockpiles by a front-end-loader and transported off-site. The weight capacity of a standard heavy vehicle for outgoing loads is approximately 25 tons of material transported per truck. With a maximum annual rate of production of 380,000 cy (570,000 tons), approximately 1,462 cy (2,192 tons) of materials would leave the site each day. A maximum day would include 88 one-way heavy vehicles accessing the Project site. As many as 15 over-the-highway trucks may be parked on site each day near the processing area and entrance to the site. Sand extraction operations would be conducted approximately 260 days per year, on weekdays, between the hours of 7:00 a.m. to 5:00 p.m. Trucking would occur from 9:00 am to 3:30 p.m. during the week. No activities would occur on weekends or major holidays.

Wash fines produced from the processing plant would be gathered in three settling ponds located near the plant that are 300 feet long, 50 feet wide, and 10 feet deep. The first pond, referred to as the “muck” pond, is where most of the sediment from the wash slurry settles and would be cleaned more frequently than the other ponds. These ponds would be used to protect surface water quality and to recycle the process water through the settling of silts and clays (wash fines). The ponds also would be used to collect local runoff that may be transporting earthen solids. These ponds would be cleaned occasionally by removing the sediment collected. Sediment would be stockpiled parallel to the prevailing wind direction for dewatering. When ponds are cleaned, the wash fines (silt, clay, and organic material) would be sold as a soil amendment or returned to excavation areas that have been completed to be used as backfill or incorporated into the surface of excavated areas as rough backfilling. Selling wash fines would be driven by market demand and would depend on orders for specific uses such as improving the texture of a planting mix, improving water retention, or for recreational uses. These orders are expected to be generally small in number and volume of material (estimated at approximately one haul truck load per month) and would be sold and

transported directly from the processing area between the hours of 9:00 a.m. and 3:30 p.m. The quantity of backfill materials would depend on the quality and composition of the excavated material; a 10 percent “waste factor” is typically estimated in aggregate mining for wash fines and materials undesirable for processing (e.g., low in sand). Materials not selected for processing would be utilized as backfill. Wash fines would be returned to backfill areas north of the channel by an off-road haul truck or tractor-trailer using the on-site conveyor line roads. Off-road hauling is expected to require approximately four to six round trips per day. South of the channel washed fines would be transported over the existing golf course bridges by conveyor, then transported by haul truck or tractor-trailer to backfill areas. A tractor-trailer would access Phase 1 by going underneath the Steele Canyon Road bridge; no equipment would cross the channel for backfilling.

Support Facilities

Additional support facilities adjacent to the processing plant would include a modular office trailer/scale house, one 70-foot truck scale, two storage containers for tools, and a portable restroom.

On-site Personnel

A total of 9 employees and up to 4 vendor vehicles are expected to access the Project site on a typical day. The employees would be responsible for tasks associated with mining and processing activities, environmental compliance, safety, management, and administrative tasks. The vendors would conduct sales or provide supplies, fuel, and maintenance to the heavy equipment and facilities utilized during mining.

Storm Water and Erosion Control

A Storm Water Pollution Prevention Plan (SWPPP) would be prepared and submitted to the State Water Resources Control Board (SWRCB) prior to construction in accordance with the Industrial General Permit Order 2014-0057-DWQ, effective July 1, 2015. The SWPPP and erosion control plan would define best management practices (BMPs) to prevent erosion and the discharge of sediment to surface waters. If needed during mining, small desiltation basins may be temporarily constructed to capture runoff from existing culverts underneath Willow Glen Drive and to prevent sediment from leaving the site while allowing water to pass through to existing drainage features. Runoff would be directed from the disturbed mining and reclamation areas towards the basins, as necessary, to allow for desiltation and infiltration. Typical soil stabilization BMPs include mulch, hydroseeding, soil binders, geotextiles, lining of drainage ditches, and/or velocity control structures. At a minimum, erosion and sedimentation control measures would be designed for the 20-year, 1-hour storm event in accordance with SMARA guidelines. Silt fences would be installed five feet from the outer edge of each side of the existing Sweetwater River channel and may be installed in other areas. Other erosion control measures would include monitoring soil movement, arresting gullies or rills using straw mulch and hay bales, compacting soils with equipment, and re-grading as necessary. Vehicle track out and dust-related BMPs may include paved or stabilized roadway surfaces, tire washes, use of grates at vehicle entrances or exits, soil stabilizers, and water spray. Temporary erosion control measures would be retained until vegetation becomes sufficiently established to serve as an effective erosion control measure. Recommended erosion and sedimentation control measures would be described in detail in the Project SWPPP.

Water quality and hydromodification for permanent construction (e.g., Willow Glen Drive improvements) and impervious areas would be addressed with a Priority Development Project (PDP) Storm Water Quality Management Plan (SWQMP) and permanent post-construction BMPs. As noted in the SWQMP, stormwater runoff from the Willow Glen Drive improvements would be directed along the southerly curb of Willow Glen Drive. A proposed spillway would be installed along the westerly end of the roadway improvements to convey the runoff into tree wells just south of the street (see Figures 1-5a and 1-5b). Two tree wells with a 25-foot mature tree canopy diameter would be installed to satisfy the required treatment volume.

Equipment Maintenance

Mobile equipment utilized for project operations would be maintained by private vendors. Maintenance and repairs on the site's mobile mining equipment would be completed on a level area near the active excavation and away from drainage features. Ground protection and spill containment, which would include plastic sheeting to line a bermed sump and absorbent pads, would be placed in the work area prior to work being conducted on the equipment to contain leaks and prevent accidental spills from reaching the ground. Available clean up materials would include absorbent pads, pillows, dry absorbent, flat nosed shovel, a broom, and a waste container for any clean up materials used. All materials used to clean up a spill would be transported from the site and disposed of at a licensed facility in accordance with state and federal requirements.

Vector Control

The mining operator would control mosquito breeding using BMPs in accordance with requirements of the San Diego County Department of Environmental Health and Quality (DEHQ) and the Project-specific Vector Management Plan (refer to Section 3.1.4, *Hazards and Hazardous Materials*, of this EIR). An active management plan would be implemented to ensure that water collected in the mining areas, process settling ponds, and Sweetwater River does not propagate the breeding of vectors. Vector management would be implemented through monitoring and, where necessary, corrective measures. As wash water is pumped to the process settling ponds for use in material processing and dust control, excess water would be collected and allowed to infiltrate or return to process cycle after a short retention period. Two submersible pumps enclosed in a waterproof casing would feed and circulate the wash water. Water used in the washing operation would be continuously reused and recycled. During the wet season (generally October through March), the mining areas, process settling ponds, and the streambed would be visually inspected monthly by the operations staff for the presence of vectors. The mining areas, process settling ponds, and the streambed would be visually inspected monthly during the wet season and weekly during the dry season (generally July through September) by the operations staff for the presence of vectors. If necessary, corrective measures would be initiated.

Emergent vegetation would be removed when recommended by the County DEHQ Vector Control Program, or when emergent vegetation (e.g., cattails, sedges, etc.) is in excess of 50 percent of the surface area. Emergent vegetation would be controlled by hand labor, mechanical means, or by frequent clear cutting. Herbicides may be used as needed to control re-growth. Removal of vegetation by hand would be the preferred method in order to lessen the re-growth frequency and density. Floating vegetation conducive to mosquito production (i.e., water hyacinth [*Eichhornia* spp.], duckweed [*Lemna* and *Spirodela* spp.], and filamentous algal mats) would be removed. Foot

pathways would be maintained for surveillance and abatement methods. Sizing of pathways would be a minimum of five feet wide to allow access to any ponded area.

Additionally, good housekeeping BMPs would be implemented to avoid attracting rodents to the buildings and structures at the Project site, including placement of all trash and debris in sealed bins, timely removal of refuse by a licensed disposal company, use of traps to control rodents if observed, and proper training of all on-site staff.

1.2.1.2 Reclamation Component

In association with the MUP, a Reclamation Plan for mining activities would be required in compliance with SMARA and the County Grading Ordinance. Reclamation plans are developed to identify reclamation measures and establish performance standards for reclamation adequacy of mined lands. These measures include protection of wildlife habitat; revegetation; recontouring and erosion control; elimination or reduction of residual public health and safety hazards; and minimization of environmental impacts. A reclamation plan also addresses subsequent uses of the property and identifies schedules for reclamation activities.

Areas disturbed by resource extraction would be progressively reclaimed in an ongoing process that commences when mining operations have ceased within a given area and continues until all mining-related disturbance is reclaimed and all equipment involved in these operations has been removed. Reclaimed areas would be restored to an end use of open space, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications. Specifically, nearly 52 percent of the project site (142.8 acres) would be preserved in a biological open space easement to be held by the County. The reclamation plan for the riparian corridor is intended to stabilize the post-extraction landform and establish a productive native vegetative cover. For the areas outside the riparian corridor, the revegetation plan is intended to stabilize the surface and control erosion.

Reclamation of each area would begin as the final landforms are established. Reclamation would include establishment of all final slopes; incorporation of imported inert debris, accumulated wash fines, and topsoil (as applicable); revegetation of the channel using appropriate native species common to riparian habitat; establishment of upland vegetation on the upper slopes; weed control; and monitoring, as further detailed below.

All material extracted from the site, not designated as saleable product, would be utilized as backfill to construct the final landform. No tailings or waste piles would remain following conclusion of extractive operations.

Landform

The final landform of the site would be a relatively flat plain that gently slopes downward from east to west (Figures 1-6a and 1-6b). Following extraction in areas where over-excavation deeper than the adjacent channel occurs, backfill would be placed to achieve the desired final elevation. Backfill is expected to be a combination of inert debris and overburden and wash fines produced at the wash plant. Fill material in the backfill areas would be spread in near-horizontal layers, approximately eight inches thick. Thicker lifts may be approved by the geotechnical engineer if testing indicates that the grading procedures are adequate to achieve the required compaction. Each

lift would be spread evenly, thoroughly mixed during spreading to attain uniformity of the material and moisture in each layer, brought to near optimum moisture content and compacted to a minimum relative compaction of 85 percent in the floodway area and up to 90 percent in upland areas. In areas below the water table, the material would be placed at the edge of the pit and deposited to allow it to settle naturally. Once there is a working surface, compaction would occur. If necessary, over-compaction of the surface soil would be relieved by ripper, disc, and/or scarified to improve seed bed conditions for plant growth. Wash fines and inert debris would be used as backfill and blended with topsoil and used as a top dressing.

A widened river channel, more similar to pre-disturbance conditions, would bisect the length of the site. Banks of the river channel would slope up to the plain surface at a 3:1 ratio (horizontal:vertical) or shallower. The elevation difference between the bottom of the river channel and the top of the slope may be up to 25 feet (Figure 1-9, *Typical Slope Grading Detail*). The reclaimed river channel would average approximately 250 to 300 feet in width. In some areas, benches may be constructed on the face of the riverbanks to accommodate varying vegetation types and/or multi-use trails. The riparian corridor would be re-established with native habitat and natural landforms consistent with the surrounding area. Reclaimed upland areas would be similar in elevation to Willow Glen Drive.

Portions of the Sweetwater River channel located along the southwest edge of the Lakes Course are heavily vegetated with a mixture of native and non-native plant species. This part of the channel is currently a choke point for water as it exits the Project site. These areas would be incorporated into the reclamation plan by modifying the topography, removing invasive species, and replacing with native vegetation. Removal of invasive plants would occur manually and/or through herbicide use. Those treated with herbicide would either be manually removed after herbicide treatment or left to decompose. Herbicide use within the Project site would be conducted in accordance with all label instructions and local, state, and federal regulations, including application rates and methods, storage, transportation, mixing, and container disposal. In addition, only herbicides approved for aquatic use would be applied in areas within or adjacent to Sweetwater River and other waters, or areas with potential to drain into these areas. Invasive plant material would be removed from the site and disposed of off-site at a licensed landfill. To improve the channel and expand the riparian vegetation in this area, approximately 70,000 cy of material would be removed. Widening the floodplain at this location and revegetating the area would improve drainage and replace existing vegetation that is dominated by invasive plant species with more desired species. Work in this area, including planting native species, would be completed in the first phase of the Project.

Revegetation and Erosion Control

Plant species used in the revegetation effort would be capable of self-regeneration without continued dependence on irrigation, soil amendments, or fertilizer, and would include species representative of natural habitat. This would include riparian habitat within the river channel, coastal sage scrub on the channel slopes and upland areas with an end use of open space, and an erosion control seed mix for other areas outside the riparian corridor (Figure 1-10, *Conceptual Reclamation Revegetation and Compensatory Mitigation Areas*). Sample revegetation plant palettes are presented in Table 1-5, *Riparian Forest Plant Palette*, Table 1-6, *Riparian Scrub Plant Palette*, Table 1-7, *Streambed (Emergent Wetland) Seed Mixture*, Table 1-8, *Diegan Coastal Sage*

Scrub Plant Palette. The proposed erosion control seed mix is included in Table 1-9, *Erosion Control Seed Mix.*

Revegetation would occur through a combination of planting and hydroseeding. Hydroseeding is the hydraulic application of a homogeneous slurry mixture consisting of water, seed mix, cellulose fiber, and a binding agent such as “M” Binder. Fertilizer can be added if the soil analysis shows the need for addition of amendments; however, this is not anticipated. The hydroseed mixture would consist of the following materials:

- 2,000 pounds per acre cellulose fiber
- 140 pounds per acre “M” Binder (gluing agent)
- 200 pounds per acre Milogranite (fertilizer if required)
- Seed mix as listed

Seeding and planting would occur at times when winds are relatively calm, between November and February to take advantage of the natural precipitation season for Southern California. This planting period may be extended due to the use of irrigation.

Where final landforms have been established, but are not yet available for final reclamation, erosion control would be provided through revegetation with the general erosion control seed mix. The application of the seed mix would be completed on an as-needed basis to control erosion and weed propagation.

Irrigation

As final landform areas are prepared for planting and seeding, temporary above-ground irrigation would be installed. An irrigation plan would be developed in accordance with the recommendations of the Project Landscape Architect and submitted to the County for approval prior to implementation. Supplemental irrigation of reclaimed lands may be used during the first two years after planting to augment natural precipitation and assist with the propagation of reclaimed vegetation. Watering would only occur to assist in initial establishment and/or in long periods of extended dryness. Irrigation would not be used continuously after seeding. Irrigation would be accomplished using sprinklers and would adhere to the Water Conservation in Landscaping Ordinance. Irrigation water would be provided by existing wells on site.

Monitoring

Vegetation monitoring would continue for five years or until the County and the State Division of Mine Reclamation acknowledge that performance standards have been met. Prior to release of the financial assurance, all revegetated areas must meet performance standards. Proposed performance standards, which are subject to minor adjustments, are summarized in Table 1-10, *Performance Standards.* A minimum of two revegetation test plots would be established in the Phase 1 area by the project biologist as reclamation commences to help ensure successful implementation of the revegetation plan. The first should be located at a lower elevation in an area of riparian plantings and second at a higher elevation that encompasses coastal sage scrub/upland plantings. The project biologist also would develop an evaluation plan that would be implemented after the test plots are

planted. Success of these test plots would be judged based upon the effectiveness of the vegetation for the approved end use, and by comparing the quantified measures of vegetative cover, density, and species richness of the reclaimed mined lands to the surrounding area. Comparisons would be made by a qualified individual until performance standards have been met.

Since revegetation would occur concurrently with extractive operations, revegetation practices would be continually evaluated as revegetation is completed throughout the site. Records would be kept of soil preparation, including the addition of amendments as determined to be necessary, seeding techniques, and erosion control measures. Annual monitoring reports would be submitted to the County until the approved success criteria have been met and approved by the County. When the County agrees that revegetated areas meet success criteria for two consecutive years, no further monitoring would be required, and the operator may apply for release of financial assurances and SMARA closure.

Weed Control and Maintenance

Weed control is necessary to reduce or eliminate the occurrence of undesirable non-native species of plants that may invade the site where mining activities have removed the plant cover and where active and natural revegetation is taking place. Non-native invasive species (weeds) can compete with native plant species for available moisture and nutrients and consequently interfere with revegetation of the site after the completion of mining. Therefore, weed control and maintenance on the site would occur continuously during Project operation and the reclamation process, with a focus on control of invasive plant species such as those species listed in Table 1-11, *Weed Species of Concern*.

The occurrence of weeds on the site would be monitored by quarterly visual inspection during active mining operations. The goal is to prevent weeds from becoming established and depositing seeds in areas to be revegetated in the future. If inspections reveal that weeds have become, or are becoming, established on the site then removal would be initiated. Weed removal would be accomplished through manual, mechanical, and/or chemical methods depending on the specific circumstances. Smaller plants (brome grasses, pepper weed) that cover more area may be sprayed, scraped with a tractor, or chopped by hand, depending upon the size of the area of infestation and the number of desired native plants in proximity to or mixed with the weeds. As discussed above, chemical (i.e., herbicide) use within the Project site would be conducted in accordance with all label instructions and local, state, and federal regulations, including application rates and methods, storage, transportation, mixing, and container disposal. In addition, only herbicides approved for aquatic use would be applied in areas within or adjacent to Sweetwater River and other waters, or areas with potential to drain into these areas.

Maintenance of the revegetation areas would consist of replanting and/or reseeding unsuccessful revegetation efforts. If revegetation efforts are not successful within four years following the initial seeding, seeded areas would be reevaluated to determine the measures necessary to improve revegetation success. If necessary, these areas would be reseeded with methods modified as needed. Prior to reseeding, the revegetation specialist would evaluate previous revegetation practices and test plot results to identify cultural methods to benefit the overall revegetation effort.

1.2.1.3 Access, Circulation, and Parking

The Project proposes to restripe Willow Glen Drive between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bike lanes on both sides of the roadway per the County Roadway Standards as part of the pre-mining improvements (refer to Figure 1-5b). To facilitate deceleration of right-turning vehicles into the Project ingress driveway, a dedicated right-turn lane would also be constructed, which would serve as the primary access for mining operations, material sales, employees, and vendors. A new egress point would be established in the approximate center of the existing parking lot (refer to Figure 1-5b). The Project also proposes to construct a two-way left-turn lane between the ingress and egress driveways, which would serve as a refuge lane for trucks to complete their outbound maneuver. Willow Glen Drive between Steele Canyon Road and Hillsdale Road is classified in the County General Plan Mobility Element as a 4.1B: Major Road with Intermittent Turn lanes. The Project frontage along this stretch of roadway extends between Steele Canyon Road to approximately 1000 feet west of Hillsdale Road. In addition to the above improvements, the project proposes to provide an Irrevocable Offer of Dedication along the Project frontage as needed to accommodate the ultimate roadway classification of Willow Glen Drive.

A new access point to the property from Willow Glen Drive west of the Steele Canyon Road (Phase 1 area) would be necessary as the clearance height of the bridge that crosses the Sweetwater River on Steele Canyon Road would not allow most large trucks used by service vendors (e.g., to provide fuel and maintenance to the heavy equipment utilized during mining) to pass beneath the bridge. Current access from Willow Glen Drive to the western portion of the property is provided by a small driveway at the northwestern corner of the property. During the initial stages of the Project, this access point may be used briefly for equipment delivery. However, a more substantial access point for this area of the Project would be constructed at the intersection of Willow Glen Drive and Muirfield Drive as part of the pre-mining improvements, prior to initiation of Phase 1 activities (refer to Figure 1-5a). The access driveway would consist of a two-lane concrete apron that would transition to a gravel surface segment of road within the Project site and would be used primarily for mobilization/demobilization, servicing of heavy equipment, and reclamation for the Phase 1 area west of Steele Canyon Road. Both the Muirfield Drive access and existing driveways with gates would remain in place for the property owner after mining activities have been completed. This access point would not be used for transport of backfill materials to the Phase 1 area.

An access point to the property that is used by the golf course for maintenance exists from Ivanhoe Ranch Road, south of the river. This access point may be used for heavy equipment delivery and removal within Phase 2 and 3 areas south of the Sweetwater River channel but would not otherwise be used for mining purposes. The existing maintenance gate may also be used for reclamation maintenance and monitoring after mining in Phases 2 and 3 has ended.

Trucking operations for material sales would operate from 9:00 a.m. to 3:30 p.m. Monday through Friday to avoid peak traffic periods. There would be no trucking from the site or processing of materials on Saturdays, Sundays, and major holidays (as listed in Section 36.408 of the San Diego County Code of Regulatory Ordinances). As many as 15 over-the-highway trucks may be parked each day near the processing area and entrance to the site west of the existing golf course parking

lot. A parking lot would be provided near the processing area that would accommodate the 9 employee and 14 vendor vehicles.

Trails and Pathways

A pedestrian pathway would be provided along the northern Project frontage/Willow Glen Drive east of Steele Canyon Road to provide pedestrian access within the Project vicinity where there are no existing sidewalks. The public pathway has been designed to avoid removal of existing mature screening vegetation (refer to Figures 1-11a through 1-11e, *Conceptual Landscape Screening and Entrances Plan*). The pathway would range in width from eight feet wide just east of Steele Canyon Road, to five feet wide in the eastern portion of the Project site where the potential pathway alignment is constrained by existing topography and the Sweetwater River channel.

A publicly accessible community trail is also proposed to be constructed within the Project site, as shown in Figure 1-12, *Trail Plan*. The multi-use trail would connect to the pathway described above. The trail would be constructed by the Project applicant in conjunction with final site reclamation activities. Specifically, trail construction would be completed in segments and would begin in a phase area when mining activities have been completed in the phase area and reclamation has begun in the final subphase of that area. For example, in Phase 1, construction of the trails in that segment of the Project area would begin during reclamation of subphase 1C, when no mining activities are occurring in Phase 1. This would then continue during Phases 2, 3, and 4. The County has identified a number of existing and proposed community pathway and trails located along public rights-of-way, over private property, and through County-owned land in the vicinity of the Project in the Valle De Oro Community Trails and Pathways Plan, which is a component of the County Trails Program Community Trails Master Plan (CTMP; 2005, as amended). The location and design of on-site trails would be coordinated with the County.

1.2.1.4 Landscaping

Existing landscape vegetation along Willow Glen Drive, which primarily consists of trees and shrubs such as acacia, Peruvian pepper trees, and oleander, would be maintained to the extent feasible during Project operation to provide a visual screen between Project activities and the public. A tree survey conducted along the northern Project boundary identified a total of 477 trees that currently provide landscape screening. Approximately 67 (14 percent) of the existing trees would be required to be removed to construct the Project entrance and Willow Glen Drive improvements, including eucalyptus (*Eucalyptus* spp.), palm (*Washingtonia robusta*), California pepper tree (*Schinus mole*), European olive (*Olea europaea*), and *Myoporum laetum* (no common name) species. Tree removal would be concentrated east of Steele Canyon Road and west of the existing golf course parking lot where the improvements to Willow Glen Drive and Project ingress driveway are proposed. The full extent of tree removal would be confirmed once improvement plans are prepared as a condition of the Project MUP. Replacement trees would be planted prior to initiation of Phase 1 to provide visual screening of mining activities from Willow Glen Drive and viewers to the north of the Project site. The landscaping would be installed along Willow Glen Drive, adjacent to the Project entrances, and to provide additional screening of the plant area and parking lot (Figures 1-11a through 1-11e). Mature 36-inch box Mexican elderberry trees are proposed to be installed along the western and southern boundary of the processing plant footprint

prior to the initiation of Phase 1 (Figure 1-7b). These trees would be installed in ground and would be maintained throughout the duration of mining operations on the Project site. Although it may be possible to salvage some existing vegetation within areas proposed for extraction, the existing native tree species are reaching the end of their life span and may not survive relocation. Due to the relative lack of native vegetation on the property, on-site seed collection would be minimal.

Trees planted for landscaping and screening would include coast live oak (*Quercus agrifolia*), Fremont cottonwood (*Populus fremontii*), and Western redbud (*Cercis occidentalis*). Additional plants to be employed include shrubs (California lilac [*Ceanothus* x 'Ray Hartman'], toyon [*Heteromeles arbutifolia*], lemonade berry [*Rhus integrifolia*]), groundcover (dwarf coyote bush [*Baccharis pilularis*]), and a coastal sage scrub seed mix. Trees would be spaced approximately 20 to 25 feet on center. Where feasible, trees would be grouped such that some trees would be located diagonally behind others.

1.2.1.5 Fences

During the Project's operational lifetime, public access would be controlled by fencing on the perimeter of the property and gates on the access roads within the Project boundaries. Lodge pole fencing would be installed on the south side of the proposed pathway along the northern Project frontage/Willow Glen Drive east of Steel Canyon Road. In addition, appropriate signage would be posted around the perimeter of the excavation area and Project boundary at 150-foot intervals; wayfinding/directional signage would be provided for the pathway. The majority of the site is already surrounded by chain link fencing, with fencing to be replaced/repared where missing or damaged. Fencing along the San Diego National Wildlife Refuge (SDNWR) to the southwest of the Project site would consist of four-foot-high, four-strand barbed wire; along all other public areas a six-foot-high chain link fence would be installed where not currently present. Where the fencing is not screened by existing or proposed vegetation, green screening mesh would be installed to screen Project operations from public view. The gates would be locked during non-operating hours. Security fencing would be removed after reclamation is complete, at the owner's request.

1.2.1.6 Lighting

Shielded night lighting would be installed around the processing plant for safety and security purposes. Lighting would be designed to minimize glare and reflection onto neighboring areas and is anticipated to include mounted sodium, metal halide, fluorescent, or light-emitting diode (LED) lighting. Lights would be directed downward and would have cut-offs installed to minimize spillover onto adjacent properties. Each light would provide the lowest light level necessary and would be limited to less than 4,050 lumens output, maintaining compliance with State and local regulations. Additional detail regarding lighting is discussed in Section 3.1.1, *Aesthetics*.

1.2.1.7 Utilities and Services

Electricity

Electrical power would be provided by SDG&E through an overhead distribution line that enters the site from the northwest. The Project would utilize temporary power poles for the plant location and conveyor system. Existing transmission lines across the site would be retained in their current

locations and the area immediately surrounding the existing transmission towers would not be subject to excavation. SDG&E easements would remain in place after the Project is completed.

Water

Eight groundwater wells on the property currently provide irrigation water for the golf courses, and would be used for dust control, processing, and irrigation during Project operation. Wells not proposed to be used by the property owner or for groundwater monitoring after mining and reclamation have been completed would be properly abandoned. Sweetwater Authority has requested that two wells, Lakes #11 and Ivanhoe #11, remain in place after cessation of mining and reclamation activities so groundwater monitoring can be continued in this area of the river. It is the intent of the Project not to remove these two wells unless it is required.

Bottled drinking water for the mine staff would be provided by a private vendor. The estimated existing annual groundwater usage from well pump data provided by the course superintendent is 840 acre-feet. The annual water usage, including evaporation from course ponds, was estimated as 804 acre-feet using the evapotranspiration method described in the Groundwater Sustainability Plan for Borrego Valley (Borrego Valley Groundwater Sustainability Agency, 2019), as referenced in the project reclamation plan. Water use by the Project for all purposes has been calculated at 139.9 acre-feet per year, or a reduction of approximately 664.1 acre-feet or 82 percent per year relative to existing conditions.

Sand mines use water to wash the material for use off site and water roads and stockpiles for dust suppression. The total amount of water used in the mining and processing is “handled water;” water that is lost from the site during the mining and processing is “consumed water.” A water truck would be used for dust suppression on all operating areas. This would include material stockpiles and unpaved areas within the mining area, the processing plant, and access road. Outgoing loads also would be surface-watered for dust suppression purposes. Dust suppression is estimated to require 20.3 acre-feet of water per year. Water usage for processing would depend on production volume. The Project’s estimated water usage assumes the maximum annual production of 570,000 tons. Of the 203 gallons per minute (gpm) of water used in the washing operation, 87 percent would be continuously reused and recycled. Approximately 38 gpm of continuous water input on workdays would be required to make up for approximately 13 percent that is estimated to be lost through evaporation and retention on material. Water consumed for processing is estimated at 64 acre-feet annually based on the maximum annual production rate. This includes the 20.3 acre-feet per year noted above for dust control, 20.3 acre-feet per year attributed to evaporation from stockpiles, and 23.4 acre-feet per year of water retained on aggregate product that is taken off site within exported mining materials. An additional 20.3 acre-feet per year would be consumed in association with evaporation from mining pit areas where groundwater may be encountered. Irrigation of landscaping near the entrance and as supplemental water on revegetated areas is estimated to utilize approximately 55.6 acre-feet per year. Total water consumption for the Project is estimated at 139.9 acre-feet per year.

Wells not to be used by the property owner or for groundwater monitoring after mining and reclamation are complete would be properly abandoned. Wells in the mining footprint, or not to be used in the future, would be abandoned as each mining phase is completed in accordance with County requirements and standards. As noted above, Sweetwater Authority has requested that two

wells, Lakes #11 and Ivanhoe #11, remain in place after cessation of mining and reclamation activities so that they can continue groundwater monitoring in this area of the river.

Additional discussion regarding proposed water use is provided in Section 3.1.6, *Hydrology and Water Quality*, and 3.2.7, *Utilities and Service Systems*.

Sewer

The Project would utilize portable restroom(s); no sewer connections are proposed. One portable restroom would be placed in the plant area and the second would be placed near the active excavation area and moved as needed. They would be serviced at appropriate intervals by contract vendors.

Solid Waste Disposal

Domestic refuse would be collected in trash bins and removed by a licensed, refuse disposal company. Equipment would be maintained on site and all used oils, fuels, and solvents would be collected in accordance with the Department of Toxic Substances Control (DTSC) regulations and removed from the site by an approved hauler for materials recycling.

1.2.2 Technical, Economic, and Environmental Characteristics

In accordance with the Project objectives, the Project has been designed to allow for the recovery and processing of construction aggregates in a financially sound and efficient manner, while considering environmental considerations. The complete suite of environmental characteristics, including comments that were received during the Notice of Preparation (NOP) public review period (Appendix A), was considered during the planning and design of Project facilities.

A California Geological Survey (CGS) special report classified the Cottonwood Golf Course to Mineral Resource Zone (MRZ-) 2, which is defined as an area where “adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.” The material specifications for PCC-grade aggregate are more restrictive than those for other grades of aggregate, which makes these deposits the scarcest of aggregate resources (CGS 2017). The Project would involve the extraction of aggregate sand, which is a known mineral resource that is of value to the region and the residents of the state.

The Project would extract these resources for local uses. The CGS report estimates that an average of 2.02 million tons per year of aggregate (primarily sand) were imported into western San Diego County between 1995 and 2014 (CGS 2017). Providing an additional local supply of aggregate material would reduce the need to import material from more distant mines. This issue is highlighted in the CGS Special Report 240, *Update of Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in the Western San Diego County Production-Consumption Region* (2017, pp. viii-x):

“Since the mid-1990s, local aggregate production has not been sufficient to meet local demand in the P-C Region [Western San Diego County Production-Consumption Region]. This shortfall has been met by importing construction aggregate, **predominately sand** [emphasis added], from neighboring aggregate producing regions. At various times,

construction aggregate has been imported into the P-C Region from mines in Los Angeles, San Bernardino, Riverside, and Imperial counties, and Baja California, Mexico....When compared to local production, importing aggregate is often more expensive and results in higher emissions of greenhouse gases, air pollution, traffic congestion, and road wear and maintenance because of increased truck traffic. These impacts occur both within the importing region and in the neighboring regions that supply the material and through which the material is transported.”

Proposed mining depths were determined based on existing surface elevations, production goals, and proposed reclaimed surface elevations. These depths would allow flexibility to meet those goals in the event more material considered unsuitable for processing is encountered than anticipated. The stability of slopes created during mining operations would be governed by the Mine Safety and Health Administration (MSHA) to ensure worker safety. The proposed permanent slopes would be a maximum grade of 3:1 (horizontal to vertical) to provide an appropriate factor of safety.

Proposed mining setbacks in areas adjacent to residential properties were increased from 50 feet (derived from Section 87.412 of the County of San Diego Grading Ordinance) to 100 feet, or areas were excluded from excavation, to assist in reducing noise and visual impacts to those residents, specifically those along Willow Glen Drive to the north of the Project site and those along the southern boundary of the central portion of the Project site. The increase in setback distance was determined based on being able to provide reduction in noise and visual impacts while maintaining sufficient mining area to be able to meet the Project objective of providing 570,000 tons per year of aggregate product. In addition, certain areas of the property were excluded from excavation to avoid disturbing identified habitat and other sensitive resources.

In particular, the Sweetwater River channel and associated floodplain represent a key environmental characteristic of the site, related to biological resources, hydrology, water quality, groundwater, and water supply. Under existing conditions, on-site water flows in a naturally lined trapezoidal channel constructed within the golf course. The channel transitions to a broader riparian channel near the downstream portion of the Project site. The bottom of the trapezoidal channel would be undisturbed, with the exception of temporary 16-foot-wide channel crossings that would only be used during the dry season, to minimize impacts to jurisdictional waters and wetlands and allow the Sweetwater Authority water transfers to continue within the existing low-flow channel. Silt fences would be installed five feet from the outer edge of each side of the channel to minimize potential siltation. To minimize effects related to erosion, the Project may utilize small, temporary desiltation basins that to prevent sediment from leaving the site while allowing water to pass through to existing drainage features. Mining and reclamation grading would direct runoff from the disturbed areas towards the basins. Permanent erosion control structures would include a drop structure at the eastern end of the site where the Sweetwater River enters the property, a riprap structure on the west side of the Steele Canyon Road bridge, and appropriate slopes, terraces, ditches, and down drains where needed. The riprap structure on the west side of the Steele Canyon Road bridge would be constructed after excavation has been completed in Phase 1, and the drop structure would be constructed after excavation has been completed in Phase 3. The drop structure would prevent head cutting of the channel during infrequent, high flow events. It would be the width of the modified river channel (610 feet) on the slope face, extend approximately 20 feet below the slope face, and be constructed of grouted riprap. It would be

constructed using heavy equipment per standard techniques when mining activities commence downstream. The riprap structure on the west side of the Steele Canyon Road bridge, which would also be constructed of grouted riprap and after excavation has been completed in Phase 1, would protect the bridge from erosion after the downstream area (Phase 1) has been mined.

The Project has been designed to avoid capture of transferred water within extraction areas. To ensure that excavation activities would not substantially affect Sweetwater Authority water transfers between the Loveland and Sweetwater reservoirs, mining activities proposed during the rainy season (generally November through March) would be located away from the river channel, to the extent feasible. If mining would occur within 10 feet of the low-flow channel, berms approximately five feet in height would be constructed to separate the operations areas from the channel, as needed. The berm locations can be adjusted as mining progresses and would be set back from mining activities. Berms may also be incorporated upon final reclamation, where needed, to reduce potential loss of water during scheduled transfers. The Project design and berming are intended to preserve the Sweetwater Authority's ability to transfer water from Loveland Reservoir to Sweetwater Reservoir.

Potential impacts to groundwater also are of potential concern. Three excavation pit areas where groundwater may be encountered are planned (refer to Figures 1-5a and 1-5b). The first pit would be excavated during Phase 1 on the northern side of the river channel and south of Willow Glen Drive (subphase 1C area on Figure 1-4). The second pit would start to be excavated in the eastern half of the Phase 2 area (subphase 2C area on Figure 1-4) and would continue in a northeasterly direction toward the Phase 3 area (subphase 3C area on Figure 1-4). This pit would be located south of the existing channel and east of Steele Canyon Road. The pit would not connect with the channel. The third pit would be completed in the northeastern corner of the Project site during Phase 3 (subphase 3A area on Figure 1-4). These pits would be progressively backfilled as the excavation continues. Exposure of groundwater as a free water surface at any given time in each of the three pits would be limited to approximately five acres in size. This would minimize the associated potential for evaporative losses. Dewatering of these pits is not necessary and would not occur.

Mining activities would be limited to approximately 20 to 30 acres at any given time, with reclamation and revegetation occurring sequentially. This would limit the potential for erosion and sedimentation and temporal loss of biological resources, as well as both the magnitude of the visual impact and the duration to which views from a particular location would be affected.

A new access point to the property from Willow Glen Drive west of the Steele Canyon Road (Phase 1 area) would be necessary for the initial phase of mining activities as the clearance height of the bridge that crosses the Sweetwater River on Steele Canyon Road would not allow most large trucks used by service vendors to pass beneath the bridge. This new access point would be constructed as part of the initial pre-mining improvements. To reduce potential conflict points, the driveway would be restricted to right-in/right-out movements, with left-turn outbound movements prohibited (see Figure 1-5a). The southbound left-turn movements from Muirfield Drive would still be allowed.

In selecting the site for the processing plant, a location near a roadway was desirable to minimize the distance that trucks need to travel to access the plant, as well as avoid the need to construct

additional roadways across the site. Although several options were considered, Willow Glen Drive was selected because it was the primary road utilized by golf course patrons and has capacity for the traffic generated by the Project. By placing the plant in the proposed location, Willow Glen Drive would be easily accessible and the plant would be distanced from housing tracts in the area, reducing the potential for noise impacts. This location is also at the approximate center of the Project site and would not have to be moved until the final stage of the Project. A portable conveyor line would be installed to transport excavated materials to the processing plant from the excavation areas, thus minimizing the amount of truck traffic (with associated noise and dust) that is necessary on the site.

A new access off Willow Glen Drive to the west of the existing driveways to the Cottonwood Golf Club parking lot would be constructed as part of the initial pre-mining improvements to provide access for mining operations, material sales, employees, and vendors (see Figure 1-5b). To improve Willow Glen Drive consistent with its Mobility Element classification (4.1B: Major Road with Intermittent Turn Lanes), the Project would widen the roadway between Steele Canyon Road and the Project egress driveway to four lanes with intermittent travel lanes as part of the initial pre-mining improvements, as described in Section 1.2.1.3 (see Figure 1-5b). A two-way left-turn lane would be constructed between the existing driveways, which would serve as a refuge lane for trucks to complete their outbound maneuver as they are exiting the site. As described in Section 1.2.1.4, removal of approximately 67 trees would be necessary to construct the Project entrance and Willow Glen Drive improvements; the extent of removal would be confirmed once improvement plans are prepared as a condition of the Project MUP. As noted in Section 1.2.1.4, replacement trees would be planted prior to initiation of Phase 1 to provide visual screening of mining activities from Willow Glen Drive and viewers to the north of the Project site.

To minimize the visual effects of the Project, existing landscape vegetation along Willow Glen Drive would be maintained to the extent feasible during Project operations to provide a visual screen between Project activities and the public. Although approximately 67 (14 percent) of the existing trees are proposed to be removed to construct the Project entrance and Willow Glen Drive improvements, replacement trees and additional screening of the plant area are proposed to provide visual screening of mining activities from Willow Glen Drive and viewers to the north of the Project site (refer to Section 1.2.1.4, above, and Figures 1-11a through 1-11e). Additional landscaping would be installed to provide additional screening of the plant area and parking lot (refer to Section 1.2.1.4 and Figures 1-11a through 1-11e). In limited locations where vegetative screening is not feasible due to limited width between the public right-of-way and the existing Sweetwater River channel, or prior to establishment of adequate vegetative screening, green screening mesh would be installed on Project fencing along Willow Glen Drive and on the Steele Canyon Road bridge to screen Project operations from public view.

1.3 Project Location

The Project site is located in the unincorporated portion of the County, in the Valle de Oro Community Planning Area (CPA) (see Figures 1-1 through 1-3). The Valle de Oro CPA encompasses approximately 19 square miles of the unincorporated portion of the County located south of the city of El Cajon and east of the city of La Mesa. The Project is located within the Rancho San Diego community, which generally consists of the southeastern reaches of the CPA. More specifically, the Project site is located on the south side of Willow Glen Drive at 3121 Willow

Glen Drive, El Cajon, California. Steele Canyon Road bisects the Project site. The western edge of the Project area is approximately 600 feet east of the intersection of Willow Glen Drive and SR 54/Jamacha Road, with the site extending approximately 1.7 miles to the east of that intersection. SR 94/Campo Road is located approximately 0.7 mile southwest of the site. The site is situated within the Sweetwater River watershed and in the floodplain of the Sweetwater River, which flows in a northeast-to-southwest direction through the site.

The commercial village area of the Rancho San Diego community is located to the west of the Project site. An approximately 32-acre portion of the Project site is located within the Rancho San Diego Specific Plan area. The Cottonwood and Jamacha communities are located to the north and east of the Project site, respectively.

1.4 Project Background

The Project site is currently occupied by the Cottonwood Golf Club and contains 22 Assessor's Parcel Numbers (APNs; Table 1-12, *Assessor's Parcels*).

Site History

Prior to the 1940s, the Project site and surrounding lands of the Jamacha Valley were predominately used for commercial ranching and agriculture, most of which had ended by the 1950s. A 1953 aerial photograph of the Project site (Figure 1-13, *1953 Aerial Photograph*) indicates that the floodplain of the Sweetwater River was primarily undeveloped with the presence of a small, wooden house/structure adjacent to Willow Glen Drive to the west of Steele Canyon Road. A portion of the site was also being mined for construction aggregates on the south side of the river and west of Steele Canyon Road. Mineral extraction uses in this area had expanded to the east side of Steele Canyon Road by the early 1960s. Other disturbed areas observed on the 1953 aerial photograph suggest surface mining may have been occurring adjacent to Willow Glen Drive on the western end of the property. It also appears that a dirt aviation landing strip may also have been present.

Mining activities along Steele Canyon Road continued into the 1970s as both golf courses were developed. Construction of the golf courses began in approximately 1962 with the Lakes Course (formerly the Monte Vista Course) on the western side of the property and the Ivanhoe Course on the eastern side of the property. The golf course confined the Sweetwater River to a narrower channel and replaced native riparian vegetation with turf grass.

Since 1963, the property has been used as two public golf courses. Facilities at the golf club consist of a large parking lot, a clubhouse, practice facilities and two, 18-hole championship length golf courses. Sand extraction continued at the site through the years, which allowed the golf course to be modified with water hazards and expanded fairways. A small wooden house also exists next to the 4th tee box of the Lakes Course. Golf play on the Lakes Course was suspended indefinitely in 2017 to focus all operational efforts on the Ivanhoe Course. The Lakes Course area is periodically maintained to control weeds and remove trash.

Existing Land Entitlements

Golf Course

The existing golf course site is generally aligned along both sides of the Sweetwater River and extends for approximately two miles along Willow Glen Drive. The golf course is approved (Special Use Permit/MUP No. 61-090 W2M1) to occupy lowlands within the Sweetwater River floodplain.

The original permit (approved January 16, 1962) described real property for a Commercial Sport and Recreational Enterprise, consisting of and including a golf course, driving range, restaurant, bar, putting green, pro shop, swimming pool, and other ancillary facilities. Grading plans have been approved over the years associated with golf course improvement. The most recent grading plan amendment was approved June 6, 2016.

Several minor deviations were made to the original Special Use Permit between 1972 and 1989. Two modifications followed in 1992 and 1994. The first modification was approved on October 8, 1992 (P61-090W) with a certified Negative Declaration (Log No. 88-14-9), which revised the permit to include approximately 15 acres of additional area for the relocation of holes 12 and 13 of the western 18 holes at the Monte Vista Course (currently the closed Lakes Course) and to add and delete other property as reflected on the approved plot plan; a two-story, 30,000-square foot (SF) clubhouse consisting of a public lobby, pro shop, administrative offices, classrooms, restaurant dining, bar and grill, kitchen, locker rooms, and support areas; a practice range and practice greens; below-ground golf cart storage area; and a 336-space parking lot and demolition of existing clubhouse.

A second modification (P60-090W) was approved on January 19, 1994 with a certified Negative Declaration (Log No. 88-14-9). The modification proposed the addition of 8.2 acres on the north side of Willow Glen Drive to use an existing residential facility as the San Diego Golf Academy; the 8.2 acres are no longer owned by the golf course. The second modification also included three major sections of modifications as follows:

- Section I - Golf holes 12 and 13 were modified from the initial location and constructed as part of the western 18 holes of the Monte Vista Course (currently the closed Lakes Course). (MUP Modification P61-090W, Section I)
- Section II - Clubhouse with Related Facilities and Uses and Parking was not constructed; that portion of the permit expired. (MUP Modification P61-090W, Section II; expired on October 8, 1995)
- Section III - Instructional Facility located north of Willow Glen Drive was never constructed; that portion of the permit expired. An open space easement was dedicated on parcel 518-021-0800. (MUP Modification P61-090W, Section III; expired on January 19, 1997)

As noted above, the only work completed under these modifications included the relocation of golf holes 12 and 13 on the Lakes Course and the dedication of an open space easement on parcel 518-021-08-00 north of Willow Glen Drive. The new clubhouse and the instructional facility were never built. The 8.2-acre parcel north of Willow Glen Drive is now owned by a separate entity from the golf course ownership and the parcel is not within the boundary of the Proposed Project.

A separate MUP (P83-55) for a Mining and Processing/Reclamation Plan, pursuant to Sections 2805 and 2905 of the County Zoning Ordinance and Section 87.701 of the County Code was approved on May 30, 1984 to allow the periodic removal of sand, temporary stockpiling, preliminary screening of foreign matter, and transport of sand deposits from the Sweetwater River on the property as necessary to properly maintain free-flowing conditions. This permit was approved for a 15-year period. Based on discussions with the former operator, sand removal occurred approximately every five years with the last sand extraction in approximately 1995.

Rancho San Diego Specific Plan

The Rancho San Diego Specific Plan (Specific Plan) was originally adopted on January 16, 1980 and has been amended several times, primarily for development purposes. The most recent amendment was approved on December 4, 2013. There are two parcels in the southwestern corner of the Reclamation Plan boundary that are included in the Specific Plan. These parcels are 506-021-19-00 (8.2 acres) and 519-011-03-00 (23.8 acres) and have a zoning designation of S88, Specific Planning Area. Pursuant to Section 2885.b. of the County Zoning Ordinance, extractive uses on these parcels are restricted to site preparation, which allows the off-site removal of materials when it is secondary to the future use of the site. Currently, all of parcel 506-021-19-00 and approximately 13.3 acres of the 23.8-acre parcel 519-011-03-00 are used by the golf course as fairways. The primary reason for including the two parcels in the Project boundary is to improve the Sweetwater River channel and increase the area of native riparian vegetation. The end use for both parcels would be floodway; no mining activities are proposed within these parcels. The proposed channel enhancement would be compatible with the Specific Plan.

1.5 Environmental Setting

1.5.1 Project Vicinity

The Proposed Project is located within the County's Valle de Oro Community Planning area. Rancho San Diego is located to the west of the Project site. An approximately 32-acre portion of the Project site is located within the Rancho San Diego Specific Plan area, as discussed in the preceding section. The Cottonwood and Jamacha communities are located to the north and south of the Project site, respectively. The area is characterized by the Valle de Oro Community Plan as a balance of urban, semi-rural agricultural, and open space land uses, with the Rancho San Diego area developed with large-scale, well-planned residential and commercial developments interspersed with large areas of green-belt and biological open space for wildlife preservation.

Land uses in the surrounding area include residences, parks, and commercial uses of the Rancho San Diego community to the north and west; rural residential development, undeveloped land and extractive operations to the northeast; rural residential development, a residential treatment facility, and the Steele Canyon Golf Club (including a 27-hole golf course and associated

residential uses) to the south and southeast; and the SDNWR to the southwest, along the Sweetwater River. Residential uses occur immediately to the southeast of the site, within approximately 120 feet to the north, and within approximately 100 feet to the northeast. Jamacha Elementary School is located approximately one-quarter mile to the south, Steele Canyon High School is approximately one-half mile to the south, Valhalla High School approximately three-quarters of a mile to the northwest, Hillsdale Middle School approximately one-half mile to the west, and Cuyamaca College approximately two-thirds of a mile to the west.

Land use in the vicinity is limited by physical constraints including the Sweetwater River channel and steep terrain to the north and south of the river. The Sweetwater River extends from its headwaters in the Cuyamaca Mountains (east of the site) to San Diego Bay, approximately 15 miles southwest of the site. River flows in the vicinity of the Project are controlled by the Loveland Reservoir dam, approximately 4.8 miles upstream. Runoff from the upper Sweetwater River watershed is captured at Loveland Reservoir, primarily during winter and spring months. Surface water is only present during or shortly following precipitation, or during water releases from the Loveland Reservoir by the Sweetwater Authority. Sweetwater Reservoir is a terminal drinking water reservoir located less than 3 miles downstream of the Project site.

Important biological resources in the vicinity generally include core blocks of coastal sage scrub and chaparral, open space conserved within the SDNWR and on Dictionary Hill, and perennial waters and riparian habitat associated with Sweetwater River corridor.

In the Project vicinity, the Sweetwater River channel slopes gently to the southwest from approximately 400 feet above mean sea level (amsl) to 300 feet amsl. Land to the north and east of the river channel rises steeply to over 700 feet amsl. The area to the south consists of rugged terrain rising quickly to elevations over 800 feet amsl, and continuing to rise to San Miguel Mountain, at over 2,500 feet amsl, approximately three miles to the south.

Areas upstream and downstream along the Sweetwater River are characterized by riparian forest and riparian scrub vegetation. Undeveloped lands to the north, east, and south are primarily vegetated with coastal sage scrub, with smaller areas of grassland.

1.5.2 Project Site

The property is currently occupied by the Cottonwood Golf Club, which was permitted in 1962. The club consists of two 18-hole golf courses referred to as the Lakes Course and the Ivanhoe Course. Golf play on the Lakes Course was suspended indefinitely in 2017 to focus all operational efforts on the Ivanhoe Course. Figure 1-14, *Lakes Course Layout*, presents the layout for the Lakes Course and Figure 1-15, *Ivanhoe Course Layout*, shows the layout for the Ivanhoe Course.

In addition to the golf courses, facilities include an 11,590-SF clubhouse with a bar and grill, an open 13,000-SF golf cart storage yard, an approximately 2.2-acre equipment maintenance and repair facility, and a 2.4-acre parking area for approximately 320 automobiles (Table 1-3). These facilities would be removed during Phase 2. On-course restrooms are located near the tee box on Lakes Hole 7 and on the Ivanhoe Course at the tee box for Hole 14, and would be removed during Phases 1 and 3, respectively. These on-course restroom facilities are connected to septic systems. A small, wooden house owned by the golf course owner is located next to the 4th tee box of the

Lakes Course, immediately adjacent to Willow Glen Drive and 0.3 mile west of Steele Canyon Road. This house was not used for golf course operations. The building is not occupied and is boarded up and would be removed during Phase 1.

Hours of operation for golfing activities at the Ivanhoe Course are from dawn to dusk. Course maintenance occurs from 5:00 a.m. until 1:00 p.m. The bar and grill are open from 10:00 a.m. until 4:00 p.m., seven days per week. There are presently 23 golf course employees for administration, maintenance, and dining.

The equipment maintenance facility is located on the Ivanhoe Course between Holes 7 and 8. Equipment maintained in this location includes all the tractors, mowers, and other landscaping equipment necessary to maintain the Ivanhoe Course in a playable condition. The facility includes two above-ground fuel storage tanks, storage for all landscaping supplies, two garage repair structures (3,440 and 3,880 SF), and 375-SF office, and covered parking bays for equipment. Maintenance staff park their personal vehicles at this location. All components of this facility would be removed at the end of Phase 2.

Public parking is currently located in two connected parking lots on the north side of the clubhouse and adjacent to Willow Glen Drive. The upper lot is the largest (1.6 acres) with designated parking spaces for approximately 200 vehicles, while the lower lot has space for approximately 120 vehicles (0.75 acre). Public use of the parking area would end after approval of the new MUP.

The site was previously used for commercial ranching and agriculture prior to the 1940s. Mining for construction aggregates occurred in the 1950s to the south of the Sweetwater River west of Steele Canyon Road, and adjacent to Willow Glen Drive at the western end of the site. Mineral extraction activities expanded to the east side of Steele Canyon Road in the 1960s and continued into the 1970s as both golf courses were developed. Construction of the golf course began in 1962 and was completed in 1964. Sand extraction activities have continued within the site throughout the years, allowing for the creation of water hazards and expanded fairways associated with golf course improvements. The most recent mining activities occurred in the western and southwestern portions of the site between 2007 and 2009, and in the extreme eastern portion of the site in 2016. Work that was completed between 2007 and 2016 was under Grading Plan Permit L14806, Cottonwood Golf Course Fairways Regrading, Waste Bunkers and Water Storage Lakes. Work included the excavation of water storage ponds on various fairways and development of unirrigated waste bunkers (i.e., unmaintained areas) within the course design, which also served as hazards for golf play. Several fairways were regraded and realigned on the southwestern end of the Project site within the now closed Lakes Course. Although not a mining project, materials were removed from the site.

The site gently slopes from the east to the west, with elevations ranging from approximately 380 feet amsl in the northeastern portion of the site to 320 feet amsl in the southwestern portion of the site. The Sweetwater River runs through the length of the site entering at the northeastern Project boundary and continuing to the southwestern boundary, where it exits the site and continues southwest towards Sweetwater Reservoir. The approximate groundwater elevation is 310 feet amsl at the western end of the site and 354 feet amsl at the eastern end of the site, typically between 5 and 18 feet bgs (Geocon 2019).

Vegetation within the Project site reflects the site's disturbed and developed nature; 14 vegetation communities/land use types occur on the Project site. The portion west of Steele Canyon Road, which consists of the closed portion of the golf course, is characterized by ruderal vegetation, disturbed habitat, and a mixture of native and non-native planted trees. The eastern portion of the site, which represents the active golf course, is characterized by landscaped turf grass, native and non-native planted trees, cart paths, parking lot, clubhouse, and other maintenance facilities.

Vegetation along the Sweetwater River channel has been heavily modified as part of golf course development and past disturbances associated with previous mining activities. It is currently dominated by Bermuda grass (*Cynodon dactylon*) or bare ground. Vegetation within portions of the channel is irrigated and regularly mowed as part of golf course maintenance activities. A small section, approximately 2,360 feet in length (0.45 mile) and 130 to 250 feet in width, of riparian vegetation is located along the southwestern Project boundary. This section is dominated by willows (*Salix* spp.) intermixed with non-natives such as giant reed (*Arundo donax*) and tamarisk (*Tamarix* sp.).

Small patches of Diegan coastal sage scrub habitat occur at the southeastern and southwestern Project boundaries. These patches are connected to larger swaths of coastal sage scrub that occur off-site within preserved lands and open space. Dominant species include California sage brush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), singlewhorl burrobrush (*Ambrosia monogyra*), and broom baccharis (*Baccharis sarothroides*). Disturbed coastal sage scrub on site occurs as narrow bands of habitat to the south of Willow Glen Drive at the northeastern boundary, and to the west of Steele Canyon Road along the southern boundary. These areas consist of scattered shrubs of California sagebrush and California buckwheat growing among planted non-native trees and woody debris deposited on the slopes. Scattered stands of eucalyptus woodland occur throughout the Project site, mostly at the northeastern, southeastern, and southern boundaries. Scattered eucalyptus trees also occur throughout the golf course among the trees lining the fairways. Peruvian pepper trees and oleander (*Nerium oleander*) line Willow Glen Drive along the site's northern boundary.

Man-made ponds on site consist of open water habitat excavated in uplands. A total of six constructed ponds are present on site, which serve as water hazards and aesthetic features for the golf course. Four ponds, totaling 3.5 acres, are present in the eastern portion of the site and two occur to the west of Steele Canyon Road. The water level in these constructed ponds is maintained artificially by pumping water into them.

The Project site is located on unincorporated lands within both the South County Segment and the Metro-Lakeside-Jamul Segment of the County's Multiple Species Conservation Program (MSCP) Subarea Plan. The southwestern portion of the site along the Sweetwater River is within a Minor Amendment Area (37.8 acres) of the South County Segment. Per the MSCP, Minor Amendment Areas "contain habitat that could be partially or completely eliminated (with appropriate mitigation) without significantly affecting the overall goals of the County's MSCP Subarea Plan." Minor Amendment Areas must meet the criteria and achieve the goals of linkages and corridors described in the County MSCP Subarea Plan and provide mitigation consistent with the County's Biological Mitigation Ordinance (BMO). Development within Minor Amendment Areas requires concurrence from the U.S. Fish and Wildlife Service (USFWS) Field Office Supervisor and California Department of Fish and Wildlife (CDFW) Natural Communities Conservation Planning

(NCCP) Program Manager. Within the Metro-Lakeside-Jamul Segment, small portions of the site along the northeastern, southern, and southeastern boundaries east of Steele Canyon Road are within areas identified as Pre-approved Mitigation Area (PAMA; 16.4 acres). Portions of the site are shown as Very High or High on the County’s Habitat Evaluation Map from the BMO.

1.6 Intended Uses of the EIR

This project-level Environmental Impact Report (EIR) is prepared in compliance with the California Environmental Quality Act (CEQA), and ensures that information required by the public, as well as County decision-makers, is both adequate and available. This EIR is an informational document to inform public agency decision-makers, as well as the public generally, of the significant environmental effects of the Project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the Project.

The County is the lead agency for the Project under CEQA (i.e., the agency responsible for conducting environmental review); and is responsible for coordinating with the Applicant, public, and resource or service agencies during the CEQA process; and for final approval or denial of the Project. The purpose of this EIR is to identify the potential occurrence of impacts, and the anticipated significance of those impacts, that could occur if the Proposed Project is implemented.

For each significant impact identified in the EIR, the lead agency must make findings, and if appropriate, prepare a Statement of Overriding Considerations if mitigation presented does not reduce impacts to below a level of significance. Responsible agencies, identified below, will use this EIR in their discretionary approval processes.

1.6.1 Matrix of Project Approvals/Permits

This environmental analysis has been prepared to support the discretionary actions and approvals necessary for implementation of the Project. Potential required approvals and permits are listed in the following matrix.

| Discretionary Approval/Permit | Approving Agency |
|---|--|
| Major Use Permit Reclamation Plan Landscape Plans Public Improvement Plan Right-of-Way Permits Construction Permit Excavation Permit Encroachment Permit | County of San Diego |
| Section 401 Water Quality Certification Waste Discharge Order | San Diego Regional Water Quality Control Board/State Water Resources Control Board (RWQCB/SWRCB) |
| Section 404 Permit – Dredge and Fill | U.S. Army Corps of Engineers (USACE) |
| Section 1602 Streambed Alteration Agreement (SAA) | California Department of Fish and Wildlife (CDFW) |
| NPDES Permit | RWQCB |

| | |
|---|---|
| Construction General Stormwater Permit – Pre-mining | RWQCB |
| Industrial General Stormwater Permit – Mining and Reclamation | RWQCB |
| Waste Discharge Requirements Permit | RWQCB |
| Authority to Construct and Permit to Operate | San Diego Air Pollution Control District (SDAPCD) |
| Fire District Approval | San Miguel Consolidated Fire Protection District |
| Conditional Letter of Map Revision (CLOMR) | Federal Emergency Management Agency (FEMA) |
| Inert Debris Engineered Fill Operation Plan | San Diego County Local Enforcement Agency |

1.6.2 Related Environmental Review and Consultation Requirements

Consultation would be required with the wildlife agencies (USFWS and CDFW) with regard to sensitive species and associated habitats, and with the permitting/certification agencies (USACE, CDFW, and RWQCB) with regard to jurisdictional waters.

Pursuant to California Government Code 65352.3, Native American consultation was initiated in 2019. On January 8, 2019, the County initiated AB 52 consultation with seven tribes (Barona, Campo Kumeyaay Nation [Campo], Jamul Indian Village [Jamul], Kwaaymii, Iipay Nation of Santa Ysabel [Santa Ysabel], Sycuan Band of the Kumeyaay Nation [Sycuan], and Viejas). Barona, Campo, Jamul, Santa Ysabel, Sycuan, and Viejas requested AB 52 consultation. Tribal consultation under AB 52 has been ongoing and has occurred since January 2019 with all the tribes that have requested consultation. The reader is referred to Subchapter 2.4, *Cultural Resources and Tribal Cultural Resources*, for details of the Native American consultation.

In addition to the focused outreach efforts noted above, CEQA provides opportunity for public input at three distinct points during environmental evaluation: during scoping of an EIR, during public review of the completed EIR, and during hearings held on the Project by decision-making bodies (such as the County Planning Commission and/or Board of Supervisors). As part of the preparation of the Draft EIR, the first of these outreach efforts was undertaken and completed.

Pursuant to CEQA Guidelines Section 15082 regarding the NOP and determination of EIR scope, and Section 15083 regarding early public consultation, the County issued a NOP stating that an EIR would be prepared for the Proposed Project on October 24, 2019. The NOP included an Initial Study checklist identifying anticipated areas of technical review and anticipated levels of significance, and requested public and agency input on the scope of the EIR. Comments were received in response to the NOP through November 22, 2019. A meeting to discuss the scope of the environmental analysis also was held on November 4, 2019 at Hillsdale Middle School, 1301 Brabham St, El Cajon, CA 92019. In response to the NOP, a total of 301 comment letters were received, including six letters that were submitted after the close of the comment period. These letters are all included in Appendix A to this EIR. All of the comments received were considered and the topics are addressed as appropriate where required by CEQA in Chapters 2.0 through 4.0 of this EIR.

1.7 Project Inconsistencies with Applicable Regional and General Plans

A number of plans, regulations, and ordinances apply to this Project and were considered during the Project Applicant's preparation of the Plot Plan and Reclamation Plan. In particular, the County General Plan and the Valle de Oro Community Plan were reviewed for applicable designations, goals, policies, and conditions. Other plans and regulations also were reviewed, including the County Zoning Ordinance, County Grading Ordinance, RWQCB's San Diego Basin Plan, federal Clean Water Act (CWA), National Pollutant Discharge Elimination System (NPDES), San Diego Municipal Storm Water Permit, Regional Air Quality Strategy (RAQS) and State Implementation Plan (SIP), NCCP, County MSCP Subarea Plan, and County Light Pollution Code (LPC). The Project's compliance with these plans and ordinances is evaluated throughout the EIR, with discussion in Chapters 2.0 and 3.0. A Planning Analysis, which details how the Project would be consistent with all applicable planning documents, is presented in Appendix B to this EIR.

1.8 List of Past, Present, and Reasonably Anticipated Future Projects in the Project Area

The State CEQA Guidelines (Section 15355) state that a cumulative impact is "the change in the environment which results from the incremental impact of the project when added to other closely related past, present and reasonably foreseeable probable future projects." Sections 15065 and 15130 of the State CEQA Guidelines require that an EIR address cumulative impacts of a project when the project's incremental effects would be cumulatively considerable; i.e., the incremental effects of the project would be "considerable when viewed in connection with the effects of past projects, the effects of other current projects and the effects of probable future projects." Table 1-13, *Cumulative Projects in the Vicinity of the Proposed Project*, provides a list of cumulative projects within 5 miles of the Project site. Figure 1-16, *Cumulative Projects*, shows the general location of the projects listed in Table 1-13.

Twelve projects in the vicinity of the Proposed Project, as well as the Proposed Project, were considered for the analysis of cumulative impacts. The list consists of projects that are pending or recently approved within the County and other adjacent jurisdictions (Grossmont-Cuyamaca Community College District; 2019).

Each individual technical subject area within Chapters 2.0 and 3.0 analyzes cumulative impacts of the Project in relation to those projects that could potentially combine with the Project to result in cumulatively considerable impacts. A description of the cumulative projects study area relevant to each specific resource topic is identified within each subchapter.

1.9 Growth-inducing Impacts

As stated in State CEQA Guidelines Section 15126.2(e), whether or not a project may be growth inducing must be discussed in an EIR. The question for discussion is whether or not a "project would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Included are projects that would remove obstacles to population growth. Examples of these types of actions are cited including: (1) a "major expansion of a wastewater treatment plant," that would thereby allow for more construction in service areas covered by the plant; and (2) actions that could encourage and facilitate "other

activities” that could significantly affect the environment. Typically, the latter issue involves the potential for a project to induce further growth by the expansion or extension of existing services, utilities, or infrastructure. The CEQA Guidelines further state that “[i]t must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment” (Section 15126.2[e]).

The Project does not propose residential use and thus would not cause a direct increase in population.

Local mining of sand would accommodate the needs of ongoing construction in the County, rather than inducing additional growth. By providing a local source of aggregate material, the Project would reduce the need to import materials from more distant sources but would not remove an existing obstacle to population growth.

Approximately nine people are anticipated to be employed during mining activities at the site. This work would not require importation of a specialized work force, and the labor pool within the vicinity is adequate. Therefore, the Project would not result in population growth due to the provision of jobs.

Upon completion of mining activities, the Project site would be available for uses allowed by the existing land use designation and zoning classifications. Specifically, the General Plan land use designation for the site is Open Space-Recreation (OS-R), which applies to large, existing recreational areas and allows for active and passive recreational uses. The Project site includes three zoning designations: S80 (Open Space); S90 (Holding Area); and S88 (Specific Planning Area). Uses allowed within the S80 and S90 zones include family residential (with a minimum lot size of 8 acres), essential services, fire protection services, and agriculture (including horticulture, tree crops, row and field crops, and limited packing and processing). Within the S80 zone, all uses require a Site Plan Review. The Rancho San Diego Specific Plan designates the areas zoned S88 for golf course use. The entire site also is subject to Special Area Designator F (Flood Plain), which prohibits placement of permanent structures for human habitation in a floodway.

Future development of the site is not included in the Proposed Project, with planned uses as part of the Project limited to recreational trails and open space. The proposed trails would only be available for day use and are anticipated to be used primarily by residents of the immediate area. While some visitors may use trails, the Proposed Project would not include recreational components such as a hotel, resort, or campground involving overnight use that would enable visitors to stay in the area for extended periods of time. Therefore, the Project would not result in an increase in population.

Removal of the golf course could ultimately lead to the construction of housing, essential services, fire protection services, or agriculture on portions of the site outside of the floodway, although this is not proposed as part of the Project. Further, the Project involves frontage improvements to a portion of Willow Glen Drive, namely restriping between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bicycle lanes on both sides of the roadway as well as construction of a dedicated right-turn lane into the primary Project ingress, which can be considered an expansion of infrastructure that could accommodate such future development; however, based on the current zoning and site characteristics, the potential for future development

is limited, and the widening of Willow Glen Drive would not result in indirect growth. The Project would result in modifications to the existing floodway and floodplain, which in most cases would result in the floodway (where development is prohibited) extending across a slightly larger portion of the site than under current conditions. Considering the zoning allows for a maximum of one home per 8 acres, along with floodplain, setback, and access constraints, only four residences (with the entire lot of the floodplain) could be constructed at the site. The Project would not include a rezone or change to the General Plan land use designation and would not result in an increase in potential future development relative to what would currently be allowed on the site. In addition, imported water line infrastructure already exists within Willow Glen Drive; the Project does not include improvements to water infrastructure that could accommodate additional growth.

Based on the above considerations, the Project would not promote the construction of housing; provide substantial employment opportunities; remove an obstacle to growth through provision of local aggregate materials; extend roads, public services, or utilities in a manner that would result in future development beyond the current potential for development; or include recreational opportunities that would increase population. No significant growth-inducing impacts are expected as a result of the Project.

**Table 1-1
 PROJECT MOBILE EQUIPMENT**

| Onsite Mobile Equipment – Extraction and Reclamation | | | | |
|---|--------------|----------------------------------|--|--------------|
| Quantity | Make | Type/Model | Purpose | Usage |
| 2 | Cat | Loader – 988K | Mineral Excavation above water table | 100% |
| 1 | Cat | Loader – 988K | Highway truck loading | 80% |
| 1 | Cat | Loader – 966M-BR | Highway truck loading - backup | 20% |
| 1 | Freightliner | Water Truck M2106 | General dust suppression | 75% |
| 1 | Cat | Excavator –349F | Mineral extraction - pond cleanout | 80% |
| 1 | Cat | Dozer – D8T | Rough grading, leveling, ripping | 80% |
| 1 | Cat | Haul Truck 740EJ/Tractor Trailer | On-site transportation of material | 40% |
| 1 | Cat | Motor Grader 140K | Finish grading, maintenance | 30% |
| 1 | Cat | Skid Steer Loader-246D | Variety cleanup - reclamation | 50% |
| 1 | Ford | Pick Up | Transportation for site supervisors, quality control personnel | 20 miles/day |

**Table 1-2
 MINING PHASES**

| Mining Phase | Acres | Subphase Area (acres) | Mining Duration (years) | Mining Initiation Date (est.) | Mining Completion Date (est.) | Reclamation Completion Date (est.) |
|---------------------|--------------|------------------------------|--------------------------------|--------------------------------------|--------------------------------------|---|
| Phase 1 | 78.98 | | 3 | 2022 | 2025 | 2027 |
| Subphase 1A | - | 22.10 | 1 | - | - | - |
| Subphase 1B | - | 26.46 | 1 | - | - | - |
| Subphase 1C | - | 30.42 | 1 | - | - | - |
| Phase 2 | 48.18 | | 3 | 2025 | 2028 | 2030 |
| Subphase 2A | - | 15.26 | 1 | - | - | - |
| Subphase 2B | - | 19.08 | 1 | - | - | - |
| Subphase 2C | - | 13.74 | 1 | - | - | - |
| Phase 3 | 78.57 | | 4 | 2028 | 2032 | 2034 |
| Subphase 3A | - | 29.42 | 1 | - | - | - |
| Subphase 3B | - | 16.15 | 1 | - | - | - |
| Subphase 3C | - | 14.13 | 1 | - | - | - |
| Subphase 3D | - | 18.87 | 1 | - | - | - |
| Phase 4 | 8.65 | - | 1 | 2032 | 2032 | 2034 |
| Total | 214.4 | - | 10* | - | - | - |

* Reclamation activities would occur concurrently with mining operations.

**Table 1-3
 EXISTING AND PROPOSED FACILITIES AND STRUCTURES**

| Use | Area | Number of Structures | Removal Phase |
|---|---|----------------------|--------------------------|
| Golf Club Uses | | | |
| Clubhouse | 11,590 square feet (sq. ft.) | 1 | Phase 3 |
| Parking | 2.4 acres | 0 | Phase 4 |
| Maintenance | 2.2 acres | 3 | Phase 3 |
| Garages | 3,440 sq. ft, 3,880 sq. ft. | 2 | Phase 3 |
| Cart Storage | 0.3 acre (13,068 sq. ft.) | 1 | Phase 3 |
| Driving Range | Old fairway | 8 tees | Phase 2 |
| Lakes Course Restroom | 190 sq. ft. | 1 | Phase 1 |
| Ivanhoe Course Restroom | 190 sq. ft. | 1 | Phase 3 |
| Lakes - Cart Bridges | Varies | 3 | Phase 1 |
| Ivanhoe - Cart Bridges | Varies | 4 | Phase 2 & 3 ¹ |
| Other Uses | | | |
| Wood House | 400 sq. ft. | 1 | Phase 1 |
| Proposed Mining Uses | | | |
| Processing Plant Area (includes plant, conveyor lines, and storage containers) | 8.3 acres with ponds, loading and parking | 1 | Phase 4 |
| Loadout Area (includes scales, scale house, office kiosk) | 1.9 of 8 acres | 1 | Phase 4 |
| Mine Parking | 0.15 of 8 acres | 15 spaces | End of Project |

¹ One bridge would be removed during Phase 2. The other three existing bridges within the Ivanhoe Course would be removed during Phase 3.

**Table 1-4
 PLANT AND CONVEYOR EQUIPMENT**

| Quantity | Type | Attachments | Size/Length | Horsepower (hp) |
|----------|---|--|-------------|-----------------|
| 1 | Feed Hopper - Skid Mounted | 42" X 25' Belt Feeder | 9' X 14' | 25 |
| 5 | Groundline Conveyor | NA | 36" X 825' | 50 |
| 1 | Groundline Conveyor | NA | 36" X 375' | 30 |
| 1 | Groundline Conveyor | NA | 36" X 200' | 25 |
| 1 | Truss Frame Conveyor | Pit Portable Conveyor, Power Travel, Hopper, Discharge Hopper, Walkway | 36" X 130' | 40 |
| 1 | Triple Deck Screen w Blade Mill Support | Urethane Media, Spray Manifold, Dual Motor Drive, Discharge Chutes, Rolling Box, Under Hopper, Walkway on Four Sides, Stairway | 8' X 20' | 50 |
| 1 | Blade Mill | NA | 44" x 20" | 100 |
| 2 | Fine Material Washer | NA | 44" X 32' | 50 |
| 1 | Radial Stacker | Power Travel, Power Raise, Pivot, Hopper | 36" X 80' | 25 |
| 1 | Radial Stacker | Power Travel, Manual Raise, Hopper | 36" X 100' | 30 |
| 1 | Operations Control Room | Motor Control Center, Push Button Console, Motor Starters, In Plant Cable/Wiring, Air Conditioned | NA | NA |

**Table 1-5
 RIPARIAN FOREST PLANT PALETTE**

| Species | Common Name | Spacing on Center (feet) | Grouping Size | Number Per Acre |
|--|-----------------------|--------------------------|---------------|-----------------|
| Container Plantings¹ | | | | |
| <i>Artemisia dracuncululus</i> | tarragon | 5 | 5 | 100 |
| <i>Baccharis salicifolia</i> | mule fat | 6 | 10 | 200 |
| <i>Distichlis spicata</i> | saltgrass | 10 | 3 | 150 |
| <i>Iva hayesiana</i> | San Diego marsh elder | 5 | 5 | 120 |
| <i>Platanus racemosa</i> | western sycamore | 15 | 3 | 50 |
| <i>Populus fremonti</i> ssp. <i>fremonti</i> | western cottonwood | 15 | 5 | 50 |
| <i>Quercus agrifolia</i> | California live oak | 15 | 3 | 50 |
| <i>Rosa californica</i> | California wild rose | 5 | 3 | 100 |
| <i>Salix exigua</i> | sand bar willow | 8 | 5 | 120 |
| <i>Salix gooddingii</i> | black willow | 12 | 5 | 150 |
| <i>Salix laevigata</i> | red willow | 12 | 5 | 180 |
| <i>Salix lasiolepis</i> | arroyo willow | 12 | 5 | 180 |
| <i>Sambucus nigra</i> | blue elderberry | 10 | 3 | 50 |
| | | | Total | 1,500 |

| Scientific Name | Common Name | % Purity/ Germination | Pounds Per Acre |
|---|-------------------------|--------------------------|-----------------|
| Seed Mixture¹ | | | |
| <i>Ambrosia psilostachya</i> | western ragweed | 45/45 | 4 |
| <i>Anemopsis californica</i> | yerba mansa | 55/80 | 1 |
| <i>Artemisia douglasiana</i> | Douglas mugwort | 15/40 | 3 |
| <i>Artemisia palmeri</i> | Palmer's sagebrush | 20/50 | 2 |
| <i>Baccharis salicifolia</i> | mule fat | 10/20 | 3 |
| <i>Baccharis sarothroides</i> | broom baccharis | 7/42 | 1 |
| <i>Bolboschoenus maritimus</i> | alkali bulrush | 90/60 | 1 |
| <i>Eleocharis macrostachys</i> | pale spike-rush | 95/60 | 1 |
| <i>Juncus acutus</i> ssp. <i>leopoldii</i> | southwestern spiny rush | 95/80 | 1 |
| <i>Juncus effusus</i> var. <i>pacificus</i> | Pacific rush | 95/60 | 0.5 |
| <i>Oenothera elata</i> ssp. <i>hookeri</i> | evening primrose | 98/84 | 0.5 |
| <i>Pluchea odorata</i> | salt marsh fleabane | 30/40 | 2 |
| | | Total | 20.0* |

¹ The quantities and amount of container stock and seed to be order would be determined following reclamation of each phase/subphase based on the exact of area disturbed as part of mining activities. Substitutions require approval of the Restoration Specialist.

* No less than 20 lbs. per acre of seed shall be installed.

**Table 1-6
 RIPARIAN SCRUB PLANT PALETTE**

| Scientific Name | Common Name | Spacing on Center (ft.) | Grouping Size | Number Per Acre |
|--|-----------------------|-------------------------|---------------|-----------------|
| Container Stock¹ | | | | |
| <i>Ambrosia pumila</i> ^{2,3} | San Diego ambrosia | 5 | 5 | 25 |
| <i>Artemisia dracunculoides</i> | tarragon | 5 | 5 | 200 |
| <i>Asclepias fascicularis</i> | narrow leaf milkweed | 5 | 3 | 50 |
| <i>Baccharis salicifolia</i> | mule fat | 6 | 10 | 220 |
| <i>Croton californicus</i> | California croton | 5 | 5 | 200 |
| <i>Distichlis spicata</i> | saltgrass | 10 | 3 | 200 |
| <i>Ericameria palmeri</i> var. <i>palmeri</i> ³ | Palmer's goldenbush | 5 | 5 | 50 |
| <i>Iva hayesiana</i> | San Diego marsh elder | 5 | 5 | 200 |
| <i>Platanus racemosa</i> | western sycamore | 15 | 3 | 30 |
| <i>Populus fremonti</i> ssp. <i>fremonti</i> | western cottonwood | 15 | 3 | 30 |
| <i>Rosa californica</i> | California wild rose | 5 | 3 | 50 |
| <i>Salix exigua</i> | sand bar willow | 8 | 5 | 180 |
| <i>Salix gooddingii</i> | black willow | 12 | 5 | 100 |
| <i>Salix laevigata</i> | red willow | 12 | 5 | 30 |
| <i>Salix lasiolepis</i> | arroyo willow | 12 | 5 | 30 |
| <i>Sambucus nigra</i> | blue elderberry | 10 | 3 | 100 |
| | | | Total | 1,695 |

| Scientific Name | Common Name | %Purity/ Germination | Pounds Per Acre |
|---|-------------------------|-------------------------|-----------------|
| Seed Mixture¹ | | | |
| <i>Ambrosia psilostachya</i> | western ragweed | 45/45 | 4 |
| <i>Artemisia douglasiana</i> | Douglas' sagewort | 15/40 | 3 |
| <i>Artemisia palmeri</i> | Palmer's sagebrush | 20/50 | 2 |
| <i>Baccharis salicifolia</i> | mule fat | 10/20 | 3 |
| <i>Baccharis sarothroides</i> | broom baccharis | 7/42 | 1 |
| <i>Bolboschoenus maritimus</i> | alkali bulrush | 90/60 | 1 |
| <i>Croton californicus</i> | California croton | 90/40 | 1 |
| <i>Eleocharis macrostachys</i> | pale spike-rush | 95/60 | 1 |
| <i>Isocoma menziesii</i> | goldenbush | 18/40 | 1 |
| <i>Juncus acutus</i> ssp. <i>leopoldii</i> | southwestern spiny rush | 95/80 | 1 |
| <i>Juncus effusus</i> var. <i>pacificus</i> | Pacific rush | 95/60 | 0.5 |
| <i>Oenothera elata</i> ssp. <i>hookeri</i> | evening primrose | 98/84 | 0.5 |
| <i>Pluchea odorata</i> | salt marsh fleabane | 30/40 | 2 |
| | | Total | 21.0* |

¹ The quantity of seed ordered for each phase/subphase will be determined based on the exact size of the area disturbed as part of mining activities. Substitutions require approval of the Restoration Specialist.

² If available at a nursery; should be installed in the higher elevation portions of this habitat (i.e., closer to the upland slopes).

³ Special status species.

* No less than 20 lbs. per acre of seed shall be installed.

**Table 1-7
STREAMBED (EMERGENT WETLAND) SEED MIXTURE**

| Scientific Name | Common Name | %Purity/ Germination | Pounds per Acre |
|---|------------------------|-------------------------|--------------------|
| Seed Mixture¹ | | | |
| <i>Anemopsis californica</i> | yerba mansa | 55/80 | 1 |
| <i>Artemisia douglasiana</i> | Douglas' sagewort | 15/40 | 3 |
| <i>Bolboschoenus maritimus</i> | alkali bulrush | 90/60 | 1 |
| <i>Cyperus eragrostis</i> | tall flatsedge | 80/75 | 1 |
| <i>Eleocharis macrostachys</i> | pale spike-rush | 95/60 | 1 |
| <i>Erythranthe cardinalis</i> (<i>Mimulus cardinalis</i>) | Cardinal monkey flower | 5/64 | 0.5 |
| <i>Erythranthe guttata</i> (<i>Mimulus guttatus</i>) | seep monkey flower | 10/69 | 0.5 |
| <i>Euthamia occidentalis</i> | western goldenrod | 24/45 | 1 |
| <i>Juncus effusus</i> var. <i>pacificus</i> | Pacific rush | 95/60 | 0.5 |
| <i>Pluchea odorata</i> | salt marsh fleabane | 30/40 | 2 |
| | | Total | 11.5* |

¹ The quantity of seed ordered for each phase/subphase will be determined based on the exact size of the area disturbed as part of mining activities. Substitutions require approval of the Restoration Specialist.

* No less than 10 lbs. per acre of seed shall be installed.

**Table 1-8
DIEGAN COASTAL SAGE SCRUB PLANT PALETTE**

| Species | Common Name | Spacing on Center (feet) | Grouping Size | Number Per Acre |
|--|------------------------|--------------------------------|------------------|--------------------|
| Container Plantings¹ | | | | |
| <i>Artemisia californica</i> | California sagebrush | 5 | 25 | 250 |
| <i>Asclepias fascicularis</i> | narrow leaf milkweed | 5 | 3 | 50 |
| <i>Bebia juncea</i> | rough sweetbush | 10 | 3 | 50 |
| <i>Encelia californica</i> | coast sunflower | 5 | 20 | 100 |
| <i>Eriogonum fasciculatum</i> | flat top buckwheat | 5 | 25 | 250 |
| <i>Hazardia squarrosa</i> | saw-toothed goldenbush | 5 | 10 | 100 |
| <i>Hesperoyucca whipplei</i> | chaparral yucca | 3 | 3 | 50 |
| <i>Heteromeles arbutifolia</i> | toyon | 10 | 3 | 150 |
| <i>Mimulus aurantiacus</i> | bush monkey flower | 5 | 10 | 100 |
| <i>Rhus integrifolia</i> | lemonadeberry | 10 | 5 | 50 |
| <i>Salvia apiana</i> | white sage | 5 | 10 | 250 |
| | | | Total | 1,400 |

| Scientific Name | Common Name | % Purity/ Germination | Pounds Per Acre |
|---|----------------------|--------------------------|--------------------|
| Seed Mixture¹ | | | |
| <i>Acmispon glaber</i> | deerweed | 95/80 | 0.5 |
| <i>Amsinkia intermedia</i> | common fiddleneck | 45/65 | 1 |
| <i>Artemisia californica</i> | California sagebrush | 30/60 | 4 |
| <i>Deinandra fasciculata</i> | fascicled tarplant | 25/65 | 3 |
| <i>Encelia californica</i> | coast sunflower | 30/45 | 2 |
| <i>Ericameria palmeri</i> var. <i>palmeri</i> | Palmer's goldenbush | N/A | 2 |
| <i>Eriogonum fasciculatum</i> | flat top buckwheat | 50/20 | 7 |
| <i>Eriophyllum confertiflorum</i> | golden-yarrow | N/A | 2 |
| <i>Eschscholzia californica</i> | California poppy | 98/80 | 2 |

| Scientific Name | Common Name | % Purity/ Germination | Pounds Per Acre |
|--------------------------------|----------------------|--------------------------|--------------------|
| <i>Lupinus bicolor</i> | miniature lupine | 98/85 | 1 |
| <i>Phacelia parryi</i> | Parry's phacelia | 95/80 | 1 |
| <i>Salvia apiana</i> | white sage | 88/30 | 3 |
| <i>Stipa lepida</i> , deawned | foothill needlegrass | 90/71 | 3 |
| <i>Stipa pulchra</i> , deawned | purple needlegrass | 90/75 | 3 |
| | | Total | 34.5* |

¹ The quantities and amount of container stock and seed to be order would be determined following reclamation of each phase/subphase based on the exact of area disturbed as part of mining activities. Substitutions require approval of the Restoration Specialist.

* No less than 30 lbs. per acre of seed shall be installed.

**Table 1-9
 EROSION CONTROL SEED MIX**

| Species | Common Name | Percent Purity/ Germination | Pounds Per Acre ¹ |
|------------------------------|-----------------------|--------------------------------|---------------------------------|
| <i>Ambrosia psilostachya</i> | western ragweed | 45/45 | 6 |
| <i>Bromus carinatus</i> | California bromegrass | 95/90 | 8 |
| <i>Vulpia microstachys</i> | small fescue | 98/75 | 20 |
| <i>Plantago insularis</i> | plantain | 90/80 | 20 |
| | | Total | 54* |

¹ The final quantities and amount of container stock and seed to be order would be determined following reclamation of each phase/subphase based on the exact of area disturbed as part of mining activities. Substitutions require approval of the Restoration Specialist.

* No less than 50 lbs. per acre of seed shall be installed.

**Table 1-10
 PERFORMANCE STANDARDS***

| Vegetative Cover (m: meters) | Species Composition / Species Richness | Percent Cover | Density |
|------------------------------------|--|---|---|
| Seed Mix | Target Goal: 100% of the most prevalent species shall be native species 12 randomly placed 50-meter by 1-meter transects | Target Goal: 50% cover (all native species combined) 12 randomly placed 50-meter by 1-meter transects | N/A |
| Container Stock | Target Goal: 5 tree species 12 randomly placed 50-meter by 1-meter transects | N/A | Target Goal: 30 total trees per acre (80% survival) 12 randomly placed 50-meter by 1-meter transects |

* Performance Standards may be modified based on mitigation requirements.

**Table 1-11
 WEED SPECIES OF CONCERN**

| Common Name | Scientific Name |
|-----------------------------|----------------------------|
| Giant Reed, Arundo | <i>Arundo donax</i> |
| Mustard | <i>Brassica sp.</i> |
| Ripgut Brome | <i>Bromus diandrus</i> |
| Foxtail brome | <i>Bromus madritensis</i> |
| Pampas Grass | <i>Cortaderia spp.</i> |
| Eucalyptus | <i>Eucalyptus spp.</i> |
| Pepperweed | <i>Lepidium latifolium</i> |
| Tree Tobacco | <i>Nicotiana glauca</i> |
| Castor Bean | <i>Ricinus communis</i> |
| Russian Thistle, Tumbleweed | <i>Salsola tragus</i> |
| Tamarisk, Salt Cedar | <i>Tamarix spp.</i> |

**Table 1-12
 ASSESSOR'S PARCELS**

| Assessor's Parcel Number | Total Acres (approx.) | Owner | Zoning ¹ | Land Use Designation ² |
|--------------------------|-----------------------|--------------------------|---------------------|-----------------------------------|
| 506-021-19-00 | 8.20 | Cottonwood Cajon ES, LLC | S88 | OS-R |
| 506-020-52-00 | 4.01 | Cottonwood Cajon ES, LLC | S80 | OS-R |
| 518-012-13-00 | 2.97 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 518-012-14-00 | 46.61 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 518-030-05-00 | 2.30 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 518-030-06-00 | 5.58 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 518-030-07-00 | 2.59 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 518-030-08-00 | 0.69 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 518-030-10-00 | 7.16 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 518-030-12-00 | 6.88 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 518-030-13-00 | 10.20 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 518-030-15-00 | 4.04 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 518-030-21-00 | 56.71 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 518-030-22-00 | 19.43 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 519-010-15-00 | 33.72 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 519-010-17-00 | 14.59 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 519-010-20-00 | 19.22 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 519-010-21-00 | 1.10 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 519-010-33-00 | 1.76 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 519-010-34-00 | 7.17 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 519-010-37-00 | 1.06 | Cottonwood Cajon ES, LLC | S90 | OS-R |
| 519-011-03-00 | 23.80 | Cottonwood Cajon ES, LLC | S88 | OS-R |
| Totals: | 279.79 | | | |

¹ S90 - Holding Area; S88 - Specific Planning Area; S80 - Open Space.

² General Plan Land Use Designation is OS-R - Open Space - Recreation.

Table 1-13
CUMULATIVE PROJECTS IN THE VICINITY OF THE PROPOSED PROJECT

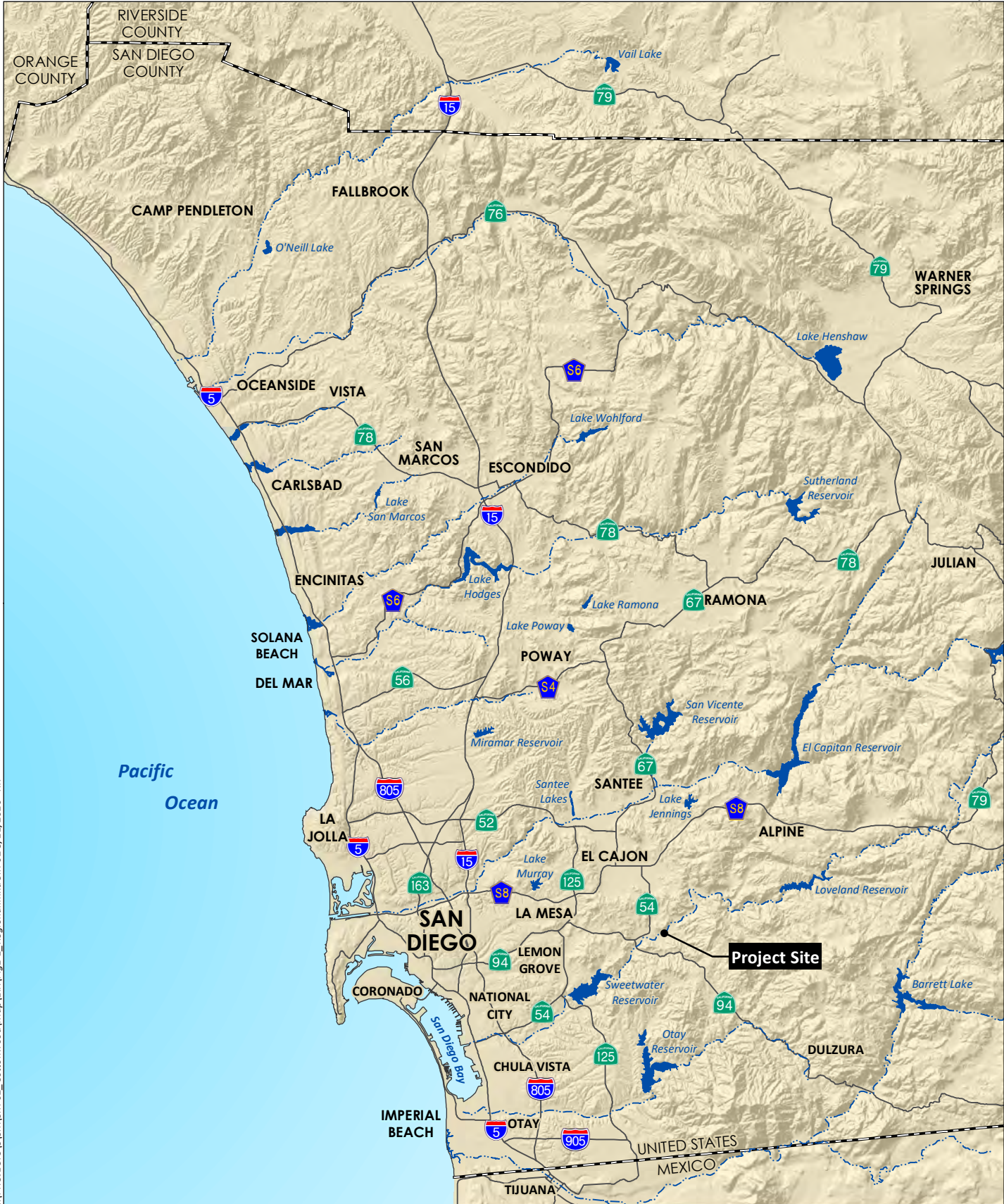
| Map Key No. | Project Name | County Reference Number | Project Location | Size (acres) | Project Type; Description | CEQA Document (Environmental Issues) | Notes |
|--------------------|------------------------------|--------------------------------|--|---------------------|---------------------------------------|--|---|
| A | Jamul Highlands Subdivision | TM 5289 | South of the Valley Road/Jamul Highlands Road intersection | 59.18 | Residential; 25 lots | MSCP compatibility and traffic (288 ADT estimated) | Originally submitted in 1990; out to applicant, no work since 2006 |
| B | Yacoo Minor Subdivision | TPM 20628 | Schlee Canyon Road north of Proctor Valley Road (APN: 596-070-79-00) | 6.85 | Residential; 4 lots and one remainder | MND (Wetland/Riparian; Water Quality; Vegetation) | Approved February 11, 2003; lots not developed |
| C | Steinbarth Minor Subdivision | TPM 20868 | 14236 Hillside Drive | 5.29 | Residential; 2 lots, 1 lot developed | ND (None) | ND filed in 1992, Addendum completed 2006; approved November 24, 2006; no additional development has occurred |
| D | Pioneer Minor Subdivision | TPM 20594 | 2825 Pioneer Way (APN: 597-221-19) | 3.90 | Residential; 3 lots, 2 lots developed | MND (Wetland/Riparian; Vegetation) | Approved December 12, 2001; third lot has not yet been developed |

| Map Key No. | Project Name | County Reference Number | Project Location | Size (acres) | Project Type; Description | CEQA Document (Environmental Issues) | Notes |
|-------------|--|-------------------------|--|--------------|---|--|--|
| E | St. Gregory of Nyssa Greek Orthodox Church | PDS2005-3300-05-010 | 1454 Jamacha Road (APN: 498-320-56-00) | 1.73 | Church; proposes sanctuary and multi-purpose room totaling about 10,220 SF | MND (Cumulative Effects; Land Use; Growth Inducing; Wildlife; Wetland/Riparian; Water Supply; Water Quality; Vegetation; Traffic/Circulation; Toxic/Hazardous; Solid Waste Soil Erosion/ Compaction/ Grading; Recreation/Parks; Public Services; Population/ Housing; Noise; Minerals; Geologic/Seismic; Forest Land/Fire Hazard; Flood Plain/Flooding; Drainage/ Absorption; Biological Resources; Archaeologic-Historic; Air Quality; Agricultural Land; Aesthetic/Visual) | Draft MND circulated from December 26, 2018 to January 24, 2019 |
| F | Simpson Farms Major Subdivision | TM 5460 TM-5460TE | Adjacent to SR-94/ Campo Road along the southwestern property boundary, Jefferson Road on the west, Olive Vista Drive on the north (APNs: 596-180-01, -02) | 157.7 | Residential; 95 lots Commercial; 1 lot open space: 2 lots, seven roads (7 lots) Drainage basin: 1 lot; 106 lots total | Exempt per CEQA Section 15183 | TM 5460 approved December 9, 2016; TM-5460TE filed November 21, 2019 |

| Map Key No. | Project Name | County Reference Number | Project Location | Size (acres) | Project Type; Description | CEQA Document (Environmental Issues) | Notes |
|-------------|--|---|--|--------------|---------------------------------|--|---|
| G | Ivanhoe Ranch | PDS2018-TM 5629; PDS2018-GPA-18-005; PDS2018-REZ-18-004; PDS2018-STP-18-016 | 5261 Ivanhoe Ranch Road, between Cottonwood Golf Course and Steele Canyon Golf Course (APNs: 518-030-34, 518-030-37) | 121.9 | Residential; 120 lots | The Notice of Preparation (NOP) of a Draft EIR was out for public review from April 15 to May 17, 2021 | Evaluation of potential impacts to all resource areas is currently being conducted. |
| H | Cuyamaca College Master Plan Revisions | N/A | Bounded by Fury Lane to the east and Jamacha Road (SR 54) to the south, located within the Community of Valle De Oro | 165 | School; 1,500 students | Addendum No 1. to 2003 FEIR (SCH 2003051013; Grossmont-Cuyamaca Community College District 2019) | Identifies facilities need to accommodate an 8,000 student increase in student enrollment to 15,000 students at existing community college. Proposed facilities include new building construction and renovation/remodel of existing buildings to provide expanded academic and administrative buildings, parking lots and physical education facilities. |
| I | Sweetwater Place | TM 5588 | 657 Sweetwater Springs Boulevard, Spring Valley, CA 91977 (APN: 505-231-36) | 20.0 | Residential; 122 detached units | Air Quality, Biological Resources, Cultural Resources, Hazards, Noise, and Traffic | MND issued September 2015; approved December 6, 2017 |
| J | College Preparatory Middle School | PDS2015-MUP-15-006; PDS 2015-ER-15-19-002 | Madrid Way and Agua Dulce Boulevard (APN: 501-321-07) | 2.50 | New school, 500 students | | Open |

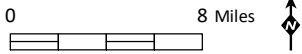
| Map Key No. | Project Name | County Reference Number | Project Location | Size (acres) | Project Type; Description | CEQA Document (Environmental Issues) | Notes |
|-------------|--------------------------------|--|--|--------------|--|--|---|
| K | Skyline Retirement Center | GPA-16-005 REZ-16-003 MUP-16-003 ER-16-19-001 | Campo Road/SR-94, east of Via Mercado (APNs: 506-140-06; -07) | 8.90 | Residential; 232 senior living units, offices, clinic services, etc. | MND (Agriculture, Biological Resources, Cultural Resources, Noise, Traffic/Circulation, and Wildfire) | MND public review ended September 24, 2018; approved March 11, 2020 Located 1.75 miles west of Project in Rancho San Diego. |
| L | Jamul Commercial | TPM 21262 MUP-18-008 | 3018 Jefferson Road (APN: 596-071-60-00) | 0.90 | Commercial; retail/self-storage | Exempt per CEQA Section 15183 | Approved May 10, 2019. Located 3 miles southeast of Project in Jamul; not developed/ |
| M | Sweetwater Vistas | SPA-15-002 GPA-15-006 REZ-15-008 TM-5608 MUP-89-015W4 STP-15-016 ER-89-019-015I | Jamacha Boulevard, between Pointe Parkway and Sweetwater Springs Boulevard (APNs: 505-672-03, -07, -09, -10, -23, and -37) | 52 | Residential; 218 units and conservation of 27.9 acres of biological open space | Addendum to the Final EIR for The Pointe San Diego Specific Plan certified August 1, 1990 (SCH No. 88030915) (Aesthetics, Air Quality, Biological Resources, Geologic Resources, and Land Use) | Located 2.5 miles southwest of Project in Spring Valley; approved December 6, 2017; development pending |
| N | Aventine at Sweetwater Springs | SPA-18-002 GPA-18-004 REZ-18-002 TM-5627 STP-18-013 MUP-70-299W1M32 ER-18-19-003 | 2770-2792 Sweetwater Springs Boulevard (APNs: 505-580-07, -08, -09, -10) | 10.57 | Residential; 92 detached condominium units | MND (Noise, Hazards/ Hazardous Materials, Transportation/Traffic) | Located 2.5 miles southwest of Project in Spring Valley; approved January 29, 2020 |

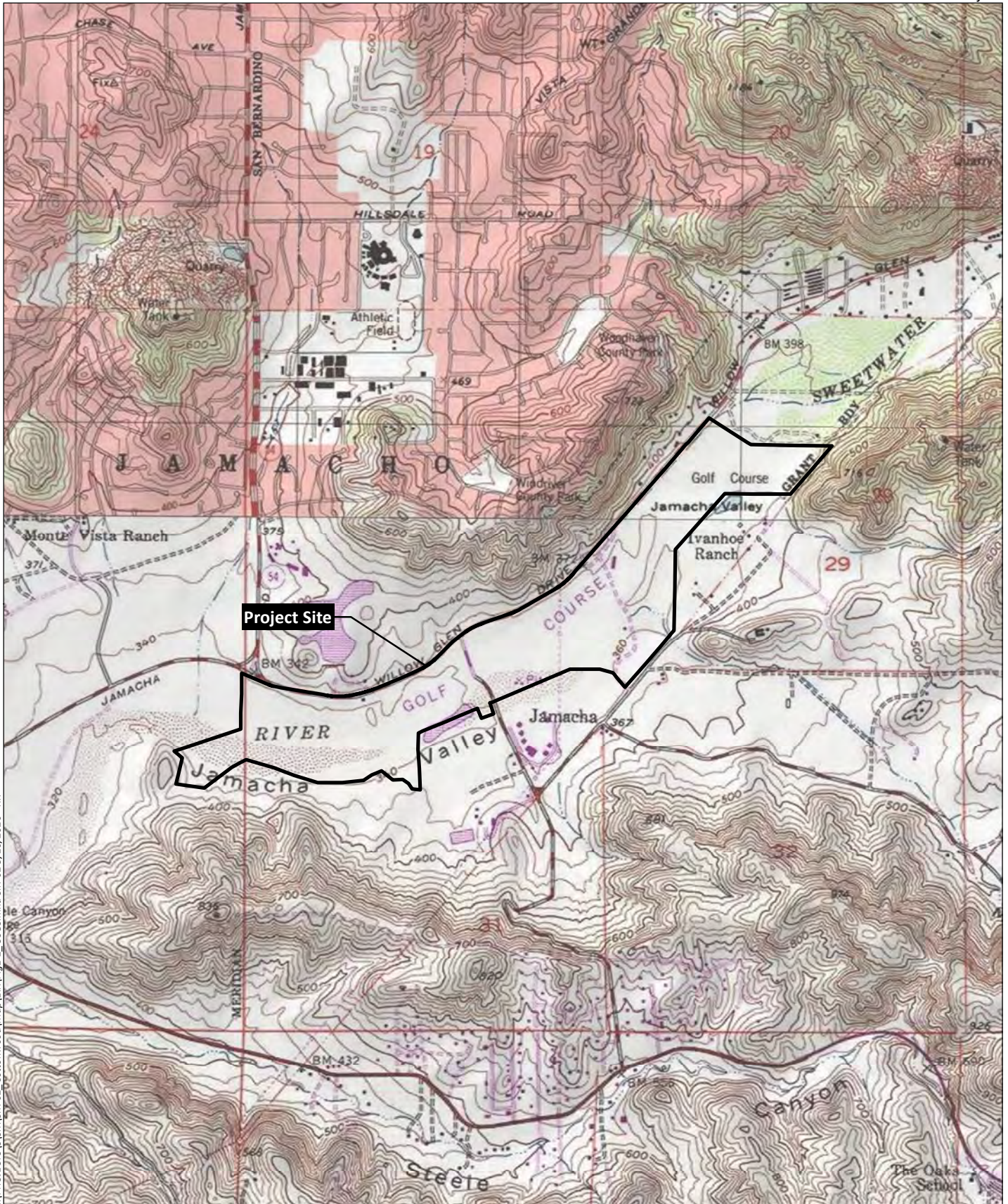
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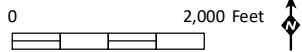
I:\PROJECTS\GIS\IR-02_Cottonwood\Map\ER\Fig1-1_Regional.mxd S:\R-02 3/1/2020 - RK

Source: Base Map Layers (SanGIS, 2016)







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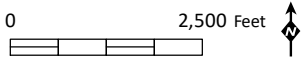


Source: El Cajon & Jamul Mountains 7.5' Quad (USGS)

 Project Site
 San Diego National Wildlife Refuge



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







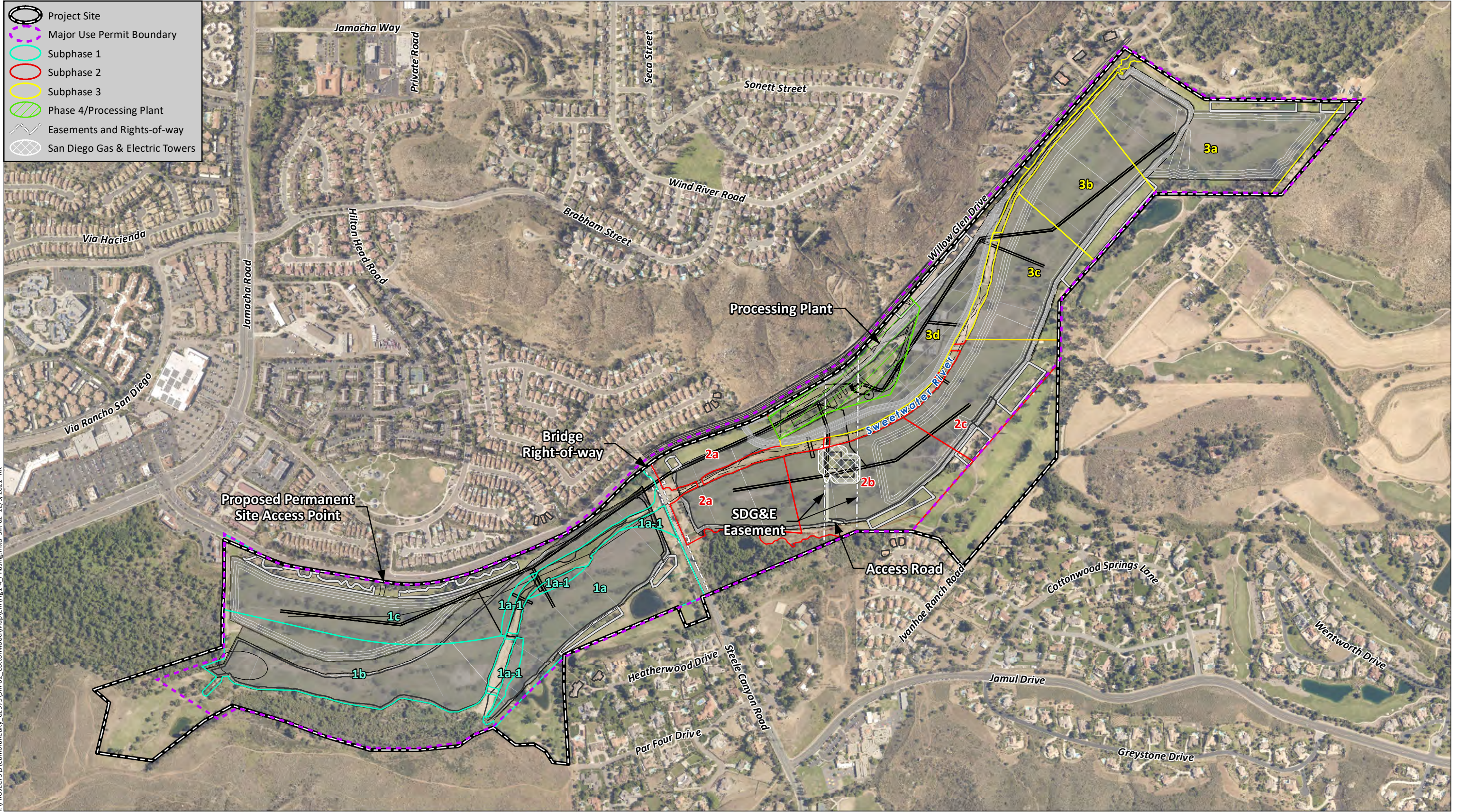
Source: Aerial (SanGIS 2017)



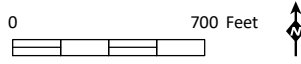
Project Vicinity (Aerial Photograph)

Figure 1-3

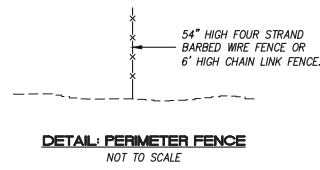
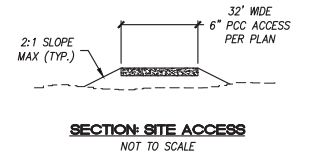
-  Project Site
-  Major Use Permit Boundary
-  Subphase 1
-  Subphase 2
-  Subphase 3
-  Phase 4/Processing Plant
-  Easements and Rights-of-way
-  San Diego Gas & Electric Towers



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Source: Aerial (SanGIS 2017)



- NOTES:**
1. DG ROADS TO BE CONSTRUCTED PER SECTION 3.10 OF THE "SAN DIEGO COUNTY STANDARDS FOR PRIVATE ROADS."
 2. ROADS TO BE TWO-WAY ROADS. IN EVENT OF PASSING, ONE VEHICLE WILL TEMPORARILY MOVE ONTO DIRT SURFACE ADJACENT TO ROAD UNTIL PASSING IS COMPLETE. SURFACE RUNOFF TO SHEET FLOW ACROSS OR ALONG ROADS AT 1% MINIMUM SLOPE. SHEET FLOW TO FOLLOW DRAINAGE PATTERN OF AREAS ADJACENT TO ROADS. THERE SHALL BE NO SURFACE PONDING ON ROADS.
 3. ROADS WILL BE PRIVATE, SO EASEMENTS ARE NOT NEEDED.



- NOTES:**
1. NEW ACCESS POINTS WILL REQUIRE OBTAINING AND ENCROACHMENT PERMIT FROM THE COUNTY. A DESIGN WILL BE SUBMITTED WITH THE ENCROACHMENT PERMIT APPLICATION. NO HAUL TRUCKS WILL USE WILLOW GLEN ROAD TO MOVE BACKFILL TO PHASE 1. A LOW PROFILE ARTICULATED HAUL TRUCK OR TRACTOR TRAILER THAT WILL CLEAR THE BRIDGE WILL BE USED ONSITE FOR THAT PURPOSE.
 2. PERIMETER MUP FENCING ALONG WILLOW GLEN DRIVE AND THE NORTHERLY 300' ALONG THE WESTERLY PROPERTY LINE TO BE 6' HIGH AND 3"-4" WELDED STEEL PIPE. THE REMAINDER PERIMETER MUP FENCING TO BE 4' HIGH FOUR-STRAND BARBED WIRE.
 3. ALL EXISTING GOLF CART BRIDGES SHALL BE REMOVED AS PART OF FINAL RECLAMATION. SOME WILL BE USED TO TRANSPORT WASH FINES ACROSS THE CHANNEL FOR THE RECLAMATION OF THE SOUTHERN PHASES SO WE WILL NEED TO REMOVE THOSE AS PART OF FINAL RECLAMATION AFTER BACKFILLING IS DONE

6" PCC PERMANENT SITE ACCESS (MAIN ACCESS) TO BE GATED WITH TYPE ACCEPTABLE TO COUNTY. GATE WILL BE PLACED 20' FROM WILLOW GLEN TO ALLOW VEHICLE PARKING AT GATE. STREET TREES TO BE ADDED ALONG ACCESS DRIVEWAY. SIGNAGE WILL BE ADDED AT SITE ENTRANCE IN ACCORDANCE WITH MSHA.

NOTE: SAFETY SIGNS WILL BE INSTALLED AS NEEDED AT SITE ENTRANCE AND ON PERIMETER FENCING.

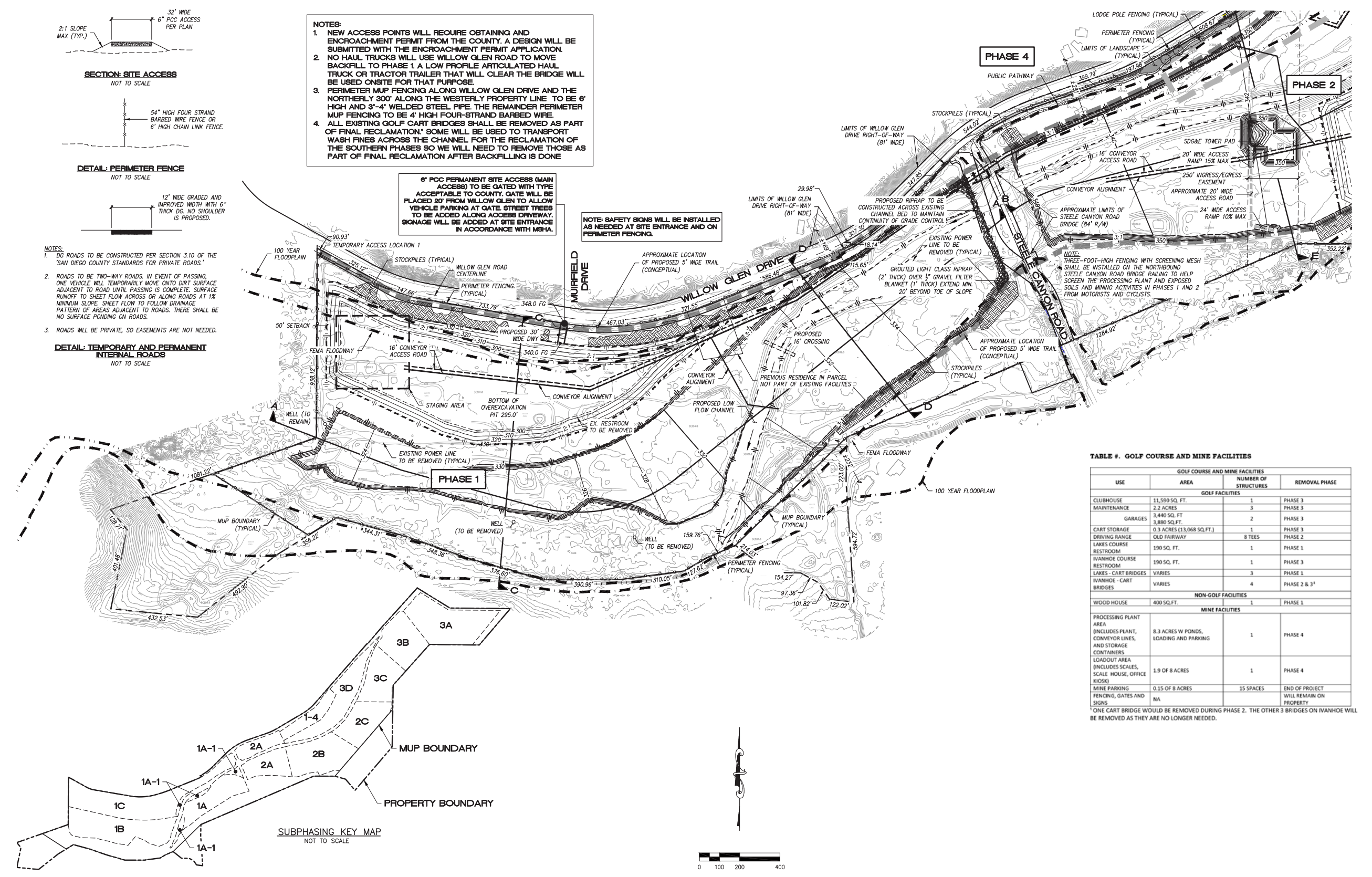


TABLE #. GOLF COURSE AND MINE FACILITIES

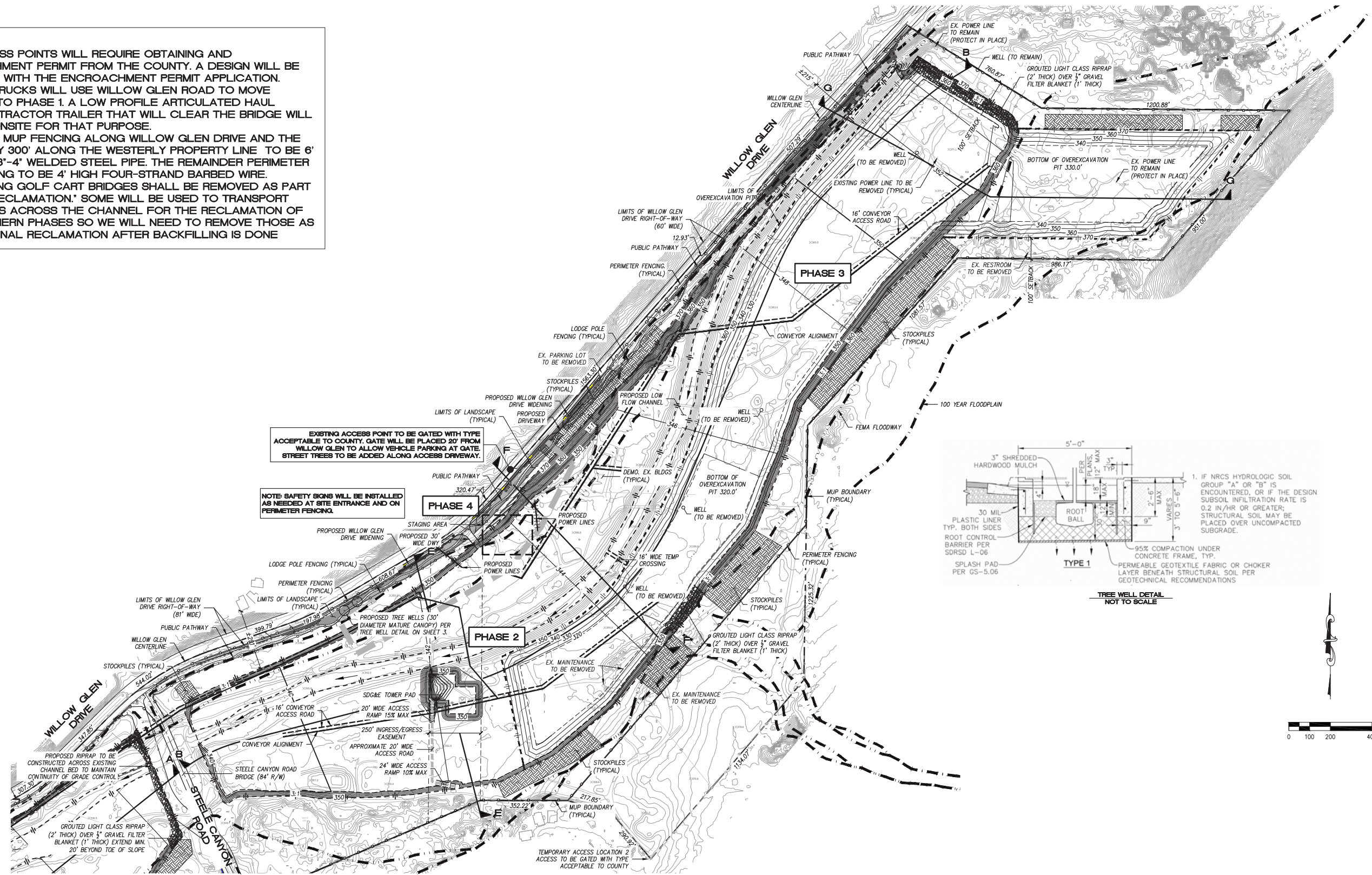
| USE | GOLF COURSE AND MINE FACILITIES | | REMOVAL PHASE |
|--|--|----------------------|--------------------------|
| | AREA | NUMBER OF STRUCTURES | |
| GOLF FACILITIES | | | |
| CLUBHOUSE | 11,590 SQ. FT. | 1 | PHASE 3 |
| MAINTENANCE | 2.2 ACRES | 3 | PHASE 3 |
| GARAGES | 3,440 SQ. FT. 3,880 SQ. FT. | 2 | PHASE 3 |
| CART STORAGE | 0.3 ACRES (13,068 SQ. FT.) | 1 | PHASE 3 |
| DRIVING RANGE | OLD FAIRWAY | 8 TEES | PHASE 2 |
| LAKES COURSE RESTROOM | 190 SQ. FT. | 1 | PHASE 1 |
| IVANHOE COURSE RESTROOM | 190 SQ. FT. | 1 | PHASE 3 |
| LAKES - CART BRIDGES | VARIES | 3 | PHASE 1 |
| IVANHOE - CART BRIDGES | VARIES | 4 | PHASE 2 & 3 ¹ |
| NON-GOLF FACILITIES | | | |
| WOOD HOUSE | 400 SQ. FT. | 1 | PHASE 1 |
| MINE FACILITIES | | | |
| PROCESSING PLANT AREA (INCLUDES PLANT, CONVEYOR LINES, AND STORAGE CONTAINERS) | 8.3 ACRES W PONDS, LOADING AND PARKING | 1 | PHASE 4 |
| LOADOUT AREA (INCLUDES SCALES, SCALE HOUSE, OFFICE KIOSK) | 1.9 OF 8 ACRES | 1 | PHASE 4 |
| MINE PARKING | 0.15 OF 8 ACRES | 15 SPACES | END OF PROJECT |
| FENCING, GATES AND SIGNS | N/A | | WILL REMAIN ON PROPERTY |

¹ ONE CART BRIDGE WOULD BE REMOVED DURING PHASE 2. THE OTHER 3 BRIDGES ON IVANHOE WILL BE REMOVED AS THEY ARE NO LONGER NEEDED.

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Source: Chang Consultants (2021)

- NOTES:**
1. NEW ACCESS POINTS WILL REQUIRE OBTAINING AND ENCROACHMENT PERMIT FROM THE COUNTY. A DESIGN WILL BE SUBMITTED WITH THE ENCROACHMENT PERMIT APPLICATION.
 2. NO HAUL TRUCKS WILL USE WILLOW GLEN ROAD TO MOVE BACKFILL TO PHASE 1. A LOW PROFILE ARTICULATED HAUL TRUCK OR TRACTOR TRAILER THAT WILL CLEAR THE BRIDGE WILL BE USED ONSITE FOR THAT PURPOSE.
 3. PERIMETER MUP FENCING ALONG WILLOW GLEN DRIVE AND THE NORTHERLY 300' ALONG THE WESTERLY PROPERTY LINE TO BE 6' HIGH AND 3"-4" WELDED STEEL PIPE. THE REMAINDER PERIMETER MUP FENCING TO BE 4' HIGH FOUR-STRAND BARBED WIRE.
 4. ALL EXISTING GOLF CART BRIDGES SHALL BE REMOVED AS PART OF FINAL RECLAMATION.' SOME WILL BE USED TO TRANSPORT WASH FINES ACROSS THE CHANNEL FOR THE RECLAMATION OF THE SOUTHERN PHASES SO WE WILL NEED TO REMOVE THOSE AS PART OF FINAL RECLAMATION AFTER BACKFILLING IS DONE

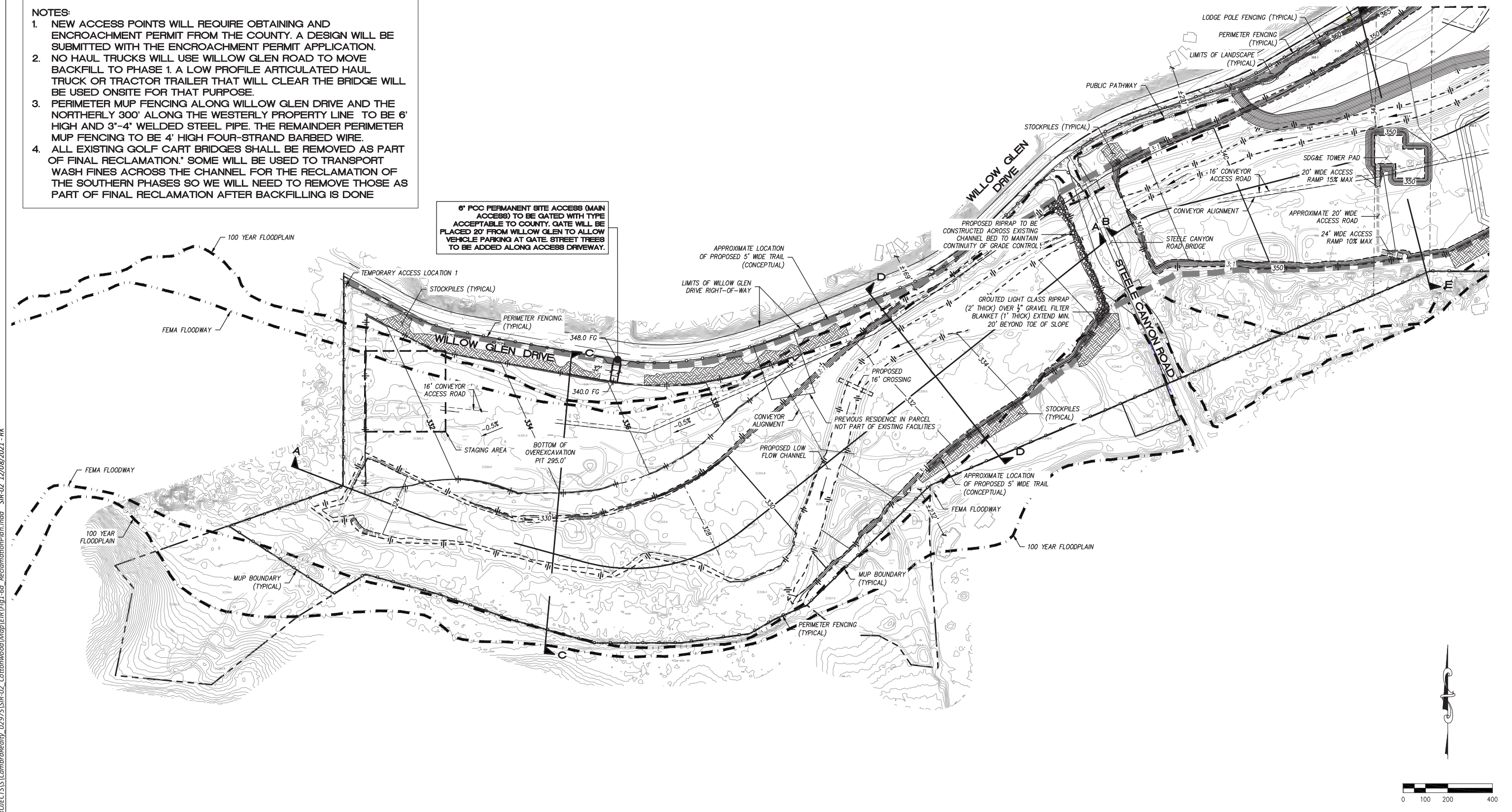


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Source: Chang Consultants (2021)

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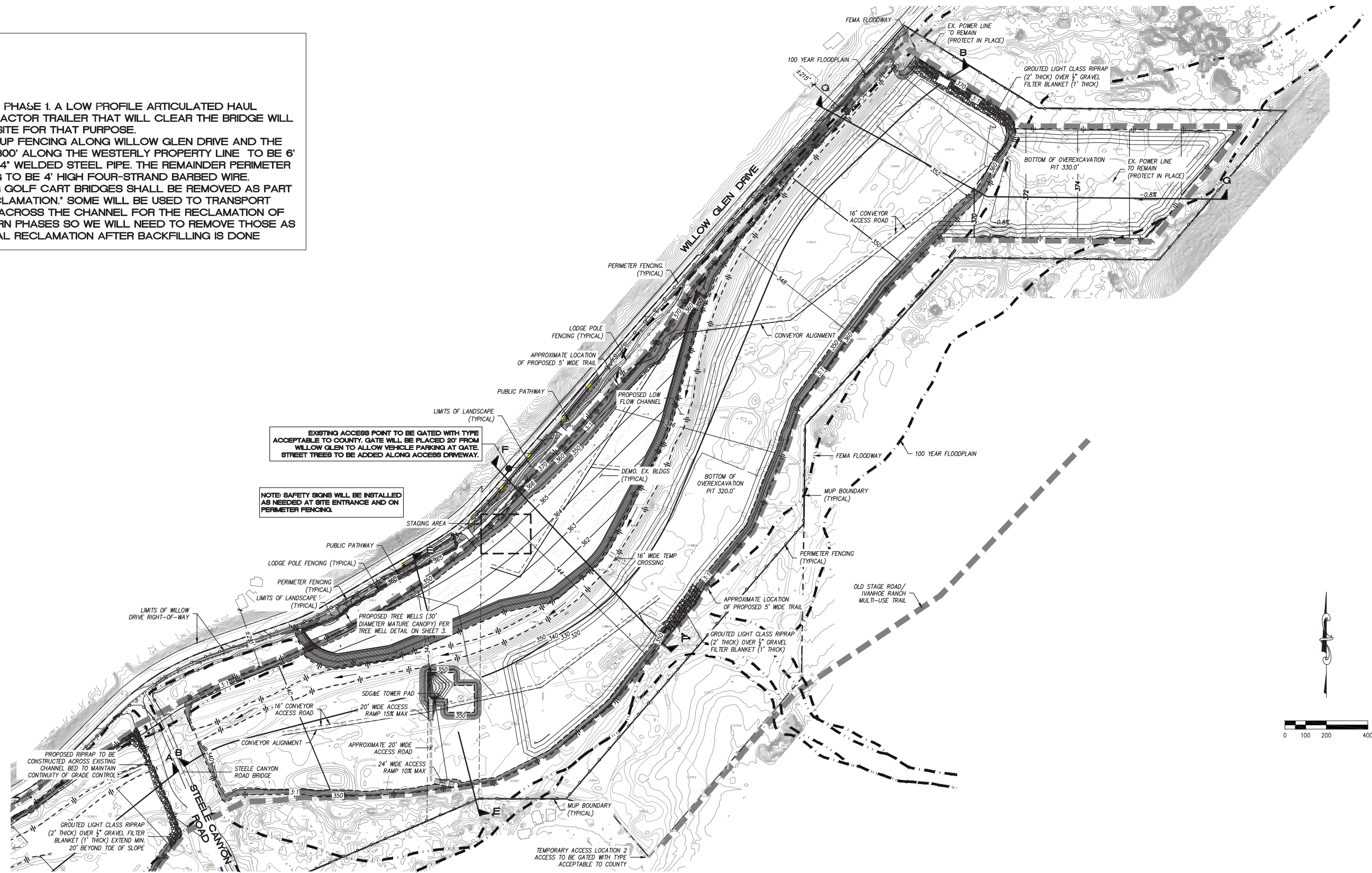
6" PCC PERMANENT SITE ACCESS (MAIN ACCESS) TO BE GATED WITH TYPE ACCEPTABLE TO COUNTY. GATE WILL BE PLACED 20' FROM WILLOW GLEN TO ALLOW VEHICLE PARKING AT GATE. STREET TREES TO BE ADDED ALONG ACCESS DRIVEWAY.



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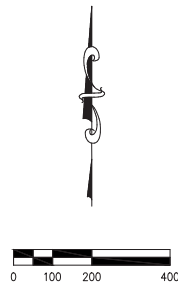
Source: Chang Consultants (2021)

- BACKFILL TO PHASE I. A LOW PROFILE ARTICULATED HAUL TRUCK OR TRACTOR TRAILER THAT WILL CLEAR THE BRIDGE WILL BE USED ONSITE FOR THAT PURPOSE.
- PERIMETER MUP FENCING ALONG WILLOW GLEN DRIVE AND THE NORTHERLY 300' ALONG THE WESTERLY PROPERTY LINE TO BE 6' HIGH AND 3"-4" WELDED STEEL PIPE. THE REMAINDER PERIMETER MUP FENCING TO BE 4' HIGH FOUR-STRAND BARBED WIRE.
 - ALL EXISTING GOLF CART BRIDGES SHALL BE REMOVED AS PART OF FINAL RECLAMATION. SOME WILL BE USED TO TRANSPORT WASH FINES ACROSS THE CHANNEL FOR THE RECLAMATION OF THE SOUTHERN PHASES SO WE WILL NEED TO REMOVE THOSE AS PART OF FINAL RECLAMATION AFTER BACKFILLING IS DONE



EXISTING ACCESS POINT TO BE GATED WITH TYPE ACCEPTABLE TO COUNTY. GATE WILL BE PLACED 20' FROM WILLOW GLEN TO ALLOW VEHICLE PARKING AT GATE. STREET TREES TO BE ADDED ALONG ACCESS DRIVEWAY.

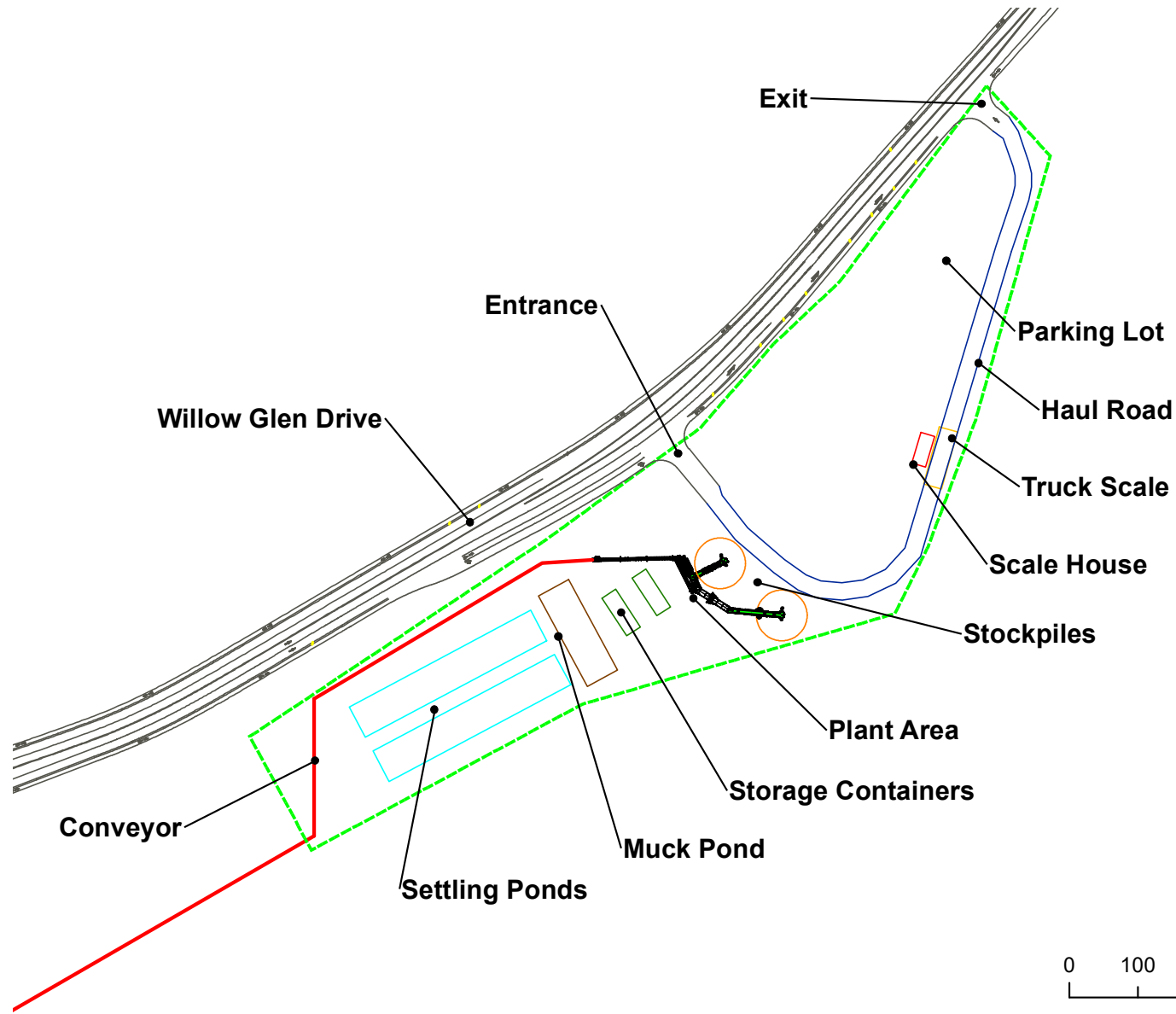
NOTE: SAFETY SIGNS WILL BE INSTALLED AS NEEDED AT SITE ENTRANCE AND ON PERIMETER FENCING.



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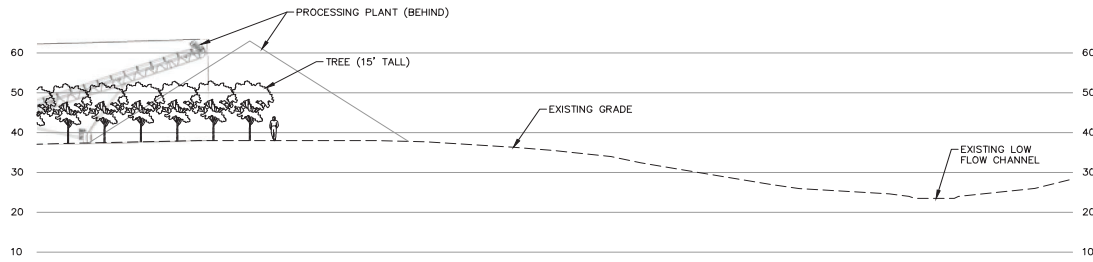
Source: Chang Consultants (2021)

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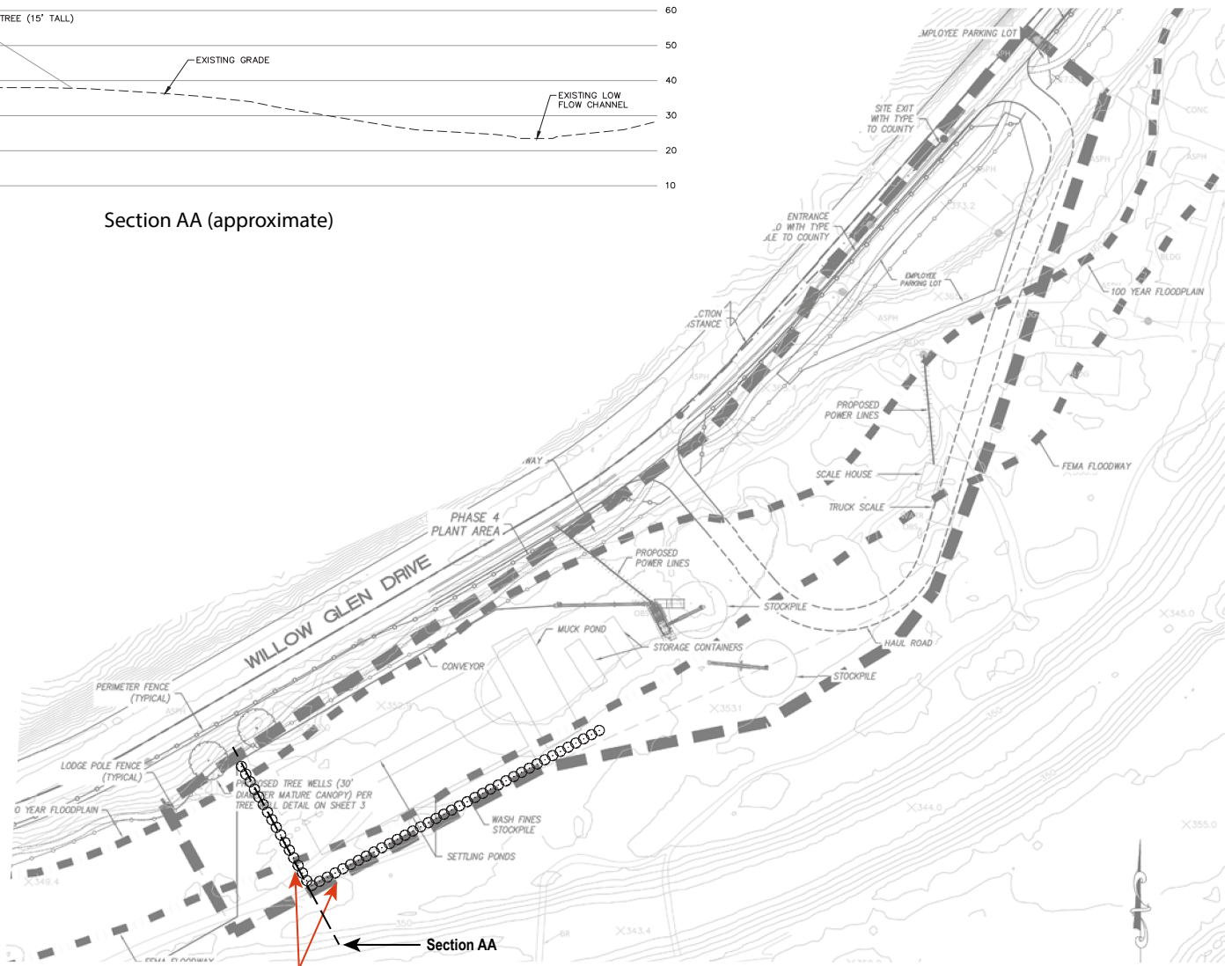


Source: Enviromine (2021)

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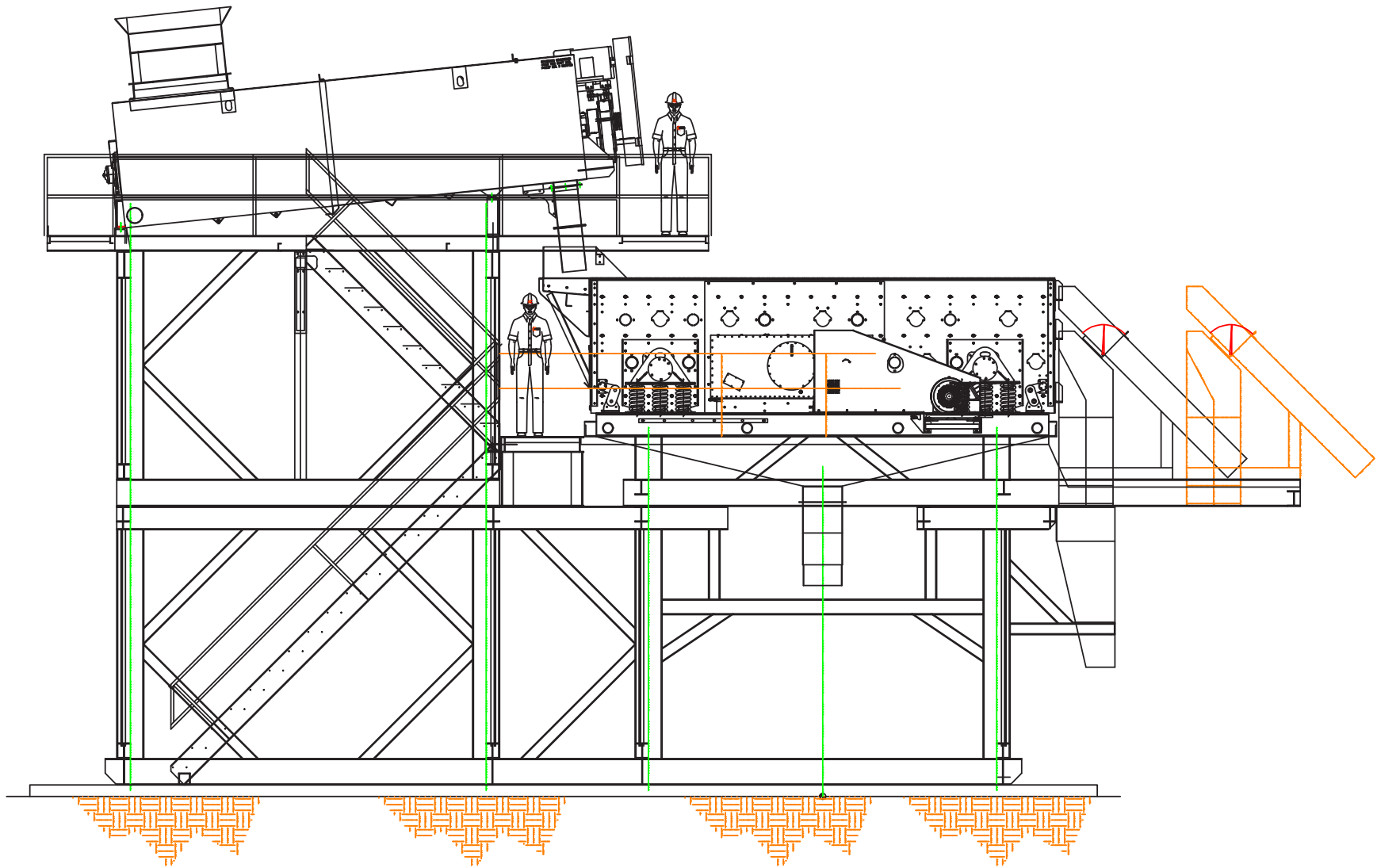
Section AA (approximate)



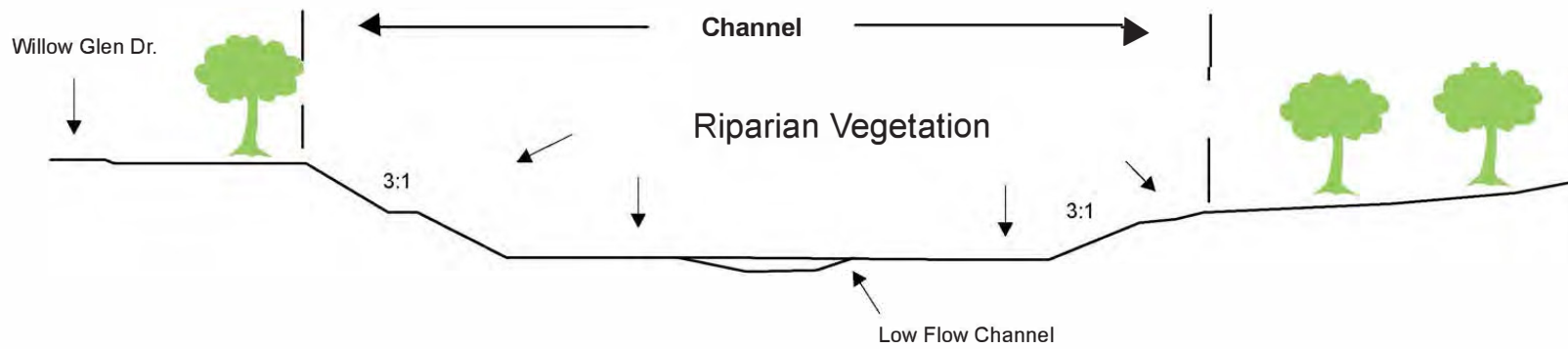
Section AA
 Approx. location of supplemental landscaping (36" box trees) NTS

Source: Chang Consultants (2021)

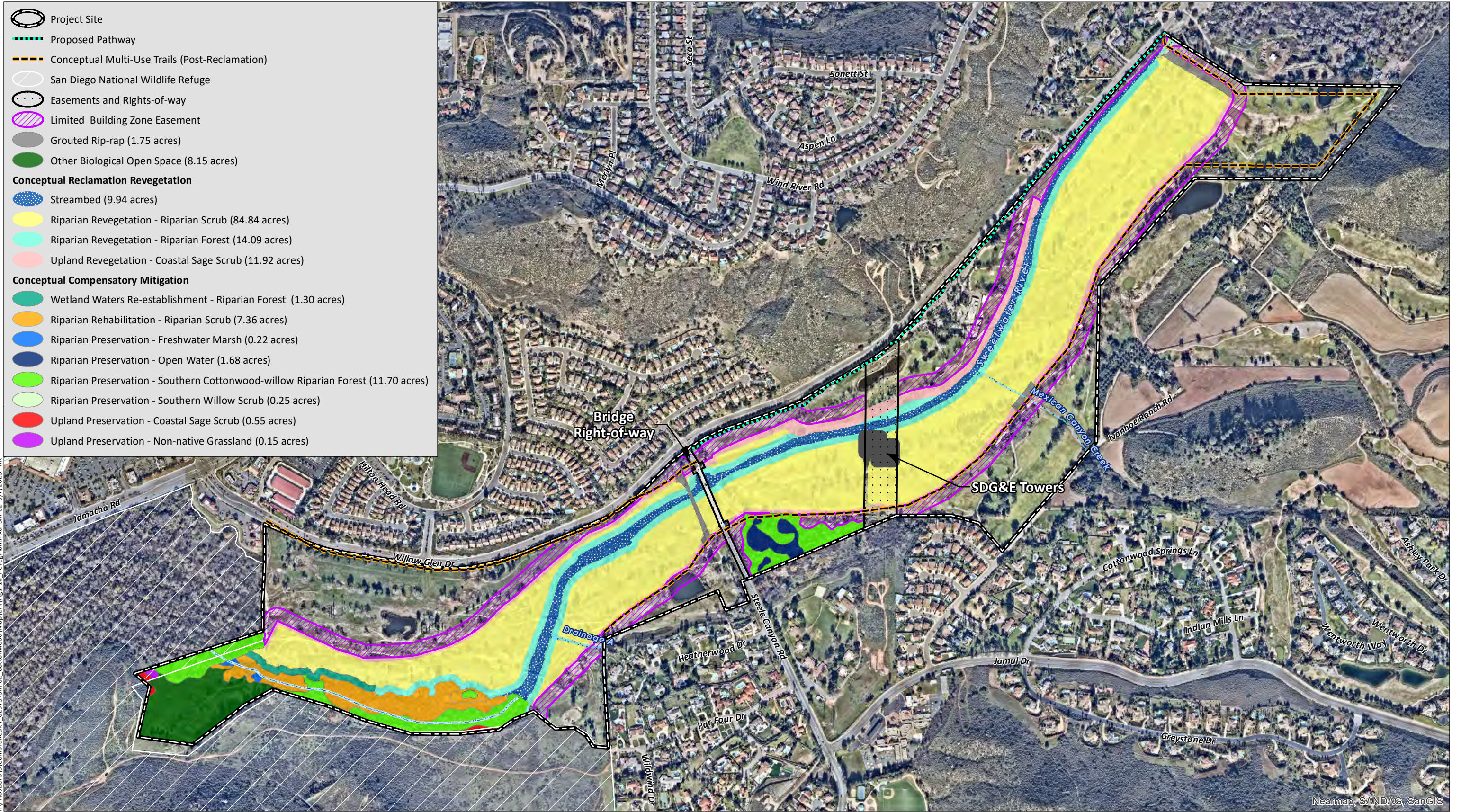
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Source: Enviromine (2019)



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Nearmap, SANDAG, SanGIS

LANDSCAPE NOTES

1. OWNER SHALL MAINTAIN ALL LANDSCAPE, TRAILS AND FENCING INCLUDING IN THE RIGHT OF WAY. OWNER SHALL MAINTAIN VEGETATION IN A HEALTHY DISEASED FREE CONDITION.
2. ROOT BARRIERS SHALL BE PROVIDED FOR ALL TREES WITHIN 5' OF HARDSCAPE.
3. A 3" MINIMUM THICK LAYER OF SHREDDED WOOD MULCH SHALL BE PROVIDED IN ALL AREAS OF BARE SOIL, 3:1 SLOPE OR LESS, EXCEPT WHERE MULCH IS CONTRAINDICATED.
4. TREES AND SHRUBS SHALL BE PLACED A MINIMUM OF 5' AWAY FROM WATER METER, OR SEWER LATERALS; A MINIMUM OF 10' AWAY FROM POWER POLES; A MINIMUM OF 8' AWAY FROM FIRE HYDRANTS AND FIRE DEPARTMENT SPRINKLER AND STANDPIPE LOCATIONS.
5. ALL LANDSCAPE AREAS SHALL BE FINISH GRADED TO REMOVE ROCKS AND ENSURE SURFACE DRAINAGE AWAY FROM BUILDINGS.
6. ALL REQUIRED STREET TREES SHALL BE PLANTED OUTSIDE THE PUBLIC RIGHT-OF-WAY ON PRIVATE PROPERTY.
7. LANDSCAPE IMPROVEMENTS, INCLUDING, BUT NOT LIMITED TO, PLANTS, BERMS, WALLS (DECORATIVE OR RETAINING), SIGNS, AND STRUCTURES HAVE BEEN SELECTED AND POSITIONED SO AS TO AVOID OBSTRUCTING VIEWS OF MOTORISTS NEAR INTERSECTIONS OR AISLES, DRIVES, AND PEDESTRIAN WALKWAYS. TREES HAVE BEEN SELECTED (AND SHALL BE MAINTAINED) SUCH THAT, AT MATURE SIZE, SCAFFOLD BRANCHES WILL BE A MINIMUM OF 60 INCHES ABOVE FINISH GRADE.
8. PLANTINGS ADJACENT TO OPEN SPACE LOTS DO NOT CONTAIN ANY NON-NATIVE, INVASIVE, OR FIRE PRONE PLANTS.
9. EROSION CONTROL PLANTING IS PROVIDED FOR ALL SLOPES OVER 3 FEET IN VERTICAL HEIGHT AND ADDITIONAL PLANTING (AS PER SECTION 87.417 OF THE GRADING ORDINANCE) IS PROVIDED FOR SLOPES OVER 15 FEET IN VERTICAL HEIGHT.
10. AN AUTOMATIC CONTROLLER SHALL BE WEATHER BASED (OR HAVE A MOISTURE SENSOR) AND UTILIZE A RAIN SENSOR EITHER INTEGRAL OR AUXILIARY, CAPABLE OF SHUTTING OFF THE UNIT.
11. AVOID SPRINKLER RISERS IN CORNER, ALONG WALLS AND PARKING AREAS. NO OVERHEAD IRRIGATION WITHIN 24" OF AN IMPERMEABLE SURFACE OR IN AREAS LESS THAN 10' WIDE IN ANY DIRECTION
12. EXISTING ON-SITE WELL WATER SHALL BE UTILIZED FOR IRRIGATION INCLUDING DURING CONSTRUCTION.
13. SOLAR POWERED AND / OR BATTERY OPERATED IRRIGATION CONTROLLERS AND VALVES SHALL BE USED.
14. PROTECT EXISTING TREES TO REMAIN FROM SOIL COMPACTION TO ROOT ZONES BY INSTALLING ORANGE CONSTRUCTION FENCING A 25' MINIMUM DISTANCE BETWEEN TREE TRUNKS AND STOCKPILE AREAS AND SAND MINING ACTIVITIES DURING EACH PHASE OF WORK.
15. FUTURE ROAD WIDENING WILL CAUSE SOME EXISTING SCREENING TREES TO BE REMOVED. SEE SHEETS 6 AND 7. NEW SCREENING TREES AND SHRUBS (SEE SHEETS 2-5) ARE PROPOSED TO BE PLANTED WHERE ADJACENT TO THE PROPOSED PLANT, EXIT AND ENTRANCES PRIOR TO THE ROAD WIDENING, PROVIDING A HEAD START TO SCREENING.

PLAN NOTES

KEY [XX] → DESCRIPTION

1. PLANT SITE MAIN ENTRANCE.
2. PLANT SITE EXIT.
3. RIGHT-OF-WAY LINE.
4. ORIGINAL CENTER LINE.
5. FEMA 100 YEAR FLOODZONE.
6. FEMA FLOODWAY.
7. SDG&E EASEMENT.
8. PROPOSED EDGE OF PAVING
9. EXISTING POWER POLE.
10. EMPLOYEE PARKING.
11. 6' HIGH CHAIN LINK FENCING WITH GREEN MESH SCREENING. SEE DETAIL D / SHEET 14.
12. SCALE HOUSE.
13. TRUCK SCALE.
14. GOLF COURSE.
15. HAUL ROAD.
16. STOCKPILE.
17. STORAGE CONTAINERS.
18. CONVEYOR.
19. EXISTING SCREENING TREES: SEE SHEETS 6, 7 AND 8. (TYPICAL).
20. SETTLING POND.
21. VEHICLE SIGHT DISTANCE TRIANGLE AT DRIVEWAY. MAINTAIN SHRUBS 36" MAXIMUM HEIGHT, TREE LIMBS TO CLEAR 60" ABOVE FINISH GRADE.
22. 495' INTERSECTION SIGHT DISTANCE.
23. 3" MIN. SHREDDED WOOD MULCH AT CONTAINER PLANTED GROUND COVER (TYPICAL).
24. MUCK POND.
25. GATE, 4' HIGH WITH 3"-4" WELDED STEEL PIPE.
26. WEST PLANT SITE ENTRANCE.
27. LIMIT OF LANDSCAPE SCREENING WORK.
28. PATHWAY / MULTI-USE TRAIL. SEE DET. A / SHT. 14.
29. LODGE POLE FENCE. SEE DET. B / SHT. 14.
30. WAYFINDING SIGN / TRAIL MARKER. SEE DET. C / SHT. 14.
31. PROPOSED RIGHT-OF-WAY.
32. DAYLIGHT LINE.
33. PLANT AREA.
34. EXISTING EDGE OF PAVING.

PLANT SCHEDULE

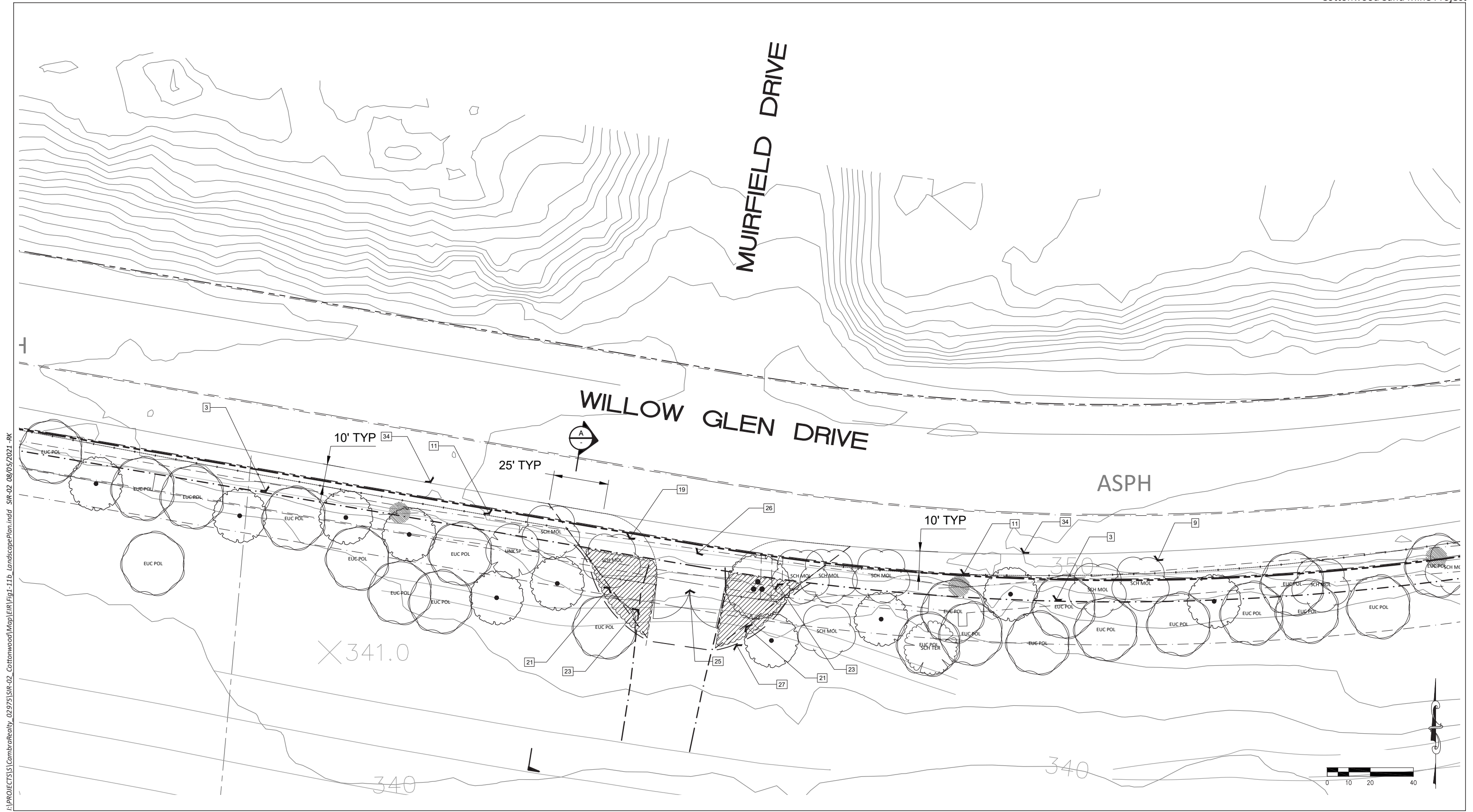
| TREES | BOTANICAL / COMMON NAME | CONT | QTY |
|---------------|---|----------|----------|
| | <i>Cercis occidentalis</i> / Western Redbud H 10'-18', W 10'-18', NATIVE, WUCOLS LOW | 36"box | 4 |
| | <i>Eucalyptus polyanthemos</i> / Silver Dollar Gum | Existing | 31 |
| | <i>Myoporum laetum</i> / No Common Name | Existing | 5 |
| | <i>Platanus racemosa</i> / California Sycamore | Existing | 2 |
| | <i>Populus fremontii</i> / Fremont Cottonwood H 40'-60', W 30', NATIVE, WUCOLS MOD | 15 gal | 24 |
| | <i>Populus fremontii</i> / Fremont Cottonwood H 40'-60', W 30', NATIVE, WUCOLS MOD | 24"box | 9 |
| | <i>Quercus agrifolia</i> / Coast Live Oak H 20'-70', W 20'-70', NATIVE, WUCOLS LOW | 15 gal | 37 |
| | <i>Quercus agrifolia</i> / Coast Live Oak H 20'-70', W 20'-70', NATIVE, WUCOLS LOW | 24"box | 12 |
| | <i>Schinus molle</i> / California Pepper | Existing | 36 |
| | <i>Schinus terebinthifolius</i> / Brazilian Pepper | Existing | 1 |
| | Unknown Species / Unknown Species | Existing | 1 |
| SHRUBS | BOTANICAL / COMMON NAME | SIZE | QTY |
| | <i>Ceanothus</i> x 'Ray Hartman' / California Lilac H 8'-15', W 8'-15', NATIVE, WUCOLS LOW | 5 gal | 217 |
| | <i>Heteromeles arbutifolia</i> / Toyon H 15'-25', W 15'-25', NATIVE, WUCOLS VERY LOW, SINGLE TRUNK / STANDARD. | 5 gal | 59 |
| | <i>Rhus integrifolia</i> / Lemonade Berry H 10', W 10', NATIVE, WUCOLS VERY LOW | 5 gal | 162 |
| GROUND COVERS | BOTANICAL / COMMON NAME | CONT | SPACING |
| | COASTAL SAGE SCRUB SEED MIX <i>Baccharis pilularis</i> / Dwarf Coyote Brush 2 lbs./acre, Purity 90 / Germination 80 <i>Bromus carinatus</i> / California Brome-Grass 20 lbs./acre, Purity 95 / Germination 80 <i>Encelia californica</i> / California Encelia 1 lb./acre, Purity 40 / Germination 60 <i>Lotus scoparius</i> / California Deer Weed 3 lbs./acre, Purity 90 / Germination 60 <i>Salvia apiana</i> / White Sage 2 lbs./acre, Purity 70 / Germination 50 <i>Trifolium tridentatum</i> / Tomcat Clover 8 lbs./acre, Purity 90 / Germination 80 <i>Vulpia microstachys</i> / Small Fescue 8 lbs./acre, Purity 90 / Germination 80 | seed | |
| | <i>Baccharis pilularis</i> / Dwarf Coyote Brush H 8"-24", W 6"+, NATIVE, WUCOLS LOW | 1 gal | 36" o.c. |

PLANT SCHEDULE NOTES

1. QUANTITY (QTY) FOR EXISTING TREES IS FOR TREES TO REMAIN AS SHOWN WITHIN 20' SCALE ENLARGED PLANS, SHEETS 2-5 ONLY.
2. SEE SHEETS 6 AND 7 FOR EXISTING TREES SURVEY PLAN ALONG WILLOW GLEN DRIVE. SEE SHEET 8 FOR TOTAL EXISTING TREE AMOUNTS.

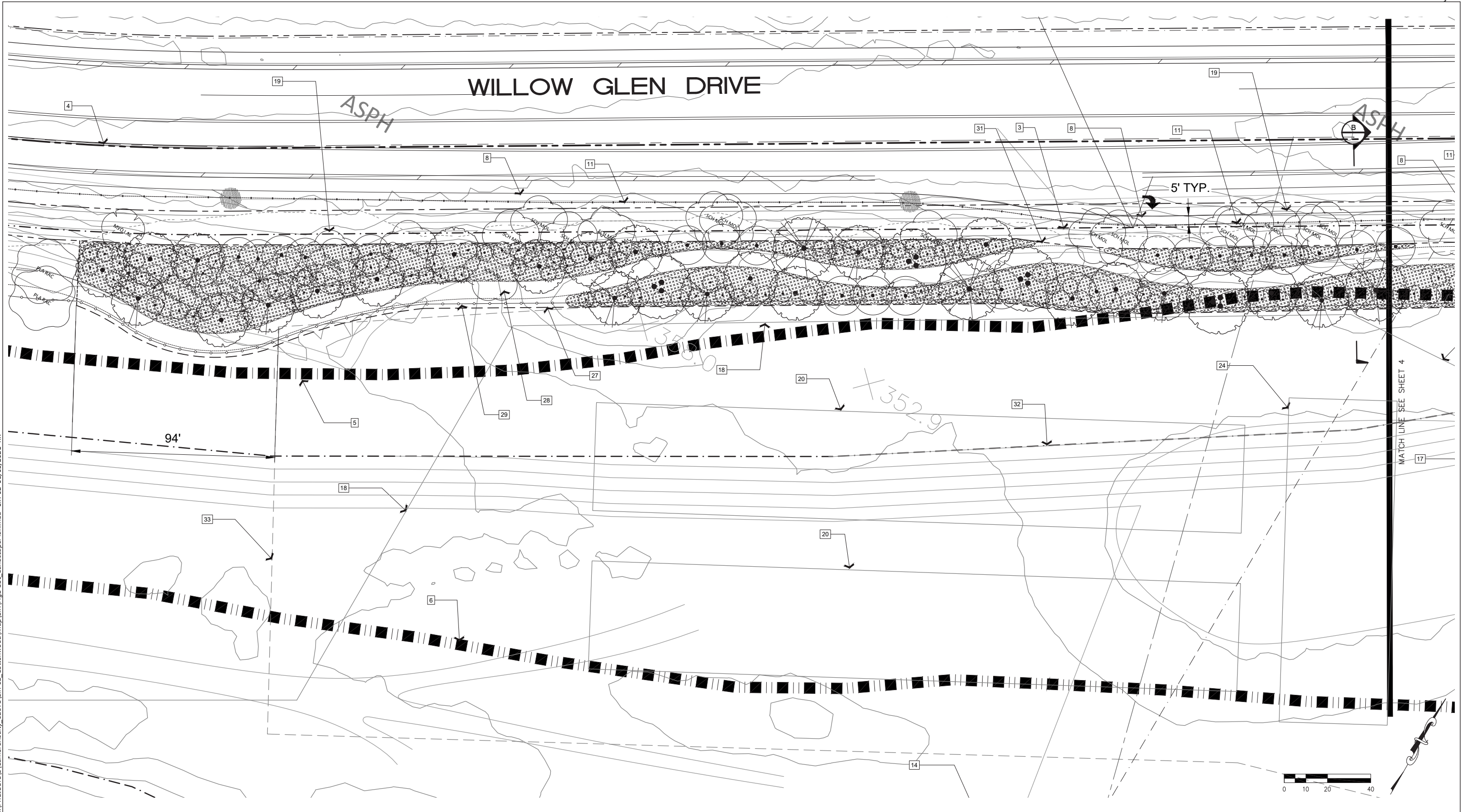
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Source: HELIX 2021



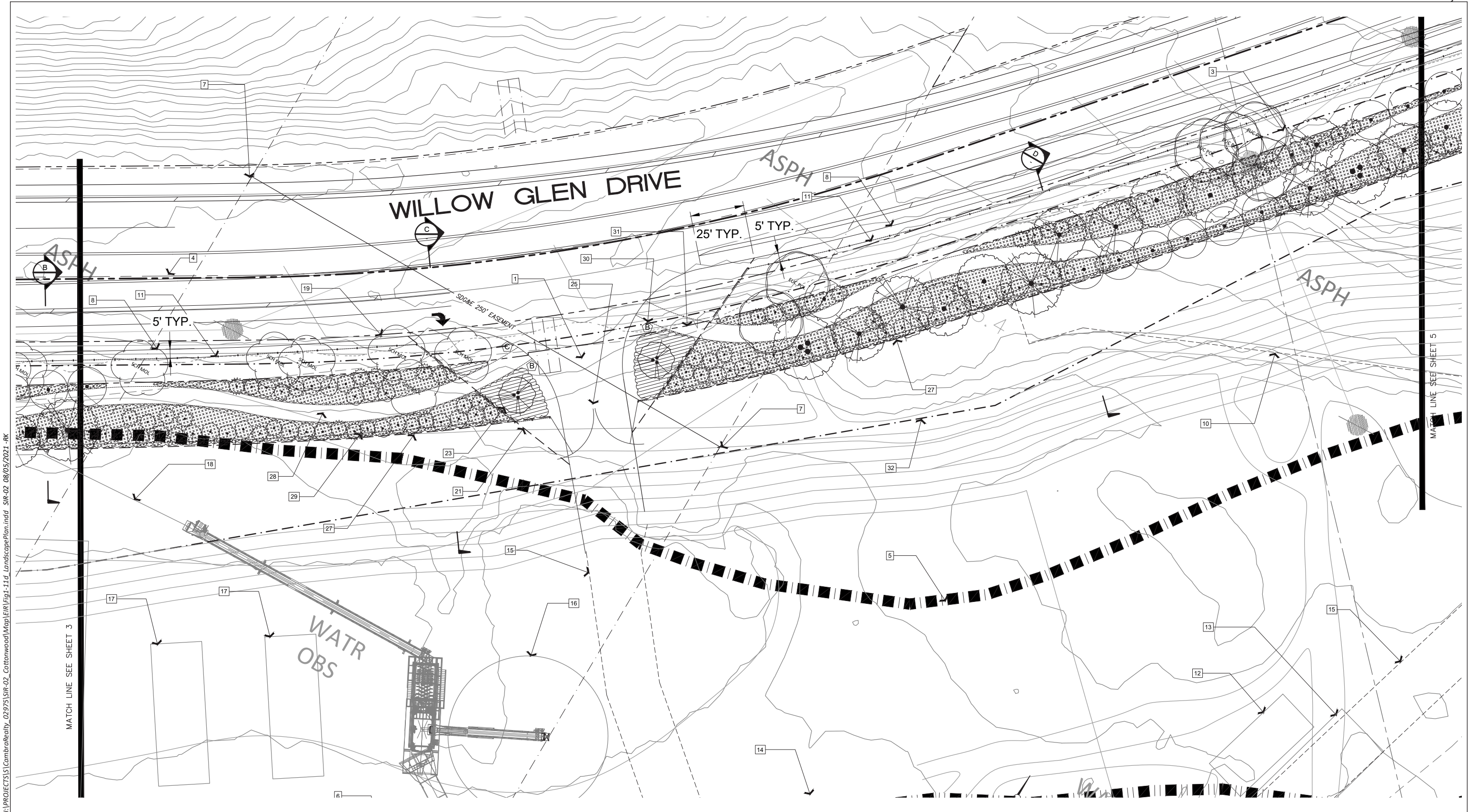
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Source: HELIX 2021



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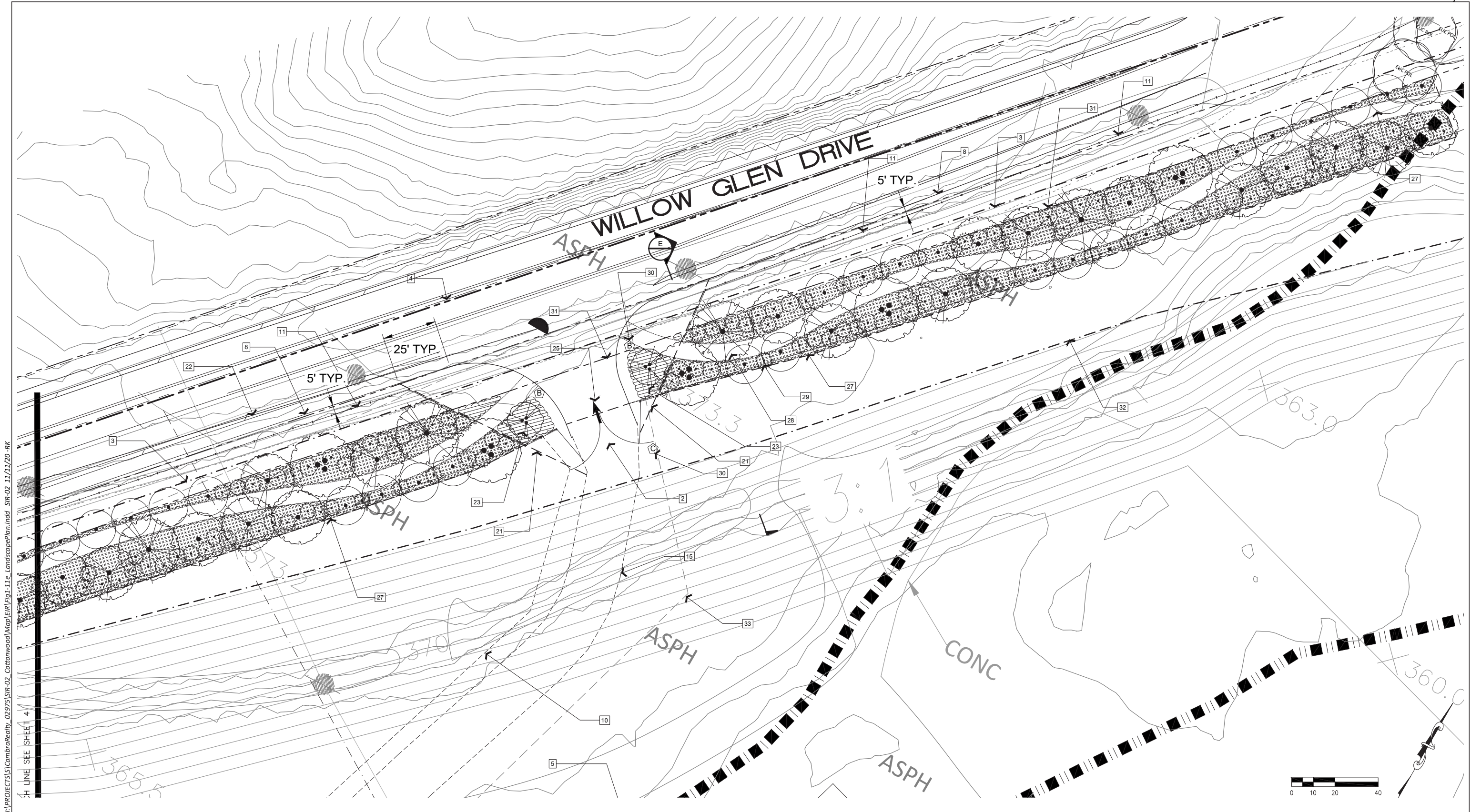
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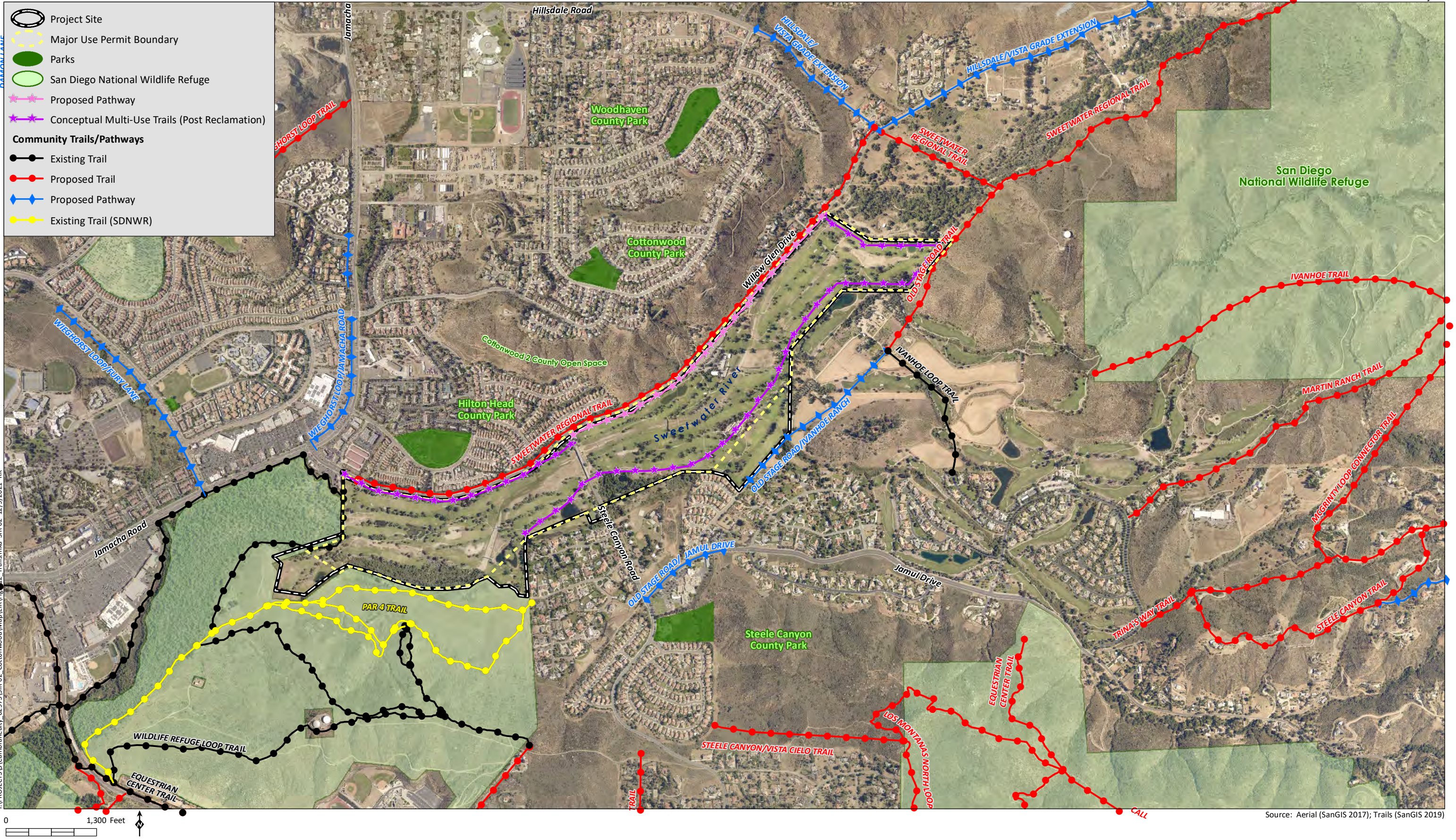
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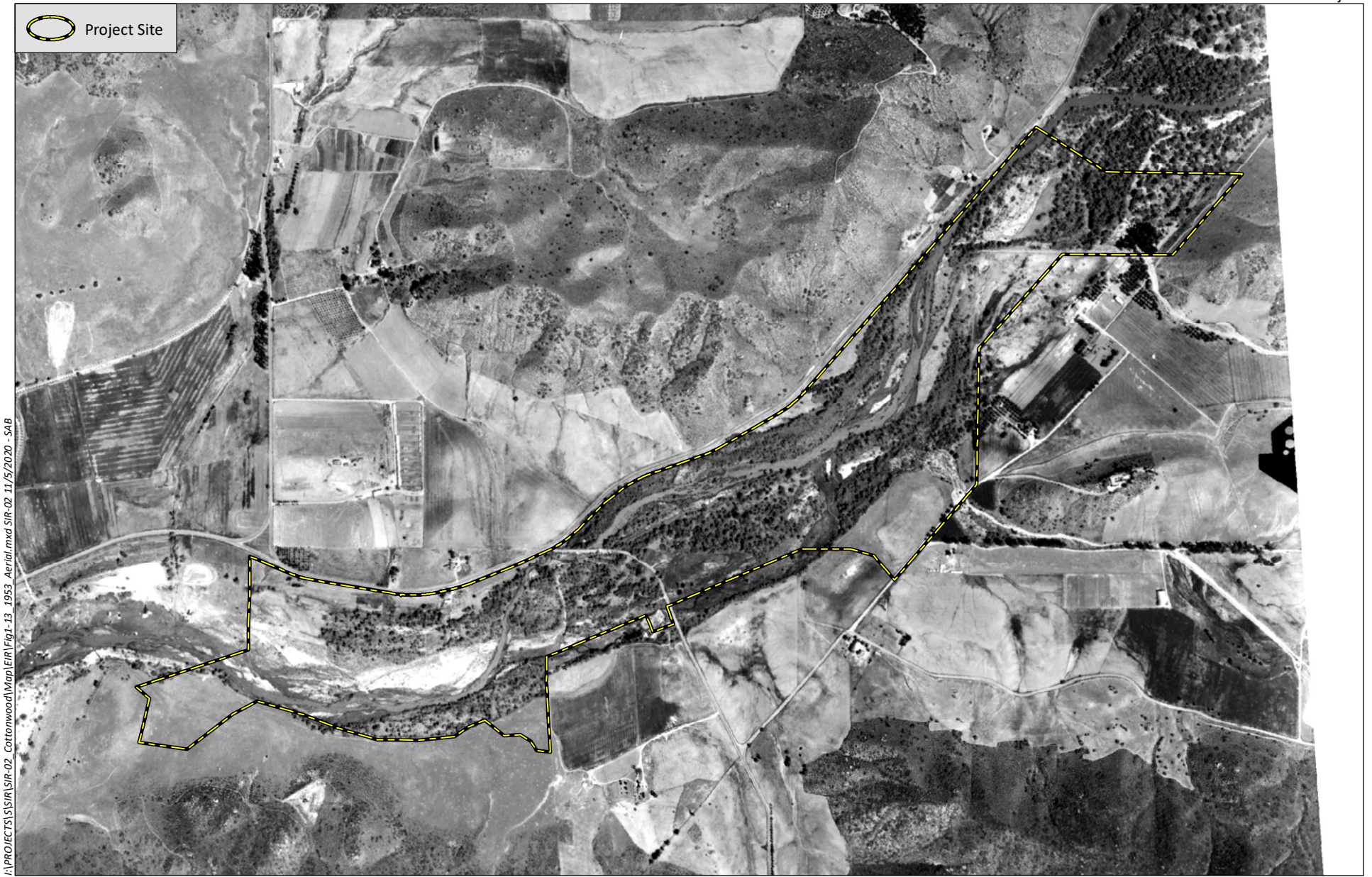
MATCH LINE SEE SHEET 5

Source: HELIX 2021

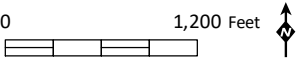


Source: HELIX 2021





I:\PROJECTS\SI\IR\SI-02 Cottonwood\Map\IR\Fig1-13 1953 Aerial.mxd SIR-02 11/15/2020 - SAB



Source: Aerial (SCIC)



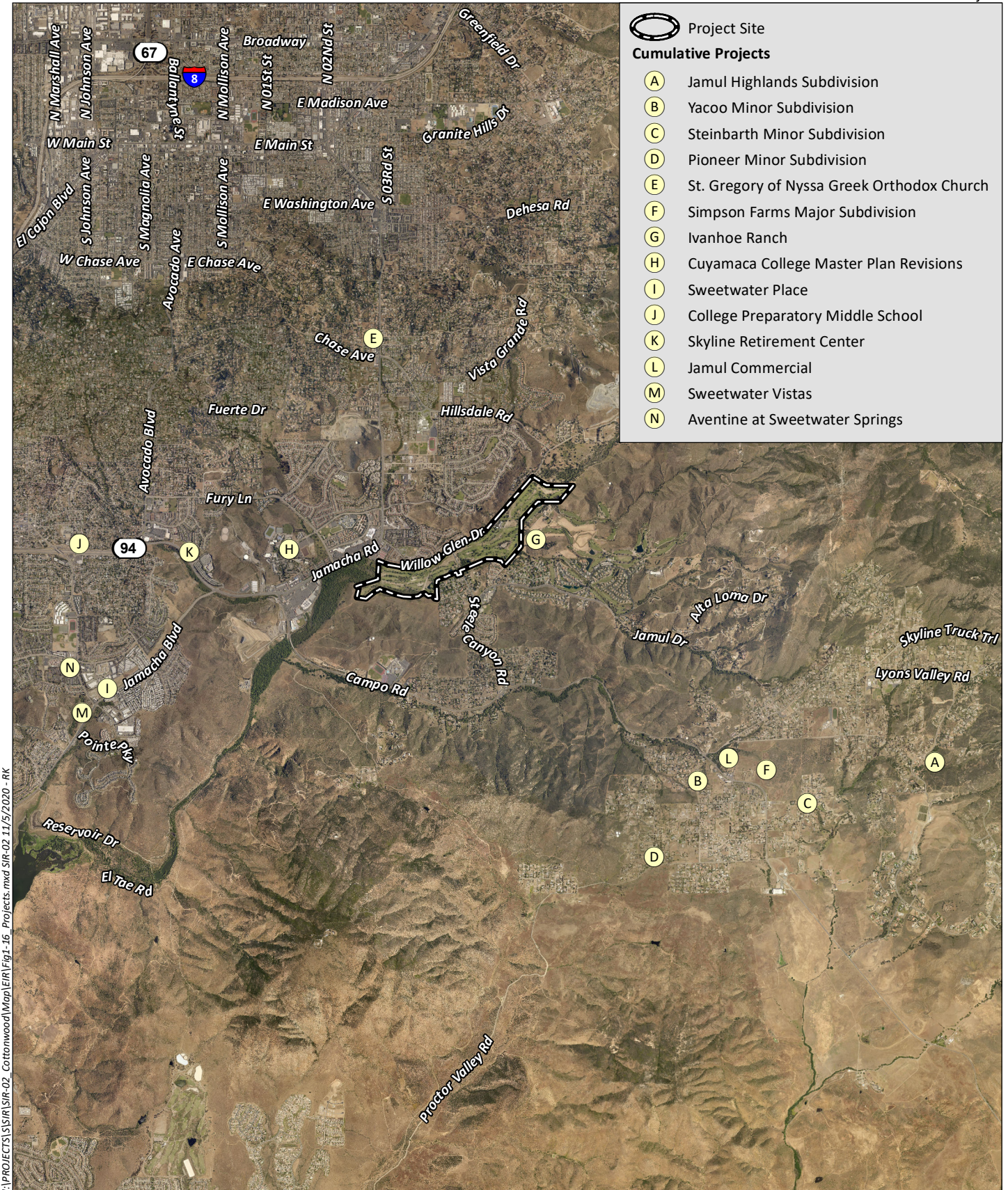
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Source: Enviromine (2019)

F:\PROJECTS\SI\SI\SIR-02_Cottonwood\Map\EIR\Fig1-15_Ivanhoe.incd SIR-02 2/10/2020 - SAB



Source: Enviromine (2019)



I:\PROJECTS\SIR\SIR-02_Cottonwood\Map\EIR\Fig1-16_Projects.mxd SIR-02 11/5/2020 - RK

Source: Aerial (SanGIS 2017)

