3.0 PROJECT DESCRIPTION

3.1 INTRODUCTION

This section describes the proposed City of Barstow General Plan (proposed General Plan) and Barstow International Gateway (BIG) projects, collectively referred to as the "Project" or "proposed Project" throughout this Environmental Impact Report (EIR). The section provides the information required by State CEQA Guidelines § 15124: Project Description, including a description of the Project's location and boundaries, a statement of the Project objectives, a description of the Project's technical, economic, and environmental characteristics, and a statement of the intended uses of this EIR. Additionally, this section includes a list of agencies expected to use this EIR in their decision-making processes for permits and approvals required to implement the Project, and related environmental review and consultation requirements.

The proposed General Plan would provide the long-term planning blueprint for the improvements needed to accommodate the City of Barstow's (City) population over a 25-year planning horizon: 2023 to 2048. For the proposed General Plan, this EIR provides a program-level environmental review of the long-term plans and zoning changes that will be implemented as policies guiding future development activities and City actions, as described in this section. Because this is a program-level EIR for the General Plan, this document generally does not evaluate the impacts of specific, individual developments that may be allowed under the General Plan once it is adopted. Future projects that fall under the General Plan may require separate environmental review.

The BIG footprint area totals approximately 5,000 acres including the off-site improvements. BIG proposes a new integrated rail facility on the approximately 4,300-acre[1] BIG Specific Plan area[2] on the west side of the City, consisting of a rail yard and warehouses for transloading freight from international containers to domestic containers; a 21 megawatt (MW) solar farm; and off-site rail and non-rail improvements. Once constructed, BIG would allow for direct transfer of containers from ships at the Port of Los Angeles and Port of Long Beach (collectively referred to herein as the Ports) to trains for transport through the Alameda Corridor onto the BNSF mainline to BIG. The Project also includes the BIG Specific Plan, which provides site-specific zoning regulations and development standards for the Specific Plan area. The BIG Specific Plan is available for review on the City website: www.BarstowGeneralPlanUpdate.com. For BIG, this EIR provides a project-specific level of review for its construction and operation.[3]

The State of California encourages cities to look beyond their borders when undertaking the sort of comprehensive planning required of a general plan. The City only has jurisdiction over land that is within the City limits. However, the City maintains a role in land use decisions for properties in its Sphere of Influence (SOI). As a result, the Project area, as described in this section, consists of (a) the existing City

1 Although the BIG Specific Plan acreage is 4,335 acres, throughout this EIR, the BIG Specific Plan acreage is referred to as 4,300 acres.

2 All acreages in this report are preliminary and based on GIS data. Acreages will be refined with site survey.

3 This EIR is being prepared to satisfy Senate Bill (SB) 149, codified at Public Resources Code Section 21189.80. Generally, SB 149 provides for streamlined review by the courts in the event a lawsuit is filed challenging the certification or adoption of this EIR, provided that the Project complies with certain conditions and is certified by the Governor. BNSF submitted a preliminary application under SB 149 to the Governor's Office of Land Use and Climate Innovation (LCI) in June 2025.

limits; (b) the proposed BIG Specific Plan area, including a portion of proposed Local Agency Formation Commission for San Bernardino County (SBLAFCO) Action A (the portion of the proposed BIG Specific Plan area that is not currently within the City limits and proposed for annexation to the City and BIG's off-site improvement areas within the City limits; (c) the remainder of proposed SBLAFCO Action A (a proposed annexation to the City immediately adjacent to the BIG Specific Plan, described in more detail in **Section 3.7.3**); (d) the proposed SBLAFCO Action B (a proposed annexation at the western extent of the City south of Main Street, described in more detail in **Section 3.7.3**); and (c) additional areas within the City's SOI, including BIG's off-site improvement areas.

The City and its SOI are shown in **Figure 3-1: Regional Vicinity Map** and **Figure 3-2: Local Vicinity Map**.

3.2 PROJECT OVERVIEW

This section describes the proposed City of Barstow General Plan (proposed General Plan) and Barstow International Gateway (BIG) projects, collectively referred to as the "Project." The proposed Project's characteristics are described in detail below.

Proposed General Plan

The General Plan is a state-required legal document that provides guidance to decision-makers regarding the allocation of resources and determining the future physical form and character of development in a city and its SOI. The General Plan is a city's or county's official statement regarding the extent and types of development needed to achieve the community's physical, economic, social, and environmental goals.

The proposed General Plan is a comprehensive update to the City of Barstow 2015-2020 General Plan (2015 General Plan) to bring it current with State laws. The proposed General Plan also includes planning for the City's overall long-term development. The proposed General Plan updates all of the City's General Plan elements except for the Housing Element, which was updated in 2024.

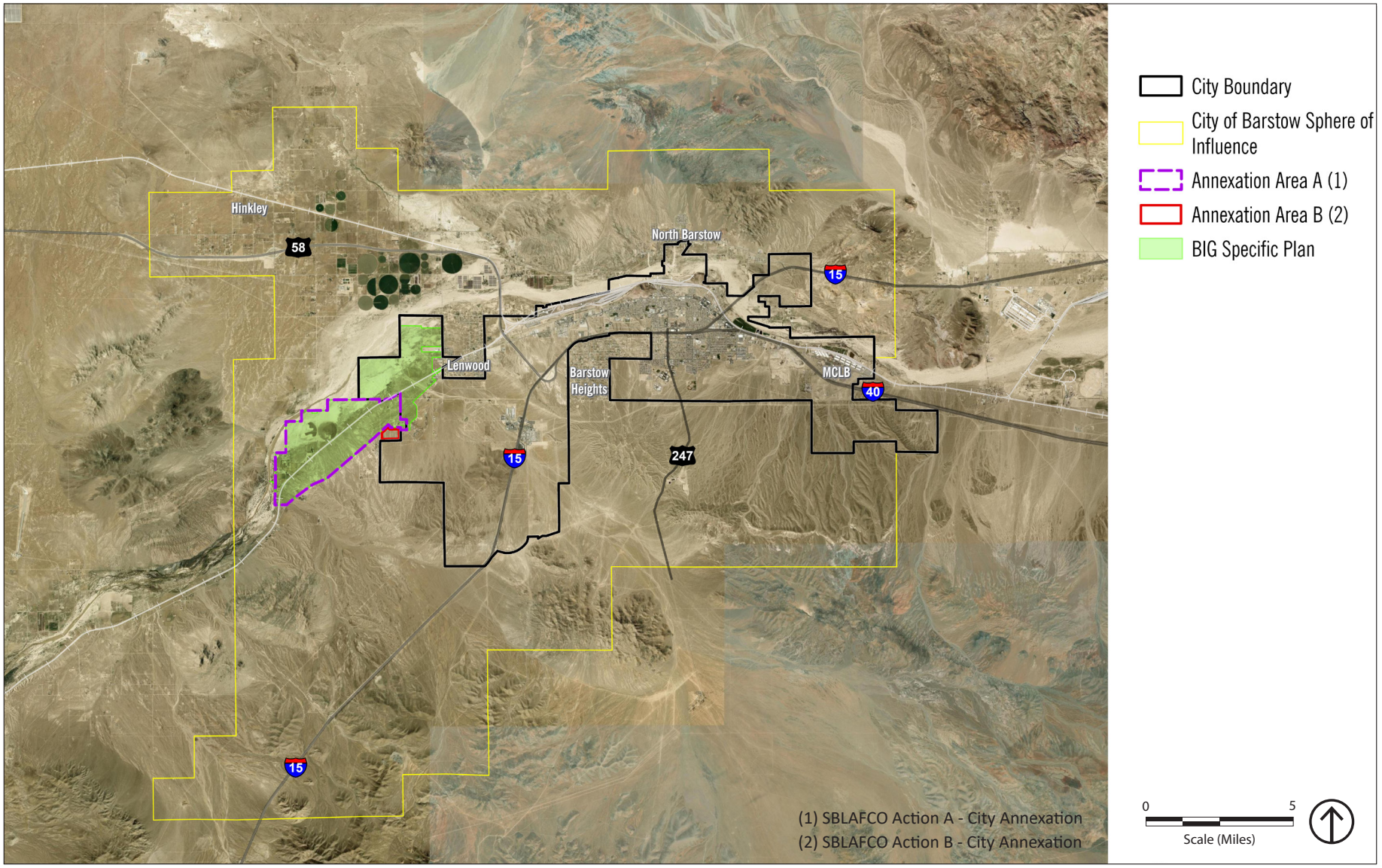
The proposed General Plan also includes two proposed SBLAFCO Actions (SBLAFCO Action A and Action B) that are reorganizations involving annexations, transfers of responsibility, and detachments. A single SBLAFCO Action can include multiple requests (such as bringing a property into City limits could also include detaching a property from the San Bernardino County Fire Protection District and annexing the property into the Barstow Fire Protection District). Although the City is responsible for assigning zoning in advance of a SBLAFCO application (i.e., "prezoning"), as well as completing the environmental analysis for the proposed SBLAFCO reorganizations and associated LAFCO actions, SBLAFCO will independently consider whether to approve the requested actions.

This EIR evaluates the proposed General Plan update, SBLAFCO Actions A and B, the BIG Specific Plan, and the off-site improvements to support BIG. Off-site improvements are located within both City jurisdiction and in areas that would remain within County of San Bernardino jurisdiction.



Sources:
City of Barstow , City Boundaries, 2024.

Figure 3-1
Regional Vicinity Map



Sources:
County of San Bernardino, 2023; City of Barstow, 2024.

Figure 3-2
Local Vicinity Map

Barstow International Gateway

BIG would bring thousands of direct and indirect jobs to High Desert communities in the City of Barstow and adjacent areas within the County and reduce commute times for hundreds of local employees. Specifically, BIG would create nearly 16,000 direct, indirect and induced jobs, all while keeping the Ports competitive by locating the first integrated rail and transload complex on the west coast. BIG would also support a robust, reliable, and efficient supply chain that American families and businesses rely on. From an environmental standpoint, it would result in a net reduction of greenhouse gas emissions, substantially reduce port and highway congestion, and expedite the transportation of goods from the Ports via rail, the most environmentally efficient way to move freight. BIG would also reduce environmental and safety impacts on communities in Los Angeles and the Inland Empire by reducing inefficient truck trips. With its location near primarily undeveloped land not adjacent to urbanized areas, it would minimize local impacts. By moving freight off the roads and onto rail, BIG reduces passenger vehicle miles traveled and truck miles traveled and improves congestion in heavily urbanized areas in the Inland Empire and near the Ports and on highway systems throughout the region.

3.2.1 Railroad Terms and Definitions

As BIG includes a rail yard and rail-related operations, this EIR uses various technical terms particular to railroads. **Table 3-1: Key Railroad Terms and Definitions** includes various railroad terms used frequently throughout this EIR concerning BIG.

Table 3-1: Key Railroad Terms and Definitions

Term	Definition
Ancillary rail area	This area is part of the rail yard. It is north of the proposed block swap yard, would be used for numerous purposes, including a container yard, truck chassis storage, and storage of maintenance equipment.
Biodiesel	Biodiesel is made from a reaction of vegetable oil or animal fat along with a catalyst. Unlike renewable diesel, biodiesel is chemically different from traditional diesel, and thus, may result in performance or compatibility issues with diesel engines. Biodiesel can reduce greenhouse gas (GHG) emissions, along with particulate matter (PM), carbon monoxide (CO), and hydrocarbons (HC), although nitrogen oxide (NOx) can increase compared to traditional diesel.
Block	A block is a group of rail cars of a similar type moving to the same destination. See **Figure 3-4: Rail Car Blocks.** The block swap yard is described in **Section 3.7.5**.
Block swap yard	This area is part of the rail yard, and is where blocks of intermodal rail cars intended for a single destination are consolidated to produce more efficient trains. In effect, the entire block of rail cars remains coupled together and is moved en masse to another train. See **Figure 3-5: BIG Components Overview** and **Figure 3-6: Rail Yard Components, Block Swap Yard.**
Chassis	A metal frame with wheels that connects to a heavy-duty truck or hostler, on which a container is placed. See **Figure 3-3: Heavy Duty Truck and Electric Hostler Components**.
Classification yard	A yard where trains being processed are made up of non-intermodal railcars (i.e., individual boxcars, gondolas, open and closed hopper cars, automobile railcars, tank cars, etc.) rather than intermodal rail cars. Thus, the existing Barstow classification yard is not intended to process trains involved in intermodal operations such as those that would be processed at BIG.

Table 3-1: Key Railroad Terms and Definitions	
Term	**Definition**
Cross-Dock Intermodal Operations	A container-movement operation unique to BIG in which containers would be processed as follows: international containers loaded onto trains on-dock at the Ports (defined below); transported by train to the proposed BIG intermodal facility; taken by electric hostlers to the proposed on-site transload warehouse center; transloaded into domestic containers; taken by electric hostlers back to BIG intermodal facility; and loaded onto outbound trains at the intermodal facility.
Domestic container	A 53-foot intermodal container used for freight movement in North America. Hereafter, this analysis uses "domestic container."
Dray or Drayage	"Dray" is used in the logistics and supply chain industries as synonymous to "take" or "move" over a short distance, as in, to "take" a container from the Ports to a local warehouse. Similarly, a "drayage truck" is a truck used to take a container from one location or mode of transport to another.
Electric hostler	A vehicle used to move containers within a facility. Electric hostlers are typically not registered to use public roads; therefore, they are "on site" vehicles only. BIG would only use electric hostler trucks to transport containers to/from the intermodal facility and transload warehouse center.
Intermodal facility	This area is part of the rail yard. The intermodal facility is at the southern portion of the rail yard, and is where intermodal containers are transferred between trains and heavy-duty trucks. Heavy-duty trucks arrive to either pick up containers from arriving trains or deliver containers for departing trains. However, unlike traditional intermodal facilities, at BIG the majority of containers would arrive by train and be transferred to and from electric hostlers. See **Figure 3-5: BIG Components Overview** and **Figure 3-7: Rail Yard Components, Intermodal Facility**.
Intermodal container	An intermodal container is a large metal container used to transport goods across different transportation modes. Intermodal containers are sometimes also called "shipping containers" or "sea containers." Hereafter, this analysis uses "intermodal container."
International container	A 40-foot or 20-foot intermodal container used to transport goods internationally. These are sometimes also referred to "marine containers." Hereafter, this analysis uses "international container."
Lead tracks	Lead tracks act as "on-ramps" and "off-ramps" connecting rail yards to the mainline. Lead tracks allow trains to accelerate as they leave a rail yard to reach mainline track speeds, or decelerate from the mainline as they arrive at a rail yard. See **Figure 3-5** and **Figure 3-8: Rail Yard Components, Lead Tracks**.
Lifted Container	Refers to an intermodal container being lifted on or off a railcar or heavy-duty truck.
Light maintenance activities	Routine locomotive servicing (e.g., window washing, fueling, inspecting fluid levels, and topping off fluids), stocking cabins with crew equipment (e.g., water and trash bags, toilet servicing) and minor railcar servicing (e.g., wheel changes, brake and friction shoes, and loose or missing bolts).
Linehaul locomotive	Locomotives that move cargo over long distances (i.e., locomotives over 2,300 horsepower that haul freight cross-country).
Mainline	An arterial railroad track that accommodates "long-haul" cross-country moves. Mainline tracks can be analogous to the interstate freeway system for vehicles, enabling long-distance travel to rail yards across the country. See **Figure 3-5** and **Figure 3-8**.
Major maintenance	Repair of railing and platform, railcar suspension, hitches, engine, etc.

Table 3-1: Key Railroad Terms and Definitions	
Term	**Definition**
activities	
On-dock	An intermodal operation that occurs within the Ports. For instance, if a container transported via "on-dock" rail, it refers to a container which is loaded onto an on-dock rail carrier.
Off-dock	An intermodal operation that occurs outside the Ports footprint. For instance, if a container is unloaded at the Ports via heavy-duty truck and taken to an intermodal facility, it is transported via "off-dock" rail.
Ports	The Port of Los Angeles and the Port of Long Beach. These facilities are sometimes referred to in documents prepared by other agencies (for instance, the Southern California Association of Governments [SCAG]) as "San Pedro Bay Ports." This analysis refers to them together as "the Ports."
Rail-mounted Gantry cranes	Rail-mounted gantry cranes (RMGs) are large machines that straddle the railroad track within a specialized crane track for the purpose of loading and unloading containers and trailers to and from railcars. RMGs are depicted on **Figure 3-36: Rail Yard Cross-Section**. Given that RMGs are "bound" within the dedicated crane track, they are less operationally-flexible than rubber-tired gantry cranes discussed below. However, RMGs are still highly effective to process containers within a dedicated area, and since they are more geographically contained, they can be connected to an electricity supply. All RMGs within BIG would be fully electric.
Rail yard	The rail yard at BIG consists of the block swap yard, intermodal facility, and ancillary rail area.
Renewable diesel	Renewable diesel is made from hydrogen breaking down fats, and results in hydrocarbons that are chemically similar to traditional petroleum diesel. Because of its chemical similarities, it can be blended with petroleum diesel and used in engines without need for retrofits or modifications; however, higher blends require engines be retrofitted. Renewable diesel reduces particulate matter (PM), nitrogen oxide (NOx), and carbon monoxide (CO) emissions compared to diesel.
Rubber-tired gantry cranes	Rubber-tired gantry cranes (RTGs) are similar to RMGs, but instead of being confined to dedicated crane tracks, RTGs can travel over much wider distances and thus typically cover greater areas than RMGs. Given the RTGs travel over a wider area, they are not able to be connected to an electricity supply via a plug-in cable, however, BIG would utilize hybrid diesel-electric RTGs. RTGs are depicted on **Figure 3-36.**
Switcher locomotives	Switcher locomotives are "internal" locomotives that assemble and disassemble trains at various locations and move them within the rail yard. Switcher locomotives would stay within BIG.
Tier engines/ locomotives	Locomotive engine PM and NOx emissions are regulated based on which year they were produced. "Uncontrolled" refers to locomotives built prior to 1973.
Tier 0	Locomotives built between 2000-2001.
Tier 1	Locomotives built between 2002-2004, which reduce PM emissions by approximately 50 percent from Tier 0 emissions, and NOx emissions by approximately 35 percent from Tier 0 emissions.
Tier 2	Locomotives built between 2005-2011, which reduce PM emissions by approximately 65 percent from Tier 0 emissions, and NOx emissions by approximately 50 percent from Tier 0 emissions.
Tier 3	Locomotives built between 2012-2014, which reduce PM emissions by approximately 65 percent from Tier 0 emissions, and NOx emissions by approximately 50 percent from Tier 0 emissions. Tier 3 also includes stricter PM and NOx standards for switcher locomotives than Tier 2.

Table 3-1: Key Railroad Terms and Definitions	
Term	**Definition**
Tier 4	Locomotives built from 2015 onward, which reduce PM emissions by approximately 95 percent from Tier 0 emissions, and NOx emissions by approximately 90 percent from Tier 0 emissions. Tier 4 is the cleanest standard of locomotive engine and is the strictest standard for locomotive emissions.
Transload	The transfer of goods from one container to another. In this document, it specifically refers to the transfer of goods from international containers to domestic containers.
Transload warehouse center	Warehouses within BIG that would be designed to process containers from cross-dock intermodal operations (see **Section 3.7.6**).
Tractor	A tractor is the front end (sometimes referred to as the "cab") of a heavy-duty truck. See **Figure 3-3.**
Wye	A wye is a "Y" – shaped convergence of tracks (similar to a "T"-intersection on a street) where trains are able to turn to either of two directions.

3.2.2 BIG Overview

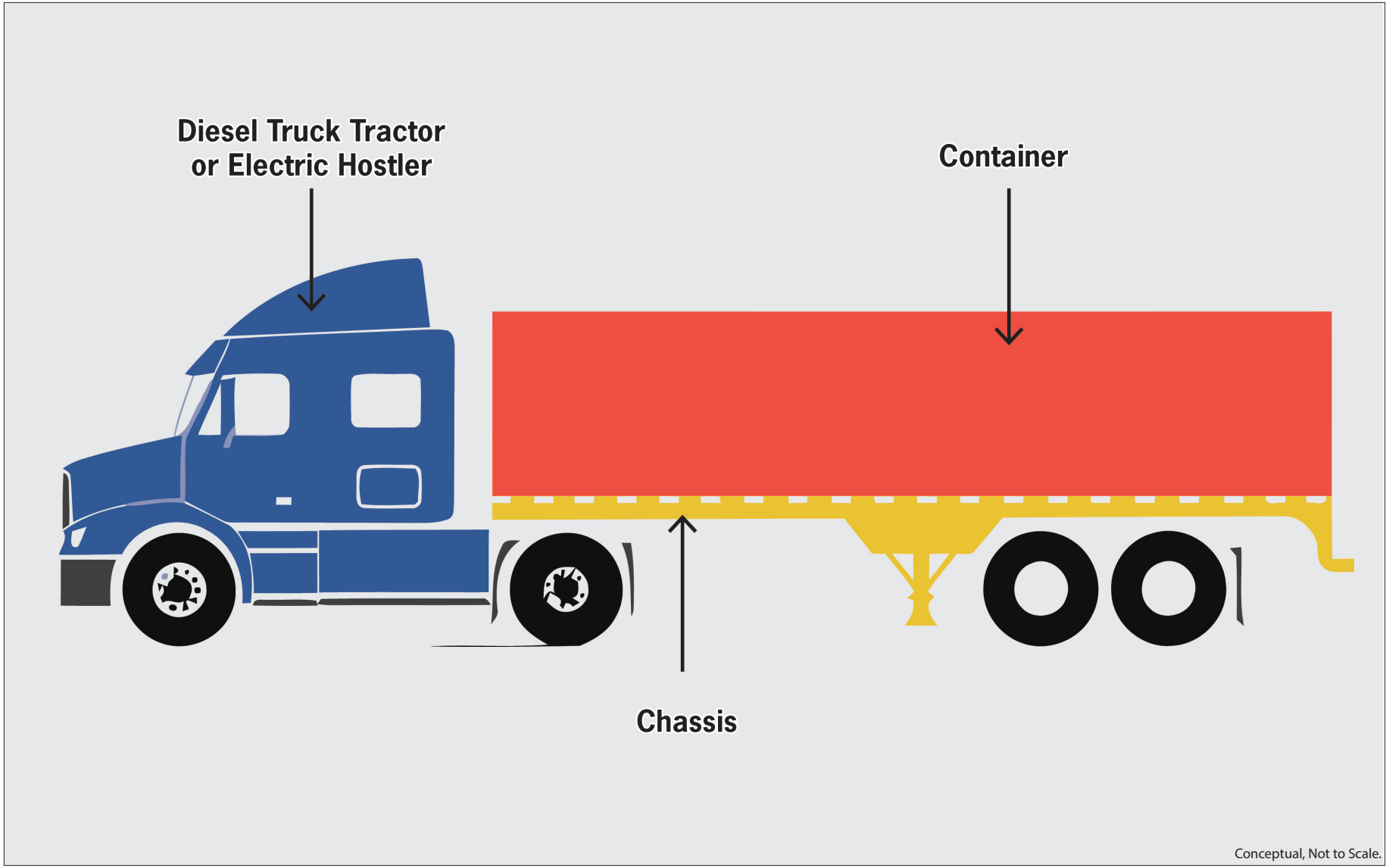
BNSF Railway Company (BNSF) proposes the new BIG facility and its Specific Plan to be located partly in incorporated Barstow and partly in an existing unincorporated portion of the County, which the proposed General Plan proposes for concurrent annexation to the City. The BIG Specific Plan proposes a rail yard (see **Section 3.7.5**) consisting of an intermodal facility,[4] a "block swap" yard[5] and ancillary rail area, as well as a transload warehouse center[6] (see **Section 3.7.6**), and a private utility (i.e., solar farm), and an approximately 680-acre area at the northern boundary of the Specific Plan area that would remain ungraded (referred herein as the "Mojave River buffer"), a portion of which is proposed to be placed under a conservation easement. Additionally, to serve the proposed rail yard and transload warehouse center, BNSF proposes off-site rail improvements (i.e., lead track extensions)[7] and off-site non-rail improvements (i.e., stormwater drainage, utilities, and circulation/ roadways). "Off-site improvements" refer to improvements outside the BIG Specific Plan area, located in the City and County. On-site and off-site improvements are described further in **Section 3.7.7**, **3.7.8**, and **3.7.10**.

[4] "Intermodal facility" refers to a rail yard where intermodal containers are transferred between trains and heavy-duty trucks. Heavy-duty trucks arrive to either pick up containers from arriving trains or deliver containers for departing trains. However, unlike traditional intermodal facilities, at BIG the majority of containers would arrive by train and be transferred to and from electric hostlers.

[5] "Block Swap" refers to transferring a block of intermodal rail cars between trains. In effect, the entire block of cars remains coupled together and is moved en masse to another train.

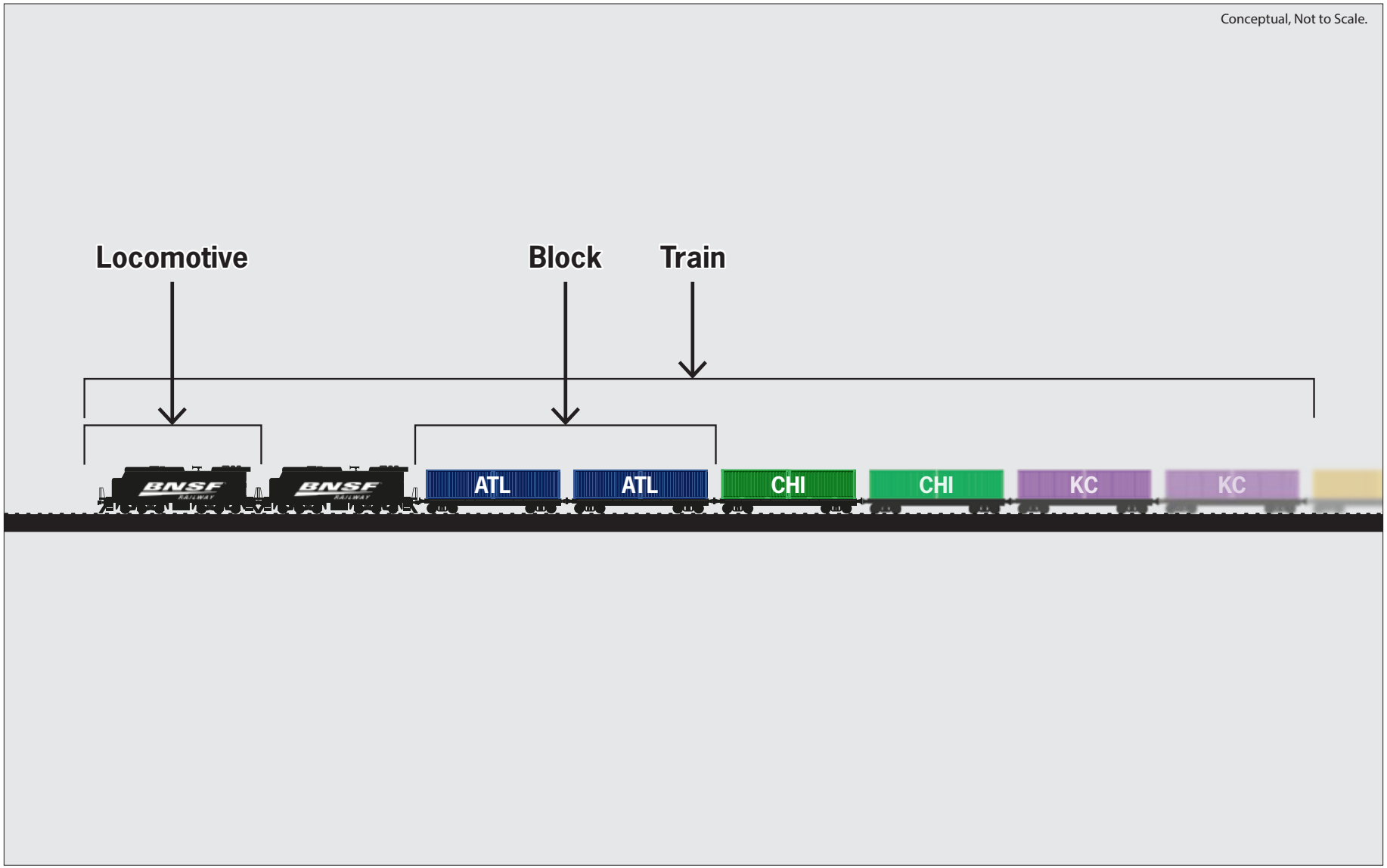
[6] "Transload" refers to the transfer of goods from one container to another. In this document, it specifically refers to the transfer of goods from 40-foot international containers to 53-foot domestic containers. The transload warehouse center at BIG would primarily serve goods transported to and from BIG intermodal facility by rail.

[7] Lead tracks act as "on-ramps" and "off-ramps" to the mainline, allowing trains to accelerate from the yard to reach mainline speeds, or decelerate from the mainline as they arrive at the yard.



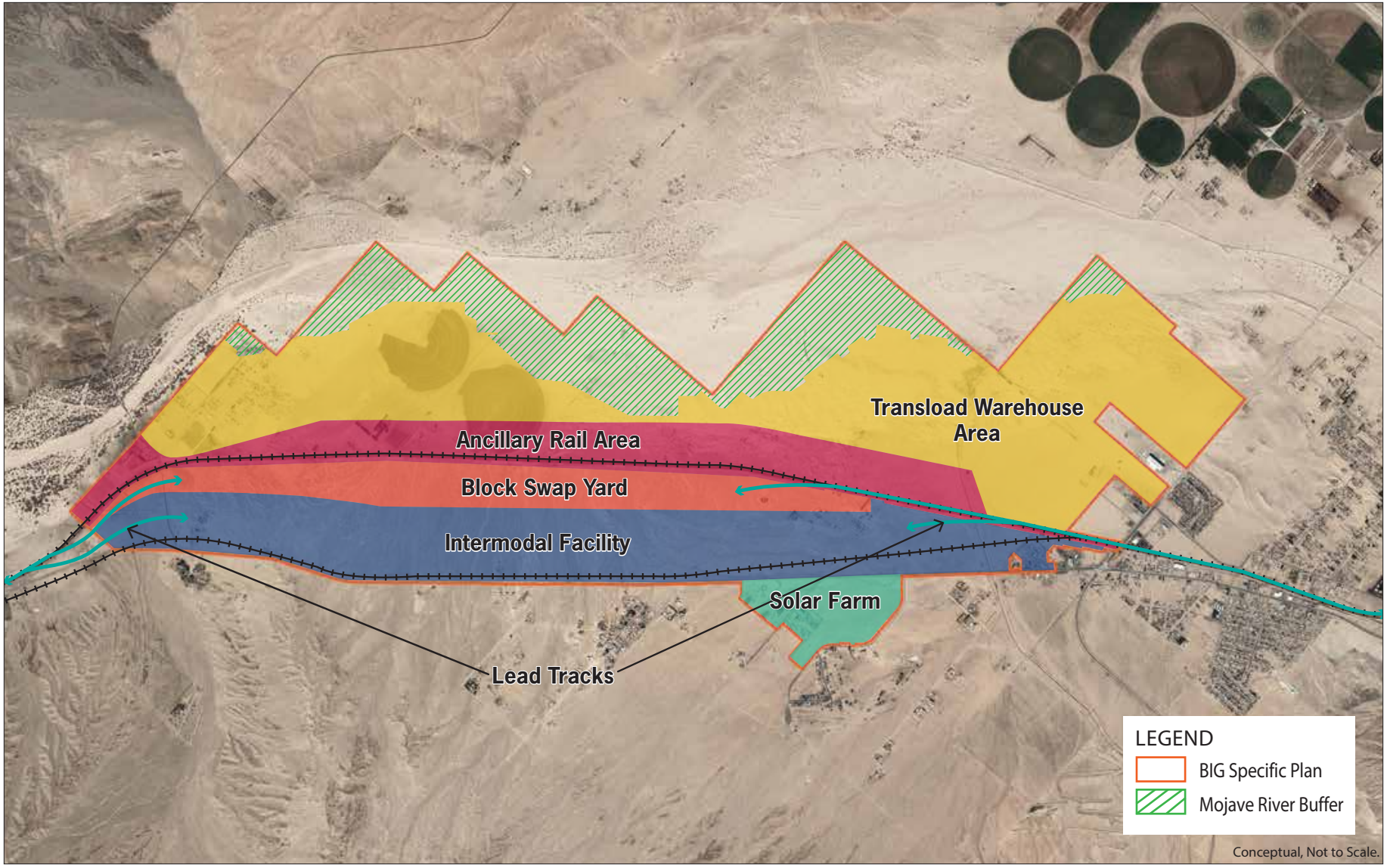
Sources:
Kimley-Horn, 2024.

Figure 3-3
Heavy Duty Truck and Electric Hostler Components



Sources:
Kimley-Horn, 2024. .

Figure 3-4
Rail Car Blocks



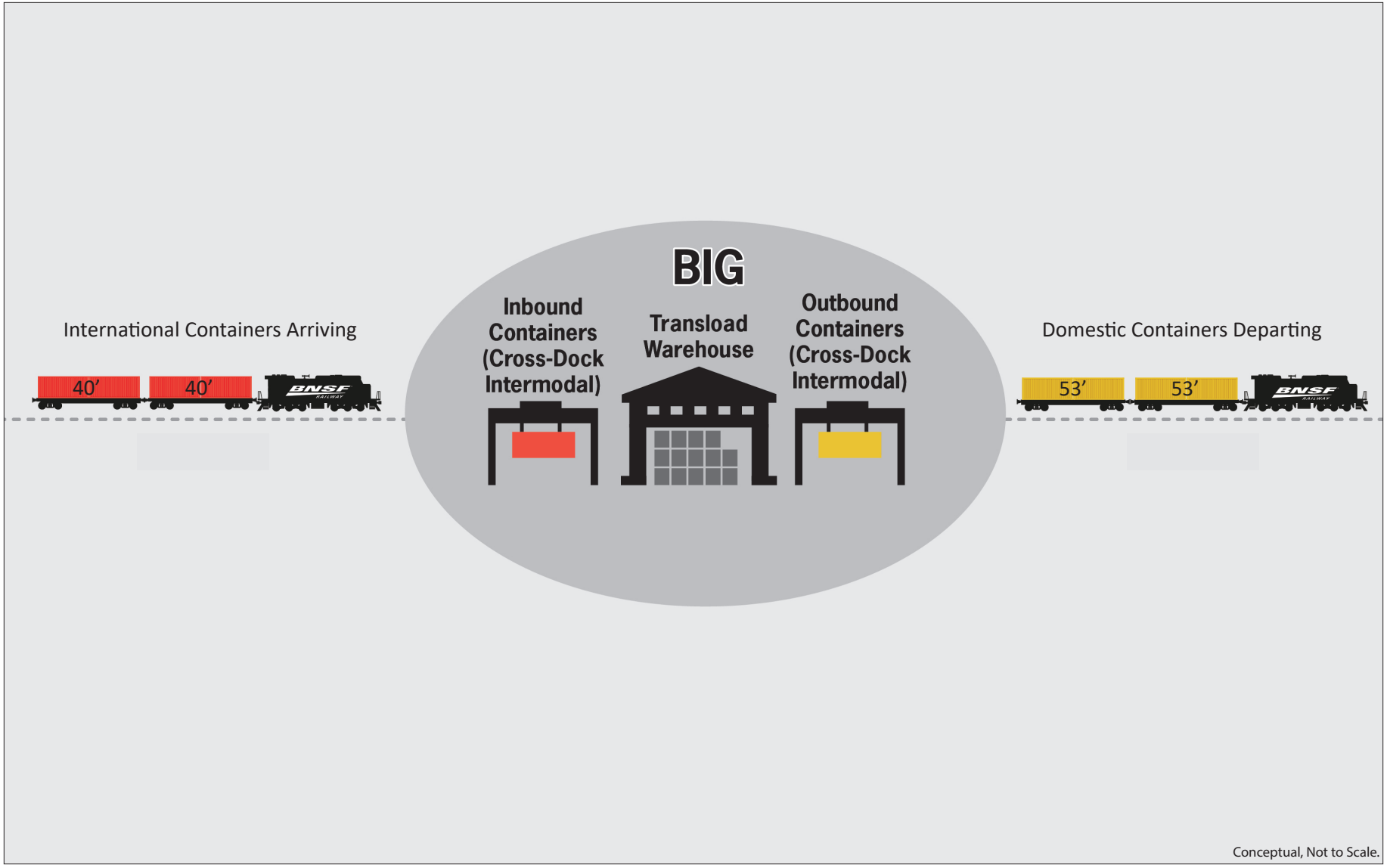
Source: Kimley-Horn, 2025.

Figure 3-5
BIG Components Overview



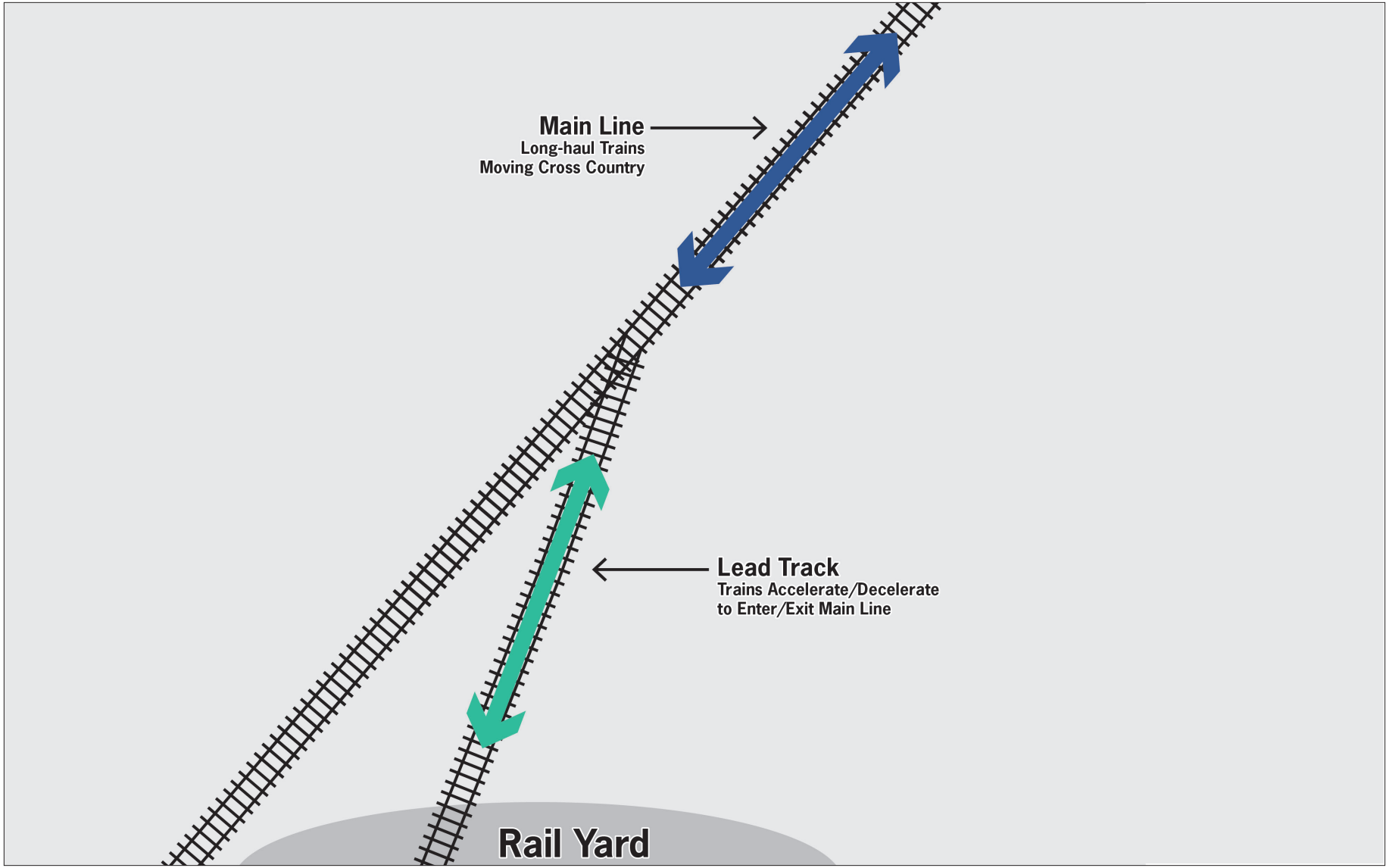
Sources:
Kimley-Horn, 2024.
Note: The figure presents an example of re-organization of containers and trains at Block Swap Yard.

Figure 3-6
Rail Yard Components, Block Swap Yard



Source: Kimley-Horn, 2025.
Note: The figure illustrates the westbound container move.

Figure 3-7
Rail Yard Components, Intermodal Facility



Sources:
Kimley-Horn, 2024.

Figure 3-8
Rail Yard Components, Lead Tracks

As addressed in **Section 5.10: Hydrology and Water Quality**, the BIG Specific Plan area along Lenwood Channel is currently within a Federal Emergency Management Agency (FEMA) 100-year flood zone due to existing flooding concerns. Lenwood Channel is a north-north earthen channel used to convey water from the southeast to the Mojave River and is maintained by the San Bernardino County Flood District. As a part of BIG, Lenwood Channel would be widened by approximately 60 to 100 feet through the Specific Plan area for a length of approximately 1.1 miles and then continuing off-site south of Main Street for approximately 1 additional mile. The widened channel would improve flooding protections compared to existing conditions. Preliminary BIG design requires the Lenwood Channel to be spanned at three locations for additional east lead tracks, main tracks, and other tracks, as well as four roadway crossings: Main Street, Hinkley Road, the private road between the proposed intermodal facility and the proposed transload warehouse center, and an access road from a warehouse staging area to the ancillary rail area.

BIG would result in solid waste generation from construction (demolition debris, broken or excess materials, packaging, and other construction waste), as well as during operations from the rail yard and transload warehouse center. BIG's solid waste would be collected in on-site trash bins and disposed of at the Barstow Sanitary Landfill with 65 percent recycled (for example, demolished concrete foundations can be crushed and reused on the site as aggregate).

BIG's proposed on-site improvements are shown later in the section in **Figure 3-17: Barstow International Gateway Conceptual Site Plan** and described below. The BIG Specific Plan would establish the site-specific zoning regulations and development standards for an approximately 4,300-acre BIG Specific Plan area. As discussed above, the proposed General Plan proposes to prezone and annex the portion of the BIG Specific Plan area that is currently outside the City, so that upon annexation, the entire BIG Specific Plan area would be within City limits. On-site and off-site improvements are discussed in more detail in **Section 3.7: Project Components, Barstow International Gateway**.

In addition to seeking approval of BIG Specific Plan, BIG includes a Development Agreement (DA) to address financing and other public improvements and benefits components of BIG consistent with the Specific Plan. Lastly, BIG seeks various other permits and approvals; see **Section 3.9: Intended Uses of this EIR**.

BIG facilities (the intermodal facility, block swap yard, ancillary rail area, and transload warehouse center) are proposed on a single site to provide the following efficient operations:

- Only a single set of lead tracks is required if the components are on a single site. If the components were on multiple sites, each site would require its own lead tracks, increasing the overall development footprint, environmental impacts, and construction costs.
- Trains can move between the intermodal facility and block swap yard faster if the two components are on a single site, increasing efficiency, and avoiding the need for containers to travel on public roads.
- Trains that are processed at the intermodal facility can then have their blocks of railcars sorted at the block swap yard without traveling off the site.

- Light maintenance activities can be performed at a single location, rather than requiring travel to multiple locations.

3.3 PROJECT OBJECTIVES

Proposed General Plan

The primary purposes of the proposed General Plan are to plan for the growth of Barstow over an approximately 25-year timeframe and to achieve a more equitable, sustainable, and prosperous future for all residents. This requires extending the buildout horizon to year 2048 and updating General Plan goals, policies, and programs so that they meet current State requirements and community priorities. As part of this process, the City has identified the following objectives, which form the intent for the updates to the General Plan and serve as the proposed General Plan's objectives in the EIR:

- The addition of a substantial number of livable wage and head of household jobs that will strengthen the City's economic base and fiscal resiliency and provide career pathways for the community.
- A larger amount and wider range of housing opportunities to address the needs of the community and military installations, demand from new households generated by job growth, and full spectrum of lifestyles and life stages.
- A cohesive land use plan that appropriately transitions between residential, commercial, and industrial areas, encourages new development to leverage and improve existing infrastructure, and provides expansion opportunities to support long term growth.
- Economic opportunities that allow residents and local businesses to (re)invest in the community and create generational wealth.
- Land use and circulation plans that capitalize on Barstow's unique location, as a link in the national supply chain, and existing industrial and rail infrastructure to attract and retain innovative industrial and rail operators and to support the efficient movement of goods.
- Goals, policies, and implementation strategies that ensure Barstow is a healthy and safe community for residents, businesses, and visitors.

Barstow International Gateway

BIG's objectives are identified below:

- Increase the speed and reliability, and lower the cost, of moving containerized goods from the San Pedro Bay Ports (Ports) to their end destinations, with the end effect of reducing traffic congestion and associated air emissions from trucking of goods to and from transload facilities, by constructing and operating a freight rail facility that comprises:
    - an intermodal freight rail yard (IMF) with a "closed loop" connection to an on-site transload warehouse center of sufficient capacity to attract large-scale users of warehouse facilities and justify their adoption of rail transport instead of long-distance, heavy-duty truck transport, and

  - a block swap yard at the same site as the IMF, to enable blocks of rail cars with the same destination to be combined into a single train, thereby increasing the efficiency of goods movement by rail;

- Optimize symbiotic facility site design that allows the most efficient interplay between the operations of the block swap, IMF and transload warehouse center to ensure that the site will accommodate projected future demand.
- Construct and operate the facility in a manner that promotes the public policy goals in the State Rail Plan to reduce the disproportionate impacts of truck-borne goods movement in urbanized and densely populated areas adjacent to Port facilities in southern California.
- Utilize a single technology platform to track goods throughout their journey from the Ports through the facility to their end destinations, thereby maintaining greater control, awareness, and visibility of goods movement through the supply chain.
- Design the facility so that its construction and operations do not interfere with or cause delays to existing operations on the mainlines.
- Locate the facility at a site that would:
  - be large enough for all BIG components (i.e., intermodal facility, transload warehouse center, block swap yard, additional laydown area, and additional tracks along BNSF's existing mainline);
  - be positioned along BNSF's existing mainline and near where the Cajon, Mojave, and Needles Subdivision main railroad lines converge (i.e., the "Subdivision Wye");
  - be positioned near an existing locomotive maintenance facility, or with sufficient space for a new locomotive maintenance facility;
  - be positioned a reasonable distance from heavily urbanized areas (where land use incompatibilities can be minimized) yet near an existing employment base, freeways, and essential infrastructure;
  - be relatively level and largely devoid of existing land uses and sensitive biological resources; and
  - allow for sufficient on-site power generation to the rail yard (i.e., solar farm).

3.4 PROJECT LOCATION AND SETTING

Proposed General Plan

The City and its SOI are in western San Bernardino County and are surrounded entirely by unincorporated San Bernardino County. Interstate 15 (I-15) bisects Barstow in a southwest-northeast direction, while Interstate 40 (I-40) bisects Barstow in an east-west direction. State Route 247 (SR-247), which runs in a north-south direction, terminates as it intersects I-15 (see **Figure 3-1** and **Figure 3-2**). The General Plan area is generally within the 1984 Barstow USGS quadrangle map and can be found generally with global positioning satellite coordinates of 34° 53' 44.8728" North and 117° 1' 2.2116" West.

Barstow International Gateway

The acreage of City and County jurisdictional areas within BIG's footprint are identified in **Table 3-2: Existing Jurisdictional Areas – BIG (Acres).** The approximately 5,000-acre BIG footprint is at the western part of the City, which is in San Bernardino County. Most of BIG's footprint is within unincorporated County lands, while the remainder is within City limits.

Table 3-2: Existing Jurisdictional Areas – BIG (Acres)

Description	City (Acres)	County (Acres)	Total[1]	Percent of BIG Footprint[1]
Specific Plan Area	1,659	2,676	4,300	87%
Off-Site Improvements	220	440	660	13%
Total: BIG Footprints	1,900	3,100	5,000	100%

Note:
1. Sums may not total due to rounding. Off-site improvement acreages are based on GIS data and are therefore estimates. Specific Plan acreages are based on survey data. Although the BIG Specific Plan acreage is 4,335 acres, throughout this EIR, the BIG Specific Plan acreage is referred to as 4,300 acres.

Sources:
City of Barstow. 2015. Zoning Map. https://www.barstowca.org/home/showpublisheddocument/3316/635844746903000000.
City of Barstow. 2024. Current General Plan Land Use Diagram.
https://www.barstowca.org/home/showpublisheddocument/8559/638473032778500000.
County of San Bernardino. 2020. Countywide Plan Policy Map LU-1 Land Use Map.
https://www.arcgis.com/apps/webappviewer/index.html?id=f23f04b0f7ac42e987099444b2f46bc2.

The BIG Specific Plan area is approximately 4,300 acres and comprises most (approximately 87 percent) of BIG's total footprint. BIG's proposed Specific Plan area is generally bordered by the Mojave River to the north, Main Street (also referred to as National Trails Highway or Route 66) to the south, Lenwood Road to the east, and Hinkley Road to the west.

Regional vehicle access to the BIG footprint is provided by Main Street from the south, I-15 from the southeast, and SR-58 from the east. Local access to BIG is primarily provided by Lenwood Road and Hinkley Road from the east and west, respectively, in addition to various unpaved roads along Main Street. Regional rail access is provided from the north by BNSF's Mojave subdivision, from the west by BNSF's Cajon subdivision, and from the east by BNSF's Needles subdivision.

The BIG Specific Plan area is generally flat and gradually slopes north to the Mojave River. Off-site improvements are generally within existing BNSF rail and City/County street rights-of-way. The BIG Specific Plan area is primarily vacant undeveloped land, which is traversed by BNSF's existing mainline, and which contains scattered agricultural, residential, commercial, and industrial land uses. The BIG Specific Plan area is mostly devoid of tall vegetation and trees, with structures and other elements of the built environment scattered throughout. Existing land uses within BIG's footprint are identified in **Table 3-3: Existing Land Uses –** BIG.

Table 3-3: Existing Land Uses – BIG

Description	Dwelling Units (DU)	Commercial (SF)	Industrial (SF)	TOTAL (DU)	TOTAL (SF)
Existing Land Use	108	85,887	7,837	108	93,724

There are approximately 108 residential dwelling units and approximately 93,724 square feet of non-residential land uses (i.e., commercial and industrial) within BIG's footprint. A private airstrip (Depue Airport) is within BIG's proposed solar farm footprint. As a private use uncontrolled airport, Depue Airport is not open to the public and permission to use it is required prior to landing. Under BIG, this private airstrip would be demolished and replaced with the proposed solar farm.

BIG's footprint also includes off-site improvements totaling approximately 660 acres (see **Section 3.7.10**), with approximately two-thirds of the off-site improvements within unincorporated County lands and the remainder within Barstow City limits.

3.5 SURROUNDING LAND USES

Proposed General Plan

The area surrounding the City's SOI consists primarily of open desert lands, either undeveloped and privately owned vacant land or natural open spaces managed by the State or federal government. Nearby to the east are the unincorporated communities of Daggett and Yermo, the Barstow U.S. Marine Corps Logistics Base Yermo Annex, and Barstow-Daggett Airport. Farther to the north and west are additional military facilities (Fort Iwin and Edwards Air Force Base, respectively). Farther southwest along National Trails Highway (Route 66) is the unincorporated community of Helendale.

Barstow International Gateway

BIG's "surrounding" area refers to the area outside BIG Specific Plan area, which includes BIG off-site improvement areas. The surrounding area is primarily vacant undeveloped land containing scattered residential, commercial, and industrial land uses. Land uses surrounding BIG Specific Plan area include:

- **North**. Vacant undeveloped land, including the Mojave River to the north. There are residential and commercial uses north of the existing BNSF tracks.
- **South**. Primarily vacant undeveloped land is to the south. Some low-density residential uses are south of Main Street and west of Lenwood Road. Low- and medium-density residential uses are east of Lenwood Road.
- **East**. Residential and commercial uses are to the east, north, and south of the existing tracks, including along Main Street. SR-58 and the existing Barstow classification yard are also to the east.
- **West**. Vacant undeveloped land, including the Mojave River is to the west. Additionally, an existing BNSF railroad line traverses BIG footprint in a southwest to northeast direction.

3.6 LAND USE DESIGNATIONS AND ZONING

Proposed General Plan

This section describes the existing land use designations and zoning, as well as changes proposed as a part of the proposed General Plan. The existing land use designations for the General Plan area are identified in **Table 3-4: Existing Land Use Designations**. The 2015 General Plan land use designations are shown in **Figure 3-9: 2015 General Plan Land Use Plan**. The existing zoning districts are shown in **Figure 3-10: Existing City of Barstow Zoning Map.**

Table 3-4: Existing Land Use Designations

Barstow 2015 General Plan	Acres	Barstow Proposed General Plan	Acres	Change
CITY OF BARSTOW				
Residential				
Estate Residential	-	[to be removed]	-	-
Low Density Residential	592	Low Density Residential	843	251
Single Family Residential	4,733	Single Family Residential	1,830	(2,903)
Medium Density Residential	520	Medium Density Residential	1,389	869
N/A	-	High Density Residential	117	117
Subtotal	5,845	Subtotal	4,179	(1,666)
Mixed-Use				
Diverse Use	3,478	Diverse Use	2,090	(1,388)
Employment Generating				
General Commercial	2,945	Commercial	2,513	(432)
General Industrial	5,240	Industrial	6,451	1,211
N/A	-	Business Park	4,065	4,065
Subtotal	8,185	Subtotal	13,029	4,844
Other				
Public / Quasi-Public	4,291	Public	5,210	918
Resource Open Space	1,349	Open Space	175	(1,174)
Interim Open Space	1,504	N/A	-	(1,504)
Right-of-Way	1,775	Right-of-Way	1,745	(30)
Subtotal	8,919	Subtotal	7,130	(1,789)
City Total	**26,427**	**City Total**	**26,427**	**-**
UNINCORPORATED SPHERE OF INFLUENCE (SOI)				
SBLAFCO Action A				

County of San Bernardino CWP Designations	Acres	Barstow 2015 General Plan	Acres	Barstow Proposed General Plan	Acres
Rural Living (RL)	2,312	Estate Residential	1,311	N/A	–
Resources/ Land Management (RLM)	210	Interim Open Space	4	N/A	–

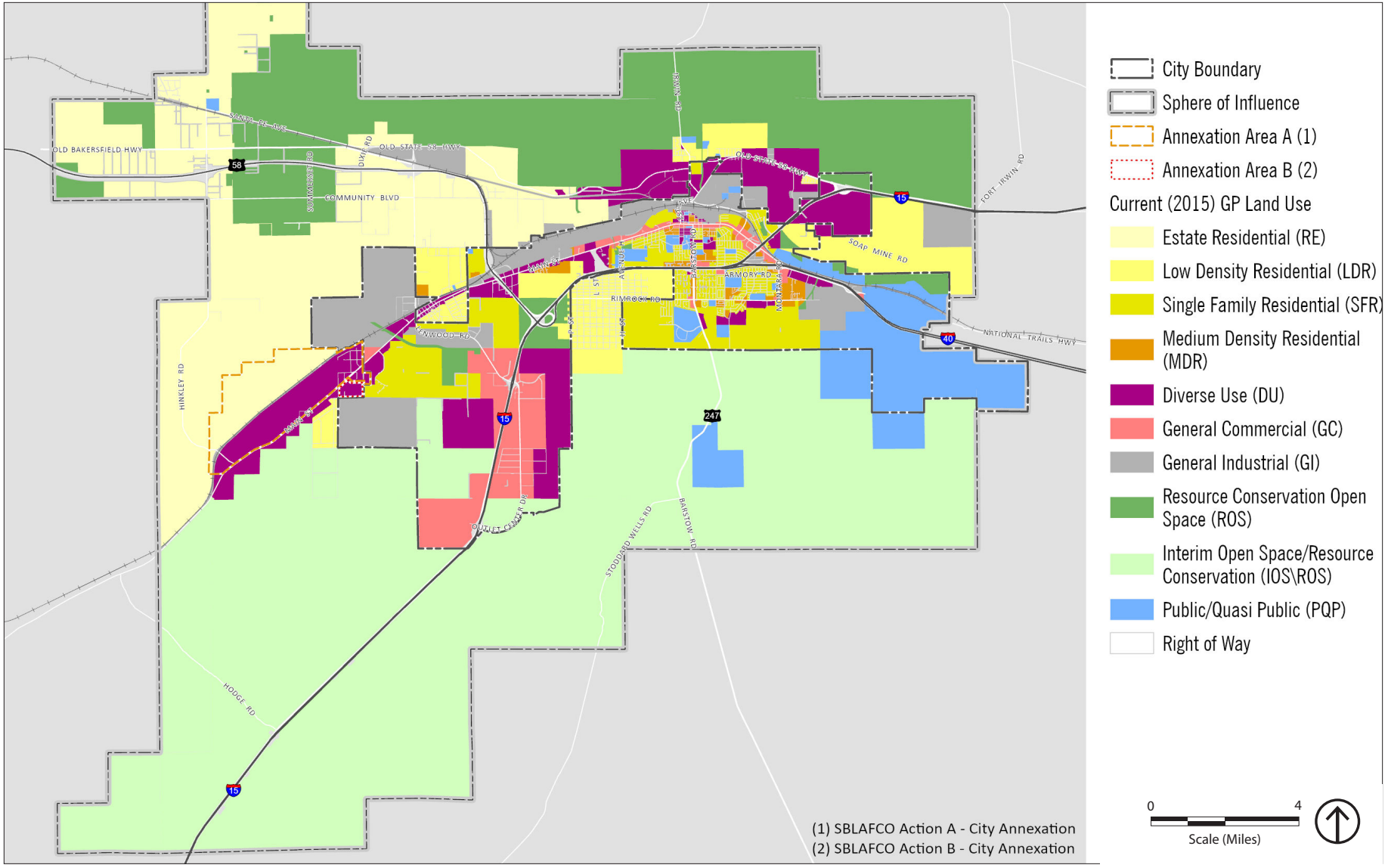
Table 3-4: Existing Land Use Designations					
N/A	N/A	Diverse Use	1,225	N/A	–
Public Facility (PF)	169	Public/Quasi Public	–	–	–
N/A	N/A	General Industrial	97	Industrial	2,676
N/A	N/A	N/A	–	Business Park	10
N/A	N/A	ROW	50	ROW	N/A[4]
Subtotal	2,686	Subtotal	2,686		2,686
SBLAFCO Action B					
County of San Bernardino CWP Designations	**Acres**	**Barstow 2015 General Plan**	**Acres**	**Barstow Proposed General Plan**	**Acres**
Rural Living (RL)	99	Diverse Use	93	N/A	(93)
N/A	N/A	Interim Open Space	1	N/A	(1)
N/A	N/A	N/A	-	Business Park	94
N/A	N/A	ROW	5	ROW	5
Subtotal	99	Subtotal	99		99
Balance of SOI (governed by County)					
Subtotal	97,949	Subtotal		97,949	-
Planning Area Total	**127,160**	**Planning Area Total**		**127,160**	**-**

Notes:
1. All numbers subject to rounding.
2. Right-of-way (ROW) acreage in the proposed General Plan corrects for alignment issues in the 2015 General Plan.
3. While the balance of the SOI was symbolized in the 2015 General Plan using City symbology, the County retained land use authority. Additionally, no growth was projected in the balance of the SOI by either the City or the County in their currently adopted general plans. Accordingly, no breakdown is provided in this table as there is fundamentally no change in land use despite the difference in mapping symbology.
4. The proposed General Plan is based on current parcel boundaries and thus does not account for dedicated right-of-way by easement or future right-of-way proposed within the BIG Specific Plan area.

3.6.1 Western Barstow

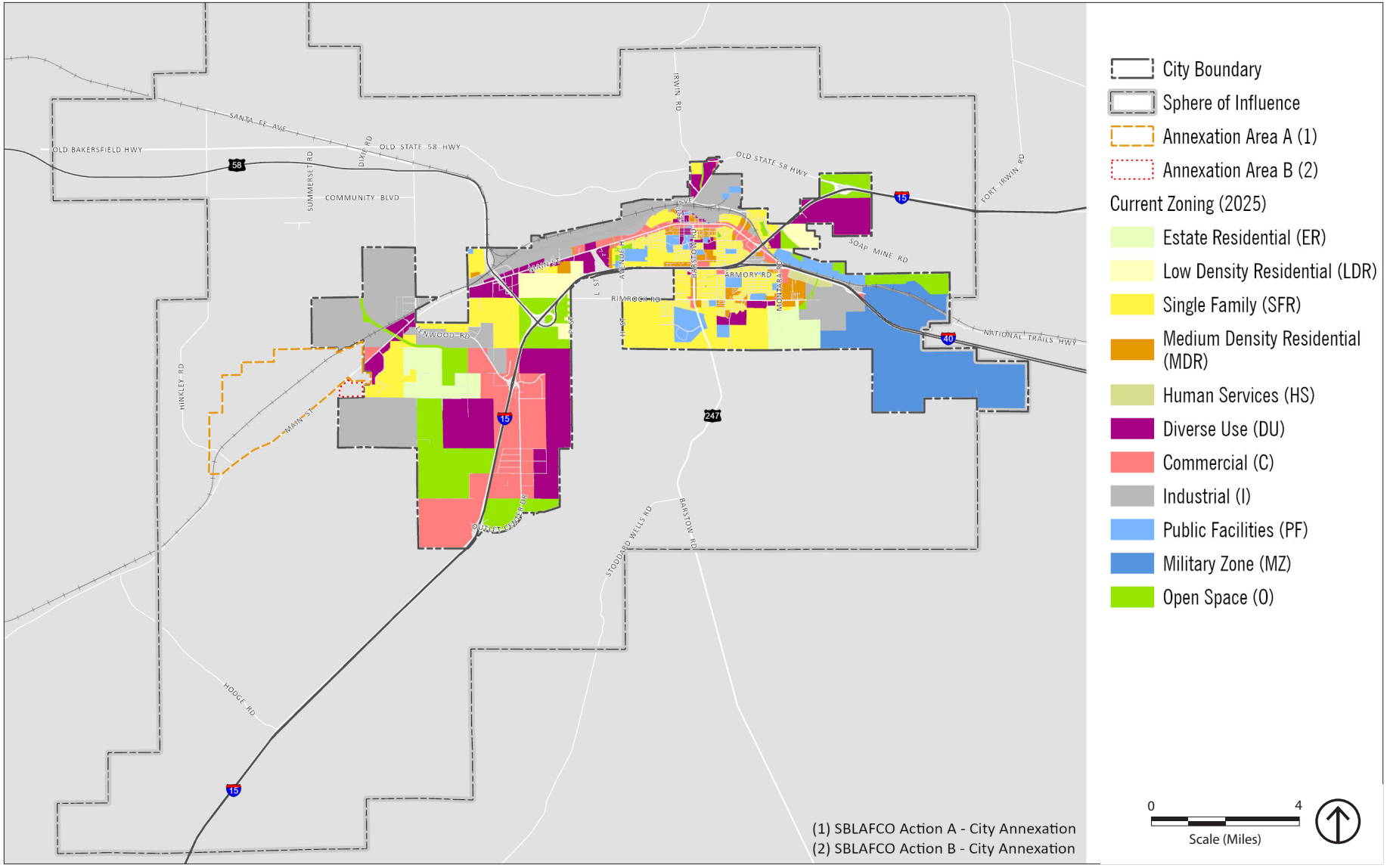
West of the I-15 and SR-58 interchange, the City's 2015 General Plan land use plan is a patchwork that allows for the development of residential, commercial, and industrial uses proximate to each other. Incremental development under the current land use plan has limited the number of land use conflicts (e.g., traffic, air quality, and noise associated with heavy-duty trucks) that often arise due to adjacent, incompatible uses. The City's proposed General Plan vision for this area is employment-generating development, which would require updates to the 2015 General Plan land use designations to continue to avoid land use conflicts and maintain compatibility of uses.

The proposed General Plan land use plan expands the existing Industrial designation west of Lenwood Road to accommodate the BIG Specific Plan, leveraging the existing railway alignment and bringing thousands of livable-wage jobs in the near future with fewer heavy-duty trucks than a traditional industrial site of this size would attract.



Sources:
City of Barstow, 2025.

Figure 3-9
2015 General Plan Land Use Plan



Sources:
City of Barstow, 2025.

Figure 3-10
Existing City of Barstow Zoning Map

The proposed land use plan seeks to reduce the potential for land use conflicts by redesignating the majority of the area west of I-15 and south of Main Street as Business Park. This is a new General Plan land use designation intended to support commerce and industry that provides well-paying jobs for Barstow residents while minimizing land use conflicts. The Business Park designation is intended to guide and convey the long-term vision, ensuring that any introduction of potential land use incompatibilities, such as truck-intensive or pollution-emitting industrial uses, requires a formal amendment to the 2015 General Plan and associated environmental analysis.

Select properties west of the Lenwood Road and Outlet Center Drive on/off-ramps would be redesignated to Industrial, an existing 2015 General Plan designation, which would allow for the expansion and operation of business operations that are more compatible with and benefit from proximity to the freeway, such as logistics/warehousing. Some small existing residential neighborhoods would be allowed to remain and continue to develop and improve as low density residential, with additional provisions to ensure adequate buffering from future industrial uses.

The proposed General Plan includes policies to complement the physical land use changes in Western Barstow that focus on improving transportation, minimizing negative impacts from industrial uses, and ensuring the long-term economic viability of the area. These General Plan policies focus on enhancing roadways and rail facilities to improve goods movement, increase safety, and reduce noise and vibration impacts. They also discourage sensitive uses near rail, mining, or industrial areas, requiring developments near rail operations to assess and mitigate vibration levels by federal standards. Additionally, the General Plan prioritizes undeveloped areas west of SR-58 and I-15 for non-residential uses, ensuring land use compatibility, protecting residential neighborhoods, and supporting the continued viability of commercial and industrial businesses for the community's future economic success.

3.6.2 Eastern Barstow

Most existing development within the City limits is concentrated east of the I-15 and SR-58 interchange and is generally suburban in nature (**Figure 3-2**). The 2015 General Plan primarily provides for single-family residential neighborhoods, with select areas identified as suitable for multi-family development. Commercial and public facility uses are distributed throughout the area to provide residents with access to convenience and personal goods and services. Industrial uses primarily consist of BNSF's existing facility classification yard north of the railway alignment and a concrete batch plant and U.S. Marine Corps Logistics Base on the eastern edge.

The proposed General Plan seeks to reinforce and build upon the existing residential neighborhoods/ community, focusing most new housing and community development south of Rimrock Road and east of I-15. This would facilitate the City's ability to guide new high quality housing development needed with the anticipated job growth from employment generating land use changes in Western Barstow, while maximizing the use of and improvements to existing public services and facilities that benefit both new and existing residents.

The land use pattern for areas north of Rimrock Road and south of Main Street are proposed to remain largely consistent with the 2015 General Plan. The northeastern edge of the City (where Old Highway 58

and I-15 meet) is proposed to accommodate the expansion and operation of business operations that are more compatible with and benefit from proximity to the freeway, such as logistics/warehousing, separated from the community core by open space areas, including the Mojave River.

3.6.3 Unincorporated Sphere of Influence

The 2015 General Plan land use plan applies the City's land use designations to property in the City's SOI and generally assigns land use designations consistent with the current County planned land uses, which are primarily rural residential/single family. The proposed General Plan would use the County land use designations for all property outside of the City limits, except for the BIG Specific Plan area, whose unincorporated portions would be pre-zoned to BIG Specific Plan and portions not already within the City would be concurrently annexed into the City. **Figure 3-11: San Bernardino Countywide Plan Land Use Designations (Unincorporated Sphere of Influence)** identifies land use designations for land within the County. **Figure 3-12: Existing San Bernardino County Zoning Map** identifies zoning districts for the unincorporated areas.

The proposed General Plan includes two separate applications for reorganizations within the City's SOI (LAFCO Actions A and B) that would be submitted to the SBLAFCO. SBLAFCO Action A includes a portion of the BIG Specific Plan area currently located within the SOI; see **Section 3.7.3**. The SBLAFCO applications for Actions A and B would be submitted separately and following Project approval. Future SBLAFCO actions including annexation requests of the remainder SOI would occur as the City receives additional proposals for development within the SOI.

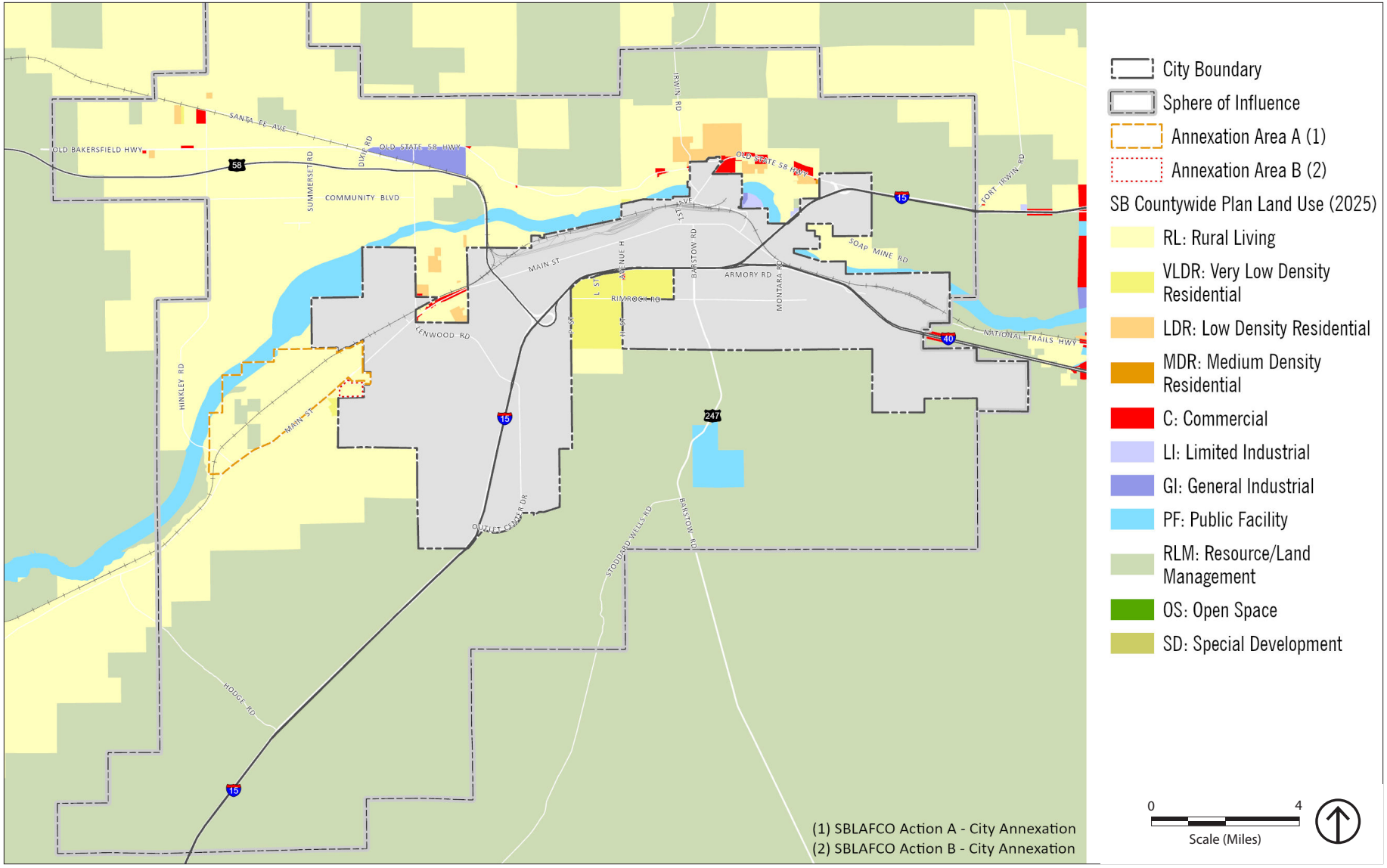
Barstow International Gateway

The BIG footprint's existing County and 2015 General Plan land use designations are discussed in greater detail in **Section 5.11: Land Use and Planning**. As discussed in **Section 5.11**, over half of the BIG footprint is County designated Rural Living (RL), while approximately one-third of BIG's footprint is within the City and designated General Industrial. Similarly, over half of BIG's footprint is County zoned Rural Living (RL District), which is primarily comprised of County Rural Living (RL) zoning. Approximately one-third of BIG's footprint is City zoned Industrial (I District).

3.7 PROJECT COMPONENTS

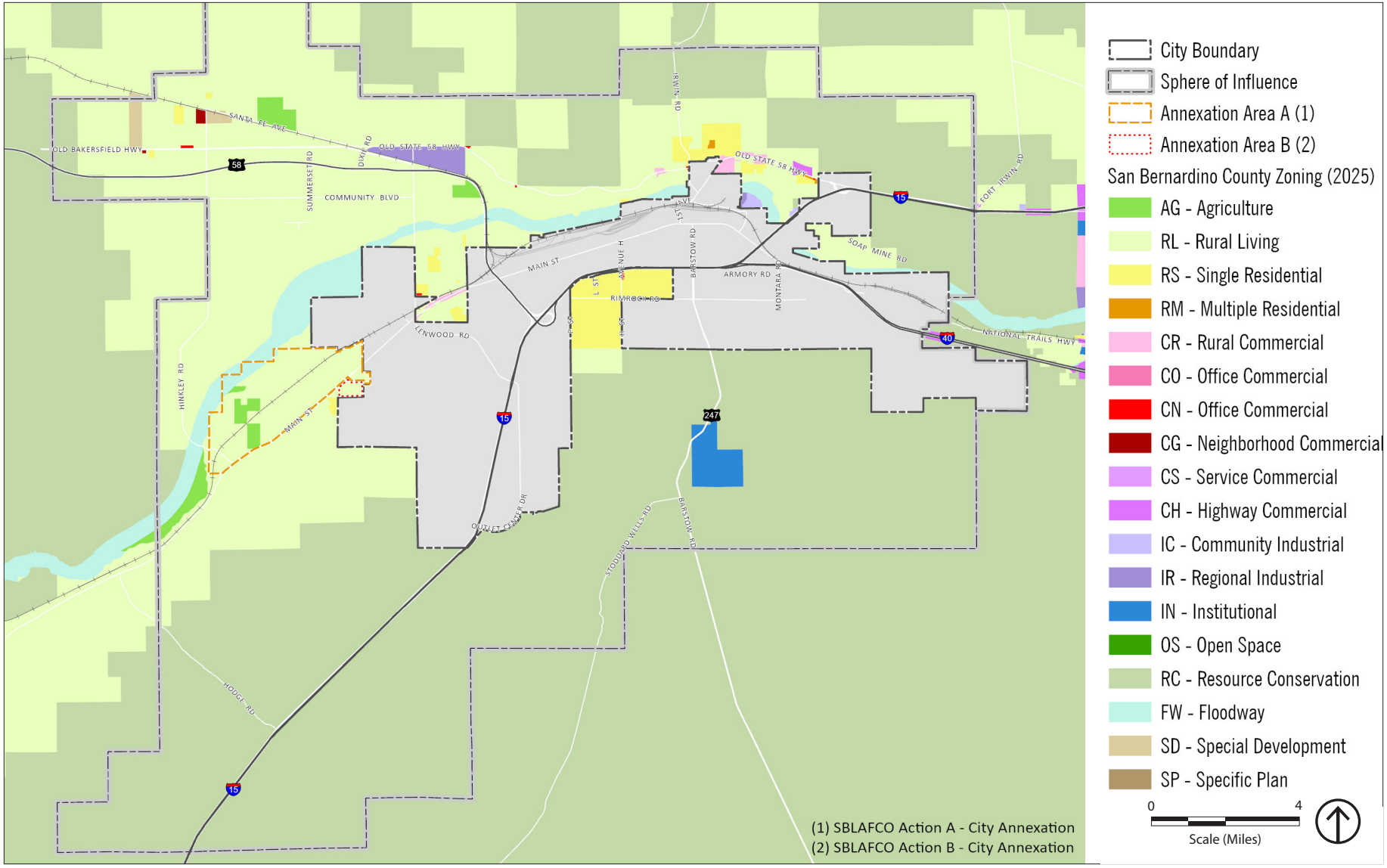
Proposed General Plan

The proposed City of Barstow General Plan would provide the comprehensive, long-term blueprint for the improvements needed to accommodate the City's growing population over a 25-year planning horizon. Recent and forecasted changes in economic conditions, and increased interest from both community stakeholders and local businesses, have the potential to dramatically alter the Barstow landscape through the year 2048. The Project includes a comprehensive update of the City's 2015 General Plan to refine current goals and policies to reflect the City's new vision, opportunities, and obligations; refine and expand circulation and infrastructure plans to align with the City's updated vision and land use plan; and expand opportunities for economic development and growth, prosperity, and community health.



Sources:
City of Barstow, 2025.

Figure 3-11
San Bernardino Countywide Plan Land Use Designations (Unincorporated Sphere of Influence)



Sources:
City of Barstow, 2025.

Figure 3-12
Existing San Bernardino County Zoning Map

3.7.1 Proposed General Plan Elements

While the California Government Code sets forth the requirement for eight topics or elements, State law allows jurisdictions flexibility on the format of a General Plan. As an example, the topic of noise can be covered in a stand-alone element or as is proposed for the proposed General Plan, as a part of the Safety Element. Topics can also be addressed through policies presented across multiple General Plan elements.

The proposed General Plan is organized in the element structure described below, which covers all state-mandated topics, including the previously updated Housing Element. The proposed General Plan is included as **Appendix 3.0 GP-1: Proposed General Plan** to this EIR and available on the City's website. Each element of the proposed General Plan contains relevant contextual information and a series of goals, policies, and programs. The policies in the proposed General Plan designed to reduce environmental impacts are discussed in the individual analyses provided in **Section 5.1** through **Section 5.17** of this EIR. An overview of major changes to the goals, policies, and programs in each General Plan element is provided below.

Land Use Element

The Land Use Element includes a land use diagram that illustrates the City's intended development pattern over the planning horizon. In addition to the diagram, the element establishes a series of land use designations (e.g., residential, commercial, open space) that include density (dwelling units per acre) and intensity (floor area ratio). This information is used to estimate growth over the planning period. The Land Use Element also serves as the policy foundation document for the Code of the City of Barstow (Barstow Code), objective design standards, and all other development-focused regulations.

The City can only exercise its jurisdictional land use authority on property within its incorporated boundaries. The General Plan Land Use Element and pre-zoning can establish land use designations and regulations outside of the limits that would take effect for areas if the land were annexed. San Bernardino County refers development projects outside of the City limits but within the City's SOI for review and comment. For areas outside the City limits identified for annexation (e.g., SBLAFCO Action A and B described in detail below) on the Land Use Map, it identifies the City's planned land use designation and prezoning. All other areas outside the City limits and within the City's SOI retain the County's land use designations.

The intent behind the proposed changes to the Land Use Element are to:

- Focus future community development (e.g., housing, commercial, or civic) within Central Barstow to maximize the efficiency of new and updated public services and facilities
- Discourage new housing west of I-15 and discourage new industrial uses in Central Barstow to avoid future land use compatibility conflicts
- Encourage a wider range of housing densities east of I-15, including introducing a new High Density Residential designation that allows up to 30 units per acre, and designating additional areas for single-family and multi-family residential development

- Eliminate the unused Estate Residential designation that is largely redundant with the density and uses allowed through the Low-Density Residential designation
- Create a Business Park designation to accommodate future job growth with low-impact industrial and office land uses
- Appropriately integrate the Barstow International Gateway Specific Plan
- Protect existing industrial land uses, allowing for improvements and continued operation within current property boundaries
- Continue to support the mission of Marine Corps Logistics Base (MCLB) Barstow
- Support the transition of federal lands to local control

Circulation and Mobility Element

The roadway network is sized to meet the intensity of development projected in the Land Use Element, ensuring that roadways and improvements meet the needs of community members. The passage of Senate Bill (SB) 743 eliminated Level of Service (LOS) as a metric for CEQA purposes; however, LOS remains a valid means of sizing roadways. Vehicle Miles Traveled (VMT) evaluates the efficiency of land use development patterns by quantifying air pollution and greenhouse gas emissions generated by motor vehicles. Less efficient development patterns would result in higher VMT figures, as drivers must travel further to reach their destinations. The proposed Circulation and Mobility Element includes policies on LOS and VMT with requirements for connecting trails, sidewalks, and transit to offer mobility choices for residents. As more choices for mobility, such as e-bikes, are used, it is essential that roadways be designed for the safety and accessibility of all users. Barstow's transit is primarily served by the Victor Valley Transit Authority (VVTA) which includes routes to the communities of Hinkley and Helendale, and near the Barstow-Daggett Airport. The Barstow Station at 1611 E. Main Street is a major hub for both local VVTA buses and inter-city services like Greyhound and FlixBus. Amtrak service to the City is available at the historic Harvey House. Regional roadways are increasingly congested, and one intent of the proposed General Plan is to reduce the need for residents to travel outside the City for employment. The proposed Circulation and Mobility Element addresses circulation networks for all modes of transportation, including commuters and freight. Proposed changes to the existing circulation network are to:

- Enhance transit services by installing and maintaining safe, well-marked, and accessible transit stops
- Plan for and expand connectivity options between housing and jobs, including new roads to facilitate access between Central Barstow and the Barstow Outlets
- Ensure adequate evacuation routes for existing residents and in consideration of future growth patterns
- Encourage industrial and logistics uses that minimize the use of freeways and highways
- Designate truck routes that ensure adequate access and efficient movement of goods within and through the planning area while minimizing exposure of residents
- Further the complete streets approach to ensure citywide mobility networks that serve people of all ages and abilities

- Establish policies and plans to reflect a Safe Systems approach that embraces a holistic view of the road system that aims to eliminate serious and fatal injuries for all road users
- Designate the previously planned road connecting Veteran's Parkway/Highway 247 to Lenwood Road and the Lenwood Commercial Area as a Primary Arterial (shown but undefined in the 2015 General Plan)

Public Facilities and Services Element

As the City expands, the demand for public facilities (e.g., sewer, water, stormwater, health care, schools, libraries) and public safety provision (e.g., police, fire) would increase. These topics were previously covered throughout multiple General Plan elements but are proposed to be addressed in a stand-alone element in the proposed General Plan given the amount of potential growth being planned. The proposed Public Facilities and Services Element explains how the City would ensure that facilities and services keep pace with development and provide a foundation for impact fees and programs designed to finance future improvements. This element also includes policies pertaining to continued cooperation with local and regional service providers. The intent behind the proposed changes related to public facilities and services is to:

- Ensure continued safe and sustainable water delivery and conservation
- Support the continued operation and expansion of the sewer treatment and collection system
- Maintain public safety through existing and future local and regional storm drainage facilities
- Protect the existing and growing Barstow community through appropriate facilities and staffing of police, fire, and emergency response services
- Continued cooperation with health care providers and educational institutions to meet the demands of future growth and provide workforce training

Citywide Wastewater and Sewage Capacity Analysis

The *Citywide Wastewater and Sewage Capacity Analysis* ("Carollo Analysis") was prepared for the City by Carollo Engineers to evaluate the City's ability to meet the wastewater treatment demand as estimated from the land use diagram of the proposed General Plan. The Carollo Analysis evaluated both the collection (pipelines) and treatment (wastewater treatment plan) of wastewater in the City. The analysis confirmed that the proposed General Plan wastewater volumes can be treated at the existing Barstow Regional Wastewater Treatment Facility with on-site upgrades and replacements. Targeted improvements to the collections system would be needed as noted in the Carollo Analysis (various sewer mains would be upsized or added to the City sewer pipeline network based on projected growth; see **Section 5.17: Utilities and Service Systems** for more information).

Safety Element

The Safety Element was adopted in 2021 and would be updated as part of the proposed General Plan. Many factors can affect safety in the City including high wind and heat, seismic events, and flooding. This element establishes policies for addressing these issues and provides a framework for coordinating with regional and statewide public safety agencies. The Safety Element also includes policies on noise and

vibration, as these can also affect public health. The intent behind the proposed changes to the Safety Element (including the integration of the Noise Element into the Safety Element) is to:

- Establish noise and vibration standards for existing and proposed land uses, including transportation and construction activities
- Identify, plan for, and adapt to natural and human-generated hazards, including seismic activity, flooding, fires, high-wind events, and prolonged and extreme heat and drought
- Designate and evaluate the performance of evacuation routes, particularly for constrained areas and in times of natural disasters and hazardous events
- Promote adaptation and resiliency for public services and infrastructure

Open Space and Conservation Element

The Open Space and Conservation Element is intended to guide the creation and preservation of natural and man-made open spaces in the community. The element includes information on community parks, recreational facilities, and open space areas to protect natural resources. Also included are policies on maintaining air quality, water quality, and protecting historic resources. The intent behind the proposed changes to the Open Space and Conservation Element is to:

- Maintain and improve existing public parks and recreation facilities, and plan for new facilities to serve growth and ensure access to open space for all residents, correlated with the City's approach to address environmental justice
- Address the importance of open space for climate resiliency, correlated with the Safety Element
- Preserve and protect undisturbed open space and natural biological resources, including consideration for rewilding opportunities, correlated with the Land Use Element
- Ensure continued access to high-value mineral resources
- Continue to coordinate and make investments to provide cost-effective and sustainable energy systems and to improve local and regional air and water quality
- Protect and respect cultural, tribal, and historic resources

Environmental Justice Element

The Environmental Justice Element was adopted in 2021 and would be updated as part of the proposed General Plan. Issues related to mobility, access to healthcare and public services, exposure to pollution, and civic engagement, and economic wellbeing will be addressed. While the City adopted a stand-alone element in 2021, the City decided it was preferable to integrate the policies throughout the entirety of the 2015 General Plan so that environmental justice concerns are not isolated and thought of as separate from broader community goals and objectives. The proposed General Plan maintains consistency with the intentions and topical coverage as required by State law (as listed below) and makes modifications to reflect the proposed land use patterns and public input obtained during the proposed General Plan process.

- Evaluate the physical, social, and economic health and wellbeing of residents

- Identify and take steps to improve existing conditions and avoid future health hazards for areas disproportionately exposed to pollution
- Prioritize improvements to public facilities and services for underserved areas
- Ensure and improve the ability of underrepresented residents to participate in and affect the public decision-making process

2021-2029 Housing Element

The 2021-2029 Housing Element was adopted in advance and independently of the other components of the General Plan to comply with state-mandated deadlines. No changes are proposed to the existing, certified Housing Element as part of this Project.

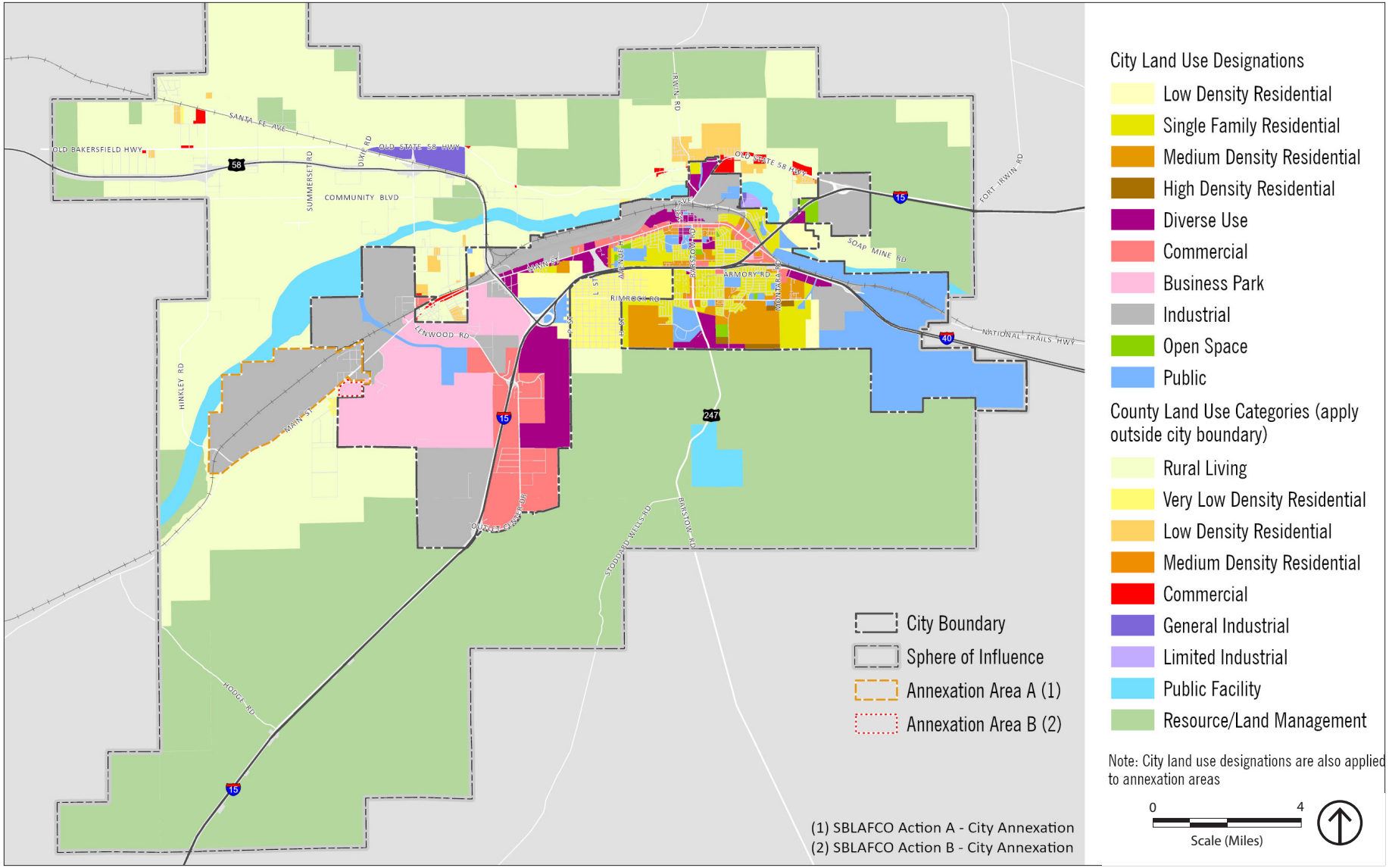
3.7.2 Proposed General Plan 2048 Projections

During the 25-year planning horizon of the proposed General Plan (2048), the proposed General Plan area could potentially result in 6,326 new households, 18,531 additional residents, 15,341,198 square feet of new non-residential uses, and 10,819 new jobs by 2048, as shown in **Table 3-5: Proposed General Plan – 2048 Projections**. Proposed land use changes are shown in **Figure 3-13: Proposed General Plan Land Use Plan.**

Table 3-5: Proposed General Plan – 2048 Projections

Statistic	City of Barstow (excluding BIG)	BIG Specific Plan	Balance of SOI	Total
HOUSEHOLDS				
Existing (2023)	8,769	108	3,109	11,986
Future (2048)	15,170	0	3,144	18,314
Projected Growth	6,401	-108	35	6,326
HOUSING UNITS				
Existing (2023)	9,614	108	3,445	13,130
Future (2048)	16,293	0	3,445	19,738
Projected Growth	6,679	-108	0	6,608
POPULATION				
Existing (2023)	24,867	325	9,110	34,302
Future (2048)	43,618	0	9,215	52,833
Projected Growth	18,751	-325	105	18,531
NON-RESIDENTIAL SQUARE FEET				
Existing (2023)	10,157,592	0	913,999	11,071,592
Future (2048)	16,592,514	9,000,000	820,275	26,412,790
Projected Growth	6,434,922	9,000,000	-93,724	15,341,198
EMPLOYMENT				
Existing (2023)	13,560	0	764	14,416
Future (2048)	19,098	5,373	764	25,235
Projected Growth	5,538	5,373	0	10,819

Notes: BIG = Barstow International Gateway; SOI = Sphere of Influence



Sources:
City of Barstow, 2025.

Figure 3-13
Proposed General Plan Land Use Plan

3.7.3 Proposed Land Use Designation and Zoning Changes

Zoning Changes to Implement the Proposed General Plan

Barstow Code Title 19: Zoning (i.e., the Zoning Ordinance) and the City of Barstow Zoning Map would be amended as a future action to include new zoning districts needed to implement the new Business Park (BP) and High Density Residential (HDR) General Plan land use designations. As the proposed General Plan would eliminate the Estate Residential (RE) General Plan land use designation, existing lands zoned Estate Residential (ES) within the City would be rezoned to match the proposed General Plan land use designations (see **Figure 3-13**). This would result in a mixture of low density residential (LDR) and single family residential (SFR) zoning.

The proposed General Plan also includes two proposed SBLAFCO actions: SBLAFCO Action A and SBLAFCO Action B, discussed further below.

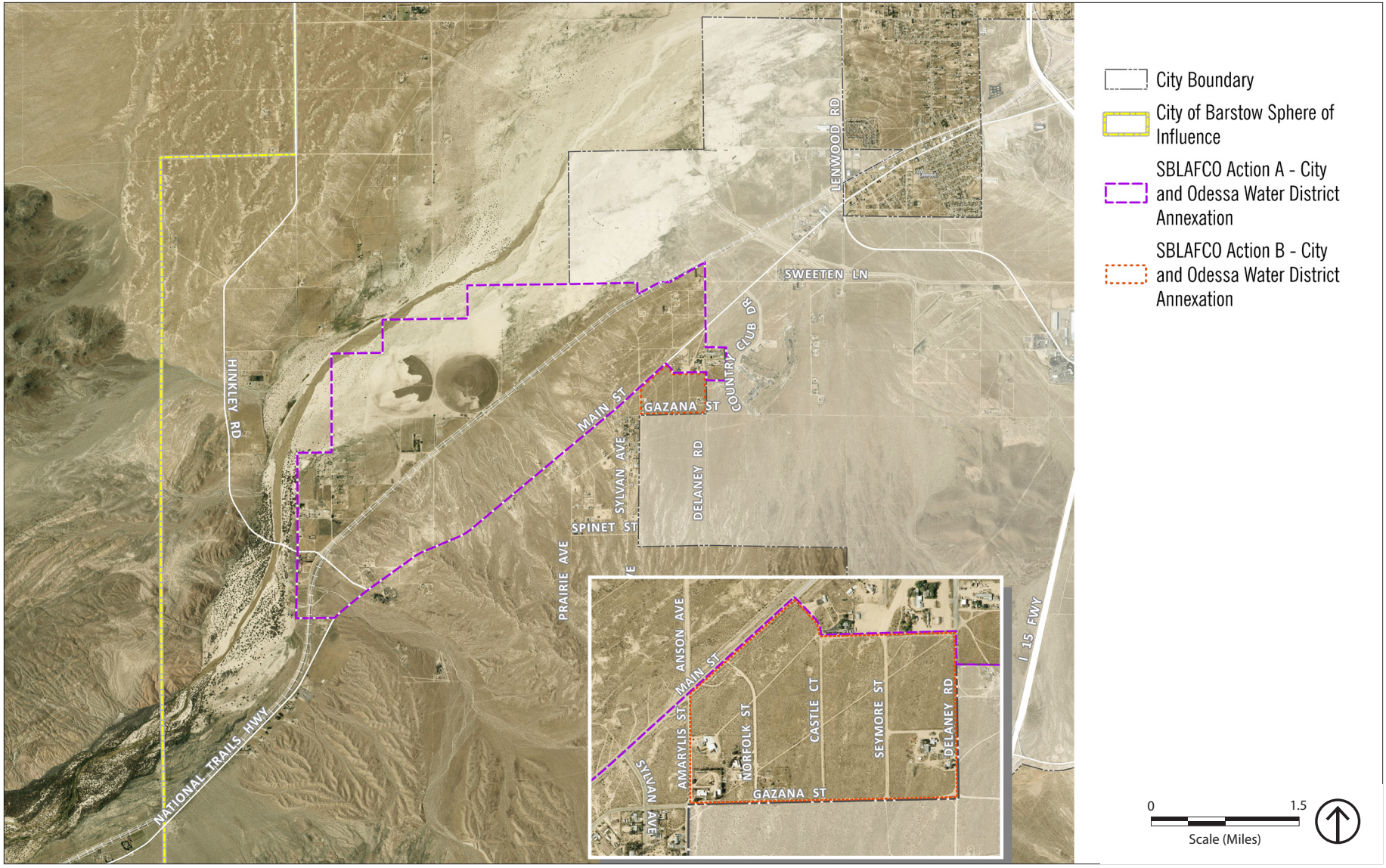
Prezoning and Annexation

As part of the proposed General Plan, the City is prezoning SBLAFCO Action A and Action B (totaling 2,785 acres), including disestablishing an area currently designated as Preserve (formally used for agricultural use), in preparation for annexation. The on-site land uses within SBLAFCO Actions A and B are summarized in **Table 3-6: Existing Development within SBLAFCO Action Areas.** The prezoning includes 2,676 acres that are part of the proposed BIG Specific Plan area and an approximately 10-acre parcel (together SBLAFCO Action A), as well as six parcels totaling 99 acres (SBLAFCO Action B) shown in **Figure 3-14: SBLAFCO Action Area A: City and Odessa Water District Annexation** and **Figure 3-15: SBLAFCO Action Area B: City and Odessa Water District Annexation** These figures show the boundaries of the annexation areas, including the expansion of the Barstow Fire Protection District as depicted on **Figure 3-16: SBLAFCO Action Area A: Barstow Fire Protection District Annexation**. The remainder of the City's SOI is not proposed for change or reorganization with the proposed General Plan.

Table 3-6: Existing Development within SBLAFCO Action Areas

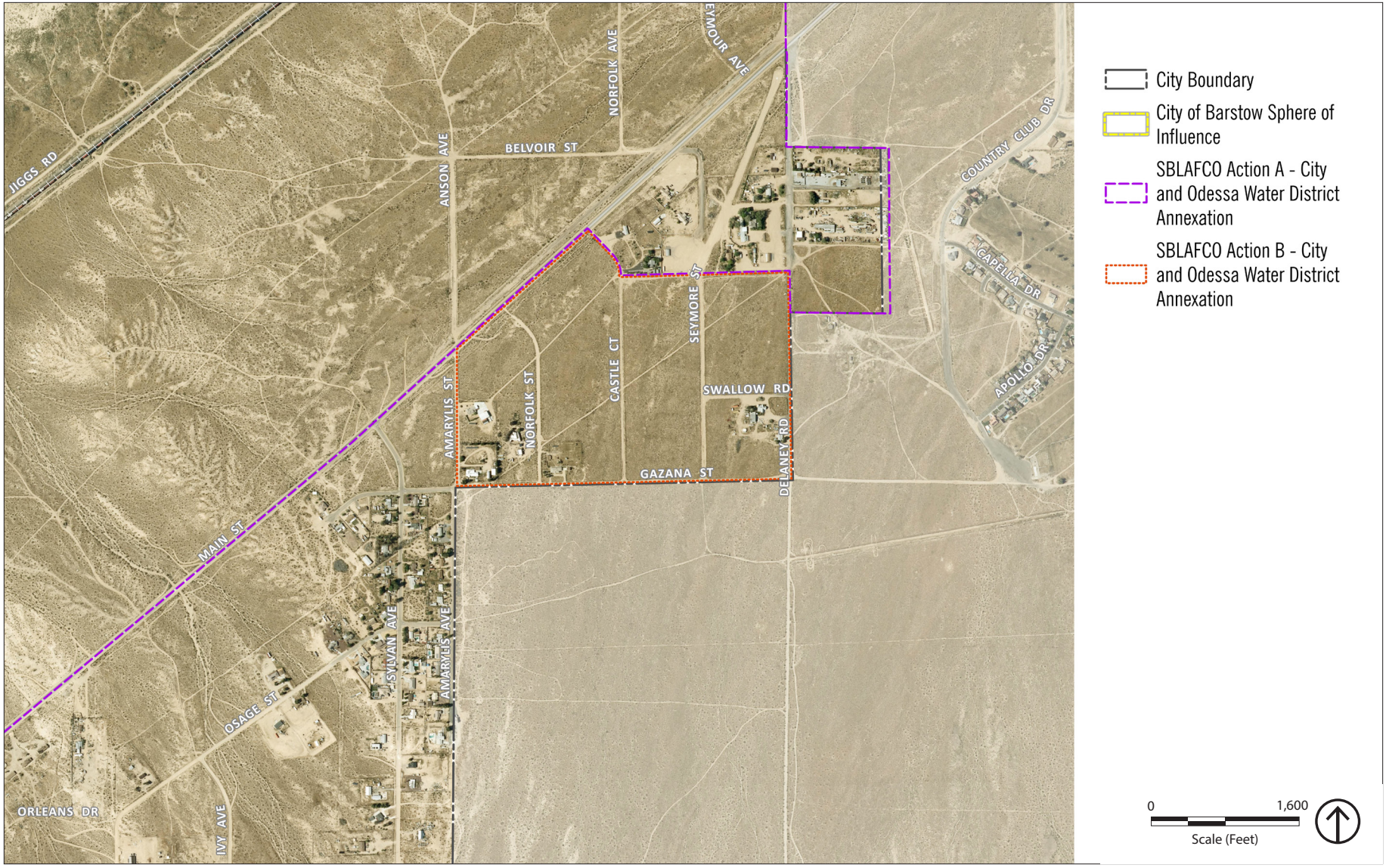
Action Area	Dwelling Units	Non-Residential (SF)
SBLAFCO Action A	99	0
SBLAFCO Action B	6	0
Total	105	0

Notes:
SF = square feet



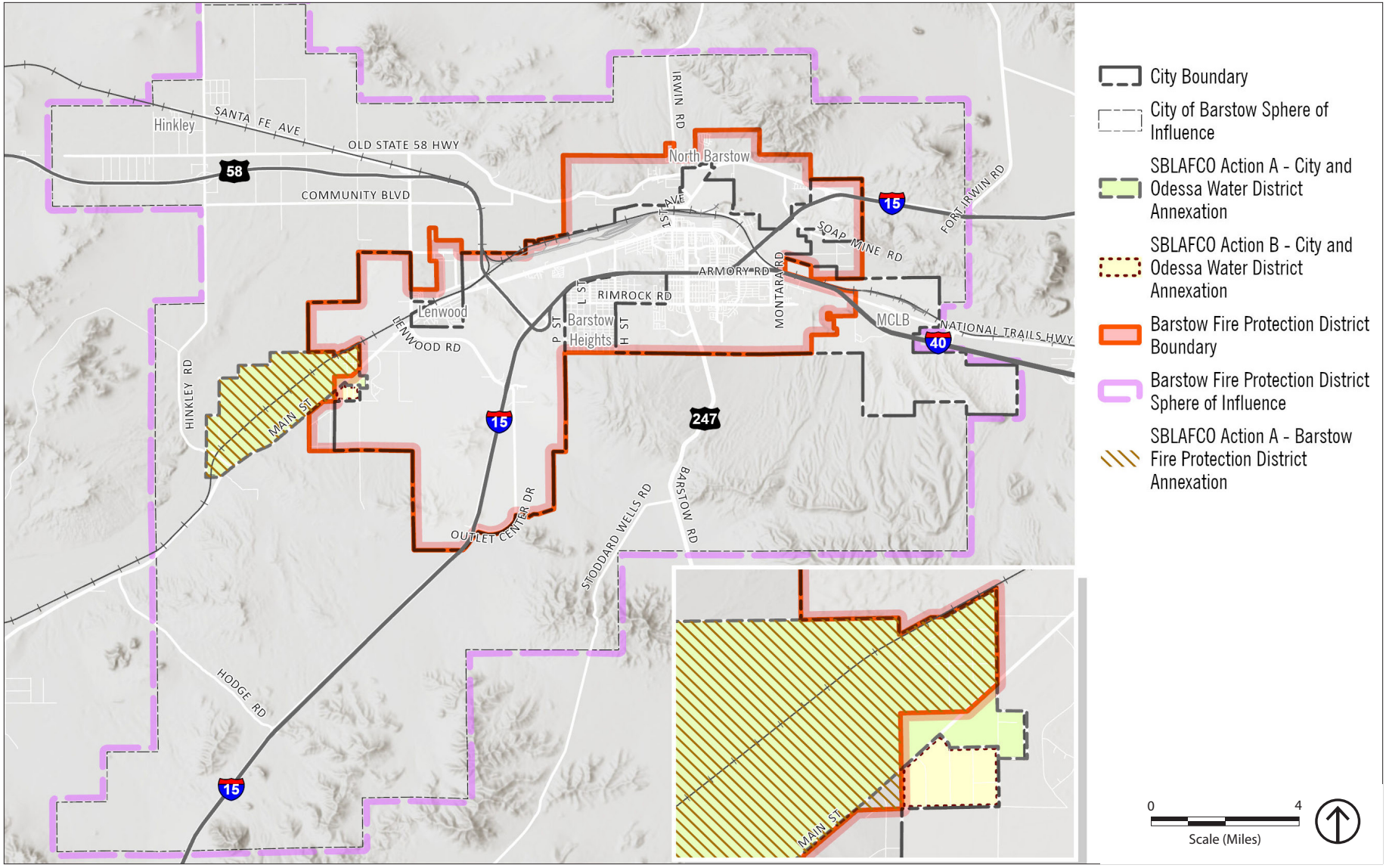
Sources:
City of Barstow, 2025.

Figure 3-14
SBLAFCO Action Area A - City and Odessa Water District Annexation



Sources:
City of Barstow, 2025.

Figure 3-15
SBLAFCO Action Area B - City and Odessa Water District Annexations



Sources:
City of Barstow, 2025.

Figure 3-16
SBLAFCO Action Area A - Barstow Fire Protection District Annexation

SBLAFCO Action A

SBLAFCO Action A consists of approximately 2,686 acres of unincorporated County land to be annexed for the BIG Specific Plan area, as well as other SBLAFCO actions as described above. The County of San Bernardino Countywide Plan designates this area as Rural Living (86 percent), Agricultural (8 percent), and Floodway (6 percent). Nearly all of this area, approximately 2,676 acres, would be annexed and designated as Industrial in the proposed General Plan and prezoned as BIG Specific Plan. The remaining portion of SBLAFCO Action A is an approximately 10-acre parcel currently zoned for Rural Living that is immediately adjacent to the BIG Specific Plan area and adjacent to the City limits. This parcel would be annexed as part of SBLAFCO Action A to prevent the creation of an unincorporated island. This parcel would be designated and prezoned as Business Park (BP), which primarily permits office and low-impact industrial (non-truck intensive) uses. The prezoning would also include the disestablishment of an area of approximately 110 acres County zoned Agricultural Preserve that was previously utilized for agricultural activities.

SBLAFCO Action A would be a "reorganization" under the Cortese-Knox Hertzberg (CKH) Act that would include the following actions: annexation to the City of approximately 2,686 acres (expansion); annexation to the Barstow Fire Protection District of approximately 2,605 acres (expansion), including the majority of the BIG Specific Plan area (except for the portion already within the Barstow Fire Protection District service boundary) and an 11-acre parcel; annexation to the Odessa Water District of approximately 2,686 acres (expansion); detachment from the San Bernardino County Fire Protection District (SBC Fire), its North Desert Service Zone, and its Zone FP-5 of approximately 2,605 acres (reduction); and detachment from the San Bernardino County Service Area 70 of approximately 2,686 acres (reduction). As result of the LAFCO action, a transfer of law enforcement responsibility from the San Bernardino County Sheriff's Department to the Barstow Police Department of approximately 2,686 acres. Without the proposed 11-acre annexation to the Barstow Fire Protection District, there would be a Barstow Fire Protection District service area island created by annexation of the BIG Specific Plan area to the Barstow Fire Protection District. This action would extend the Barstow Fire Protection District boundary, south of Main Street, to Prairie Avenue in the unincorporated County. North of Main Street, the Barstow Fire Protection District boundary would extend southwest to approximately Buckboard Road and would be coterminous with the City boundary. No change to the Barstow Fire Protection District SOI is proposed.

In summary, SBLAFCO Action A would involve a "reorganization" under the CKH Act that would include the following actions:

- Annexation to the City of Barstow of approximately 2,686 acres (expansion), including 2,676 acres within the BIG Specific Plan area and 10 acres to be prezoned Business Park (BP);
- Annexation to the Barstow Fire Protection District of approximately 2,605 acres (expansion), including the majority (approximately 2,594 acres) of the BIG Specific Plan area (except the portion already within the Barstow Fire Protection District service boundary) and an 11-acre parcel;
- Annexation to the Odessa Water District of approximately 2,686 acres, including 2,676 acres within the BIG Specific Plan area and 10 acres to be zoned Business Park (BP), as the City and Odessa Water District have a coterminous boundary;

- Transfer of law enforcement responsibility from the San Bernardino County Sheriff's Department to the City of Barstow Police Department of approximately 2,686 acres;
- Detachment from the San Bernardino County Fire Protection District (reduction) of approximately 2,605 acres;
- Detachment from the North Desert Services Zone and its Zone FP-5 of approximately 2,605 acres. Detachment would be through the SBC Fire Board; and
- Detachment from San Bernardino County Service Area 70 (reduction) of approximately 2,686 acres.

See **Section 5.14: Public Services and Recreation** for further discussion concerning fire and police protection.

SBLAFCO Action B

SBLAFCO Action B would be a "reorganization" under the CKH Act that would include three actions: annexation to the City of Barstow of approximately 99 acres (expansion); annexation to the Odessa Water District of approximately 99 acres; and detachment from County Service Area 70 of approximately 99 acres (reduction). As a result of the LAFCO actions, a concurrent transfer of law enforcement responsibility of approximately 99 acres from the San Bernardino County Sheriff's Department to the City of Barstow Police Department. The City of Barstow proposes to annex approximately 99 acres south of Main Street and west of Delaney Road into the City to prevent the creation of an unincorporated island resulting from SBLAFCO Action A. All parcels within this annexation area are currently County-designated Rural Living. The parcels would be designated in the proposed General Plan and Zoning Map as the new Business Park (BP), which primarily permits office and low-impact industrial (non-truck intensive) uses. Additionally, given the presence of existing homes, the new Business Park (BP) General Plan land use designation and zoning would allow for legacy residential uses to remain and a limited number of new homes developed subject to specific conditions identified in Barstow Code § 19.17.160 (proposed BP Zone District).

The proposed reorganization for SBLAFCO Action B has six parcels totaling approximately 93.3 acres that have been identified as a "Disadvantaged Unincorporated Community" (DUC). Any City annexation proposal greater than 10 acres that is contiguous to a DUC cannot be approved unless an application for annexation of the DUC has been filed or other circumstances have been satisfied (California Government Code [CGC] § 56375). SBLAFCO Action A including the annexation of approximately 2,686 acres to the City is contiguous to the DUC in SBLAFCO Action B. Therefore, the City will file an application for the reorganization (annexation) of SBLAFCO Action B before SBLAFCO makes a decision on the reorganization of SBLAFCO Action A.

In summary, SBLAFCO Action B would involve a "reorganization" under the CKH Act that would include the following actions:

- Annexation to the City of Barstow of approximately 99 acres (expansion), to be zoned Business Park (BP);
- Annexation to the Odessa Water District of approximately 99 acres (expansion), as the City and Odessa Water District have a coterminous boundary;

- Transfer of law enforcement responsibility from the San Bernardino County Sheriff's Department to the City of Barstow Police Department of approximately 99 acres; and
- Detachment from San Bernardino County Service Area 70 of approximately 99 acres (reduction).

Local Agency Formation Commission Review Process

There is a LAFCO in each county in California which was created to discourage urban sprawl and encourage the orderly formation and development of local government agencies. By law, a LAFCO (in this case, the SBLAFCO) must review any proposal to add land to a city or special district (annexation), create a new city or special district (incorporation or formation), remove land from a city or special district (detachment), consolidate, merge, or dissolve cities or special districts must be reviewed and approved by the LAFCO. In its regulatory function, SBLAFCO review of a proposal generally focuses on the following issues:

- **Boundaries:** Do the proposed service boundaries make sense? Do they represent a logical and recognizable area within which services can be provided?
- **Financial Effects:** What are the financial implications of the proposal on local governments and landowners within the study area?
- **Service Effects:** What are the range and levels of services that will be provided if the proposal is successful? Will the proposal adversely affect the ability of any governmental agency to provide service?
- **Environmental Effects:** What are the possible environmental consequences of a proposal?

The goals of SBLAFCO are to encourage orderly growth; promoted logical and orderly service boundaries for cities and special districts; discourage premature conversion of prime agricultural lands to urban uses; and to promote efficient and effective service delivery for cities and special districts.

The annexation process is governed by the CKH Act and is under the jurisdiction of SBLAFCO. A jurisdictional boundary amendment and annexation of two areas (Actions A) not currently in the City is proposed and would be processed through the SBLAFCO. Upon approval, the SBLAFCO Action areas would be under City jurisdiction and would be regulated by the proposed General Plan and the Barstow Code.
The SBLAFCO will consider several factors when evaluating impacts associated with annexation. Factors include the existing and proposed boundaries of the annexation area, the fiscal impacts of the annexation on the affected jurisdictions and special districts impacts to the service capabilities and rations within the surrounding the annexation area. The SBLAFCO will make the determination upon SBLAFCO approval or denial as to whether the boundaries of the proposed annexation area are logical and consistent with orderly progression of growth with the City. **Table 3-7: Zoning Comparison for Annexation Areas** identifies the current and proposed zoning districts for that area proposed for annexation to the City.

Table 3-7: Zoning Comparison for Annexation Areas			
Current County Zone	**Acres**	**Proposed City Zone**	**Acres**
SBLAFCO Action A			
BIG Specific Plan			
Agricultural	20	Specific Plan (includes ROW)	2,676
Agricultural – 20	80		
Agricultural – AP	110		
Floodway	49		
Floodway – AP	121		
Rural Living	1,573		
Rural Living – 10-AP	218		
Rural Living – 40	24		
Rural Living – 5	455		
Right-of-way (ROW)	26		
Subtotal	**2,676**	**Subtotal**	**2,676**
Adjoining Area (non-specific plan)			
Rural Living	10	Business Park	10
Subtotal	**10**	**Subtotal**	**10**
SBLAFCO Action B			
Rural Living	84	Business Park	94
Rural Living – 40	10		
ROW	5	ROW	5
Subtotal	**99**	**Subtotal**	**99**
Total	**2,785**	**Total**	**2,785**

Notes:
1. All numbers subject to rounding.
2. Zones are listed in alphabetical order. Zones shown on the same line are not necessarily comparable.
3. Balance of unincorporated Sphere of Influence to remain as zoned by the County.

SBLAFCO will consider the actions associated with the subject parcels as described above (SFLAFCO Action A and B); and the subsequent expansion of the City of Barstow's boundary. Additional reorganizations needed for the proposed General Plan are identified later in this section (see **Table 3-16: Proposed General Plan Permits and Approvals**).

Proposed Circulation Changes

Implementation of the proposed General Plan would improve existing roadways and generate new roadways within the General Plan area. The majority of roadway improvements would take place on existing roads within existing rights-of-way. The new major roadways that would extend into areas not currently served by paved roads are listed below.

- A new future Secondary Arterial from Hinkley Road at the Mojave River bridge on the west to the proposed Jasper Road extension to Lenwood Road on the east. This roadway, which is within the BIG Specific Plan area, is intended primarily to serve BIG (i.e., Hinkley Road realignment). Further discussion is provided below under BIG. Implementation of BIG would eliminate the existing rail crossing along Hinkley Road.

- A new future Primary Arterial is proposed from Lenwood Road on the west, easterly to Veterans Parkway/Highway 247 within the General Plan area. This proposed roadway is intended to enhance connectivity between the residential areas in the eastern part of Barstow and the job generating uses (including BIG) in the western part of Barstow. This new roadway would be aligned through undeveloped areas that do not contain any homes and would enhance connectivity for adjacent communities by providing an alternative route between the eastern and western parts of Barstow (that must currently drive north and travel along I-15 or Main Street).
- Extensions of existing roadways (P, L, and H Streets) are planned as a Collector or Secondary Arterial to connect the existing roadways to the proposed Future Primary Arterial, discussed above, and to extend options to access I-15 from the south. These new roadways would be extensions of existing roadways into undeveloped areas and would continue and reinforce the existing roadway and lotting pattern in the Barstow Heights community. These new roadways would enhance connectivity by extending multiple access points to the new Primary Arterial described above.
- Two new Secondary Arterials are planned to provide additional access points and connectivity in the western part of Barstow. One Secondary Arterial would extend from Lenwood Road, west of I-15, along the alignment generally designated as High Desert Road, traveling south and ultimately connecting to Outlet Center Drive and I-15. The other Secondary Arterial would connect Main Street and the other new Secondary Arterial along the alignment currently named Gazana Street and Salamander Boulevard. These new roadways would be improvements of dirt roads that currently exist in sparsely populated and largely undeveloped areas.

Barstow International Gateway

This section describes the characteristics of BIG's various components, including the rail yard (**Section 3.7.5**), transload warehouse center (**Section 3.7.6**), utility improvements, including stormwater (**Section 3.7.7**), and on-site utility and circulation improvements (**Sections 3.7.7** and **3.7.8**, respectively**)**. Finally, BIG's construction, including schedule and general construction practices, are described in **Section 3.8**.

3.7.4 Barstow International Gateway Specific Plan

BNSF seeks approval of the BIG Specific Plan, which would establish the site-specific zoning and development standards within the BIG Specific Plan area. The BIG Specific Plan would also establish the development framework for future development within the BIG Specific Plan area and serve as the prezoning and regulatory requirements for the concurrent annexation of the 2,676-acre portion of the BIG Specific Plan area that is not currently in the City. The BIG Specific Plan includes the statutorily required elements, including a land use plan, a circulation plan, a description of existing and proposed utilities and infrastructure, design guidelines, development standards, and administrative provisions. The approximate acreage for the primary components of BIG are provided in **Table 3-8: BIG Acreage by Component**. BIG's Specific Plan is included as **Appendix 3.0 BIG-1**.

Table 3-8: BIG Acreage by Component	
Term	**Acres (approximate)**
Ancillary Rail Area	400
Block Swap Yard	410
Intermodal Facility	770
Mainlines	370
Total Rail Yard	**1,950**
Transload Warehouse Center	1,330
Mojave River Buffer Area	680
Solar Farm	140
Roadways (Public and Private)	170
Lenwood Channel	65
Total Specific Plan Footprint	**4,300**
Off-Site Improvements	660
Total BIG Footprint	**5,000**

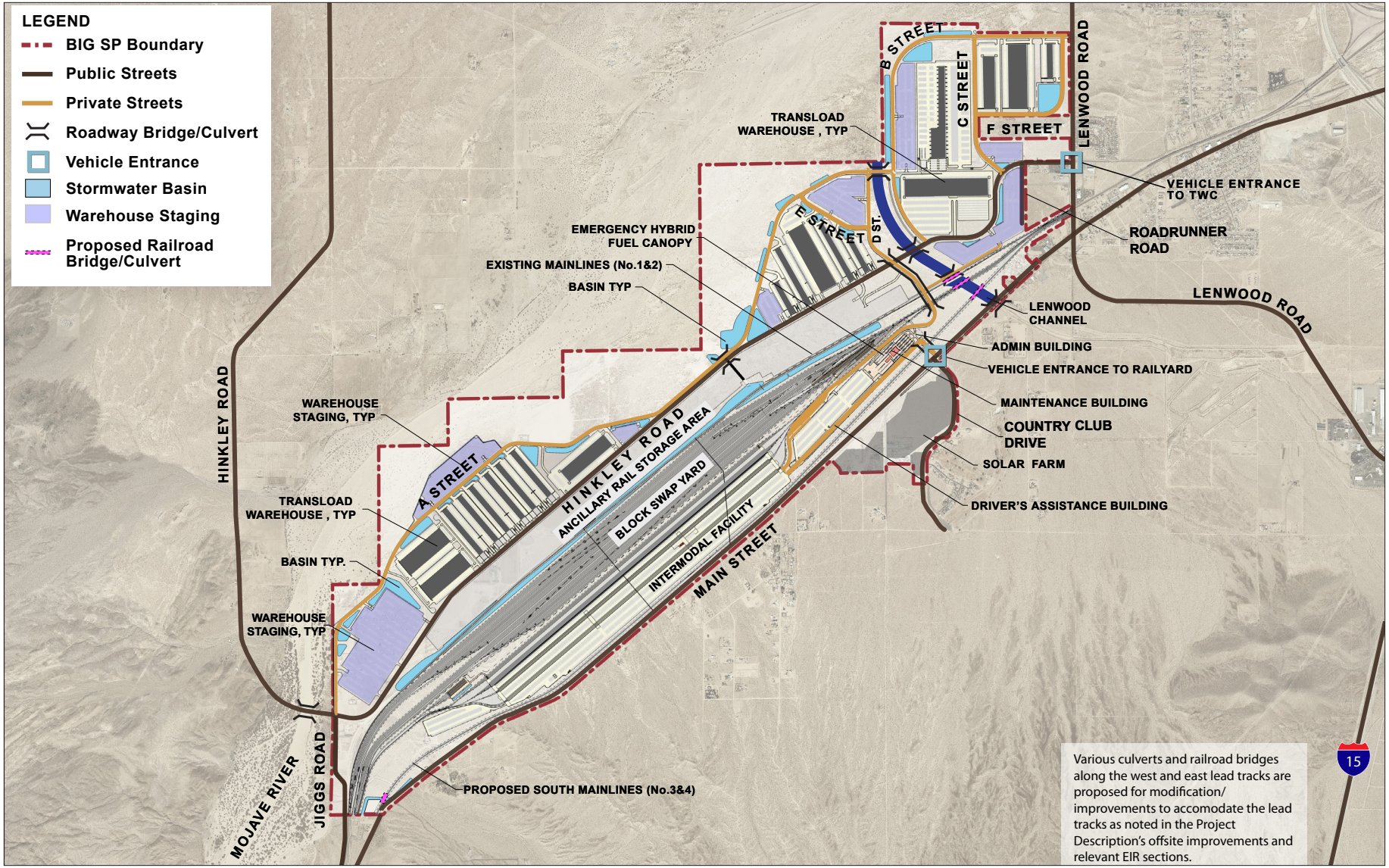
Note:
1. Sums may not total due to rounding. Off-site Improvement acreages are based on GIS data and are therefore estimates. Specific Plan acreages are based on survey data. Although the BIG Specific Plan acreage is 4,335 acres, throughout this EIR, the BIG Specific Plan acreage is referred to as 4,300 acres.

3.7.5 Rail Yard

Overview

The rail yard would be entirely within BIG Specific Plan area and would be generally bordered by the existing mainline to the north, Main Street to the south, Lenwood Road to the east, and Hinkley Road to the west. The BIG Specific Plan designates this area as the Rail Yard Overlay. The rail yard would consist of an intermodal facility (i.e., the portion of the rail yard where cross-dock intermodal operations and other intermodal facility operations would occur and where support intermodal facility uses would be located), a block swap yard, and ancillary rail area (i.e., the portion of the rail yard containing a container yard, chassis storage, and a rail storage area) as depicted on **Figure 3-17: Barstow International Gateway Conceptual Site Plan**. BIG would co-locate the intermodal facility and block swap yard to be within a single footprint, which presents the following benefits:

- Shared track infrastructure: both the intermodal facility and block swap yard would require at least two miles of lead tracks entering and exiting the facility to allow trains to accelerate or decelerate. Separating these two components would require each to have their own lead tracks, substantially increasing the footprint, environmental impacts to footprint-related resource areas, and costs.
- Shared utility infrastructure: Co-locating both components enables them to share utility improvements. Locating these components on separate sites would require each to have their own utility infrastructure, substantially increasing the footprint, environmental impacts to footprint-related resource areas, and costs.



Sources:
Transystems, 2025.

Note: Specific details set forth in the Specific Plan pertaining to the rail yard are considered difinitive. The conceptual site plan for the transload warehouse center is for illustrative purposes only. The final site plan presented for entitlement approval may differ based on final design with building square footages not to exceed 9 MSF.

Figure 3-17
Barstow International Gateway Conceptual Site Plan

- Shared equipment: Switcher locomotives can operate between the two components under BIG's design. If the two components are separated, switcher locomotives would either have to travel miles to the other component, reducing efficiency and increasing air quality and GHG emissions, or each component would require more switcher locomotives, increasing cost.
- Reduced train travel time between facilities: For containers that interact with both the intermodal facility and the block swap yard, these containers can be moved between each other on the site under BIG's design. However, if the components are separated, these containers would have to be attached to locomotives and taken miles to the other component, resulting in decreased efficiency, increasing air quality and GHG emissions.
- Increased employee efficiency: Employees such as service technicians, locomotive operators, and administrative positions can be shared by both components under BIG. Separating these two components would require these employees to travel back and forth between the two components, reducing efficiency and increasing air quality and GHG emissions.

Physical Characteristics

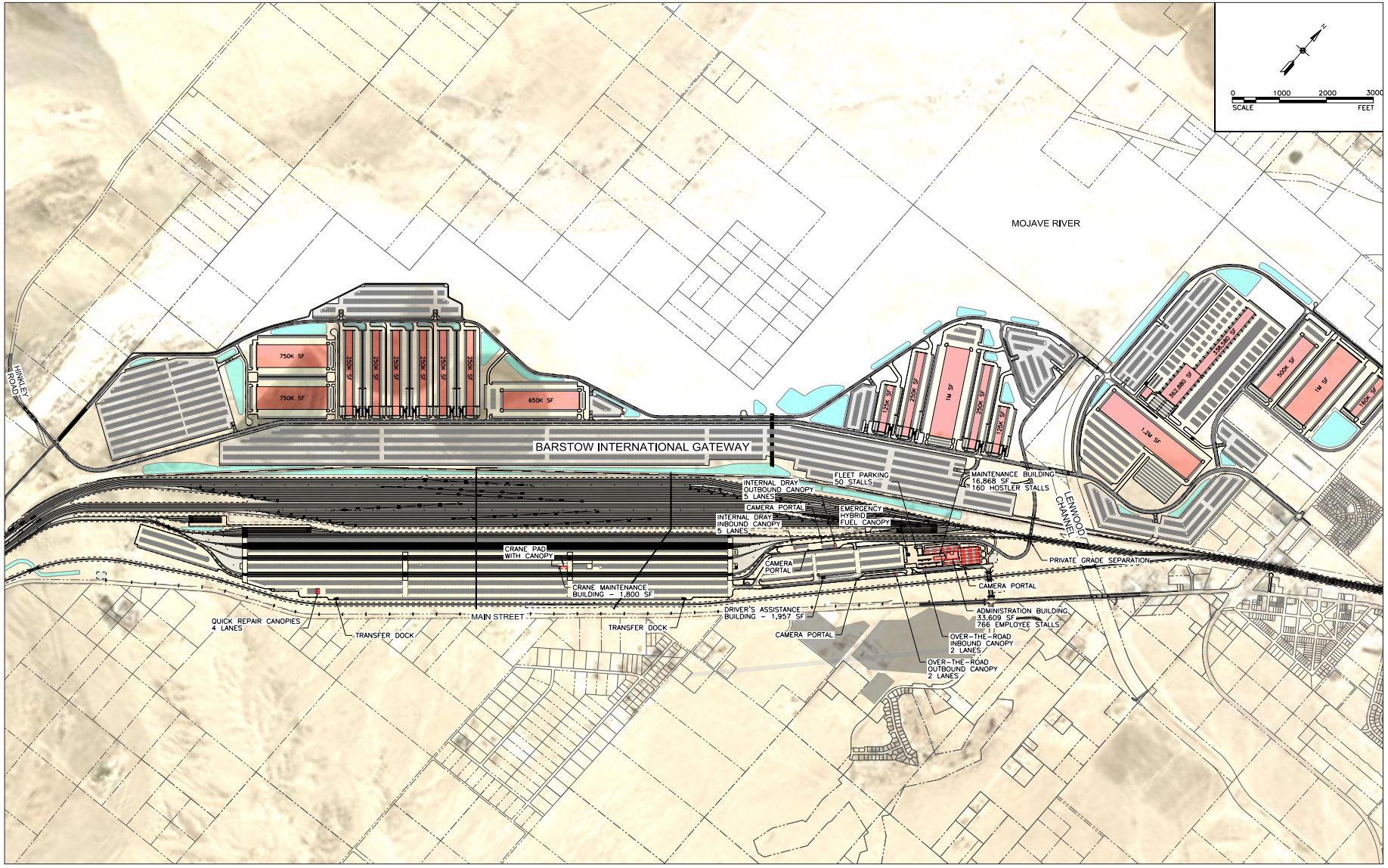
Mainline Rail Improvements

BIG would retain the existing two rail mainlines (north mainlines) within their current alignments, except at bridge crossings, which would be upgraded. BIG also proposes to construct two new rail mainlines (south mainlines), which would traverse the proposed rail yard in an east-west orientation, extending from SR-58 on the east (Milepost [MP] 4.0) to approximately Bridge 17.4 on the west, totaling approximately 13 miles of mainline track. During the construction phase, the south mainlines would be used to divert train traffic from the existing mainlines while they are upgraded. During BIG operations, approximately one-half of the trains that would bypass BIG would use the north mainlines and one-half would use the south mainlines to balance train counts between the mainlines to avoid mainline congestion. BIG would also upgrade various bridge crossings including replacement of the crossing at Lenwood Channel to accommodate the proposed Lenwood Channel widening; removal of existing culverts[8] to accommodate proposed culverts for the overall rail yard; and replacement of two structures to meet BNSF standards regarding 50- and 100-year flood conditions.

Intermodal Facility

BIG's intermodal facility would be composed of various components including railroad tracks, cargo handling equipment, an automated gate system, circulation roadways, yard equipment parking, container parking, drainage basins, electric vehicle charging stations, and buildings and ancillary rail facilities. Containers would be stored in parking spaces and low stacks at the intermodal facility, along with the ancillary rail area, and transload warehouse center (each described further below). Although electric lift equipment would be utilized to the extent commercially feasible within BIG's intermodal facility, a small 5,000-square-foot fuel canopy would be constructed in the electric hostler maintenance area to accommodate fueling of hybrid equipment as depicted in **Figure 3-18: Intermodal Facility Structures**.

[8] Culverts are drainage features, typically a pipe or arch, used to convey water under a road or rail tracks.



Sources:
Transystems, 2025

Note: The above square footage reflects 60 percent design. Building square footage is conservatively analysed throughout this EIR as totalling up to 150,000 square feet (see Table 3-9).

Figure 3-18
Intermodal Facility Structures

Hybrid and diesel equipment would include rubber-tired gantry cranes (RTGs),[9] air compressors, welders, railcar wheel change machines, and heavy-duty truck transport refrigeration units (TRUs). The fuel canopy would be served by a 10,000-gallon unleaded-fuel aboveground storage tank and a 20,000-gallon diesel-fuel aboveground storage tank with both controlled by an electronic fuel-control system.

Intermodal Facility: Support Intermodal Facility Uses. Support intermodal facility uses would include a combination of approximately 150,000 square feet of support buildings and structures for office, administration and maintenance listed in **Table 3-9: BIG Intermodal Facility Structures** (see **Figure 3-18**). Final building sizes may vary slightly; therefore, this EIR conservatively analyzes up to 150,000 square feet of support buildings and structures.

Table 3-9: BIG Intermodal Facility Structures

Building/Canopy	Square Feet
Administration Building	23,000
Electric Hostler Employee and Maintenance Building	39,000
Drivers Assist Building	5,000
Crane Maintenance Employee and Storage Building	5,000
Crane Maintenance Canopies	22,500
Container Safe Haven Canopies	2,500
Quick Repair Canopy	10,000
Automatic Gate System (AGS) Kiosk Canopies	20,000
AGS Portals	2,000
Emergency Fuel Station Canopy for Hybrid Vehicles	5,000
Total	134,000
Assumed Building Total for Final Design	150,000

Note:
The square footage described is an estimate and may vary up to 10 percent depending on the final engineering, therefore, the total square footage for planning purposes is estimated at up to 150,000 sf.

Block Swap Yard

The block swap yard is proposed in the middle portion of the BIG Specific Plan area, on approximately 410 acres of the rail yard's total approximately 1,950 acres (see **Figure 3-17**). No cargo-handling equipment is proposed within the block swap yard, as containers would not be loaded onto or unloaded from trains at the block swap yard; blocks of containers would only be moved, utilizing Tier 4 switcher locomotives, to different tracks in order to combine blocks destined for similar destinations. The block swap yard is composed of parallel tracks that would support the switching and assembly of trains, as described further below.

Ancillary Rail Area

The ancillary rail storage area is an approximately 400-acre area north of the existing mainline. This area would be graded and covered with aggregate to be used for numerous purposes, including a container

[9] RTGs are depicted on **Figure 3-36: Rail Yard Cross-Section**, and would be used to unload and offload containers at the intermodal facility.

yard, truck chassis storage, and storage of maintenance equipment. The container yard would support the storage of empty containers awaiting loading while chassis storage would be used to provide parking for empty chassis awaiting use for loading, unloading, or draying of containers. The ancillary rail storage area would also be used for storage of spare parts and equipment for track maintenance, including rail, ties, turnouts, and other track material.

Rail Fueling and Maintenance Activities

Fueling. Under existing conditions, most BNSF locomotive refueling occurs at the Ports prior to trains departing to the east, or at Belen, New Mexico, prior to departing to the west. Trains entering BIG would thus typically not require any additional fueling. However, switcher locomotives would require direct-to-locomotive (DTL) fueling at BIG. DTL fueling would involve trucks delivering fuel from the existing Barstow classification yard fuel tanks to BIG, averaging two fuel trucks per day. No expansion/modification of the existing Barstow classification yard fuel tanks is required or proposed to meet BIG's switcher fueling needs. DTL fueling would occur within two designated locations in BIG's rail yard, and would include design features such as drainage liners and sluice gates with shut-off valves to minimize potential impacts in the event of a fuel spill. **Table 3-10: BIG Estimated Switcher Locomotive Fueling Events** summarizes the estimated DTL fueling truck trips. In addition, starting in BIG opening year 2028, BNSF would increase the renewable diesel composition within their existing southern California fueling sites, including the existing fueling sites at the Ports and Barstow classification yard from 1 percent to 10 percent, a 900 percentage point increase in renewable diesel. This would improve the emissions of all BNSF trains fueling at the Ports, including those BNSF trains that would not stop at BIG.

Table 3-10: BIG Estimated Switcher Locomotive Fueling Events

Year	Number of Switcher locomotives	Average Gallons Consumed in 30 days	Average Days per Month	Gallons per Fuel Truck	Annual Fuel Trucks Required	Daily Fuel Truck Trips[1]
2028	8	7,504	30.4	7,000	127.8	0.28
2033	8	7,504	30.4		127.8	0.28
2048	12	7,504	30.4		127.8	0.42

Note:
1. Assumes one trip to BIG from the existing Barstow classification yard and one return trip (two total trips per fueling activity).

Maintenance. While "light maintenance activities"[10] would occur at BIG, major maintenance activities[11] would still occur at the existing Barstow classification yard, thereby, requiring short-distance trips via BNSF's existing mainline to and from the existing Barstow classification yard for heavy maintenance. No expansion/modification of the existing Barstow classification yard maintenance buildings or equipment is required or proposed to meet BIG's heavy maintenance needs. The frequency of these locomotive

[10] "Light maintenance activities" means routine locomotive servicing (e.g., window washing, fueling, inspecting fluid levels and topping off fluids, stocking cabins with crew equipment such as water and trash bags, toilet servicing) and minor railcar servicing (e.g., wheel changes, brake and friction shoes, and loose or missing bolts)

[11] "Major maintenance activities" means repair of railing and platform, railcar suspension, hitches, engine, etc.

maintenance trips associated with BIG intermodal facility operations would be based on the number of linehaul locomotives needed to move trains between the Ports and BIG intermodal facility, and the number of switcher locomotives needed to haul rail cars within BIG intermodal facility and block swap yard. **Table 3-11: BIG Estimated Locomotive Maintenance Trips** summarizes the estimated annual maintenance trips.

Table 3-11: BIG Estimated Locomotive Maintenance Trips

Year	Linehaul Locomotives[1]	Switcher Locomotives[1]	Total Locomotives	Annual Maintenance Frequency per Locomotive	Annual Maintenance Events[2]	Annual Maintenance Trips[3]
2028	84	12	96	4.5	433	866
2033	96	12	108		486	972
2048	119	16	135		606	1,212

Notes:
1. Represents the average daily number of locomotives expected to arrive at BIG.
2. Based on the total locomotives and the annual maintenance frequency per locomotive.
3. Assumes one trip to the existing Barstow classification yard and one trip from the existing Barstow classification yard (two total trips per maintenance activity) per maintenance event.

Operational Characteristics

BIG's intermodal facility is proposed at BIG Specific Plan area's southern extent, on approximately 1,140 acres of the rail yard's total 1,950 acres, including the areas for a container yard, chassis storage, and equipment maintenance (see **Figure 3-17**). BIG's intermodal facility operations would consist of two types: cross-dock intermodal and "other" operations, as described below. With regard to the cross-dock intermodal operations, BIG's intermodal facility would operate differently than traditional intermodal facilities in that almost all of the containers processed at the BIG intermodal facility would not arrive at or depart from BIG on heavy-duty trucks (see **Table 3-13** later in this section for container volumes). Instead, almost all of the containers would arrive or leave by train and be processed via BIG's unique "cross-dock intermodal" operation. The intermodal facility's primary purpose would be to transfer containers between railcars and electric hostlers[12] for cross-dock movements at the proposed on-site transload warehouse center, and vice versa, although a small portion processed at BIG would arrive by heavy-duty truck ("other" operations). The electric hostlers would be used to transport containers within the rail yard, and between the rail yard and transload warehouse center. The electric hostlers would be zero-emission trucks and would not leave BIG Specific Plan area or operate on public streets. This differs from the operations at a traditional intermodal facility where the primary purpose is to transfer containers from externally based heavy-duty trucks[13] to railcars, and vice versa (defined as "other" operations). Cross-dock intermodal operations and "other" operations are described in more detail later in this section.

[12] Electric hostlers are trucks used for moving trailers and containers short distances within freight terminals, rail yards, and warehouses. Electric holsters would not use public roadways outside of BIG footprint.

[13] "Heavy-duty" trucks are conventional highway trucks that travel on public roads and carry containers intra- and inter-state.

The proposed block swap yard would allow for the transfer of multiple railcars, or "blocks" of intermodal rail cars between trains through the use of Tier 4 switcher locomotives.[14] The entire block of rail cars would remain coupled together and be moved en masse, permitting the synchronizing of blocks to their destinations, so that each train would be compiled of rail car blocks traveling to the single destination. Blocks could be assembled from inbound trains or trains processed at the intermodal facility carrying containers processed at the transload warehouse center. Certain train blocks may stage at the block swap yard until another train arrives with the same destination. The block swap yard would facilitate switching and transferring rail car blocks between tracks for assembling departing trains. Therefore, by synchronizing trains to their destinations, the block swap yard would improve train efficiency eastbound and westbound. The rail car blocks within the block swap yard would include containers from BIG's intermodal facility and containers processed at the transload warehouse center, combining as needed based on their destination.

The block swap yard's function is different than that of a typical classification yard, such as the existing Barstow classification yard. Classification yards are where trains being processed are made up of non-intermodal railcars (i.e., individual boxcars, gondolas, open and closed hopper cars, automobile railcars, and tank cars), rather than intermodal railcars. BNSF designates these types of trains with a different train identification than those that would be processed at BIG. BIG would not replace or be an extension of the existing Barstow classification yard. Further, BNSF uses different equipment to process these trains than would be used at BIG. While there is a small intermodal facility component adjacent to the existing Barstow classification yard, that intermodal facility is only used to process overflow from other BNSF intermodal facilities. By contrast, BIG's block swap yard would disassemble and assemble blocks of railcars with intermodal containers to a single destination utilizing Tier 4 switcher locomotives. The existing Barstow classification yard also utilizes switcher locomotives as part of its operations, although they are currently Tier 0/0+/1+ switchers. Although BIG is not related to existing Barstow yard operations, BNSF would voluntarily retire all existing Tier 0/0+/1+ switcher locomotives at the unrelated existing Barstow classification yard starting in 2028, and in their place add six Tier 4 switcher locomotives.

BIG's proposed rail yard would operate 24 hours per day, 365 days per year. The rail yard would have approximately 860 employees in Opening Year (2028), 1,010 employees in Interim Year 2033, and 1,125 employees in Horizon Year (2048),[15] which would accommodate both the block swap yard and intermodal facility operations. Employees would be split evenly between three shifts. Total BIG employment is identified **Table 3-12: Estimated Employment – BIG**.

The rail yard would receive electric power from the proposed solar farm and connecting to Southern California Edison's (SCE) Tortilla Substation, with emergency diesel generators proposed at the southeast portion of BIG's intermodal facility to provide electric power in the event of a nighttime power outage; see **Section 3.7.10.** BIG includes various zero-emission elements, including electric cargo-handling equipment (rail-mounted gantry cranes, forklifts, top picks/side loaders, and hostlers would be fully

[14] A block is defined as rail cars of a similar type moving to a single destination that are already connected and can be combined with other blocks intended for the same destination to produce more efficient train movements.

[15] A "Horizon Year" is the last year of analysis. BIG's Horizon Year is 20 years after opening.

electric). BIG also includes a dedicated fleet of Tier 4 linehaul locomotives[16] to move cross-dock intermodal containers between the Ports and the BIG intermodal facility.

Table 3-12: Estimated Employment – BIG

Category	Jobs			
		Operations		
	Construction[1]	Opening Year 2028[2]	Interim Year 2033[2]	Horizon Year 2048
Direct (On-Site)				
Rail Yard	3,494	860	1,010	1,125
Transload Warehouse Center	4,694	2,767	3,660	4,248
Total Direct	8,188	3,627	4,670	5,373[3]
Indirect/Induced (Off-Site)				
Indirect	5,802	N/A	N/A	3,600
Induced	11,891	N/A	N/A	6,700
Total Indirect/Induced	17,693	N/A	N/A	10,300
Total BIG Employment	25,881			15,673

1. Note that, based on industry standard and the modeling software used, AECOM expresses construction jobs in terms of total full-time equivalents (i.e., if one person is employed during construction for two years of BIG's construction, it would be shown as two jobs). To support the environmental analysis, all construction jobs were converted to annual headcount.
2. Note that indirect and induced employment are not available for Opening or Interim Year, as AECOM only performed the analysis for Horizon Year.
3. Note that the economic impact analysis uses a rounded number of direct jobs (5,400 direct jobs); see **Appendix 5.11 BIG-1**.

Source: *Economic Impact Analysis: Barstow International Gateway* (AECOM, 2025; **Appendix 5.11 BIG-1: Economic Impact Report**).

Typically, intermodal transport grows by approximately two percent per year. However, as discussed above, BIG would introduce a unique cross-dock intermodal operation which would present competitive benefits to suppliers compared to long-distance transport via heavy-duty truck. As such, BNSF anticipates that during this "initial transition period" after Opening Year and while suppliers transition supply chains to use BIG, a higher growth percentage than typical would occur. Following this initial transition period and through Horizon Year, BIG's growth would continue at the normal compound annual growth rate of approximately two percent per year. To evaluate BIG's environmental impacts resulting from this initial period of greater growth, an interim year of 2033 has been identified. Therefore, the analysis evaluates BIG's environmental impacts during Opening Year (2028), Interim Year (2033), and Horizon Year (2048) conditions.

BIG would process approximately 4,368,800 containers in 2028, approximately 4,890,176 containers in 2033, and approximately 6,109,538 containers in 2048 (see **Table 3-13** later in this section). Only a portion of total containers processed at BIG would arrive or depart via heavy-duty truck, totaling approximately 297 trucks per day in 2028, 377 trucks per day in 2033, and 465 trucks per day in 2048. BIG's intermodal facility would include two types of operations: "cross-dock intermodal" and "other."

[16] "Tier" refers to emissions standards set by regulatory agencies for engine emissions, with Tier 0 referring to the oldest and having the highest emissions, while Tier 4 is the latest, more stringent standard with the fewest emissions.

Cross-dock Intermodal Operations

As previously discussed, goods arrive at the Ports in international containers. Some of these containers are unloaded from ships onto heavy-duty trucks, hauled to local warehouses in the Los Angeles basin, Orange County, and Inland Empire and transloaded into domestic containers, while some containers travel further east before being transloaded. The transloaded containers not destined for local use would then continue further eastward by truck to inland destinations (e.g., Dallas, Chicago, Kansas City) or go to traditional intermodal facilities to be put on a train and transported by rail eastward, also to inland destinations. Similarly, goods from inland origins destined for the Ports (exports) would travel west via rail or heavy-duty truck to local warehouses in the Los Angeles basin, Orange County, and Inland Empire and be transloaded from domestic containers into international containers and then continue by heavy-duty truck to the Ports. With BIG, a mode shift from truck to train would occur. A significant portion of these containers would instead be taken directly by train from the Ports to BIG utilizing a dedicated fleet of Tier 4 linehaul locomotives. The cross-dock intermodal operation is a container-movement operation unique to BIG in which containers would be processed through a closed-loop system as follows: international containers loaded onto trains on-dock at the Ports (defined below); transported by train via a dedicated fleet of Tier 4 linehaul locomotives to the proposed BIG intermodal facility; taken by electric hostlers to the proposed on-site transload warehouse center; transloaded into domestic containers; taken by electric hostlers back to BIG intermodal facility; and loaded onto outbound trains at the intermodal facility. Containers would be transported between the rail yard and transload warehouse center only using electric hostlers, rather than heavy-duty trucks, and only via an on-site/ private closed loop roadway to minimize local roadway traffic.

Other Operations

BIG would accommodate a small percentage of other intermodal operations[17] consisting of containers destined for other BNSF facilities that would instead be processed at BIG. This would reduce the travel distance/travel time due to traffic conditions that the container would otherwise travel coming to/from other destinations. Under existing conditions, these containers come from locations like Las Vegas, travel via heavy-duty truck through Barstow to BNSF's San Bernardino or Hobart/Commerce Yard intermodal facilities and then are transferred to a train for transport by rail further eastward to inland destinations. With BIG, that container would stop short at the BIG intermodal facility rather than continuing to the San Bernardino or Hobart/Commerce intermodal facilities. Although BIG's intermodal facility would handle a percentage of truck-based containers (see **Table 3-13**), it would reduce total truck miles travelled compared to existing conditions. More traditional truck-based intermodal containers would not be processed at BIG because, as described in the "*Total Container Volume Processed at BIG*" below, BIG's container volume is already dedicated to other markets.

[17] "Other" intermodal facility operations refers to California/Nevada regional truck-borne containers being loaded from heavy-duty trucks onto trains and vice versa.

Total Container Volume Processed at BIG

Based on the physical and operational characteristics at BIG, **Table 3-13: BIG IMF and Block Swap Estimated Annual Container Volumes** identifies the container volume that would be processed at BIG during each analysis year based on how it would arrive at BIG (i.e., via train or heavy-duty truck). While the block swap yard would change the number of trains that would arrive or depart BIG by optimizing for end destinations, it would not increase the number of containers. BIG's intermodal facility would, through the mode shift from truck to train via the cross-dock intermodal operation, add a new volume to the BNSF network, totaling approximately 3.2 trains per day on average in 2028, approximately 4.3 trains per day on average in 2033, and approximately 4.9 trains per day on average in 2048. These train counts include eastbound and westbound trains. Trains between the Ports and the BIG intermodal facility would be comprised of dedicated Tier 4 locomotives.

Table 3-13: BIG IMF and Block Swap Estimated Annual Container Volumes

	Containers per Year			Notes
	2028	2033	2048	
BIG INTERMODAL FACILITY AND BLOCK SWAP YARD				
Containers arriving at BIG via Train (Eastbound)	1,084,000	1,216,000	1,513,000	
Containers Departing BIG via Train (Eastbound)	1,036,400	1,149,088	1,441,769	
Containers arriving at BIG via Train (Westbound)	1,036,400	1,149,088	1,441,769	
Containers departing BIG via Train (Westbound)	1,084,000	1,216,000	1,513,000	
Subtotal of Containers arriving/departing BIG via Train	4,240,800	4,730,176	5,909,538	Subtotal of containers arriving/departing by Train
Containers arriving at BIG via Heavy-Duty Truck	64,000	80,000	100,000	Of this, 67 percent are existing containers transported by trucks that, without BIG, would travel a longer distance to a different BNSF intermodal facility. By arriving at the BIG IMF, the total truck miles traveled is reduced for those containers.
Containers departing BIG via Heavy-Duty Truck	64,000	80,000	100,000	Of this, 67 percent are existing trucks transported by truck that, without BIG, would travel a longer distance to a different BNSF intermodal facility. By arriving at the BIG IMF, the total truck miles traveled is reduced for those containers
Subtotal of Containers arriving/departing BIG via Heavy-Duty Truck	128,000	160,000	200,000	Subtotal of containers arriving/departing by truck
Total Estimated Annual Containers processed at BIG	**4,368,800**	**4,890,176**	**6,109,538**	Total estimated annual containers arriving/ departing via Heavy-Duty Truck and Train at BIG

BIG would process approximately 4,368,800 containers in 2028, approximately 4,890,176 containers in 2033, and approximately 6,109,538 containers in 2048, with only a small portion arriving or departing via heavy-duty truck. Furthermore, BIG would result in an overall decrease in heavy-duty truck trips as discussed below and in further detail in **Section 5.15: Transportation**.

While **Table 3-13: BIG IMF and Block Swap Estimated Annual Container Volumes** breaks down the mode in which containers would arrive at BIG (train or heavy-duty truck), the following describes how the containers would be processed at BIG. Once the containers arrive at BIG, they would be processed at either the block swap yard or the intermodal facility and associated transload warehouse center. In total, BIG's block swap yard would process approximately 81 percent of the containers processed at BIG, comprised of two sources (eastbound and westbound), and BIG's intermodal facility would process the remaining approximately 19 percent of containers, comprised of three sources. The container sources are described below:

- **Block Swap Yard (eastbound):** Approximately 40 percent of the containers processed at BIG would be eastbound containers arriving at and departing from the block swap yard. These containers would be arriving from the Ports or existing BNSF facilities in Los Angeles, San Bernardino, Stockton, and Oakland.
- **Block Swap Yard (westbound):** Approximately 40 percent of the containers processed at BIG would be westbound containers arriving at and departing from the block swap yard. Some of these containers would arrive at BIG empty (after being unloaded at their eastern destination). Others would arrive at BIG filled with goods (after being unloaded at their eastern destination and refilled with goods ready for export). Upon arriving at BIG, these containers would be transloaded into international containers and then put onto trains through the on-site "closed loop" to be sent to the Ports by rail as product for export. By converting the transport of the exported goods to the cross-dock intermodal move, the number of heavy-duty truck trips out of state and in southern California would be reduced.
- **Intermodal Facility (eastbound and westbound):** Approximately 15 percent of containers processed at BIG would be conveyed from the Ports to the BIG intermodal facility (eastbound) to be transloaded via the cross-dock intermodal operations mode via a dedicated fleet of Tier 4 locomotives, which is unique to BIG. The same would happen in the reverse from BIG to the Ports (westbound). Westbound containers would arrive at BIG filled with goods ready for export or as empty containers. They would be transported back to the Ports via a dedicated fleet of Tier 4 locomotives.

  In addition, a small portion of the intermodal facility's eastbound and westbound containers would arrive and depart via heavy-duty truck directly from the Ports to BIG's transload warehouse center due to missed train connections or because the container arrives at a port terminal that doesn't have rail service today (less than one half of one percent of containers served by the transload warehouse center). After arrival at the transload warehouse center, these containers would be transloaded and transported by electric hostler to/from the intermodal facility.
- **Intermodal Facility (eastbound and westbound):** A small portion of containers previously routed to other BNSF facilities would be processed at BIG and would arrive at and depart from the BIG intermodal facility via heavy-duty trucks in order to reduce the travel distance of these containers.

Like operations at a traditional intermodal facility, containers arriving at the BIG intermodal facility via heavy-duty truck would be transferred to a rail car (and vice versa) and transported by rail to their final destination. The goods in these containers would not be repackaged at BIG, instead just the container would be transferred from heavy-duty trucks to rail. This process under BIG would reduce the travel distance and/or travel time due to traffic conditions that the container would otherwise travel coming to/from other destinations. For example, under existing conditions, a container coming from Las Vegas today would travel through Barstow to BNSF's San Bernardino Yard or Hobart/Commerce Yard intermodal facilities and then be transferred to a train for transport by rail to its eastern destination. With BIG, that trucked container would stop at the closer BIG intermodal facility rather than continuing to the farther San Bernardino Yard or Hobart/Commerce Yard intermodal facilities. This process would eliminate additional distance and/or travel time for these containers, which would otherwise travel to existing farther BNSF intermodal facilities. In all cases, containers would depart eastward via rail (no containers destined for the east would depart BIG via heavy-duty truck). The reverse would also happen in the westbound direction.

- **Intermodal facility (eastbound):** Another small portion of BIG's intermodal facility volume would consist of containers that under existing conditions, arrive at the Ports, are transported by truck from the Ports to transload warehouses in the Inland Empire, then transloaded and distributed to southern California consumers or retail locations. However, some goods at these transload warehouses are destined for eastern U.S. cities; they are consolidated into 53-foot domestic containers at the warehouses and then trucked eastward. With BIG, these containers would be loaded directly onto trains at the Ports and moved by train to BIG's intermodal facility and transloaded via the cross-dock intermodal mode. The portions of those containers destined for the Inland Empire are consolidated into containers and transported by heavy-duty truck from the BIG transload warehouse center to the Inland Empire. After reaching the Inland Empire warehouses, the domestic containers would emptied and be re-filled with goods destined eastward and transported by heavy-duty truck back to the BIG transload warehouse center, where they would join the rest of the goods traveling to nationwide destinations by train. In all cases, containers would depart eastward via rail (no containers destined for the east would depart BIG via heavy-duty truck).

3.7.6 Transload Warehouse Center

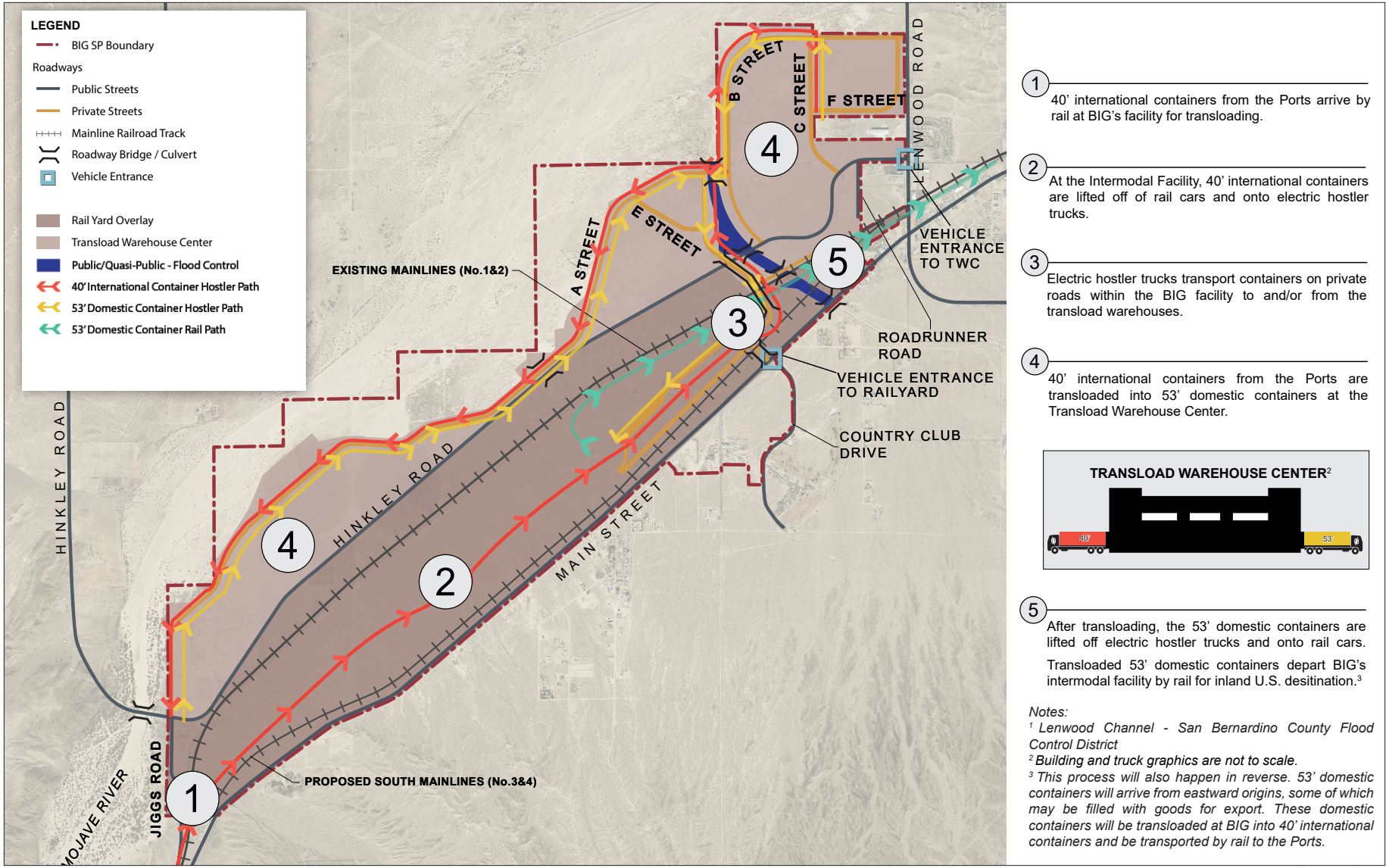
The transload warehouse center is proposed at BIG Specific Plan area's northern extent, on approximately 1,330 acres of the 4,300-acre BIG Specific Plan (see **Figure 3-17**).The transload warehouses would be designed to process the contents of containers from cross-dock intermodal operations, with a small percentage dedicated to processing the contents of containers that arrive by truck as described above. The transload warehouse center would process almost all of the containers within an on-site "closed loop" operation as part of the cross-dock intermodal move between BIG's intermodal facility and the transload warehouse center. BNSF would include contractual obligations as a condition of warehouse occupants' use of the land to develop and operate the warehouses that would include volume commitments for long-haul container movements from BIG on BNSF's rail network, utilizing the unique cross-dock intermodal/ closed loop operation with the intermodal facility.

The transload warehouse center would be fully built during construction, but operations of the transload warehouse center would not initially require all available warehouse capacity. Rather, operations of the transload warehouse center would gradually increase as customers relocate to BIG. As shown in **Table** 3-12, transload warehouse center operations would include approximately 2,767 employees in Opening Year, approximately 3,660 employees in Interim Year, and 4,248 employees in Horizon Year. The transload warehouse center would total 9.0 million square feet of transload warehouses. The transload warehouse center would be composed of multiple buildings of various configurations and sizes, depending on tenant needs.

The conceptual site plan is for illustrative purposes showing potential transload warehouse buildings, locations, and sizes. Final transload warehouse center buildings, locations, and sizes may differ from those depicted in **Figure 3-17** and would be processed with the City, as development occurs, in accordance with BIG Specific Plan. Each transload warehouse would include container parking/storage areas, employee parking, stormwater/hydrology improvements, and landscaping. Emergency generators are proposed throughout the transload warehouse center to provide electric power in the event of a power outage. Transload facilities would include dock doors on opposite sides of the buildings. International containers arriving at the intermodal facility via rail would be loaded onto electric hostlers for movement on on-site "closed loop" private road(s) to one of the on-site transload warehouses. Upon arriving at a transload warehouse, the electric hostler would deliver the international containers to one side of the warehouse, where the containers would be unloaded into the transload warehouse, sorted, and loaded into domestic containers on the other side of the warehouse. This cross-dock intermodal operation is unique to BIG and provides a closed-loop system between BNSF rail operations and transload warehouse center users as depicted in **Figure 3-19: Closed Loop System Design**.

Warehouse Staging. There would also be several areas distributed around the transload warehouse center, totaling approximately 275 acres, for staging/overflow parking of containers accessing the transload warehouse center. These warehouse staging areas would be for truck containers only; truck "hoteling"[18] would not occur, as electric hostlers would transfer containers to/from these areas. Therefore, heavy-duty truck tractors would not enter or exit these areas.

[18] Truck "hoteling" refers to when a heavy-duty truck parks for the driver to rest within the cab.



1. 40' international containers from the Ports arrive by rail at BIG's facility for transloading.
2. At the Intermodal Facility, 40' international containers are lifted off of rail cars and onto electric hostler trucks.
3. Electric hostler trucks transport containers on private roads within the BIG facility to and/or from the transload warehouses.
4. 40' international containers from the Ports are transloaded into 53' domestic containers at the Transload Warehouse Center.

5. After transloading, the 53' domestic containers are lifted off electric hostler trucks and onto rail cars.

   Transloaded 53' domestic containers depart BIG's intermodal facility by rail for inland U.S. desitination.[3]

Notes:
[1] Lenwood Channel - San Bernardino County Flood Control District
[2] Building and truck graphics are not to scale.
[3] This process will also happen in reverse. 53' domestic containers will arrive from eastward origins, some of which may be filled with goods for export. These domestic containers will be transloaded at BIG into 40' international containers and be transported by rail to the Ports.

Sources:
Kimley-Horn, 2025.

Figure 3-19
Closed Loop System Design

3.7.7 On-Site Utility Improvements

To accommodate the proposed rail yard and transload warehouse center, BIG would require both relocations of existing facilities and construction of new/expanded facilities (i.e., water, wastewater, electric power, natural gas, and telecommunications). The utility improvements proposed within BIG Specific Plan area (i.e., on-site) are described below. See **Section 3.7.10: Off-Site Improvements** for descriptions of the proposed off-site utility improvements.

Water

BIG's construction phase water demand includes non-potable water for construction activities and potable water for on-site construction workers. During construction, non-potable water would be required for mixing concrete, equipment cooling, general site cleaning, soil conditioning for proper placement and compaction, and dust control. To provide non-potable water during the construction phase, up to eight new private on-site groundwater wells would be constructed within BIG's transload warehouse center portion. BNSF would own and operate the wells through the contractor during construction, and the wells would be abandoned to County standards once the construction non-potable water demands have been met. Well abandonment and construction would occur pursuant to County Code § 33.06554: Desert Groundwater Management Permits and County Code § 33.0643: Well Abandonment.

BIG's construction workers would generate demand for potable water during the construction phase. BIG is within the Golden State Water Company (GSWC) service area. Temporary aboveground connections from GSWC existing mains within Main Street to BIG would be constructed to supply potable water to the construction sites. Additionally, the Mojave Water Agency owns and operates a 48-inch recharge water line that crosses BIG Specific Plan area. BIG proposes to relocate this existing line to the north to avoid conflict with rail yard and transload warehouse center improvements. Water supplies to serve BIG construction phase water demands would be subject to compliance with the Mojave Basin Area Adjudication Judgement and Watermaster Rules and Regulations.

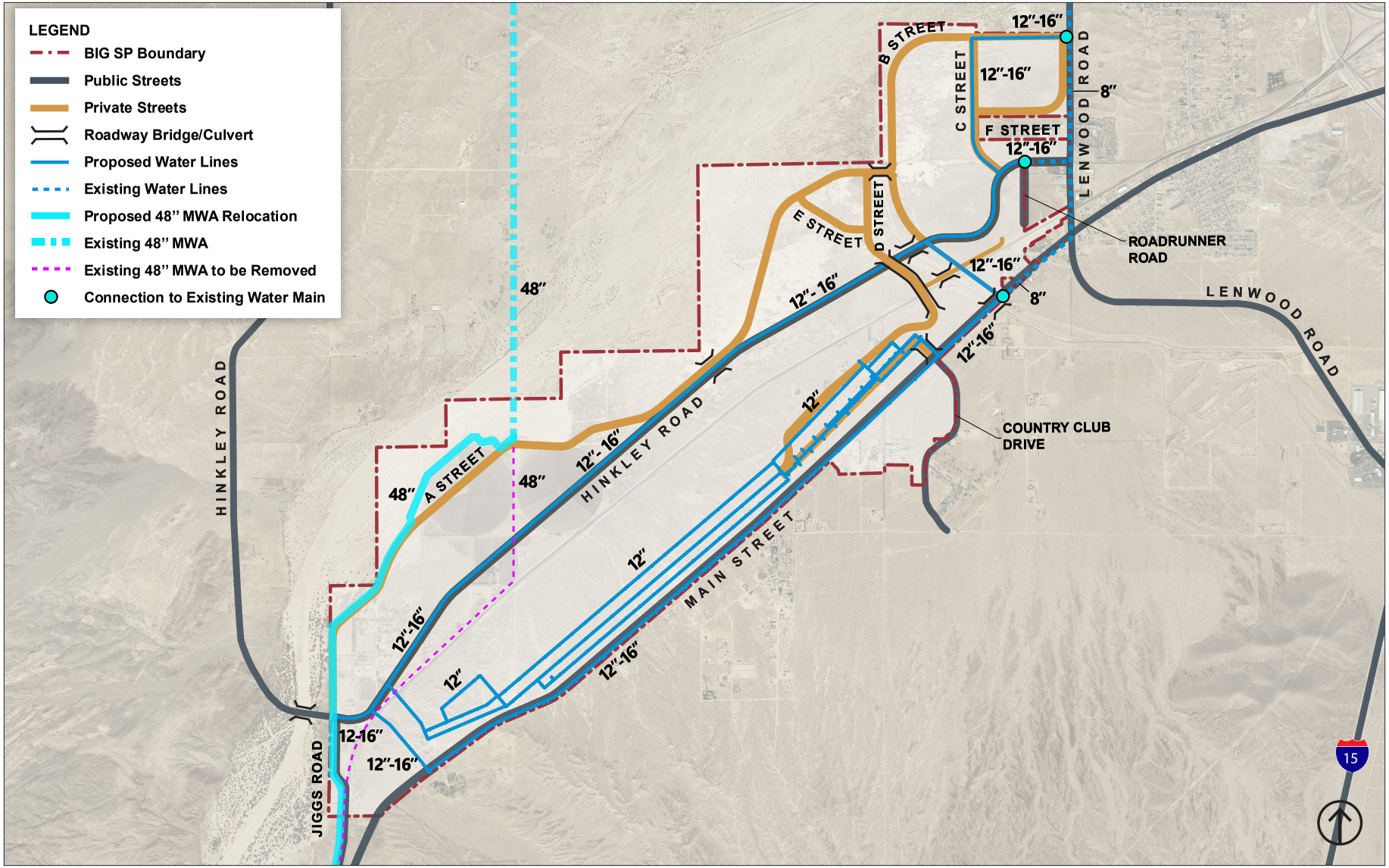
BIG operational potable water demands include water for employees (rail yard and transload warehouse center), canopies and sheds, electric hostler washing, crane maintenance pads, landscaping, and solar farm panel maintenance. Operational potable water and fire flow water would be provided by directly connecting to facilities owned and operated by the GSWC. Fire flow would be supplemented by on-site water tanks and fire pumps if necessary to meet the fire flow requirements. Power to water tanks and fire pumps would be supported by the transload warehouse diesel backup generators in the case of an emergency. Water tanks would be placed entirely within the BIG footprint. As described above, GSWC's service boundary would be extended upon approval from the California Public Utility Commission. The transload warehouse center would connect to an existing water main in Jasper Road on the east end of the BIG Specific Plan area. Water for the transload warehouse center would be conveyed on the site through 12- to 16-inch water mains within the public and private roadways. The rail yard would connect to an existing water main at the east end of BIG Specific Plan area near Lenwood Road on the south side of Main Street. Water for the rail yard would be conveyed on the site through private water mains within access roads and the intermodal facility. A new public 12- to 16-inch looped water main would be

constructed from the existing connection in Main Street, extending west to the edge of rail yard, north to Hinkley Road, and then continue east in Hinkley Road to the existing connection point near Lenwood Road. A segment connecting the water main in Main Street to the water main in Hinkley Road would be provided adjacent to Lenwood Channel. A third connection from the looped water main would be provided at the northeast corner of the Specific Plan at Lenwood Road. The new on-site public water mains total approximately 10 miles in length. A Water Supply Assessment was conducted to verify the GSWC Barstow's projected supplies would be sufficient to meet all projected water demand in the GSWC Barstow's service area, inclusive of BIG. BIG's proposed water improvements are shown in **Figure 3-20: BIG Proposed Water Improvements**.

Wastewater

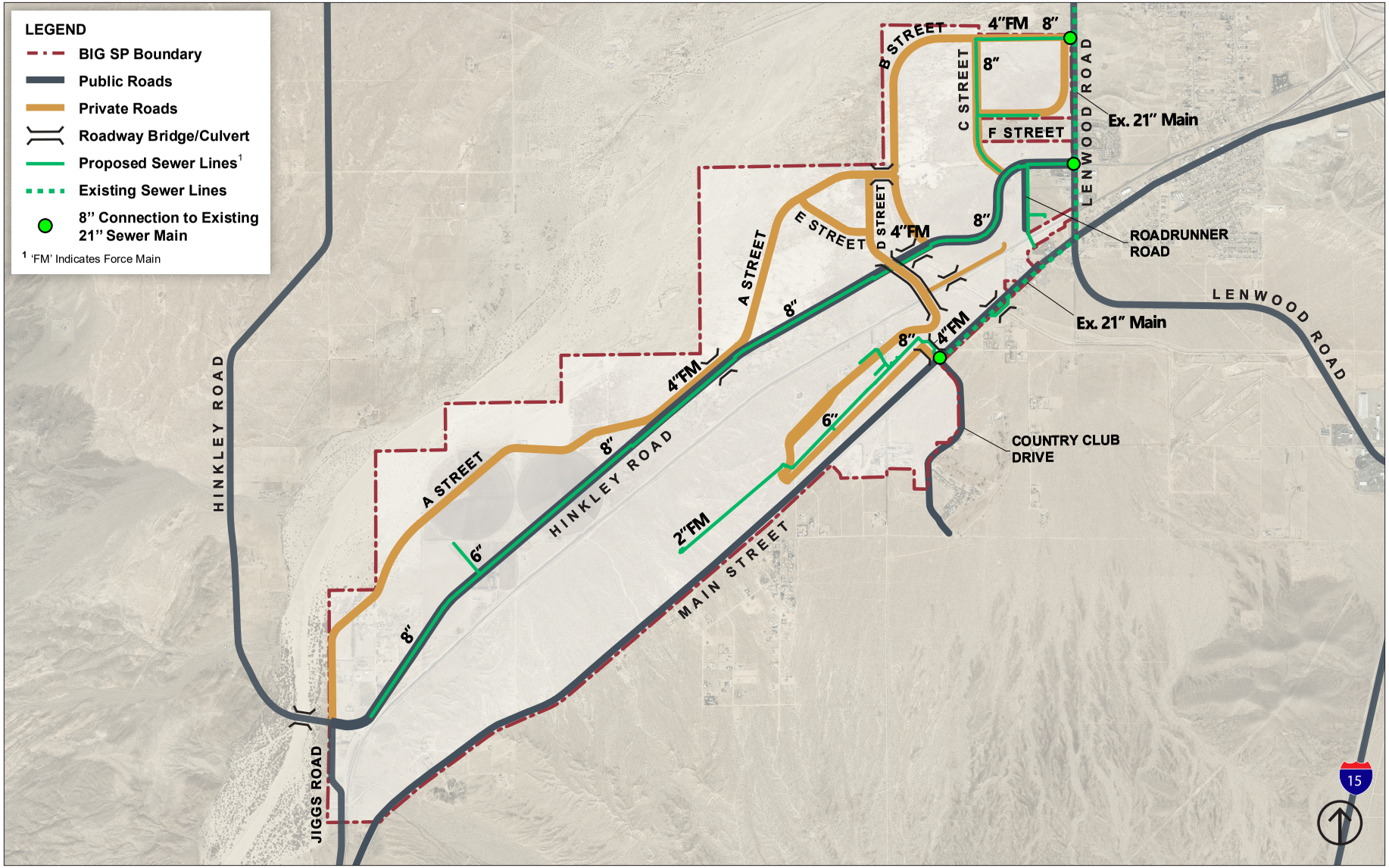
BIG's construction-related wastewater generation would be from construction workers. Temporary portable facilities (i.e., portable restrooms and portable handwash stations) would be utilized during the construction phase.

BIG's operational wastewater generation would be from transload warehouse center and rail yard employees, and the rail yard wash bays and track pans. The wastewater collection system near BIG is owned and operated by the City, with facilities at the east end of the BIG Specific Plan area in Main Street and Lenwood Road. BIG's wastewater would discharge to the City's wastewater system at three connection points. The transload warehouse center would discharge to the proposed new sewer main in Hinkley Road. A new 8-inch wastewater line is proposed within the Hinkley Road extension from the west end of the transload warehouse center to the northeast end of the transload warehouse center and would connect to the existing sewer main in Lenwood Road. Within the transload warehouse center, west of the Lenwood Channel, 8-inch lines would extend north in C Street to serve the transload warehouses connecting to Lenwood Road via B Street. The rail yard would include new wastewater lines and force mains at the southern portion of the rail yard, conveying wastewater to the east and connecting to the existing sanitary sewer main in Main Street near Country Club Drive. BIG's wastewater would be conveyed by gravity flow to and treated at the Barstow Regional Wastewater Treatment Facility, which is owned and operated by the City. Wastewater conveyance and treatment would be coordinated with the City. BIG's proposed wastewater improvements are shown on **Figure 3-21: BIG Proposed Wastewater Improvements.**



Sources:
Transystems, 2025.

Figure 3-20
BIG Proposed Water Improvements



Sources:
Transystems, 2025.

Figure 3-21
BIG Proposed Wastewater Improvements

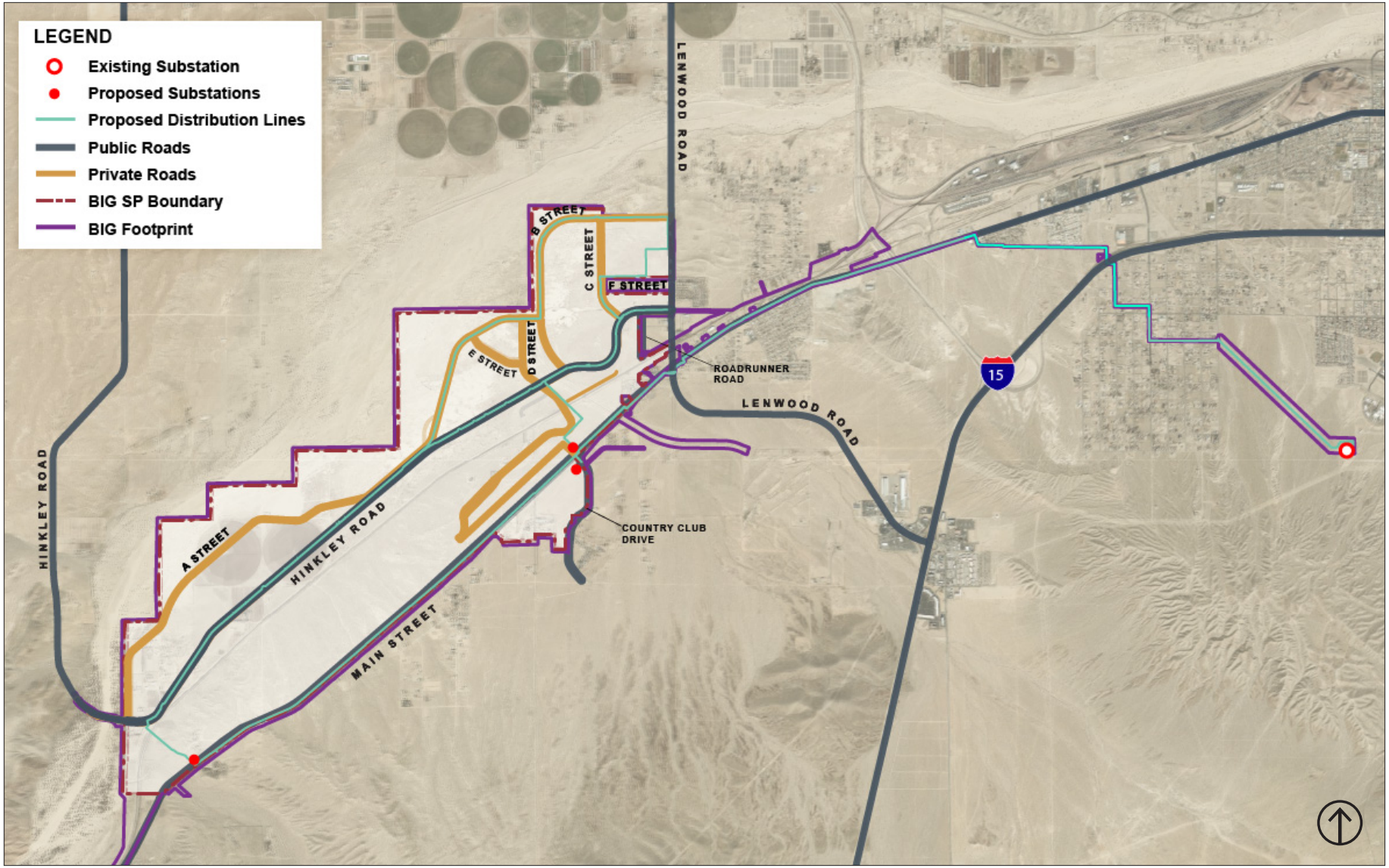
Electric Power

BIG construction activities would generate temporary electric power demand from construction equipment, tools, lighting, and other necessary facilities (e.g., temporary offices). The electric power for construction activities would be supplied through connections to existing SCE facilities.

BIG operations would generate permanent electric power demand from the transload warehouse center (lighting, electric vehicle charging for material handling, and forklifts) and rail yard (lighting, buildings, cranes, and electric hostlers (used to move containers between the rail yard and the transload warehouse center). BIG operational electric power demand would be met through connecting to the SCE Tortilla Substation (described in **Section 3.7.10**) and supplemented with on-site electrical generation including an approximately 140-acre, approximately 21 MW solar power generation facility (i.e., solar farm), which is described further below. Additionally, BIG would comply with CALGreen regulations requiring that rooftop solar generation be installed on the industrial warehouse rooftops (Title 24, Section 140.10). Based on 9.0 million square feet of transload warehouse, BIG would include approximately 6.4 megawatts (MW) of rooftop solar generation for Title 24 compliance. BIG's proposed electrical improvements are shown on **Figure 3-22: BIG Proposed Electrical Improvements**.

BIG proposes to construct the following on-site electric power facilities to serve BIG.

- Three substations: two substations at the eastern and western extents of the rail yard and one substation within the solar farm.
- Additional 33 kilovolt (kV) distribution lines connecting via underground duct banks in a loop around the west end of the intermodal facility. These proposed 33kV distribution lines would total 23 miles of duct banks within BIG Specific Plan area.
- An approximately 140-acre solar farm is proposed south of the proposed BIG rail yard, at the southwest corner of the Main Street at Country Club Drive intersection. The solar farm is estimated to generate approximately 21 MW to serve BIG. The solar farm would include a battery electric storage system (BESS) and a new substation at the northwest corner of the solar farm to route power from the solar farm to the BIG rail yard. The solar farm would be fenced to prevent trespass and would include internal roadways for maintenance vehicles. The solar farm would require minimal grading to level the site wherever possible, and excavation would be limited primarily to stormwater detention to capture runoff.
- Additionally, BIG would comply with CALGreen regulations requiring that rooftop solar generation be installed on the industrial warehouse rooftops (Title 24, Section 140.10). Based on 9.0 million square feet of transload warehouse, BIG would include approximately 6.4 MW of rooftop solar generation for Title 24 compliance.



Sources:
Transystems, 2025.

Figure 3-22
BIG Proposed Electrical Improvements

- Emergency diesel generators are proposed at various locations across the rail yard and transload warehouse center to provide backup power in the event of Tortilla Substation service interruptions. Rail yard generators would only be used if a power outage were to occur at nighttime, as the proposed solar farm would provide sufficient power during daytime in the event of a power outage. The rail yard would include up to 10 generators at the far western extent, while the transload warehouse center would include up to 29 generators dispersed throughout. Generators would require up to 50 hours each of testing and maintenance operations per year; see **Section 5.3: Air Quality** and **Section 5.8: Greenhouse Gas Emissions** for more information.

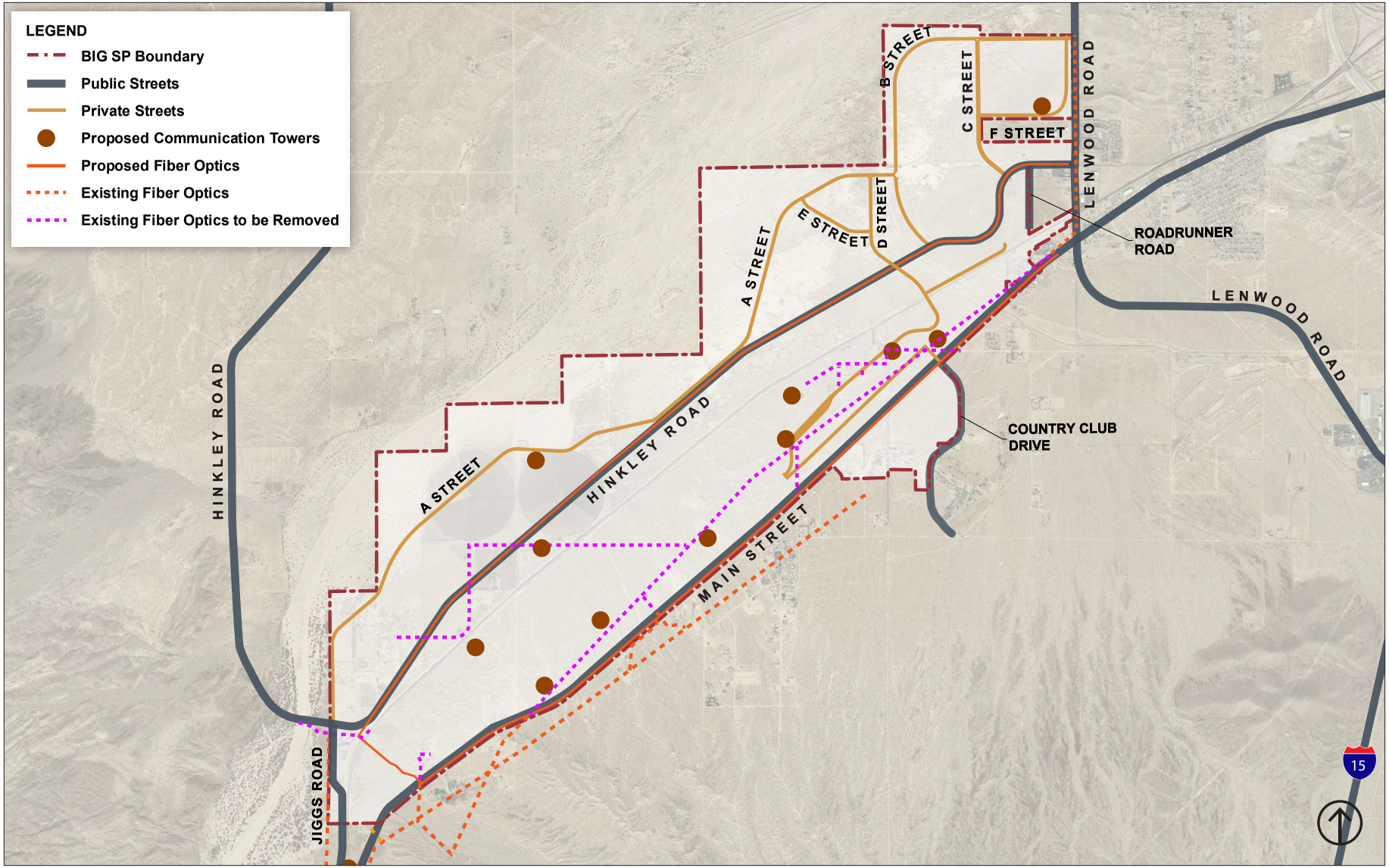
Solar farm maintenance would consist of cleaning, inspecting, and replacing solar panels, equipment, and other system components. Maintenance trips associated with these activities would be limited to trucks transporting materials, equipment, and supplies to and from the solar farm. To maintain uninterrupted power generation for BIG, maintenance activities would occur incrementally. The solar farm would also require vegetative maintenance (e.g., mowing and weeding, and other grass control measures). No grading would occur during solar farm maintenance.

Natural Gas

Kinder-Morgan operates two 42-inch natural gas transmission lines that traverse BIG footprint, generally adjacent to Lenwood Channel. These lines would be protected in place using proposed casing pipes for work within Lenwood Channel associated with widening or deepened within BIG footprint. BIG construction activities would not require construction of new natural gas facilities. BIG does not propose any new natural gas infrastructure for BIG operations. BIG's proposed buildings (e.g., within the rail yard and transload warehouse center) would use electric power for heating and cooling.

Telecommunications

Telecommunication lines cross BIG footprint along Lenwood Road and along the southern edge of the existing tracks. Underground utilities may also be present. All underground communication facilities are assumed to have shallow depths except those crossing under existing features such as underpasses and creeks. Lines within BIG footprint may be relocated adjacent to/within existing and proposed rights of way or abandoned. In addition, BNSF Telecommunications would install approximately 12 communication towers with heights generally between 100 and 120 feet, though two communication towers would be 160 feet tall. Additionally, various existing telecommunications lines owned by Frontier Communications and Lumen would be removed from within BIG footprint, and, in their place, new communications line would be run beginning at the Jasper Road at Lenwood Road intersection, running to the western extent of BIG Specific Plan area, and then running eastward back to Lenwood Road in a "loop." BIG's proposed communications improvements are shown in **Figure 3-23: BIG Proposed Communications Improvements**.



Sources:
Transystems, 2025.

Figure 3-23
BIG Proposed Communications Improvements

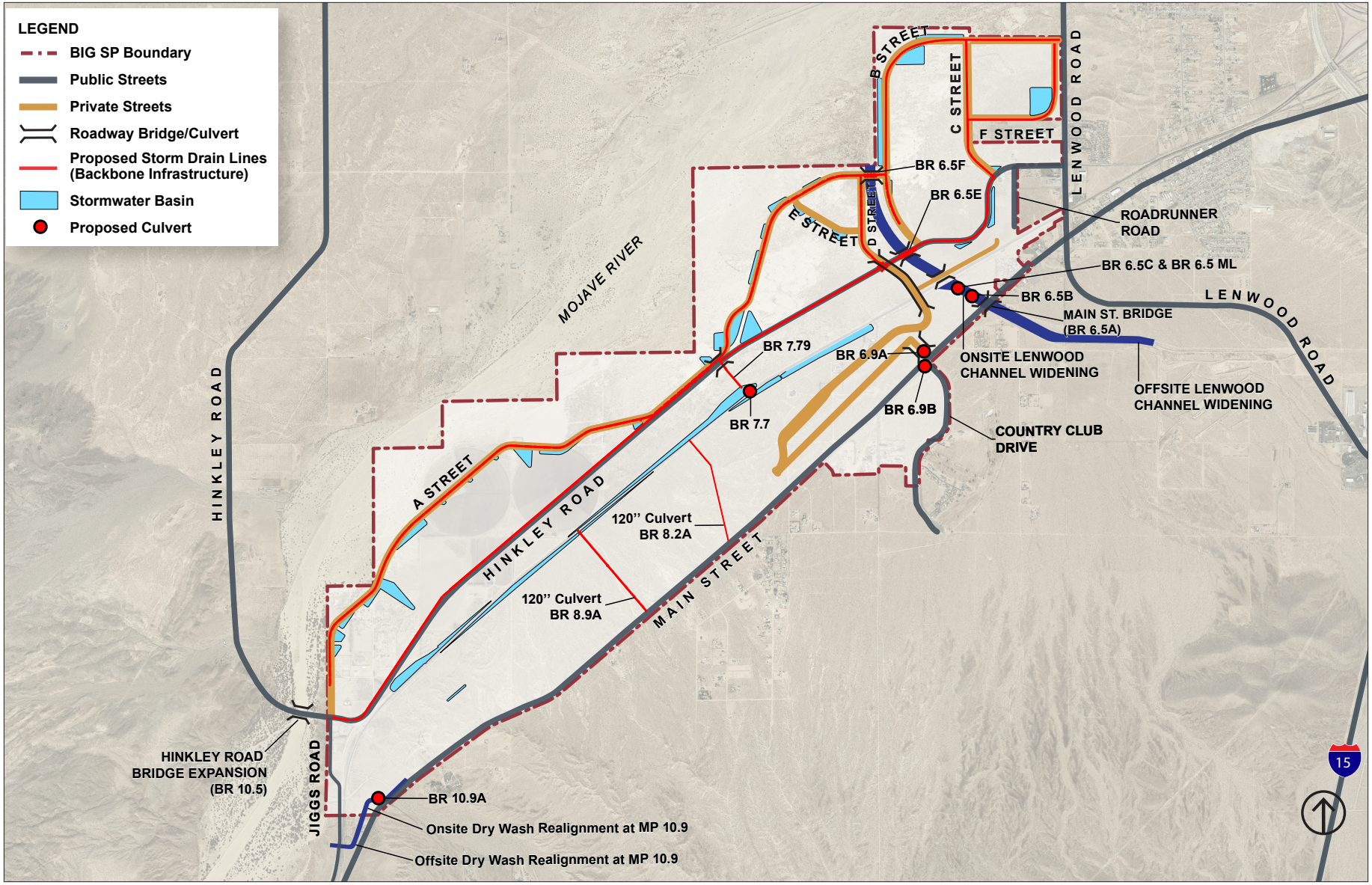
Stormwater

BIG would construct various basins throughout the BIG Specific Plan area and drainage outlets to the Mojave River that would be designed for 100-year flood events. Preliminarily, BIG proposes basins of various sizes throughout the BIG Specific Plan area totaling approximately 165 acre-feet of storage volume, which would accommodate the 100-year flood conditions. Exact sizing and locations of transload warehouse center basins would be dependent on final transload warehouse location, layout, and sizing. These hydrology/stormwater drainage improvements are discussed further in **Appendix 5.10 BIG-1: Hydrology and Hydraulic Design Technical Report**. In addition to various ephemeral washes throughout the BIG footprint, three other primary hydrologic features traverse BIG's footprint, as discussed below and depicted on **Figure 3-24: BIG Proposed Stormwater Improvements**.

At MP 6.5, the BIG Specific Plan area along Lenwood Channel is currently within the FEMA 100-year flood zone due to existing flooding concerns; see **Section 5.10: Hydrology and Water Quality**. Lenwood Channel is a north-south drainage maintained by San Bernardino County Flood District to convey water from the southeast to the Mojave River at approximately MP 6.5. Lenwood Channel would be widened by approximately 60 to 100 feet throughout the Specific Plan area for a length of 1.1 miles, continuing off the site south of Main Street for an additional 1 mile. The widened channel would improve flooding compared to existing conditions. Preliminary BIG design requires the Lenwood Channel to be spanned at three locations for additional track east leads, mains, and sidings, as well as four roadway crossings: Main Street via a new four-lane bridge, Hinkley Road, the private road between the proposed intermodal facility and the proposed transload warehouse center, and an access road from a warehouse staging area to the ancillary rail area.

At MP 10.9, a dry wash from Main Street to the Mojave River includes a sharp western bend. This feature would be realigned to accommodate track mains, sidings, and support tracks, and improved with a combination of bridges and box culverts spanning the channel (Bridge 10.9a and Bridge 11.2, respectively). With the additional rail tracks proposed at BIG, it would be infeasible for the wash to remain in its current location because the outlet would need to cross the mainline, lead tracks, block swap, and intermodal facility tracks. Therefore, the realigned wash would outlet to the Mojave south of its current location.

At MP 10.5, the existing Hinkley Road Bridge, which the County owns and maintains, is at a narrowed section of the Mojave River and crosses via a concrete pier structure. Based on discussions with the County, the existing Hinkley Road Bridge over the Mojave River is experiencing structural issues and is at risk of being over-topped from seasonal flooding. Hydrology and hydraulic analyses have indicated the existing bridge is undersized.



Sources:
Transystems, 2025.

Figure 3-24
BIG Proposed Stormwater Improvements

To maintain a roadway connection to Hinkley Road from the transload warehouse center, BIG proposes to replace the existing bridge with a longer structure to better match the channel width of the Mojave River at that location. The channel beneath, and immediately adjacent to, the existing bridge would be excavated and widened to match the natural channel width more closely. Portions of Hinkley Road immediately east and west of the bridge would be raised to reduce exposure to Mojave River flood events. These proposed improvements at Hinkley Road Bridge would reduce flooding compared to existing conditions. As part of the improvements, the existing at-grade railroad mainline crossing would be abandoned, and vehicles would instead utilize the proposed Hinkley Road extension through the transload warehouse center. The County would maintain the Hinkley Road Bridge once completed.

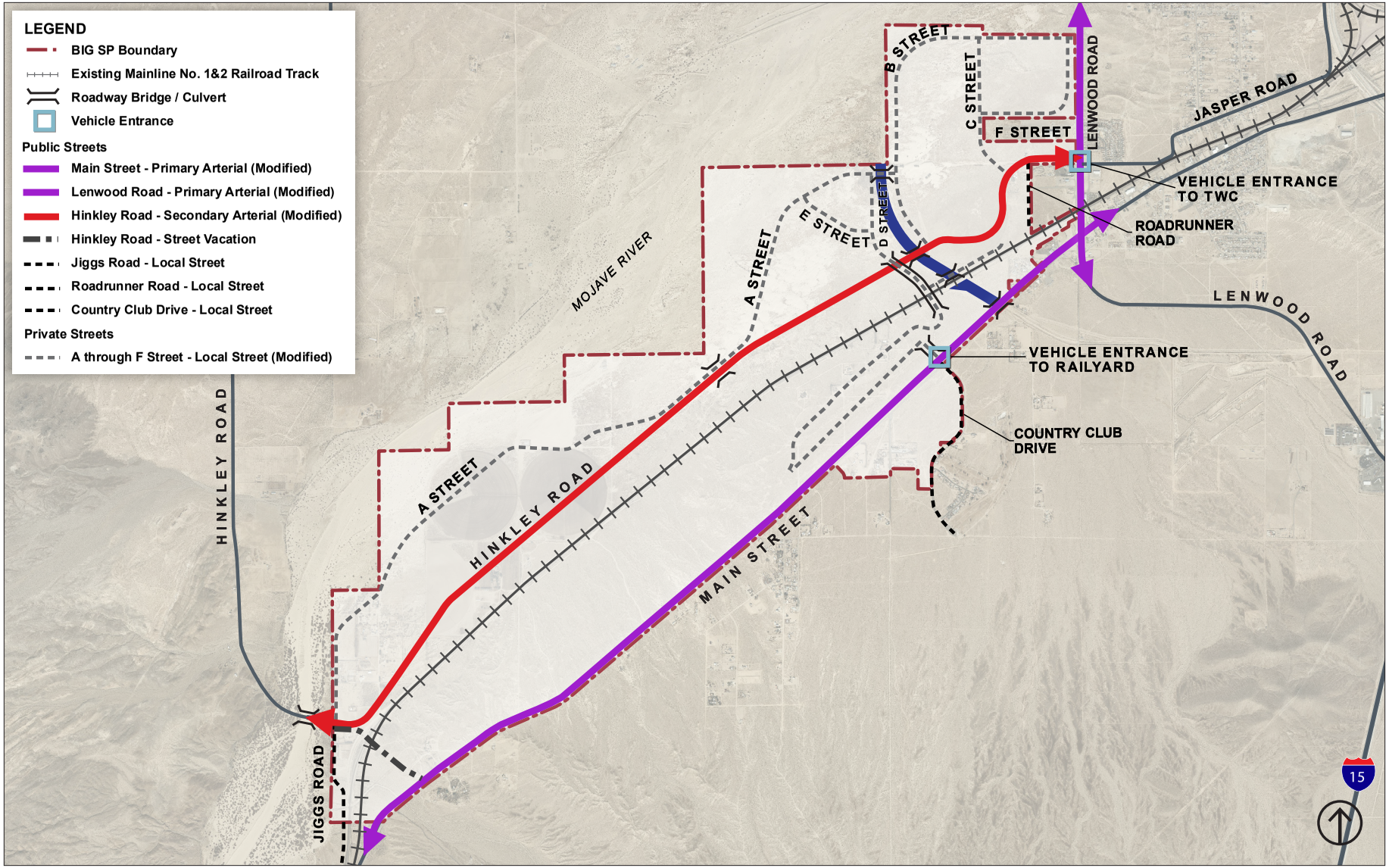
Solid Waste

BIG would result in solid waste generation from construction (demolition debris, broken or excess materials, packaging, and other construction waste), as well as during operations from the rail yard and transload warehouse center. BIG's solid waste would be collected in on-site trash bins and be disposed of at the Barstow Sanitary Landfill, with 65 percent being recycled (for instance, demolished concrete foundations can be crushed and re-used on the site as aggregate).

3.7.8 On-Site Circulation Improvements

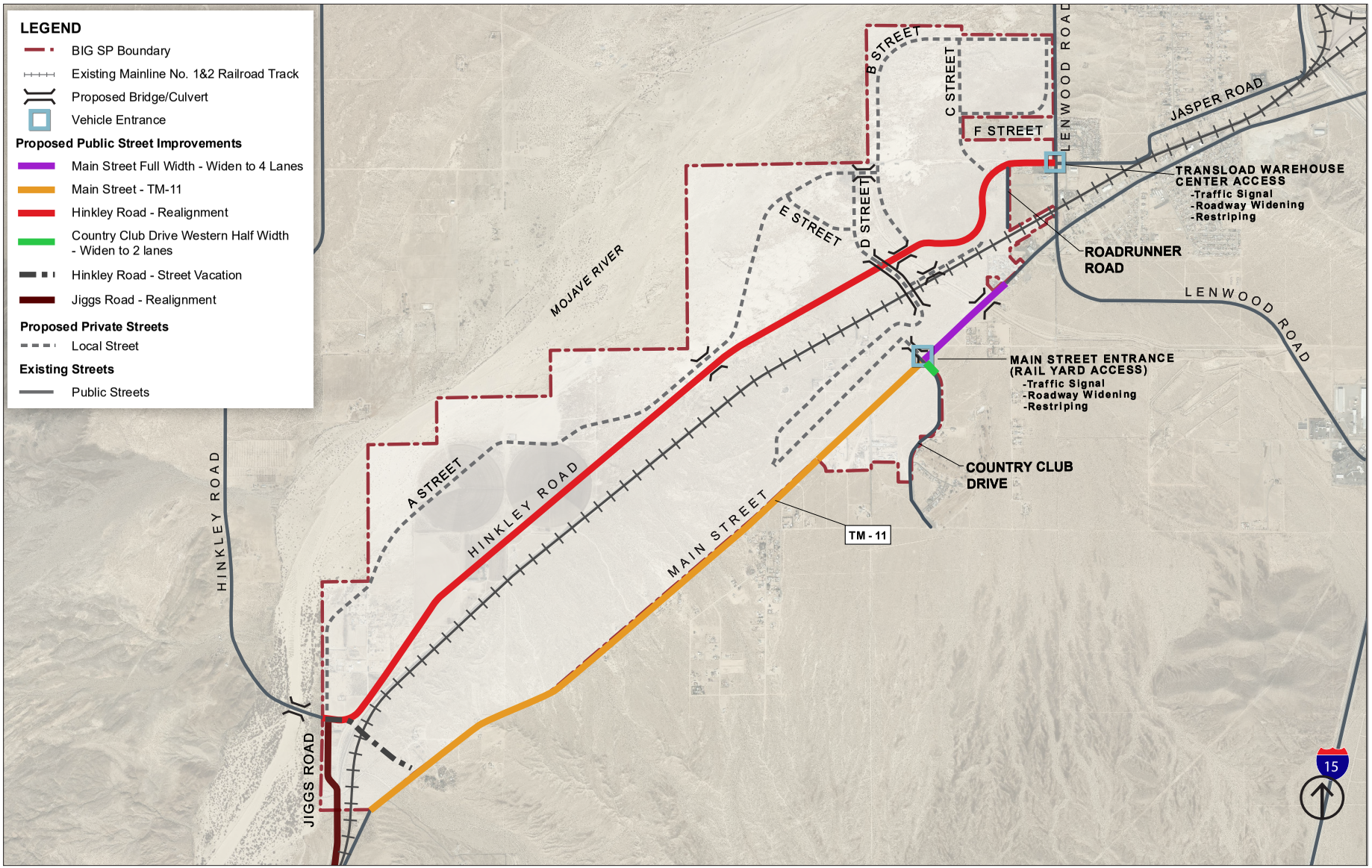
BIG would include various on-site circulation improvements as discussed below and shown in **Figure 3-25: BIG Specific Plan Roadway Classifications** and **Figure 3-26: BIG On-Site Circulation Improvements**.

- **Hinkley Road Realignment:** BIG would vacate Hinkley Road between the south side of the Mojave River bridge crossing and Main Street, closing the existing at-grade rail crossing. Hinkley Road would be realigned beginning at the north side of the rebuilt Mojave River bridge crossing to connect, via a new public road, through the transload warehouse center to the Jasper Road at Lenwood Road intersection. This road vacation and realignment is needed for BIG's improvements. With the additional rail tracks proposed at BIG, it would be infeasible for Hinkley Road to cross the mainline, lead tracks, block swap, and intermodal facility tracks. The existing Hinkley Road Bridge over the Mojave River would be reconstructed to conform to current federal and State standards and to solve the existing flooding and overtopping problems, as previously addressed. Heavy-duty trucks destined for the transload warehouse center, along with most transload warehouse center employees, would enter from the Lenwood Road/Hinkley Road/ Jasper Road intersection to the east. A small percentage of transload warehouse employees would access the transload warehouse center via Hinkley Road from the west. The intersection at Lenwood Road at Hinkley Road would be signalized and dedicated turn lanes added.
- **Internal Private Roadways**: In addition to the realigned public Hinkley Road (discussed above), BIG would include four dedicated internal private roadways for electric hostlers (private streets A, B, D, and E), and two internal private roadways for employee, visitor, and truck access (private streets C and F).



Sources:
Transystems, 2025.

Figure 3-25
BIG Specific Plan Roadway Classifications



Note: TM-11, Main Street between western BIG site limit and Country Club Drive: As part of BIG's frontage improvements, repaint the north edge-line and centerline with 6'' retroreflective lane markings and install rumble strips and pavement reflectors on the north edge-line and centerline. On Main Street between Castle Court and Country Club Drive, also repaint south edge-line with 6'' retroreflective lane markings and install rumble strips and pavement reflectors.

Sources:
Transystems, 2025.

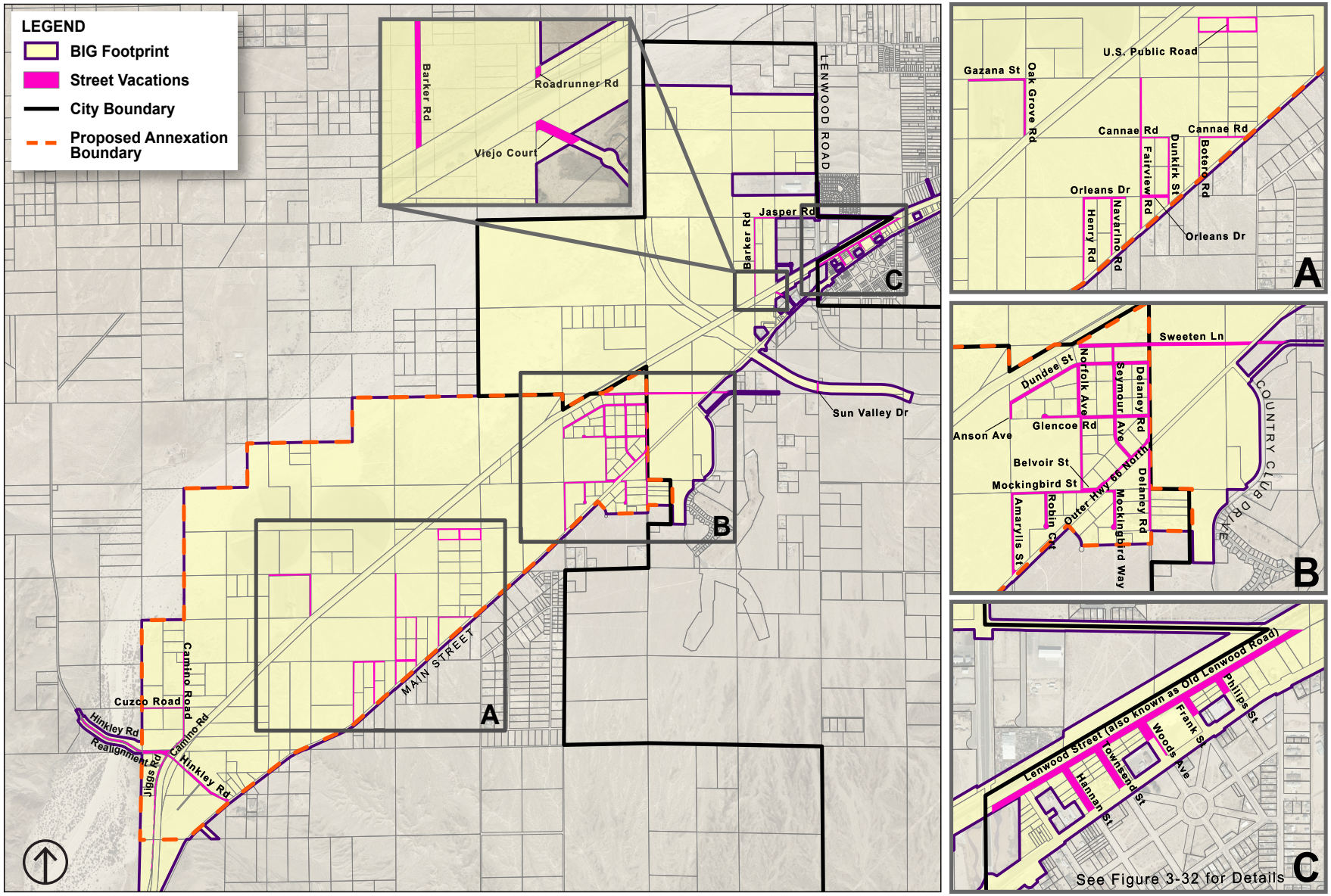
Figure 3-26
BIG On-Site Circulation Improvements

- **Country Club Drive**: Country Club Drive would be widened along the solar farm frontage for approximately 400 feet to the proposed realignment of Sweeten Lane. A new stop-controlled intersection is proposed at the Country Club Drive at Sweeten Lane intersection. Sweeten Lane improvements are discussed later in **Section 3.7.10**.
- **Main Street:** Rail yard employees and heavy-duty trucks destined for the intermodal facility would enter BIG's rail yard from a new driveway on Main Street across from Country Club Road. The intersection at Main Street and BIG's new driveway would be signalized and a westbound right turn pocket and eastbound left turn lane would be added to Main Street. Rail yard employees would enter an employee parking lot near the proposed rail yard administration buildings. Heavy-duty trucks dropping off or picking up containers at the intermodal facility would enter through a gate system and into the intermodal facility. Main Street would be widened from two lanes to four lanes for approximately 0.5 mile east of Country Club, resulting in a consistent four-lane roadway width through Barstow. Additionally, the existing two-lane Main Street over Lenwood Channel low water crossing would be replaced with a new four-lane bridge that accommodates the 100-year flood condition, substantially reducing the existing flood conditions. Main Street would be raised over Lenwood channel, modifying the vertical alignment of Main Street for approximately 0.8 mile. The intent of this design is to keep flood waters contained in Lenwood Channel and convey the flow to the Mojave River under the bridge at MP 6.5, avoiding the overflow of the bank that can occur under existing conditions.

3.7.9 Street Vacations and Dedications

To accommodate BIG, various public rights-of-way would need to be fully[19] or partially[20] vacated, as described below. The proposed street vacations are shown in Figure 3-27: BIG Proposed Street Vacations and listed in **Table 3-14: BIG Street Vacations and Dedications**. The vast majority of these rights-of-way are unpaved dirt roads, or in some cases "paper roads," where the land is dedicated but is not graded or paved for use.

[19] A "full" vacation means that the entirety of the right-of-way is vacated.
[20] A "partial" vacation means that a portion of the length and/or width of right-of-way is vacated.



Note: For Jiggs Road/Holcomb Ranch Road/Lords Road vacation and realignment/dedication (offsite in the County of San Bernardino), see figures 3-34 and 3-35.
Along the Project Frontage on Main Street and Lenwood Road, dedication of right-of-way and vacation of excess right-of-way will occur as shown on the Tentative Map.

Sources:
Kimley-Horn, 2025.

Figure 3-27
BIG Proposed Street Vacations

Table 3-14: BIG Street Vacations and Dedications				
Street	**Vacation/Dedication**	**Within Specific Plan?**	**County**	**City**
Amarylis Street	Partial vacation	Yes	X*	
Anson Avenue	Full vacation	Yes	X*	
Barker Road	Full vacation	Yes		X
Belvoir Street	Full vacation	Yes	X*	
Botero Road	Full vacation	Yes	X*	
Camino Road (also known as Youngs Drive)	Full vacation	Yes	X*	
Cannae Road	Full vacation	Yes	X*	
Country Club Drive	Dedication	Yes		X
Cuzco Road	Full vacation	Yes	X*	
Delaney Road (also known as Waverly Avenue)	Partial vacation	Yes	X*	X
Dundee Street	Full vacation	Yes	X*	
Dunkirk Street	Full vacation	Yes	X*	
Fairview Road	Full vacation	Yes	X*	
Frank Street	Partial vacation	No	X	
Gazana Street	Partial vacation	Yes	X*	
Glencoe Street	Full vacation	Yes	X*	
Hannan Street	Partial vacation	No	X	
Henry Road	Full vacation	Yes	X	
Hinkley Road over the Mojave River	Partial vacation and dedication/realignment	No	X	
Hinkley Road	Partial vacation and dedication/realignment	Yes	X*	X
Holland Street	Dedication (cul-de-sac, see **Figure 3-32**)	No	X	
Jiggs Road	Partial vacation and dedication/realignment	Yes	X*	
Jiggs Road/Holcomb Ranch Road/Lords Road	Partial vacation and dedication/realignment; see description further below	No	X	
Lenwood Road	Dedication of ROW and vacation of excess ROW	Yes		X
Main Street	Dedication of ROW and vacation of excess ROW	Yes	X*	X
Mockingbird Street	Full vacation	Yes	X*	
Mockingbird Way	Full vacation	Yes	X*	
Navarino Avenue	Full vacation	Yes	X*	
Norfolk Road	Full vacation	Yes	X	
Oak Grove Road	Full vacation	Yes	X*	
Old Lenwood Road (also known as Lenwood Street, an access	Full vacation	No	X	

Table 3-14: BIG Street Vacations and Dedications				
Street	**Vacation/Dedication**	**Within Specific Plan?**	**County**	**City**
road adjacent to BNSF right-of-way, east of Lenwood Road)				
Outer Highway 66 North	Full vacation	Yes	X	
Orleans Drive	Full vacation	Yes	X*	
Phillips Street	Partial vacation	No	X	
Roadrunner Road	Dedication	Yes		X
Robin Court	Full vacation	Yes	X*	
Seymour Avenue	Partial vacation	Yes	X*	
Sun Valley Drive	Partial vacation	No		X
Sweeten Lane	Partial vacation and dedication/realignment	Portion within, portion outside	X*	X
Townsend Street	Partial vacation	No	X	
Unnamed cul-de-sac north of Main Street	Full vacation	No		X
U.S. Public Road**	Full vacation	Yes	X*	
Viejo Court	Partial vacation	Yes		X
Woods Avenue	Partial vacation	No	X	

* Upon annexation, the right-of-way would be within City limits and vacated by the City.
** U.S. Public Road is an easement for access between two parcels formerly managed by the BLM. These parcels are no longer managed by the BLM.
Note: Some of the roadways noted may not be formally dedicated as public roadways in fee or as easements. In those instances, a formal street vacation process will not be required if public right of way records cannot be located.

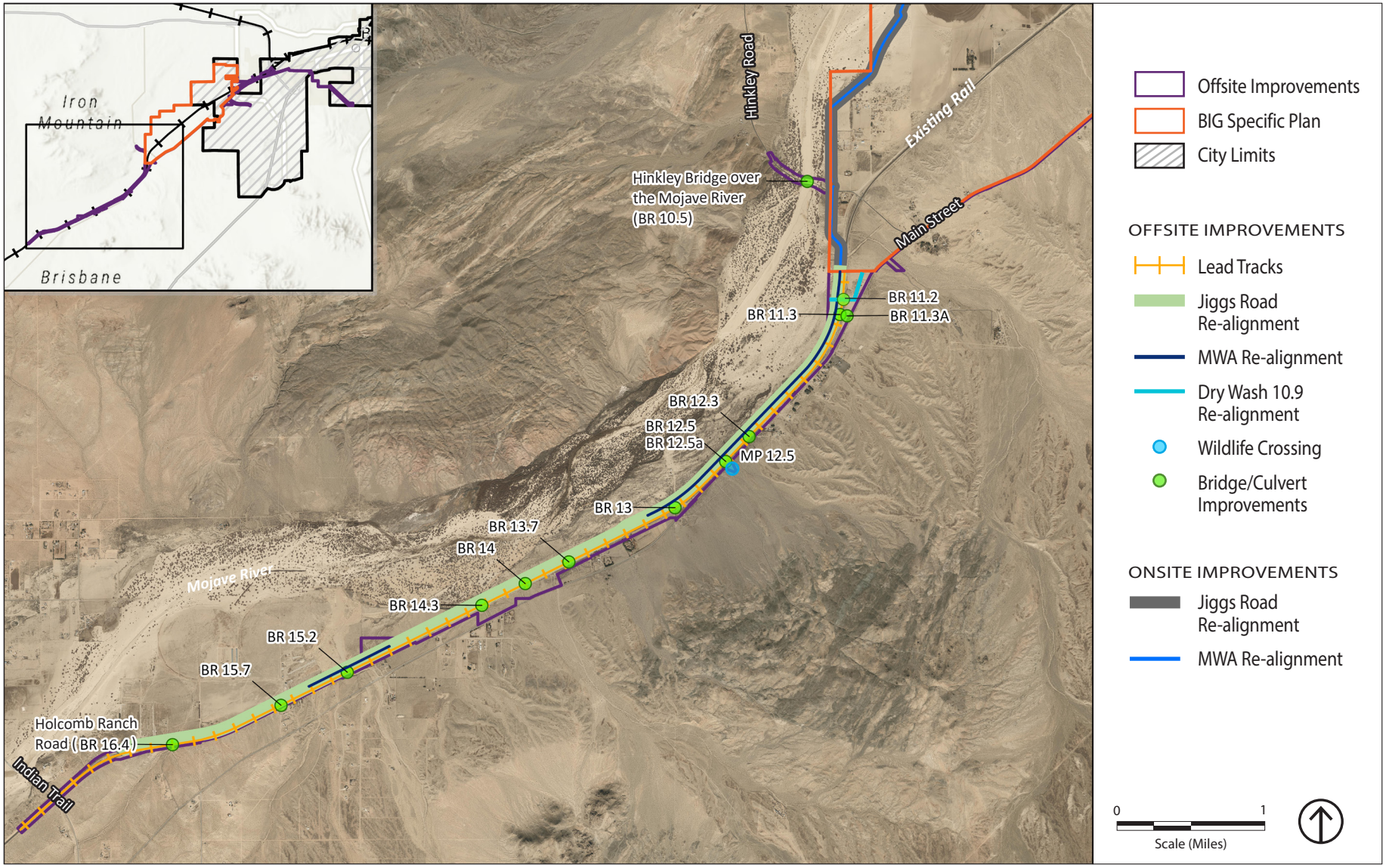
3.7.10 Off-Site Improvements

In addition to the on-site improvements previously described, BIG proposes off-site rail and non-rail improvements.

Off-Site Rail Improvements

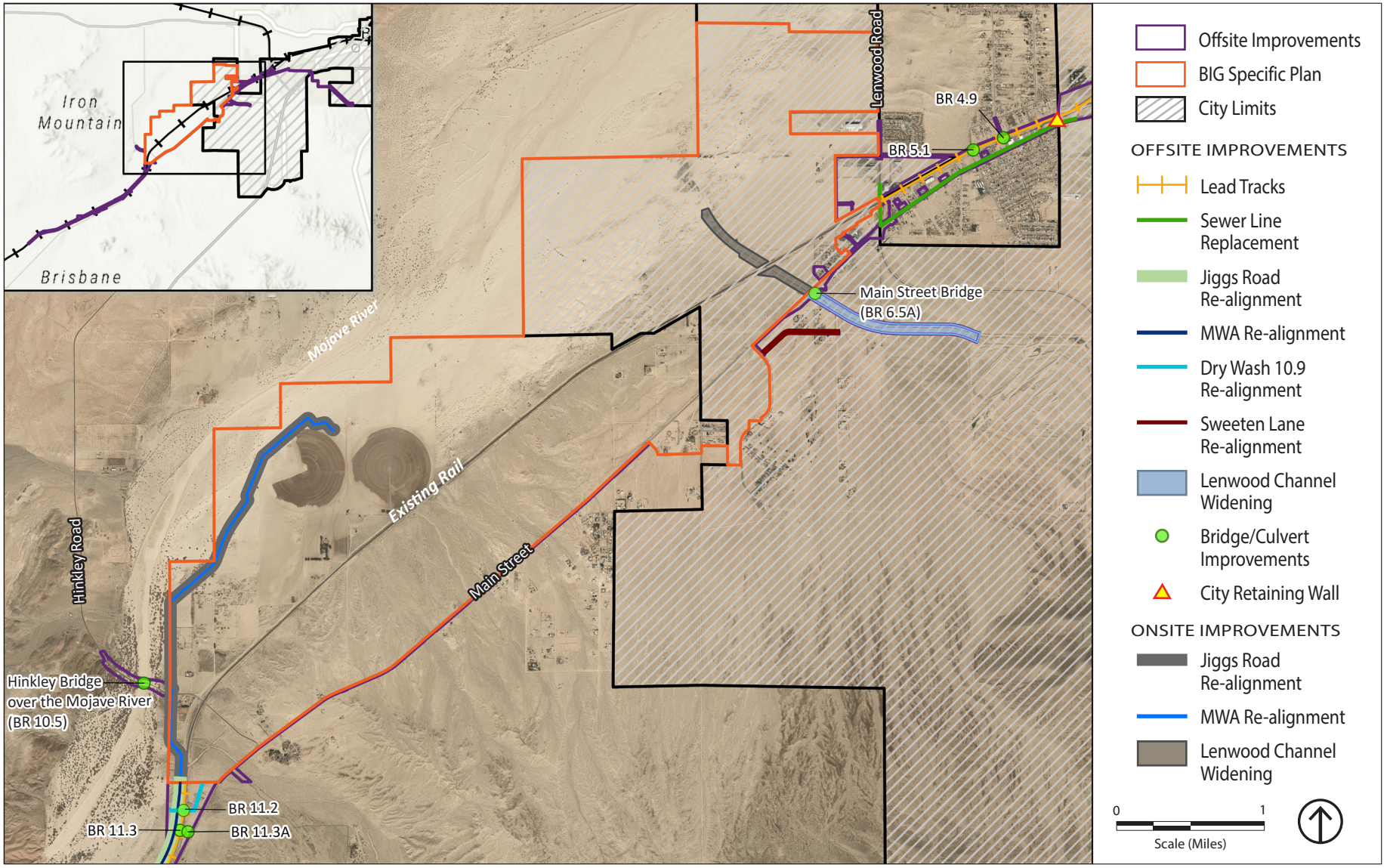
BIG's proposed off-site rail improvements are depicted in **Figure 3-28: BIG Off-Site Improvements, West**, **Figure 3-29: BIG Off-Site Improvements, Central**, and **Figure 3-30: BIG Off-Site Improvements, East**. BIG proposes approximately two miles of lead track extensions to the east and approximately seven miles of lead track extensions to the west ("east lead track" and "west lead track") in order for trains to enter and exit the railyard. These off-site rail improvements would be primarily within existing BNSF right-of-way. These improvements would enable trains to safely enter and exit the mainline at mainline speeds, rather than slower "yard" speeds and risk fouling the track.[21] BIG east and west lead tracks would require modifications to various existing culverts within BNSF right-of-way; see also **Stormwater Drainage** discussion below.

[21] "Fouling the track" means the placement of an individual or an item of equipment in such proximity to a track that the individual or equipment could be struck by a moving train or on-track equipment, or in any case is within four feet of the field side of the near running rail (49 CFR Part 214). When a rail network becomes congested, trains can foul the track by moving slower than a train behind them.



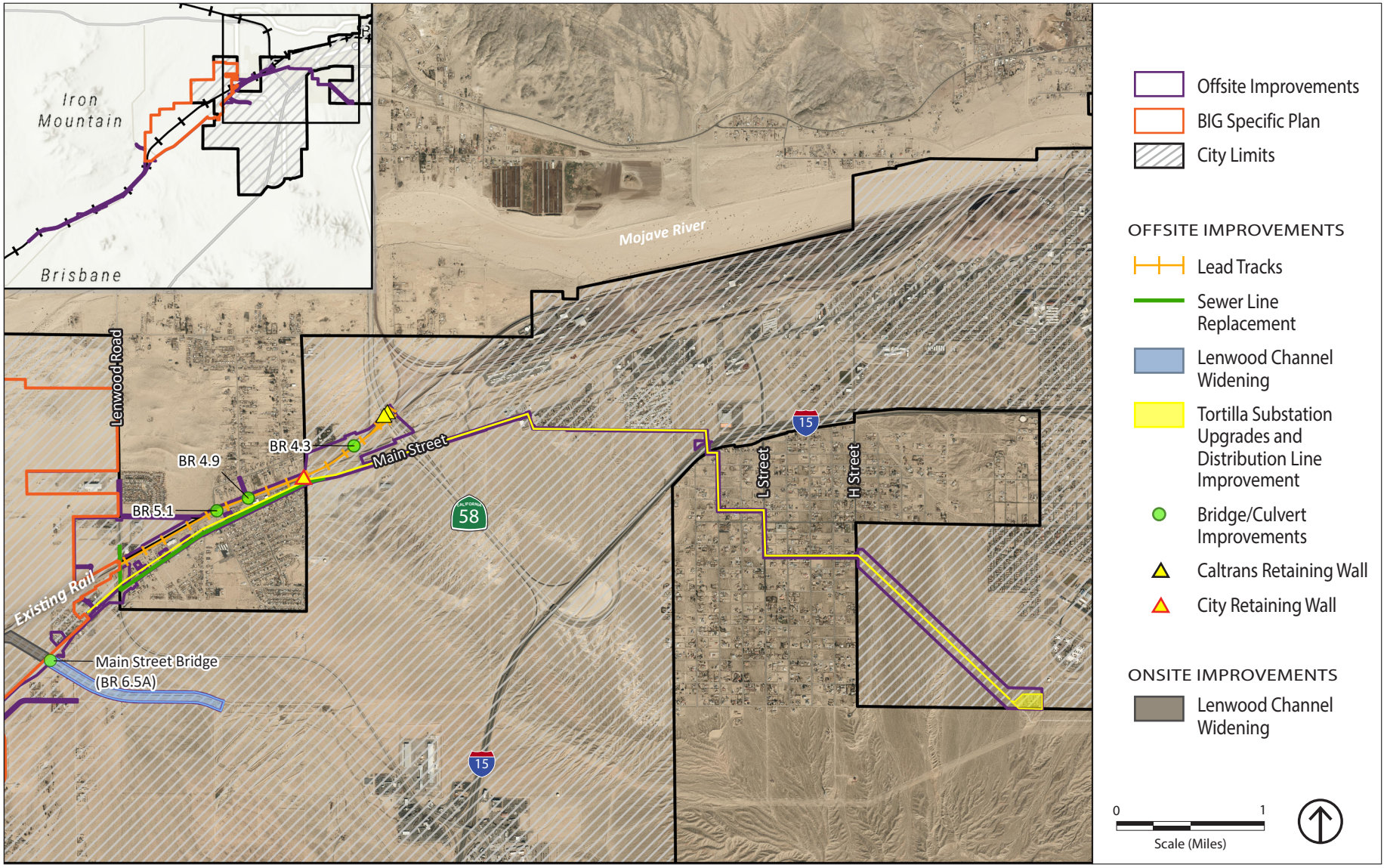
Sources:
TransSystems, 2025.

Figure 3-28
BIG Off-site Improvements, West



Sources:
TransSystems, 2025.

Figure 3-29
BIG Off-site Improvements, Central



Sources:
TransSystems, 2025.

Figure 3-30
BIG Off-site Improvements, East

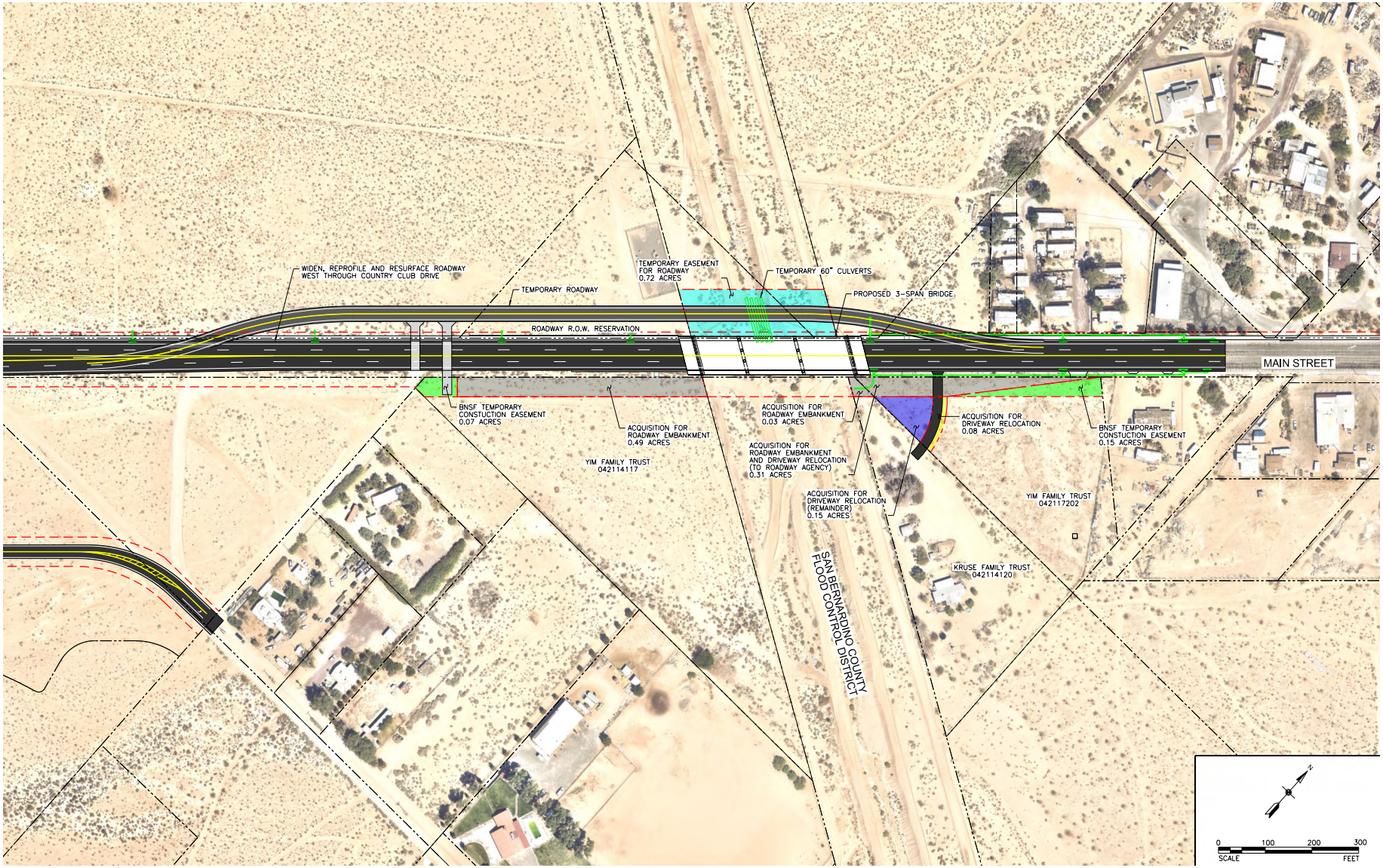
Off-Site Non-Rail Improvements

BIG's proposed off-site non-rail improvements (i.e., those that are outside of BIG Specific Plan area) are depicted in **Figure 3-28** through **Figure 3-35**. BIG proposes off-site ancillary and related stormwater drainage, utility (i.e., water, sewer, electric power, natural gas, and telecommunications), and circulation/roadway/improvements and modifications.

- **Water.** North of transload warehouse center, an existing Mojave Water Agency 48-inch recharge line would be relocated. The relocated line would run along the north side of the transload warehouse center until the west end of BIG Specific Plan area before extending along the north side of the mainline and lead tracks for approximately 8.3 miles. Portions of the Mojave Water Agency recharge line would be relocated along this segment (see **Figure 3-28**). An easement would be granted to Mojave Water Agency along the route including a gravel drive for access.
- **Wastewater.** An existing approximately 27-inch sanitary sewer line is within existing BNSF right-of-way (for approximately 1.6 miles between Lenwood Road and Pettit Road). This line includes multiple north/south lateral connections to serve the land uses between Main Street and the existing BNSF tracks. BIG would relocate this line at Phillips Street south to within Main Street or within the rail right-of-way. Additionally, the transload warehouse center would connect to City sewer via a new 27-inch sewer line within Jasper Road extending to north of Paris Avenue.
- **Electric Power.** Electrical demand would be handled by connecting to the SCE Tortilla Substation, located approximately 0.4 mile south of the Veterans Parkway at Diamond Avenue intersection. A 33 kV distribution line with three underground duct banks and electrical conductors is proposed to connect BIG to the Tortilla Substation. The 33 kV distribution line would utilize existing franchise agreements with the City and County on a route following Main Street, Sunrise Road, N Street, and Bonanza Road before utilizing existing easements between Bonanza Road and the Tortilla substation. This proposed 33 kV distribution route would extend a total of approximately 10.6 miles: approximately 7.1 miles underground from the Tortilla Substation to the intermodal facility's eastern extent at Country Club drive, then continue overhead approximately 3.5 miles from Country Club Drive to approximately Hinkley Road. For the underground segment, the 33 kV circuits would be in underground utility lines resulting in an approximately 30-foot-wide disturbance to account for construction access and temporary spoils. From the Tortilla Substation to H Street (approximately 1.2 miles), the 33 kV conduit could occur within a 450-foot-wide corridor, inclusive of the existing 150-foot wide SCE easement along Bonanza Road. However, the exact alignment is presently unknown and is being coordinated with SCE. Therefore, this EIR analyzes an approximately 30-foot wide disturbance within the 450-feet wide corridor ("33 kV distribution corridor"). This EIR analyzes the "worst-case" environmental impacts in all applicable resource areas within the 33 kV distribution corridor. For example, air quality mass emissions would be the same no matter where the 33 kV lines are placed, as it would require the same construction schedule, earthwork, and equipment. However, biological and noise impacts would depend on the location. For resource topics such as these, the analysis considers the portion of the 33 kV distribution corridor where the greatest impact would occur. SCE would make modifications, which include constructing new feeders and new power distribution lines. Within the Tortilla Substation's existing fence line, SCE would also make modifications to supply their

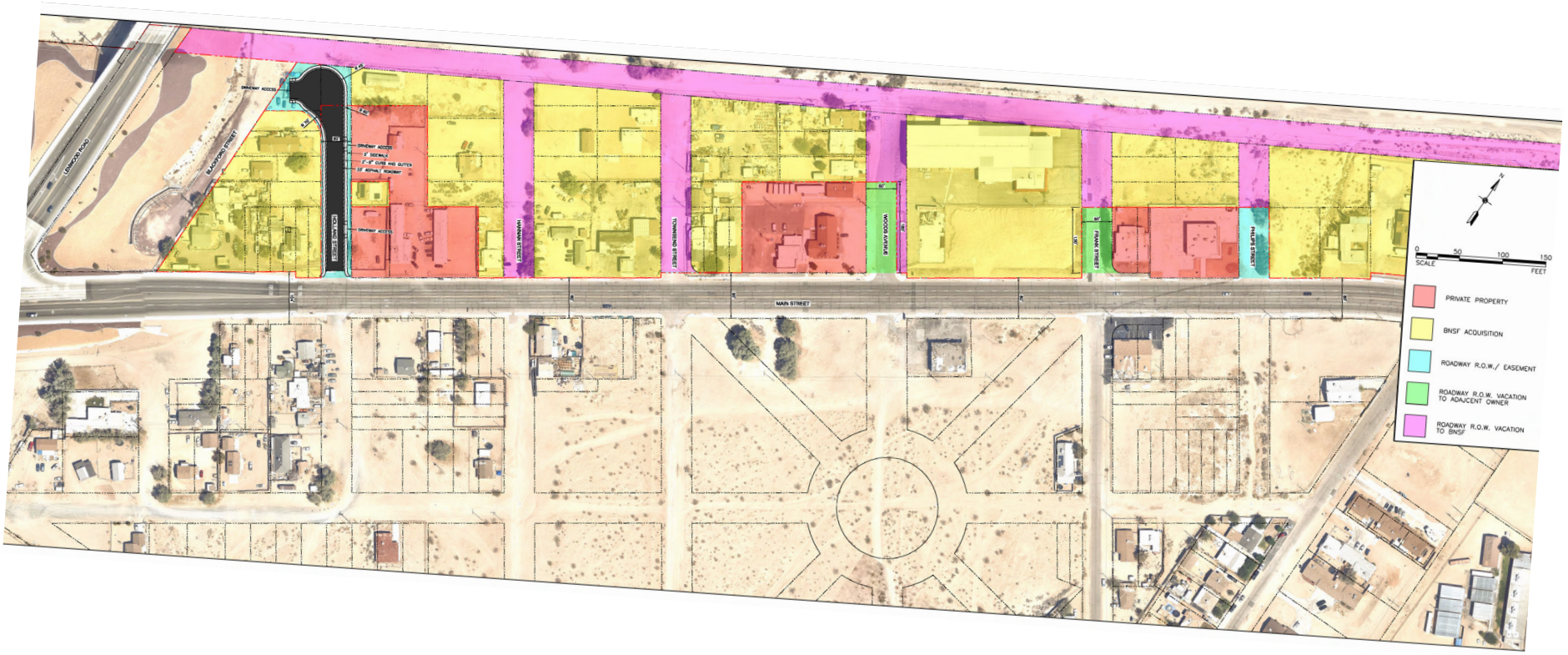
new feeders from their existing 115 kV-33 kV transformers. Various off-site existing electric power lines could be relocated, modified, or extended to accommodate BIG improvements.

- **Natural Gas.** Various off-site existing natural gas lines could be relocated to accommodate BIG improvements.
- **Telecommunications.** No off-site telecommunications improvements are proposed. Various minor existing telecommunications lines would be relocated toward the eastern end of the lead track improvements. Existing telecommunications lines passing through the intermodal facility and block swap yard would be relocated to the north side of the Main Street right-of-way.
- **Stormwater Drainage.** As described above, Lenwood Channel widening would continue off the BIG site, south of Main Street. It would be widened by approximately 60 to 100 feet for approximately 2.1 miles (of which 1 mile would be off-site) to improve flooding compared to existing conditions. At the Main Street crossing at Lenwood Channel, BIG would replace 0.8 mile of the existing Main Street low water crossing of Lenwood Channel with a bridge and raise and widen the road through this stretch west to the new intermodal facility entrance, as depicted in **Figure 3-31: Main Street at Lenwood Channel Bridge Reconstruction**. These improvements accommodate the City/County stormwater master plan and improve flooding compared to existing conditions. In addition, various existing culverts within existing BNSF right-of-way would be modified to accommodate the proposed lead tracks and mainlines.
- **Other.** To accommodate wildlife crossings from south of Main Street to the Mojave River without potential conflict with vehicular or train traffic, BIG proposes a underground wildlife crossing under Main Street west of the existing Hinkley Road (see **Figure 3-28**).
- **Circulation/Roadway**. BIG proposes various transportation modifications outside the BIG Specific Plan area. Some of these improvements are associated with the east lead tracks and are on roadways north of Main Street, as shown on **Figure 3-32: East Leads Roadway Reconstruction Plan**; however, there are other modifications proposed as depicted on **Figure 3-33: BIG Off-Site Transportation Modifications**. Transportation Modifications (TM) are proposed to improve traffic operations or safety. TMs include modifications such as installing traffic signals, modifying signal timing, striping, and rumble strips, as well as paying fair share costs for future roadway widening by others. TMs identified as fair share would be constructed by others. TMs identified as BIG's responsibility may be implemented as part of BIG's construction or in future years (i.e. Interim Year 2033 or Horizon Year 2048); refer to **Appendix 5.15 BIG-2: Level of Service Assessment – Transportation Analysis** for additional information. All circulation improvements would be permanent, except for a temporary Main Street bypass.



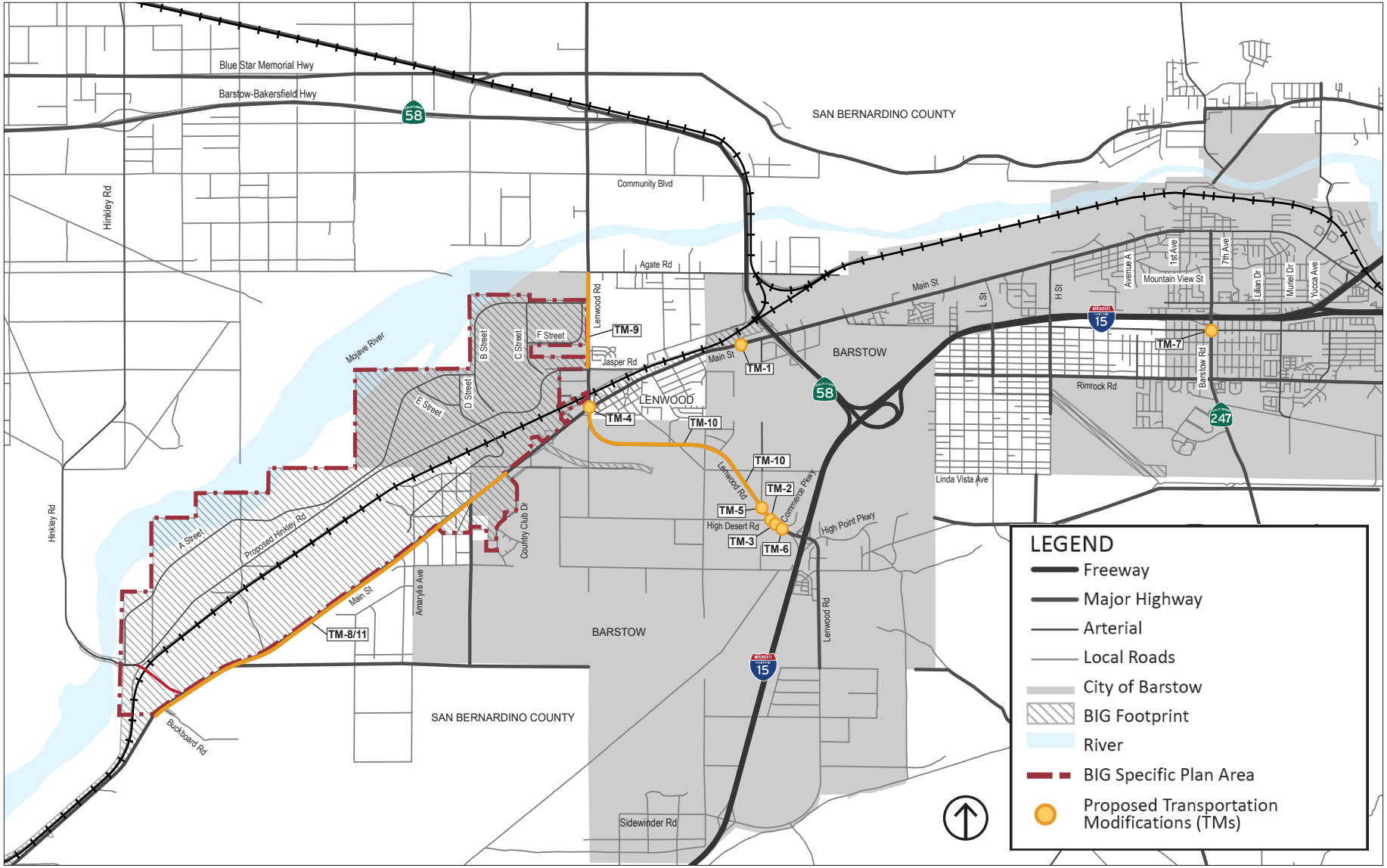
Sources:
Transystems, 2025

Figure 3-31
Main Street at Lenwood Channel Bridge Reconstruction



Sources:
Transystems, 2025.

Figure 3-32
Main Street Cul-De-Sac Plan - BIG

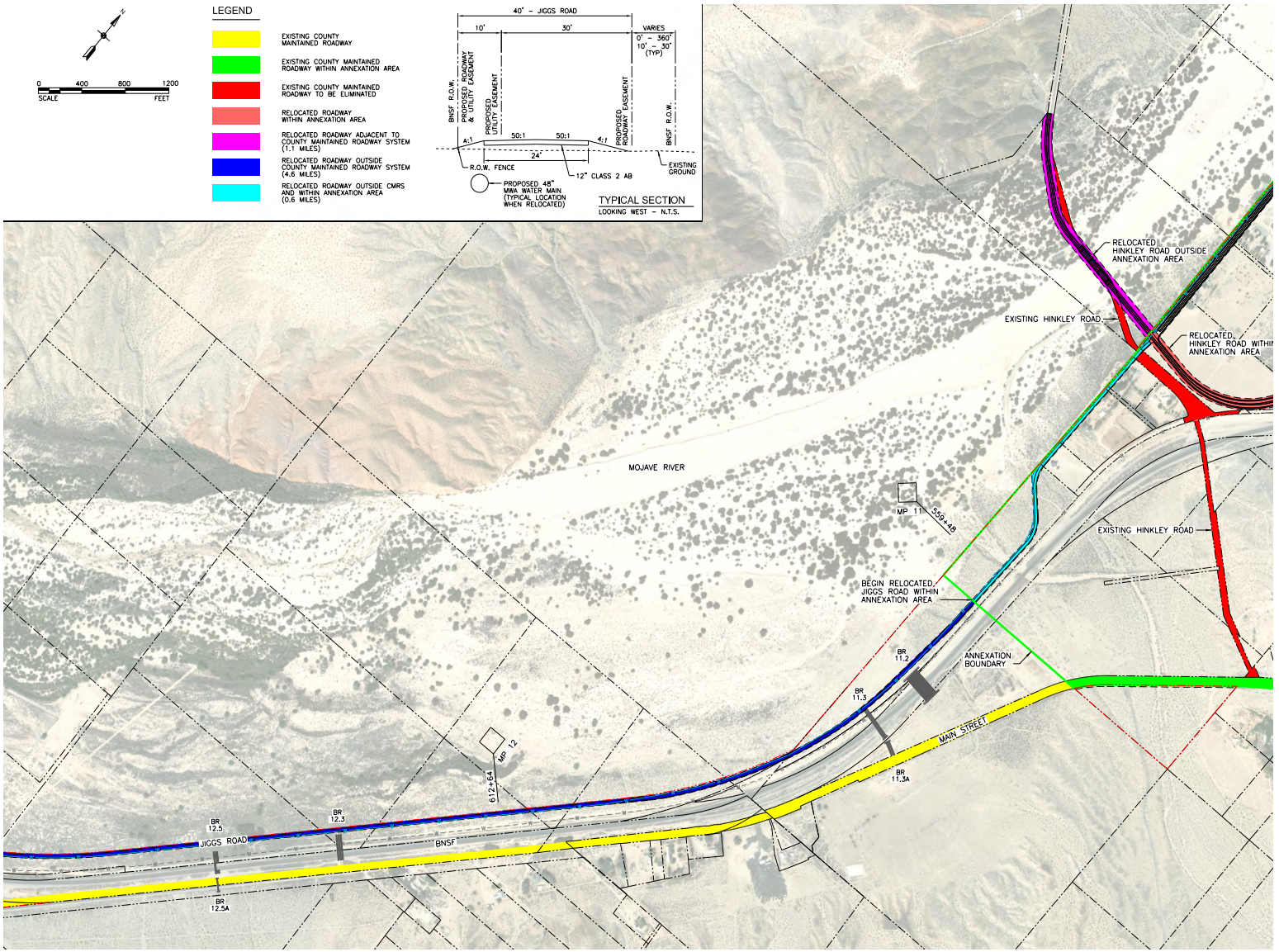


For description and timing of proposed TMs see Appendix 5.15 BIG-2: Level of Service Assessment - Transportation Analysis

Sources:
Kimley-Horn, 2025.

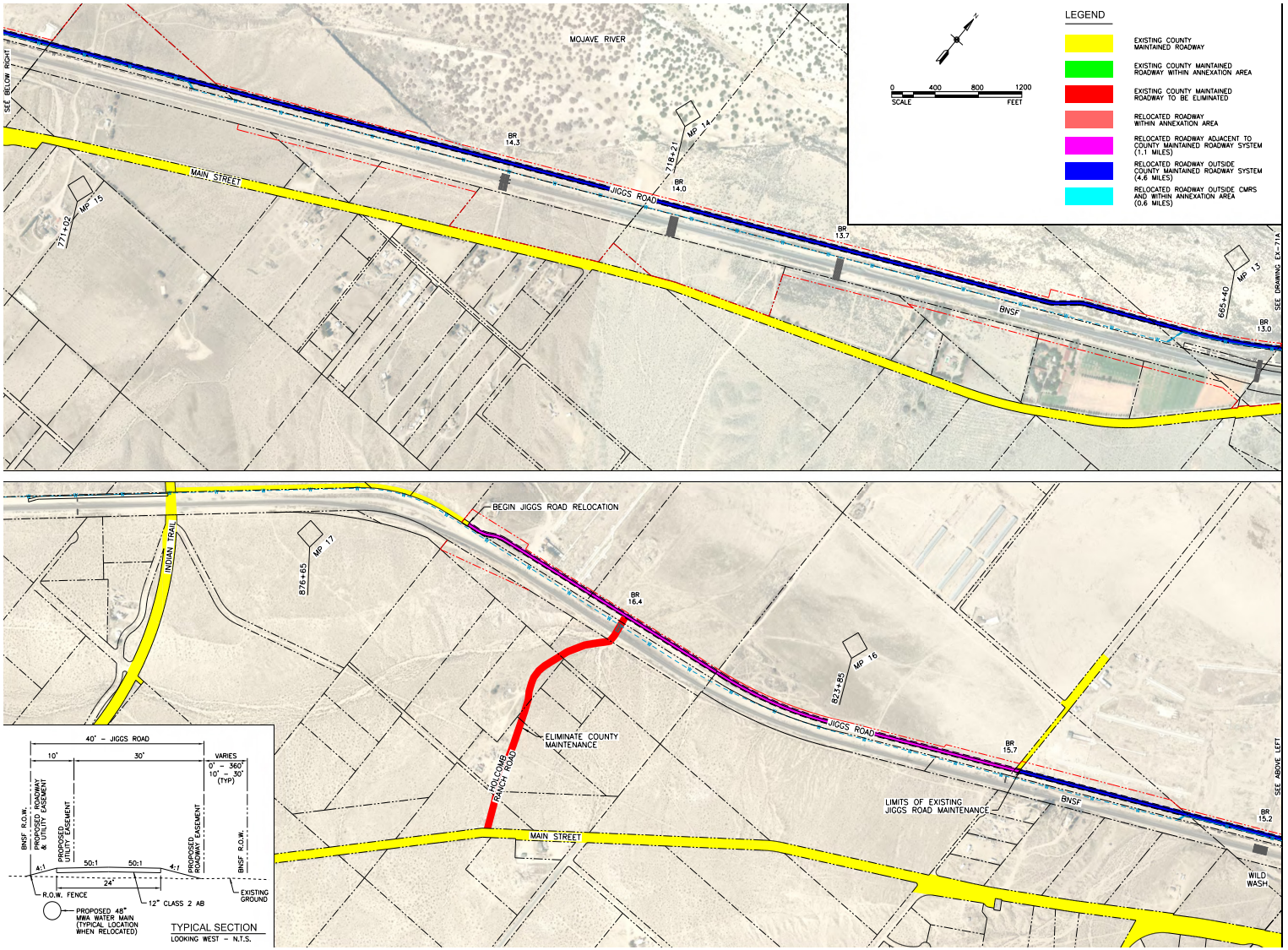
Figure 3-33
BIG Off-site Transportation Modifications

- Circulation/Roadway Improvements (continued)
  - Holcomb Ranch Road/Lords Road/Jiggs Road. Currently, a gravel and dirt road (referred to locally at various locations as Jiggs Road, Lords Road, Link Road, or Holcomb Ranch Road) exists between Hinkley Road and Indian Trail along the north side of the BNSF mainline right-of-way and on BNSF owned property, totaling approximately 6.7 miles in length. Portions of the road would be relocated to accommodate the west lead tracks. BIG would include dedication of a 40-foot right-of-way with 24 feet of gravel road along the majority of the 6.7 mile length. A portion of the right-of-way would include the existing Mojave Water Agency 48-inch transmission recharge pipeline. The eastern 0.6 mile would be within the City upon annexation. The middle 4.6 miles is not currently a County right-of-way or maintained and would be relocated for BIG's west leads. BNSF proposes to dedicate a public right-of-way to the County through this portion. The next 1.1 miles is currently maintained by the County and would be relocated for BIG's west leads. BNSF proposes to relocate the existing road adjacent to its current alignment, and dedicate a public right-of-way to the County to accommodate the new alignment, which would remain County-maintained. The western 0.4 mile would not be relocated and would remain as-is. See **Figure 3-34: Jiggs Road Modifications, East** and Figure 3-35: Jiggs Road Modifications – West. The realigned Jiggs Road would serve as emergency access from Indian Trails to Hinkley Road.
  - **Adjacent Maintenance Road**. In addition, a maintenance road would be constructed alongside the mainline to provide maintenance access to the tracks, generally from just east of Indian Trail to Hinkley Road.
  - **Main Street Temporary Bypass.** The temporary bypass would be constructed to maintain access along Main Street during Lenwood Channel Bridge reconstruction (see **Figure 3-31**). See **Section 3.8.7** for more information about the temporary bypass.
  - **Pettit Road.** Construction of additional lead tracks and expansion of the existing grade-separated crossing over Pettit Road (approximately 1,100 feet west of SR-58) would require the road to be lowered by approximately 2.0 feet.
  - **Sweeten Lane**: Sweeten Lane would be partially vacated and realigned to eliminate the existing unimproved intersection with Main Street. A new paved access would extend from Country Club Road east approximately 1,000 feet and connect to the unimproved Sweeten Lane.
  - **Holland Street**: Holland Street, north of Main Street, would be improved with a curb, gutter, sidewalk and a cul-de-sac at the northern end near the lead track extension. Driveways would be provided to the existing uses along this segment. See **Figure 3-32**.
  - **Caltrans Right-of-Way.** BNSF proposes to construct a sub-horizontal ground anchor wall at the SR-58 grade-separated crossing of BNSF's mainline (Mile Post 4.08, Bridge Number 54-1112R). This bridge is within Caltrans District 8, SR-58 right-of-way at Post Mile 29.0.



Sources:
Transystems, 2025

Figure 3-34
Jiggs Road Modifications - East



Sources:
Transystems, 2025

Figure 3-35
Jiggs Road Modifications - West

3.8 BIG PROJECT CONSTRUCTION ACTIVITIES AND PHASING

For analysis purposes in this EIR, construction is anticipated to occur over approximately 34 months beginning in the third quarter of 2025 and ending in the third quarter of 2028. The construction phase timing assumed for analysis of all on-site (i.e., BIG Specific Plan) components, and all off-site rail and non-rail components, is shown in **Table 3-15: BIG Construction Schedule**. However, the current construction schedule anticipates that BIG construction would begin in approximately August 2026 and end approximately July 2029, for an approximate 13-month shift from the schedule shown in the table and analyzed in this EIR. It is noted that the construction duration (34 months) would remain unchanged. Further, given fleet turnover and compliance with increased regulatory requirements, construction and operational air quality emissions would improve over time as is reflected in CalEEMod, the California Air Resource Board's air quality emissions modeling platform.

All of BIG's construction activities, including off-site improvements, are analyzed in this EIR and described below. During peak construction periods, work would be under way at several locations within BIG footprint simultaneously, with overlapping construction of various elements. BIG construction would require up to approximately 8,200 construction workers.

Table 3-15: BIG Construction Schedule

Phase	Start Date	End Date
South Mainlines	8/7/2025	10/2/2026
Intermodal Facility	8/7/2025	1/4/2027
Block Swap Yard	1/22/2026	6/8/2028
North Mainlines	5/27/2027	6/8/2028
Transload Warehouse	2/5/2026	12/6/2027
33 kV Distribution Undergrounding	9/13/2025	5/7/2027
Solar Farm	3/20/2026	2/27/2027

BIG construction would involve continuous grading and construction activities, including nighttime construction, throughout the majority of the BIG Specific Plan area in order to reduce construction duration. Nighttime construction could occur throughout the BIG footprint except where within 300 feet of sensitive receptors (along the 33 kV distribution line). To avoid potential noise and vibration impacts from pile driving, BIG proposes to establish a buffer of 1,800 feet for nighttime pile driving and 500 feet for daytime pile driving from sensitive receptors; see also **Section 5.12: Noise and Vibration** for more information on nighttime construction activities. Additionally, nighttime construction would be necessary for track work adjacent to the existing mainline where the lead tracks would tie into the mainline tracks. Construction working hours and the number of workers present at any time would vary depending on the activities being performed.

All construction activities would occur within BIG's footprint. Temporary asphalt and concrete batch plants would be constructed onsite to manufacture asphalt and concrete. Batch plants would be dismantled upon completion of construction. Lastly, temporary facilities are proposed to accommodate BIG construction, as described previously. BIG components would involve the following construction activities.

3.8.1 Demolition and Grading

As previously addressed, the BIG Specific Plan area is primarily vacant undeveloped land traversed by an existing BNSF railroad and containing scattered residential, commercial, and industrial land uses, as well as utility and service system facilities. Existing land uses within BIG's footprint are identified in **Table 3-3**. All existing land uses not demolished during acquisition to avoid trespassing and safety concerns would be demolished prior to mass grading. In addition, existing utilities and service systems (underground and aboveground) within BIG footprint would be removed or temporarily relocated as needed.

Six culverts/bridges would need to be demolished within the existing BIG footprint. Demolition would involve excavators to break apart bridge abutments and foundations. Rebar would be recycled in accordance with Assembly Bill 341; see **Section 5.17: Utilities and Service Systems** for more information regarding recycling.

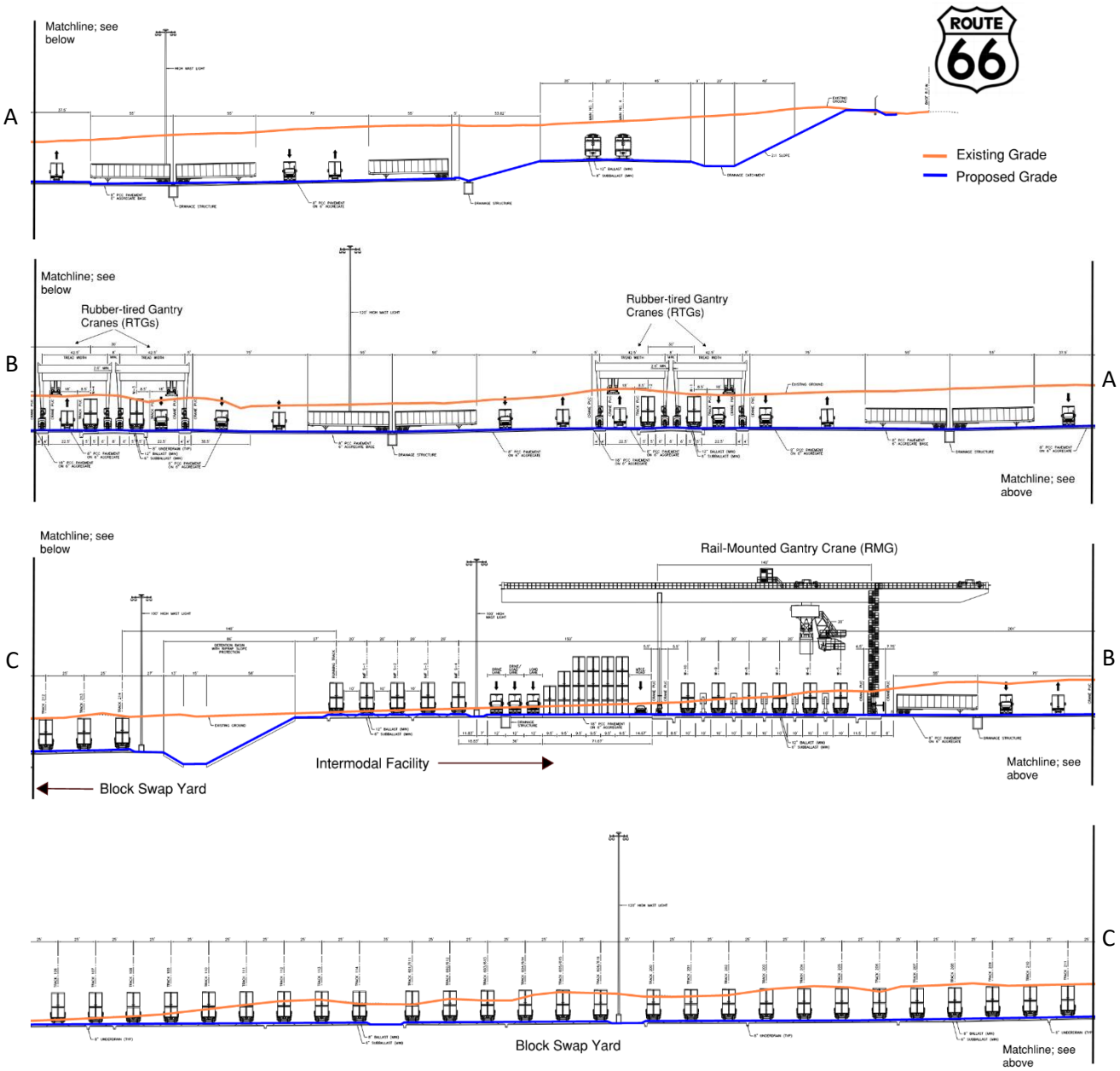
Mass grading would occur in one phase across BIG Specific Plan area and require approximately 26 million cubic yards of cut and fill, with cuts of up to 40 feet and fills of up to 20 feet. Mass grading would be typified by large construction equipment establishing the area's general grading contours. For locations supporting future buildings, roadways, or track, mass grading would include watering and compaction of soil to provide a stable subgrade. The BIG Specific Plan grading area would be balanced, with excess cut from the rail yard being used as fill within the transload warehouse center. Fine grading would include site-specific grading for the transload warehouse center, as well as finish grading around buildings, parking areas, curb and gutter, etc.

3.8.2 Construction of Rail Yard (Intermodal Facility and Block Swap Yard)

The likely sequence for BIG rail yard construction (intermodal facility and block swap yard) would be mass grading; compacting the rail bed and internal roadways/parking areas; installing underground improvements/utilities (i.e., storm drains, subdrains, sewers, water lines, electrical, lighting and compressed air; fine grading; installing crushed rock subballast; laying track and ballast; and installing train signals and communications systems. To reduce construction truck trips, BIG would utilize approximately 80 trains for rail tie delivery, 44 trains for welded rail delivery, and 315 trains for ballast delivery for a total of approximately 439 trains over a 10-month construction period (approximately two trains per day).

Rail yard construction elements would include surface and elevated track work where the track would cross a water feature, a grade-separated roadway crossing for electric hostlers to access (and return from) the transload warehouse center, and installation of an intermodal facility. Major construction activities would include grading and excavation support, underground utility installation, systems construction, bridge construction, and railway systems construction (including trackwork, signaling, and communications). High-mast lights (up to 120 feet in height) would be constructed throughout the rail yard, including foundation work, conduits, and security camera positions. Rail yard construction would also include foundations and tracks for gantry cranes. As shown in **Figure 3-36: Rail Yard Cross-Section**, the proposed rail yard area would be excavated to result in a nearly-level grade between the east and west ends. With the proposed grading, most of the rail yard would be approximately 30 to 45 feet below Main Street. Various key BIG elements are also shown below.

Figure 3-36: Rail Yard Cross-Section



Source: Kimley-Horn and Associates, Inc., 2024; TranSystems 2024.

Rail materials such as rail ties, welded rails, and ballast would be delivered by train. As previously noted, the two existing mainlines (north mainlines) would be retained within their current alignments, except at the bridge crossings, and two new mainlines constructed to the south (south mainlines). The south mainlines would be constructed first, and, during the first year of construction, existing rail traffic would use the new south mainlines so that the existing mainlines can be rebuilt and their bridge crossings upgraded. Mainline, rail yard, and lead track construction would utilize a Track-Laying Machine (TLM) for approximately 20 months to lay track; see also improvements described in **Section 3.8.6: Construction of Off-Site Rail Improvements**.

Intermodal facility construction would include various administrative and support buildings included in **Table 3-9**, and substantial paving for the container parking and storage.

3.8.3 Construction of Solar Farm

Solar farm construction, which would occur in a single phase, would require minimal grading to level the site as existing topography is utilized wherever possible and excavation limited primarily to stormwater detention to capture runoff. Fencing would be installed around the solar farm's perimeter of the solar farm, internal drive-aisles would be graded and paved, and the proposed substation would be constructed per SCE standards.

3.8.4 Construction of Transload Warehouse Center

Construction elements for the transload warehouse center would include grading, over-excavation,[22] footing and foundation excavation and pouring, tilt-up panel concrete construction, parking lot grading and paving, utility installation and undergrounding, and hydrology/drainage improvements. Additional details about transload warehouse center development and design (e.g., elevations and landscaping) are in **BIG Specific Plan Chapter 3: Development Regulations** and **BIG Specific Plan Chapter 4: Design Guidelines**.

3.8.5 Construction of On-Site Bridges and Roadway Improvements

Railroad bridge and roadway construction may use various methods including segmented pre-cast, cast-in-place, box girder or pre-cast, and span-by-span techniques.

Pre-construction activities would occur during final design and would include geotechnical investigations, identification of staging areas, initiation of site preparation and demolition, relocation of utilities, and implementation of temporary, long-term, and permanent road closures. Three bridges would be constructed over Lenwood Channel (BR 6.5D, BR 6.5E, and BR 6.5F) to enable traffic to flow from either side of Lenwood Channel within the BIG Specific Plan area.

3.8.6 Construction of Off-Site Rail Improvements

Off-site rail improvements would include clearing and grubbing, bridge crossing construction, ballast placement, track laying, and connection to the mainline. Off-site rail improvements would parallel the

[22] "Over-excavation" refers to removal and re-compaction of soil.

existing mainline and primarily be within existing BNSF right-of-way. BIG's rail deliveries of rail ties and ballast would include materials for construction of off-site rail improvements. Off-site grading quantities would balance with the overall BIG grading; any excess soil from off-site activities would be used as fill within BIG's Specific Plan area.

3.8.7 Construction of Off-Site Non-Rail Improvements

As discussed under **Section 3.7.10**, off-site non-rail improvements would include construction of drainage, utility, and roadway improvements.

Drainage. Lenwood Channel improvements would consist of scouring and widening the channel. Construction equipment would be within Lenwood Channel in order to accomplish the widening.

Utilities. Additionally, off-site construction would include utility improvements including the 33 kV distribution/Tortilla Substation improvements. Construction processes are anticipated to include clearing and grubbing, saw cuts and demolition of existing pavement, excavation to approximately ten feet below ground surface, installation of temporary shoring, placement of circuits and distribution lines, fill placement and removal of temporary shoring, and roadway repair.

Roadways/Intersections. A bridge over Lenwood Channel for Main Street would be constructed to replace the existing low water crossing and accommodate widening of Main Street in that immediate area (BR 6.5A). To maintain access for adjacent residents, the temporary Main Street bypass would include private driveways for adjacent residential uses and would be open for the approximately 18-month bridge reconstruction period. Once the Lenwood Channel Bridge reconstruction is complete, the bypass would be removed and the site restored to its original condition. See **Figure 3-31**.

In addition, the existing Hinkley Road bridge over the Mojave River would be reconstructed to widen and expand the bridge, bringing the bridge to modern structural standards and reducing existing flooding/ overtopping risks (see **Appendix 5.10 BIG-1** for more information on proposed improvements at this bridge). Additionally, BIG proposes roadway/intersection improvements/modifications, including the installation of traffic signals at various intersections.

Typical construction processes for these off-site non-rail improvements would include clearing and grubbing, over-excavation, bridge construction, traffic signals with associated underground conduits and cabling, and restriping and asphalt or concrete pavement placement, where needed.

3.9 INTENDED USES OF THIS EIR

This is a Program EIR that examines the potential environmental impacts of the proposed General Plan under CEQA Guidelines section 15168. According to CEQA Guidelines 15168(b), use of a program EIR can provide advantages, including:

(1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,

(2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,

(3) Avoid duplicative reconsideration of basic policy considerations,

(4) Allow the Lead Agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and

(5) Allow reduction in paperwork.

The analysis in this EIR focuses on the potential effects of the proposed General Plan within proposed areas of change. Except for BIG, which is a development project that will have physical effects on the environment which are evaluated in this EIR, the analysis in this EIR does not examine the effects of any specific project that might occur consistent with the General Plan. The nature of a general plan is such that some policies are intended to be more qualitative, with specific details to be determined upon development of a specific project, while others are procedural and likely have no impact to the environment as they are administrative in scope. As such, a Program EIR focuses on the regulatory process or approach that will be followed once a development request is made. For BIG however, project specific analysis is included in this EIR and project-specific mitigation is provided as this EIR is intended to allow the City to approve the development.

All future development applications will be subject to project-specific environmental review consistent with the proposed General Plan and CEQA. Any environmental impacts identified as part of the project-specific environmental review that are not fully evaluated and mitigated within the scope of this EIR may require further analysis. The City envisions that this Program EIR will be used to eliminate or reduce the scope of future environmental review for projects that are consistent with the General Plan pursuant to CEQA Guidelines Section 21083.3 and other streamlining provisions authorized by CEQA or subsequently.

It is the intent of the EIR to evaluate the Project's environmental impacts, thereby enabling the City, other responsible agencies, and interested parties to make informed decisions with respect to the requested entitlements. A partial list of projects successive to this EIR include, but are not limited to, the following:

- Approval and funding of major public projects and capital improvements.
- Issuance of permits and other approvals necessary for implementation of the proposed project.
- Property rezoning consistent with the proposed General Plan.
- Development plan approvals, such as tentative maps, variances, conditional use permits, planned developments, and other land use permits.
- Permit issuances and other approvals necessary for public and private development projects.
- Development agreement processes and approvals.

In addition to these future projects, this EIR specifically evaluates, at a project level, the proposed BIG project and related proposed Project components, thereby enabling the City of Barstow, other responsible agencies, and interested parties to make informed decisions with respect to the requested entitlements.

Proposed General Plan

The anticipated approvals required for proposed General Plan are shown in **Table 3-16**.

Table 3-16: Proposed General Plan Permits and Approvals

Lead Agency	Permit or Approval
California Public Utilities Commission	• Golden State Water Company Service Area Extension
San Bernardino County Local Agency Formation Commission	• Approval of Municipal Service Review (MSR) • Approval of reorganization
San Bernardino County Fire Protection District	• Approval of detachment of approximately 2,605 acres and detachment from the North Desert Service Zone and its Zone FP-5.
San Bernardino County Sheriff's Department	• Transfer of law enforcement responsibility of approximately 2,686 acres
City of Barstow City Council	• Certification of the Environmental Impact Report • Adoption of the Barstow General Plan • Adoption of the Barstow International Gateway Project Specific Plan and implementing BIG Specific Plan Zoning • Adoption of a Business Park (BP) Zone District • Adoption of the Findings of Fact and Statement of Overriding Considerations for the Environmental Impact Report • Approve Prezoning for SBLAFCO Actions A and B, including BIG Specific Plan zoning for the Specific Plan area and Business Park for SBLAFCO Action B and disestablish land designated as Agricultural Preserve. • Approve application to LAFCO for reorganizations A and B including annexation to the Barstow Fire Protection District of approximately 2,605 acres. • Approve transfer of law enforcement responsibility to the Barstow Police Department of approximately 2,686 acres under SBLAFCO Action A and 99 acres under SBLAFCO Action B.

Barstow International Gateway

Table 3-17: BIG Permits and Approvals lists BIG's anticipated permits and approvals. BNSF proposes to submit the applications and supporting documentation for all federal, State, regional, and local permits listed herein, without any waiver, express or implied, of federal or State preemption principles that might preclude regulation by State, regional, or local agencies of the activity or activities covered by such permits.

Table 3-17: BIG Permits and Approvals	
Agency	**Permit or Approval**
FEDERAL	
U.S. Army Corps of Engineers	• Individual Permit (IP) for >0.5 Acre Impact to Jurisdictional Waters of the United States (WOTUS)
United States Fish and Wildlife Service (USFWS)	• Potential Endangered Species Act Section 7 Authorization for Effects on Threatened/Endangered Species (i.e., Desert Tortoise)
STATE	
State Historic Preservation Office	• Section 106 Consultation
California Department of Fish and Wildlife	• § 2081 Incidental Take Permit • § 1602 Lake and Streambed Alteration Agreement
California Public Utilities Commission	• Certificate of Public Convenience and Necessity for New/ Modified Rail Crossing
State Water Resources Control Board	• General Construction Storm Water Permit (Water Quality Order 99-08-DWQ): Notice of Intent and Storm Water Pollution Prevention Plan • Statewide Industrial General Permit
Caltrans	• Consultation and Encroachment Permit
REGIONAL	
Lahontan Regional Water Quality Control Board	• Porter-Cologne Water Quality Act Compliance: Water Discharge Requirements • CWA Section 401 Certification
Mojave Desert Air Quality Management District	• Permit to Construct (MDAQMD Rule 201)
LOCAL	
County of San Bernardino	• Excavation Permits • Conditional Utility Work Authorization • Demolition Permits • Encroachment Permits • Grading Permits • Drainage Plan review • Water and Sewer Plan review • Site Development Plan review • Water Quality Management Plans (MS4 Permits) • Letter of Map Revision (LOMR) and Conditional Letters of Map Revision (CLOMR) • Street Improvement Plans • Street Vacations • Street Dedications
San Bernardino County Department of Public Health	• Well Permits
San Bernardino County Fire Protection District (SBC Fire)	• Resource Conservation and Recovery Act (RCRA) Hazardous Waste Part A Permit Application
San Bernardino County Flood Control District	• Flood Control Permit Application

Table 3-17: BIG Permits and Approvals	
Agency	**Permit or Approval**
Southern California Edison (SCE)	• Construction of five substations and various underground distribution lines, and modifications to existing Tortilla Substation • Easements/Interconnection Agreements
City of Barstow	• Specific Plan Adoption • Zoning and Prezoning BIG Specific Plan area as BIG Specific Plan zone • Site Plan Review • Building Permits • Development Agreement • Lot Mergers / Lot Line Adjustment • Tentative Parcel Map • Demolition Permits • Grading Permits • Water Quality Management Plan: MS4 Permits • Street Vacations • Encroachment Permits