



Kern Council of Governments

# KERN COUNTY RAIL STUDY

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*February, 2011*

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## INTRODUCTION

The goal of the Kern County Rail Study was to gain a comprehensive understanding of railroad operators and their lines in Kern County. Findings are aimed at allowing the Kern Council of Governments (Kern COG) to better understand goods movement in Kern County, to evaluate applicability of abandoned rights-of-way for alternate uses, and to better inform Kern COG's long range transportation planning efforts.

Discussed herein are lines belonging to Class I<sup>1</sup> railroads, or large railroads, and lines operated by short lines, or small railroads. The emphasis here is on the short lines. However, much detail with regard to Class I railroads was obtained in the course of the work effort, and this detail is presented here as well.

In the narrative that follows, the rail operators, their lines, and their line characteristics (ownership, rights-of-way width, train volumes and lengths, operating rights, and train speeds/Track Classes) are noted. Details particular to each line were asked of the line operators. The study concludes with an evaluation of conceptual alternative uses of short line rail rights-of-way.

## RAIL LINES IN KERN COUNTY

Four railroads operate in Kern County today. Two railroads are Class I railroads and include the Union Pacific Railroad (UP) and the BNSF Railway. There are also two short lines. These are the San Joaquin Valley Railroad (SJVR) and the Trona Railway.

### CLASS I RAILROADS

The UP and BNSF are two of the largest railroads in the U.S. The UP's main lines in Kern County link markets in the Central Valley, Northern California and the Pacific Northwest with markets in the Southern California, the Southwest, the Gulf Coast and the Midwest. UP main lines, seen in Figure 1, are:

- The Fresno Subdivision<sup>2</sup> (32 route miles<sup>3</sup>) between the Tulare/Kern County Line just north of Delano and North Bakersfield.
- The Mojave Subdivision (87 route miles), between North Bakersfield and the Kern/Los Angeles County Line just south of Rosamond via Tehachapi Pass and Mojave. The line connects to the BNSF in Bakersfield and South Mojave. UP trains operates on the BNSF's Mojave Subdivision between Mojave, Boron, Valley Junction (3 miles west of Barstow in San Bernardino County) via trackage rights<sup>4</sup> (the right for one railroad to run trains on another).

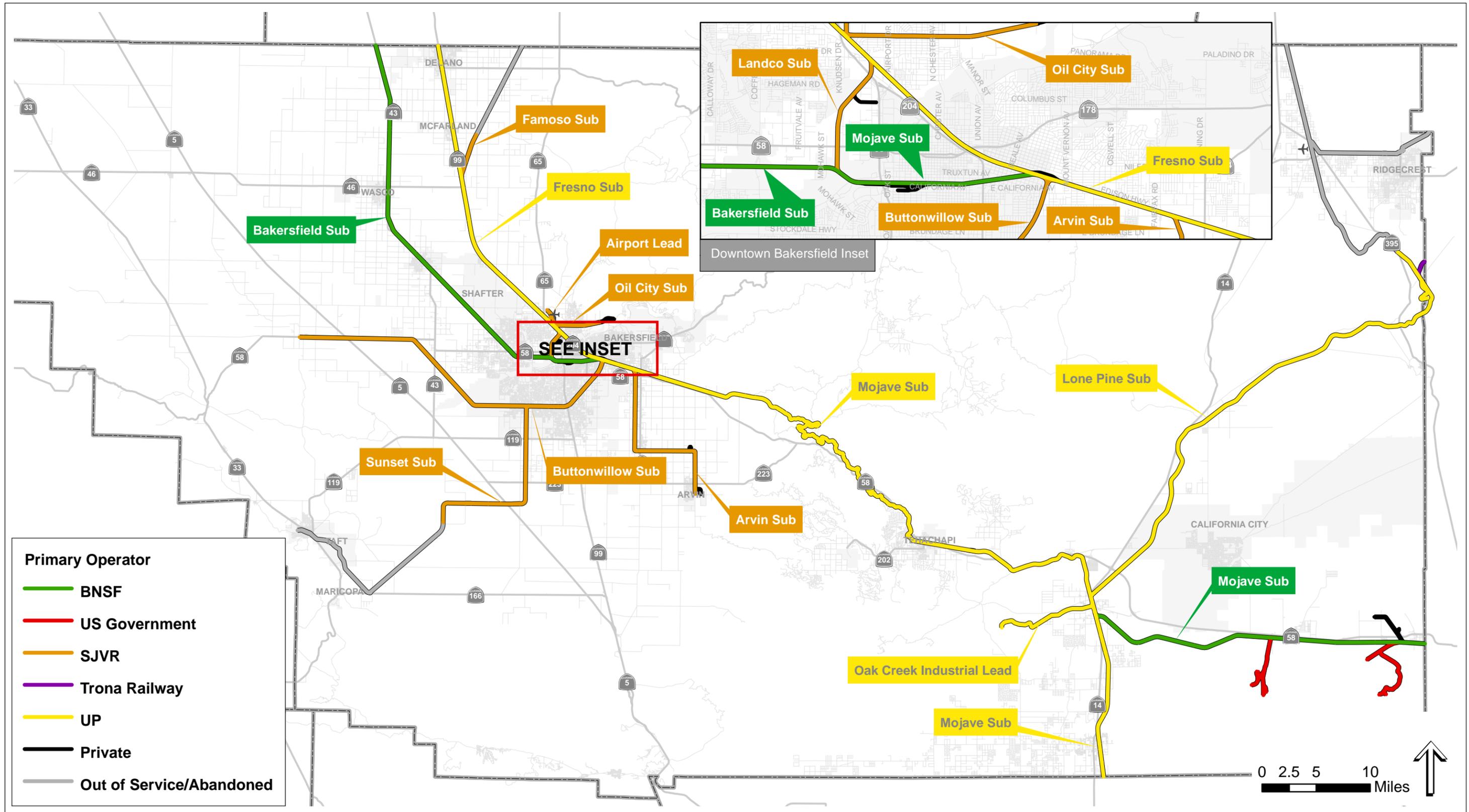
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<sup>1</sup> The Surface Transportation Board (STB) defines a Class I railroad in the United States as "having annual carrier operating revenues of \$250 million or more" after adjusting for inflation using a Railroad Freight Price Index developed by the Bureau of Labor Statistics (BLS). Typically, Class I railroads operate over thousands of route miles.

<sup>2</sup> A railroad subdivision is a segment of a main line or a branch line.

<sup>3</sup> A route mile is a linear mile of track. Two miles of double track on a main or branch line is two track miles, but one route mile.

<sup>4</sup> A holder of trackage rights can run train on a host railroad for a fee, typically based on the incremental cost of operating the holder's trains (track maintenance and dispatching).



UP also operates two branch lines in Kern County as shown in **Figure 1**. These branch lines feed traffic to the main lines.

- The Oak Creek Industrial lead (9 route miles), between Mojave and end of track at Creal.
- The Lone Pine Subdivision (51 routes miles), between Mojave and end of track 3 miles northwest of Searles. More northern portions of the line have been abandoned. The line connects to the Trona Railway in Searles.

BNSF main lines in Kern County are:

- Bakersfield Subdivision (39 route miles), between the Tulare/Kern County Line just north of Kernell and Bakersfield.
- Mojave Subdivision (35 miles), between Bakersfield, South Mojave and the Kern/San Bernardino County Line just east of Boron. The western most portion of the line (3 miles) connects to the UP at Kern Junction, just east of the Bakersfield Amtrak station. BNSF trains operate on the UP's Mojave Subdivision between Kern Junction and South Mojave via trackage rights. The eastern portion of the line (32 miles) connects with the UP at South Mojave.

There are no BNSF branch lines in Kern County.

### SHORT LINES IN KERN COUNTY

The SJVR is part of the Sunset Division of RailAmerica, Inc., the largest operator of short lines in the U.S. SJVR operates on various lines in Kern County. These include:

- Buttonwillow Subdivision (33 route miles), between Buttonwillow and Kern Junction. The line connects with UP at Kern Junction.
- Sunset Subdivision (20 route miles), between Levee and Gosford. A former portion of the line between Levee and Taft (17 miles) has been abandoned.
- Famoso Subdivision (6 route miles), between Famoso and end of track at Hollis. This subdivision was a segment of the former Southern Pacific Railroad's<sup>5</sup> Eastside Line, running from Famoso in the south to Fresno in the north. A former portion of the line (9 miles) between Hollis and the Tulare/Kern County Line has been abandoned.
- Landco Subdivision (3 route miles), between Gomez, and a connection to the BNSF Bakersfield Subdivision, and Oil Junction, and a connection to the UP Fresno Subdivision.
- Arvin Subdivision (17 route miles), between Magunden, and a connection to the UP Mojave Subdivision, and end of track just south of Arvin.
- Oil City Subdivision (3 route miles), between Oil Junction and end of track at Maltha. The line connects with the UP Fresno Subdivision at Oil Junction.
- Airport Lead (2 miles), between Oil Junction and end of track just south of Merle Haggard Drive and just west of the Bakersfield Airport.

Via trackage rights, SJVR trains operate on the BNSF's Bakersfield Subdivision between Bakersfield and Gomez; on the BNSF Mojave Subdivision between Kern Junction and Bakersfield;

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<sup>5</sup> SP was purchased by the UP in 1996. All UP lines in Kern County were SP lines.

on the UP's Fresno Subdivision between North Bakersfield, Goshen and Fresno; and on the UP's Mojave Subdivision between North Bakersfield and Magunden.

Trona Railway, a subsidiary of Searles Valley Minerals, operates between Searles and Trona in San Bernardino County. The Trona connects with the UP at Searles. Only about 10,000 feet of the 31-mile-long line are in Kern County.

### **OTHER LINES IN KERN COUNTY**

There are two U.S. Government-owned lines extending into Edwards Air Force Base (AFB). One line runs south of the BNSF's Mojave Subdivision at Edwards and the other south of the Mojave Subdivision just west of Boron. Also, U.S. Borax owns a line running north of the Mojave Subdivision just west of Boron.

BNSF stores cars on the government line running south from Edwards. BNSF picks up and delivers cars at the other government line west and south of Boron and at the U.S. Borax facility west and north of Boron.

### **RIGHT-OF-WAY SURVEY**

SJVR, Trona Railway and the UP Lone Pine Subdivision corridors in Kern County were surveyed to better understand the current status, ownership and right-of-way (ROW) parameters. The survey process was not done through field survey and measurement. Rather electronic data from the Kern County Assessor's office was used in conjunction with GIS shapefiles and aerial imagery to assess ownership and property boundary lines. It should be noted that this data was not recorded at the level of detail intended for legal use. The data was collected and analyzed to meet the planning level purposes of this study.

The general process for creating this shapefile included using the countywide parcel shapefile and tax roll data from the Kern County Assessor's Office and extracting the ROW areas from the parcels shapefile to create a new shapefile of rights-of-way. The ROW areas were identified through the use of rail line GIS (geographic information system) data obtained from the Federal Railroad Administration (FRA). The rail lines were overlaid on the parcels layer in GIS to identify where rail ROW parcels exist. These parcels were either extracted from the countywide parcel layer or manually drawn into the database using the tax roll data from the Assessor's Office. In general, the rail line data were used to help define the linear extent of the rights-of-way, while the parcels were used to show actual shape and alignment of the rights-of-way.

### **RIGHT-OF-WAY WIDTH**

**Table 1** shows the range in widths of rights-of-way for Kern County short lines and the UP Lone Pine Subdivision, which provides a connection for the Trona Railway to the national rail system. Excluded from the table but captured in the shapefile are widths for: the abandoned portion of the Sunset Subdivision between Levee and Taft; and the abandoned portion of the former SP Eastside Line north of Hollis to the Tulare/Kern County Line. Not captured were widths for Class I lines (excepting the UP Lone Pine Subdivision); ROW owned by U.S. Borax west and north of Boron; and ROW owned by U.S. Government in Edwards Air Force Base.

**Table 1: Railroad Right-of-Way Width in Kern County**

Railroad	Line	End Points	Length (Miles)	Right-of-Way Width (Feet)		
				Typical	Min	Max
<b>San Joaquin Valley Railroad</b>	Sunset Subdivision	Gosford to Gulf	13.0	100	60	330
		Gulf to Levee/End of Track	6.8	100-150	100	150
	Buttonwillow Subdivision	Gosford to Rogas	9.3	100	90	360
		Rogas to Buttonwillow	14.4	100	80	360
		Kern Junction (UP) to Gosford	9.0	100	50	275
	Landco Subdivision	Gomez (BNSF) to Oil Junction (UP)	3.0	100	70	200
	Oil City Subdivision	Oil Junction (UP) to End of Track	3.2	100	60	240
	Famoso Subdivision	Famoso (UP) to End of Track	5.6	100	60	400
	Arvin Subdivision	Magunden (UP) to Harpertown	4.5	60	60	60
		Harpertown to End of Track	12.4	60-100	60	200
Airport Lead	Oil Junction (UP) to End of Track	1.6	30	30	50	
<b>Trona Railway</b>	Main Line	Searles to County Line	1.9	200	200	300
<b>Union Pacific Railroad</b>	Lone Pine Subdivision	Mojave to Searles	48.3	200	100	300
		Searles to end of branch	3.0	200	150	250

## RIGHT-OF-WAY OWNERSHIP

Railroad right-of-way ownership in Kern County is shown in **Figure 2**. Line ownership shown is based on data obtained from Kern County Tax Assessor on-line records and comments from railroads. Rights-of-way belonging exclusively to the UP include:

- UP Fresno Subdivision
- UP Mojave Subdivision
- UP Oak Creek Industrial Lead
- UP Lone Pine Subdivision
- SJVR Buttonwillow Subdivision

Rights-of-way belonging exclusively to the BNSF are the BNSF Bakersfield Subdivision and the BNSF Mojave Subdivision.

Right-of-way in the county belonging exclusively to a short line is the Trona Railway between Searles and the Kern/San Bernardino County Line.

U.S. Borax Inc. owns the industrial trackage west of Boron and north of the BNSF Mojave Subdivision.

The U.S. Government is the owner of the two branch lines in Edwards AFB south of the BNSF Mojave Subdivision.

Rights-of-way whose ownership is shared include:

- SJVR Sunset Subdivision, portions of which are owned by the UP and the Sunset Railroad, which itself is jointly owned by UP and BNSF.
- SJVR Arvin Subdivision, portions of which are owned by UP and SJVR.
- SJVR Landco Subdivision, portions of which are owned by BNSF and SJVR.
- SJVR Famoso Subdivision, portions of which are owned by the UP and others.
- SJVR Oil City Subdivision, portions of which are owned by SJVR, UP and Chevron USA Inc. (eastern most section), although SJVR owns the major portion of the ROW.
- Airport Lead, portions of which are owned by SJVR, UP, and BNSF, although SJVR owns the major portion of the ROW.

The aforementioned rights-of-way are used today for railroad operations. The abandoned portion of the Sunset Subdivision, between Levee and Taft, is owned mostly by the Sunset Railroad, although UP owns some parcels. Portions through Taft itself are no longer owned by the Sunset Railroad or UP. The former SP Eastside Line is abandoned north of Hollis (SJVR Famoso Subdivision) to the Tulare/Kern County Line; portions of the abandoned ROW are owned by UP and various non-railroad concerns.



## TRACKAGE RIGHTS

**Figure 3** shows the operating rights on rail lines in Kern County. Operating rights here refer to trackage rights, whereby a host railroad grants rights to another to operate over its lines.

- SJVR has trackage rights on the UP Fresno Subdivision between Bakersfield, Oil Junction (SJVR Landco and Oil City Subdivisions), Famoso (SJVR Famoso Subdivision), Goshen and Fresno.
- SJVR has trackage rights on the UP Mojave Subdivision between Bakersfield, Kern Junction (BNSF Mojave Subdivision and SJVR Buttonwillow Subdivision), and Magunden (SJVR Arvin Subdivision).
- SJVR has trackage rights on the BNSF Bakersfield Subdivision between Bakersfield and Gomez (SJVR Landco Subdivision).
- SJVR has trackage rights on the BNSF Mojave Subdivision between Kern Junction and Bakersfield.
- BNSF has trackage rights on the UP Mojave Subdivision between Kern Junction, Tehachapi and South Mojave.
- UP has trackage rights on the BNSF Mojave Subdivision between South Mojave, Boron and Valley Junction, west of Barstow (UP has trackage rights also on the BNSF Cajon Subdivision from Valley Junction to Barstow, and BNSF Needles Subdivision from Barstow to Daggett, the junction with the UP Salt Lake City main line).

Typically, a railroad granted trackage rights by the host railroad does not have the right to serve shippers along the host railroad's line over which it operates.

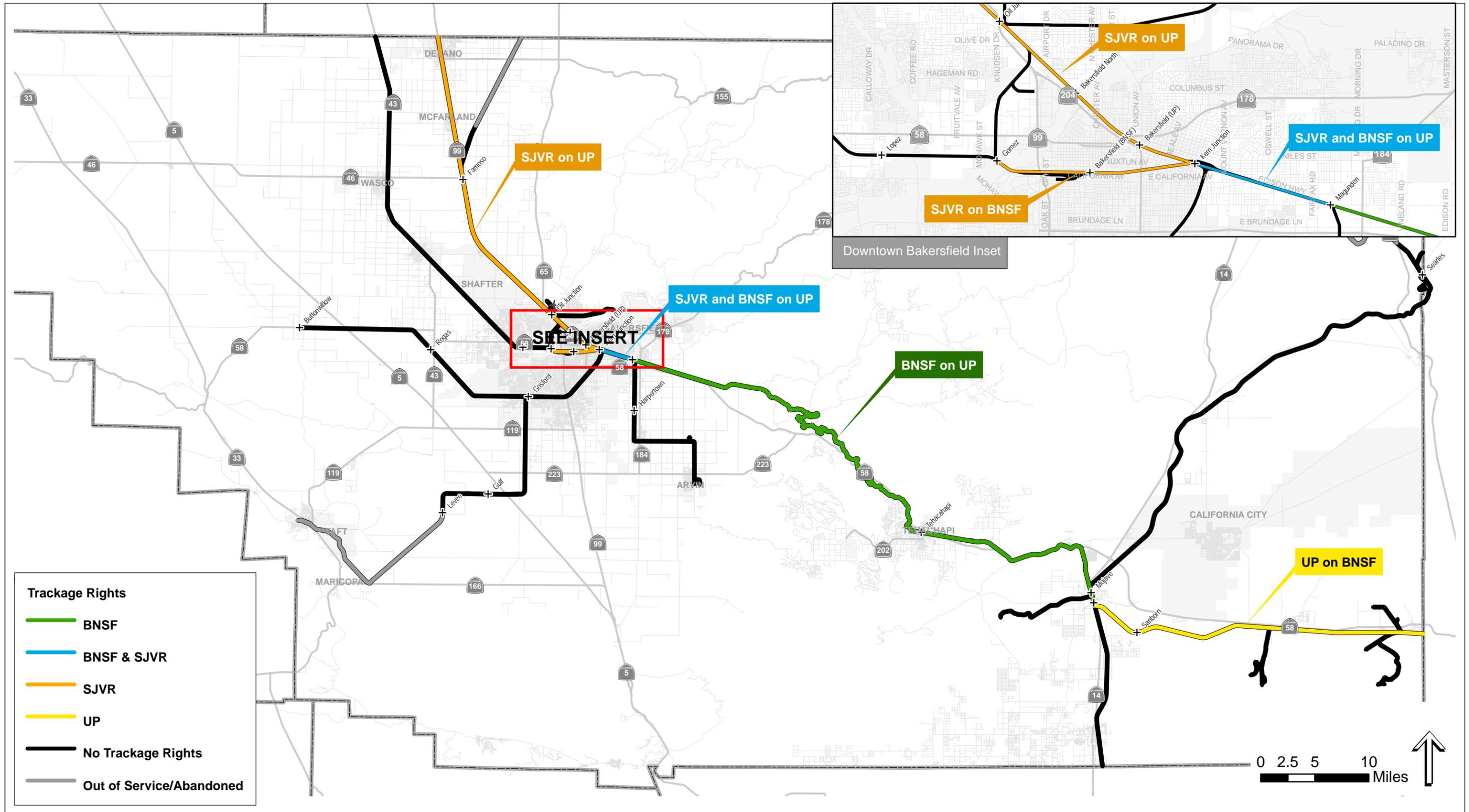
## FREIGHT SERVICE RIGHTS

Railroads have an obligation to haul freight for shippers who make reasonable requests for service. The railroads have to provide this service on a non-discriminatory basis. This obligation, enforced by the U.S. Government, is called the common carrier obligation. The other side of this obligation is that the railroads have the exclusive right to serve the shippers along their lines.

A railroad owning an active right-of-way can transfer its common carrier obligation to serve industries along the right-of-way to another operator. This transfer gives the other operator the right to pick up and deliver rail cars at the shippers along a rail line. This granting of rights to provide freight service has occurred on various lines in Kern County, where predecessors of the UP (the former Southern Pacific Railroad) and BNSF (the former Atchison Topeka and Santa Fe Railway) transferred the freight rights to SJVR by confidential agreement.

As seen in preceding **Figure 1**, lines where SJVR holds the freight rights are:

- SJVR Buttonwillow Subdivision
- SJVR Sunset Subdivision
- SJVR Famoso Subdivision
- SJVR Landco Subdivision
- SJVR Arvin Subdivision



The SJVR owns the majority of the Oil City Subdivision and the Airport Lead outright, and so it holds the freight rights there. SJVR does not have freight rights on the UP and BNSF main lines over which it operates via trackage rights.

UP serves industries exclusively on its Fresno, Mojave and Lone Pine Subdivisions, and on the Oak Creek Industrial Lead. BNSF serves industries exclusively on its Bakersfield and Mojave Subdivisions. UP does not serve industries where it operates on BNSF in Kern County, and likewise BNSF does not serve industries where it operates on UP in the county.

BNSF serves the U.S. Borax facility west of Boron. BNSF also serves both government-owned lines running to Edwards AFB. The Trona Railway is the exclusive server of the Searles Valley Minerals operation in Trona.

## TRACK CONDITIONS

Track conditions here refer to the FRA Track Class as defined by the Federal Code of Regulations (49 CFR Part 213). Track Class refers to the level to which the lines are maintained to allow various levels of maximum operating speeds. The higher the Track Class, the higher the maximum allowable speed, as seen in **Table 2**. The FRA is the federal agency having oversight responsibility for the safety of the national rail system.

**Table 2: FRA Track Class**

Track Class	Maximum Allowable Speed	
	Freight	Passenger
Excepted Track	10	N/A
Class 1 Track	10	15
Class 2 Track	25	30
Class 3 Track	40	60
Class 4 Track	60	80
Class 5 Track	80	90

Excepted track is track that does not meet FRA Class 1 safety standards.

Rail passenger service in Kern County is provided jointly by Amtrak and Caltrans Division of Rail, operators of the *San Joaquin* California Corridor service, between Bakersfield, Stockton, Oakland and Sacramento. There are 12 daily *San Joaquins* serving Kern County. These trains run on the BNSF Bakersfield and Mojave Subdivisions between the Tulare/Kern County Line and the Bakersfield Amtrak Station. The service’s southern rail terminus is Bakersfield (there is a bus connection between Bakersfield and Los Angeles Union Station).

No Amtrak trains regularly operate on UP lines in Kern County. However, in 2008, Amtrak’s *Coast Starlight* was routed temporarily on the UP Mojave and Fresno Subdivisions due to construction on the train’s regular route on the UP Coast Line. Such temporary routings may occur from time to time.

### SHORT LINE TRACK CONDITIONS

Table 3 shows Track Classes on the SJVR in the study area. Track Classes are shown in Figure 4.

Table 3: SJVR Track Class in Kern County

Line	End Points	Miles	Max Speed	Track Class
<b>Sunset Subdivision</b>	Gosford to Gulf	13.0	10	1
	Gulf to Levee/End of Track	6.8	10	Excepted
<b>Buttonwillow Subdivision</b>	Kern Junction (UP) to Gosford	9.0	20	2
	Gosford to Rogas	9.3	20	2
	Rogas to Buttonwillow	14.4	10	Excepted
<b>Landco Subdivision</b>	Gomez (BNSF) to Oil Junction (UP)	3.0	20	2
<b>Oil City Subdivision</b>	Oil Junction (UP) to End of Track	3.2	10	1
<b>Famoso Subdivision</b>	Famoso (UP) to End of Track	5.6	10	1
<b>Arvin Subdivision</b>	Magunden (UP) to Harpertown	4.5	10	1
	Harpertown to End of Track	12.4	10	Excepted
<b>Airport Lead</b>	Oil Junction to End of Track	1.6	10	1

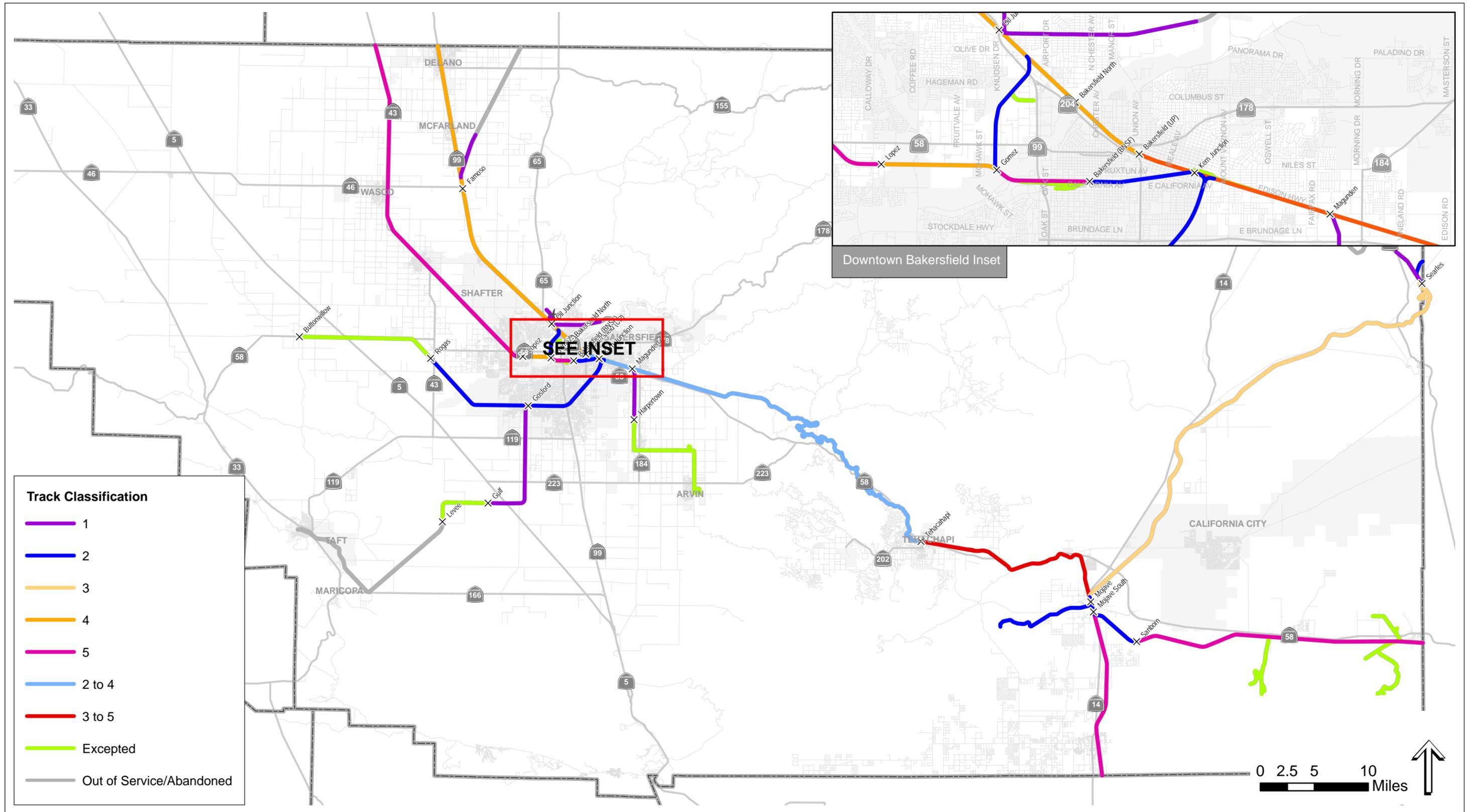
The Trona Railway track is maintained to a Class 2 level.

### CLASS I TRACK CONDITIONS

From north to south, UP main line and branch line trackage is maintained to the Track Class levels as shown in Table 4.

Table 4: UP Track Class in Kern County

Line	End Points	Miles	Max Speed	Track Class
<b>Fresno Subdivision</b>	County Line to North Bakersfield	31.6	60	4
<b>Mojave Subdivision</b>	North Bakersfield to Bakersfield	2.1	50	4
	Bakersfield to Tehachapi	47.7	23 to 60	2 to 4
	Tehachapi to Mojave	20.1	35 to 70	3 to 5
	Mojave to South Mojave	0.6	25	2
	South Mojave to County Line	16.1	70	5
<b>Lone Pine Subdivision</b>	Mojave to Searles	48.3	40	3
	Searles to End of Branch	3.0	10	1
<b>Oak Creek Industrial Lead</b>	Mojave to End of Track	9.4	20	2



BNSF’s main line trackage is maintained to the Track Class levels as shown in **Table 5**. Track Class for the Bakersfield Subdivision is based on maximum allowable freight train speeds, e.g. 70 for freight trains (F) versus 79 mph for passenger trains (P) between the Tulare/Kern County Line and Lopez.

**Table 5: BNSF Track Class in Kern County**

Line	End Points	Miles	Max Speed	Track Class
<b>Bakersfield Subdivision</b>	County Line to Lopez	34.5	79 P / 70 F	5
	Lopez to Gomez	2.8	60 P / 55 F	4
	Gomez to Bakersfield	1.7	79 P / 70 F	5
<b>Mojave Subdivision</b>	Bakersfield to Kern Junction	2.8	20	2
	South Mojave to Sanborn	2.1	25	2
	Sanborn to County Line	27.1	70	5

**PRIVATE AND GOVERNMENT RAILWAY TRACK CONDITIONS**

It is assumed that U.S. Borax trackage west of Boron and the track of the two U.S. Government-owned railroads in Edwards Air Force Base, and other private track are all excepted track. This is because these tracks are used for loading, unloading, and switching of cars – all operations typically completed at low speeds.

**RAIL LINE VOLUMES**

The discussion that follows includes details of average daily train volumes and average train lengths, as reported by the short line and Class I rail operators.

**SHORT LINE TRAIN VOLUMES**

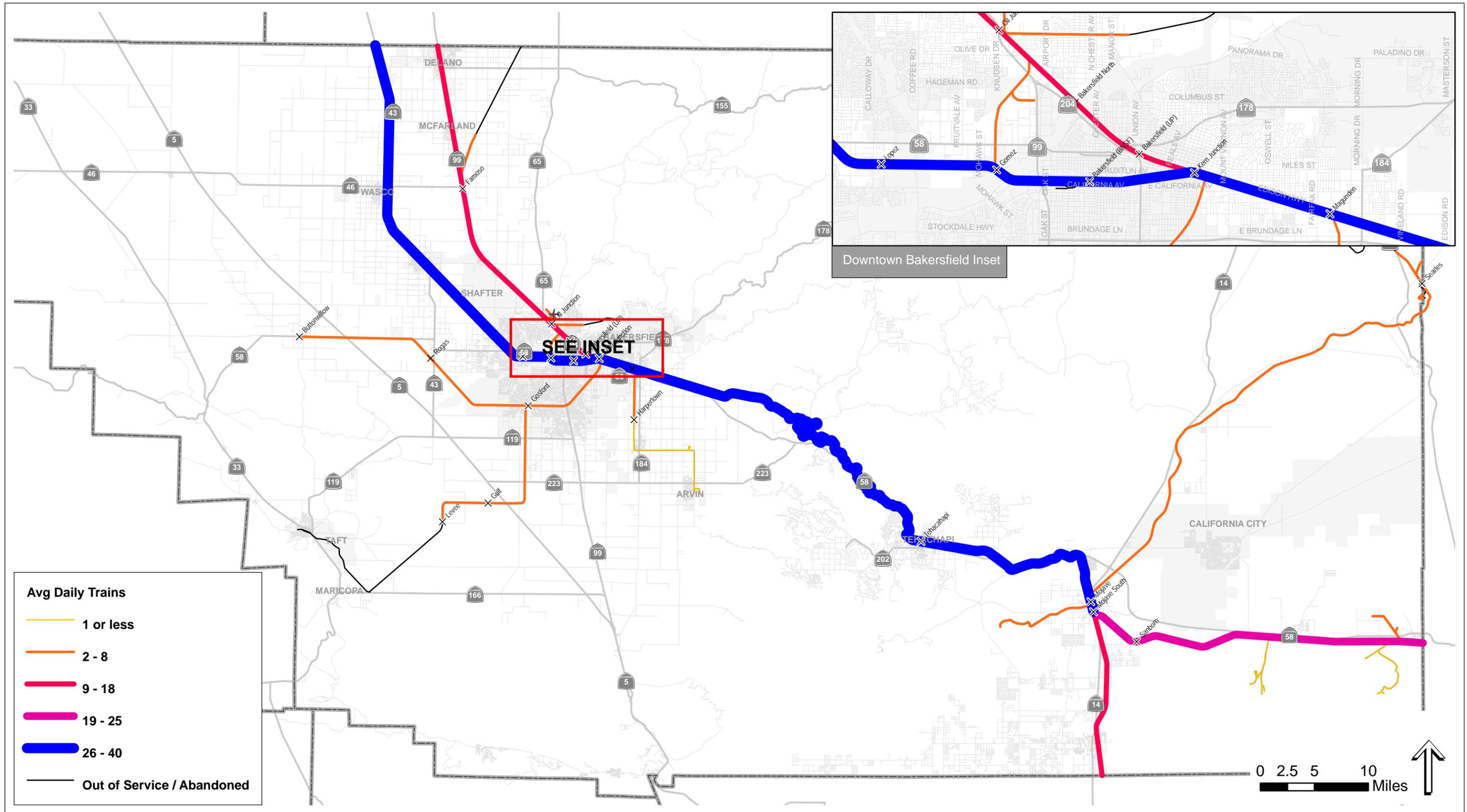
**Table 6** shows the train volumes and other operating detail on SJVR lines in the study area. Train volumes are shown in **Figure 5**.

SJVR makes use of both the BNSF and UP Bakersfield Yards. Two SJVR trains a day depart the BNSF Yard and travel west on the BNSF’s Bakersfield Subdivision to Gomez; thence to the SJVR Landco Subdivision; and thence to the UP’s Fresno Subdivision at Oil Junction. These trains serve shippers on the Famoso and Oil City Subdivisions, and on the Airport Lead. From Oil Junction the trains head south on the UP’s Fresno and Mojave Subdivisions to Kern Junction. One train serves shippers on the Arvin, Buttonwillow, and Sunset Subdivisions. Both trains return to the BNSF Yard via Kern Junction and the BNSF’s Mojave Subdivision.

The higher train counts on the Landco and Buttonwillow Subdivisions include switching moves.

Other SJVR train movements on UP north of Bakersfield are infrequent (e.g. once every two to three weeks) and are comprised mostly of “power swaps”, that is, movement of locomotives between SJVR operations in Goshen and Bakersfield.

SJVR movements are included in UP and BNSF train volumes in **Tables 7** and **8** respectively.



**Table 6: SJVR Daily Train Operating Details in Kern County**

Line	End Points	Trains per Day; Days	Time of Day	Typical Cars per Train	Train Length
<b>Sunset Subdivision</b>	Gosford to Gulf	2; Sun-Thu	Night	100+	6,000'
	Gulf to Levee/End of Track	2; Sun-Thu	Night	5 to 10	300' to 600'
<b>Buttonwillow Subdivision</b>	Gosford to Rogas	2; Mon-Fri	Day	30 to 50	1,800' to 3,000'
	Rogas to Buttonwillow	2; Mon-Fri	Day	100+	6,000'
	Kern Junction (UP) to Gosford	6; Sun-Fri	Day & Night	100+	6,000'
<b>Landco Subdivision</b>	Gomez (BNSF) to Oil Junction (UP)	6 to 8; Sun-Sat	Day & Night	100+	6,000'
<b>Oil City Subdivision</b>	Oil Junction (UP) to End of Track	2; Mon-Fri	Day & Night	50	3,000'
<b>Famoso Subdivision</b>	Famoso (UP) to End of Track	2; Mon-Fri	Night	20 to 30	1,200' to 1,800'
<b>Arvin Subdivision</b>	Magunden (UP) to Harpertown	2; Mon-Fri	Day & Night	20 to 30	1,200' to 1,800'
	Harpertown to End of Track	As needed	As needed	1 to 5	100' to 300'
<b>Airport Lead</b>	Oil Junction (UP) to End of Track	2; Mon-Fri	Day & Night	50	3,000'

The Trona Railway operates one round trip or two trains per day between Trona and Searles, interchanging traffic with the UP at Searles (junction with the UP Lone Pine Subdivision). The Trona reported that the maximum train length is 5,590 feet, and the average is 2,480 feet. Assuming 55 feet per car, the longest trains are almost 100 cars long. The cars handle bulk product (soda ash, sodium sulfate, and boron).

**CLASS I TRAIN VOLUMES**

UP average daily train volumes appear in **Table 7** and are shown in **Figure 5**. UP reported that average UP train length on main lines the study area is between 5,000 and 7,500 feet. BNSF trains operating over UP’s Mojave Subdivision has similar lengths. Trains on the main lines are a mix of intermodal trains (with trailers or containers on a flatcars, or articulated, multi-well double-stack container cars) and traditional carload trains (with boxcars, lumber cars, gondolas, etc.).

Trains on the Lone Pine Subdivision and the Oak Creek Industrial Lead are carload only. Trains on these lines are also shorter. Train volumes include local traffic served in the Mojave area.

Train counts include BNSF and SJVR trains operating on UP lines via trackage rights.

**Table 7: UP Average Daily Train Volumes in Kern County**

Line	End Points	Trains per Day
<b>Fresno Subdivision</b>	County Line to Famoso	13
	Famoso to Oil Junction	15
	Oil Junction to North Bakersfield	13
<b>Mojave Subdivision</b>	North Bakersfield to Bakersfield	13
	Bakersfield to Kern Junction	13
	Kern Junction to Magunden	40
	Magunden to Tehachapi	38
	Tehachapi to South Mojave	38
	South Mojave to County Line	12
<b>Lone Pine Subdivision</b>	Mojave to Searles	2
	Searles to End of Branch	2
<b>Oak Creek Industrial Lead</b>	Mojave to End of Track	2

The figures above were compiled from SJVR, UP and BNSF input, and not all the data sources provided for a good fit. For example, UP reported 32 total trains per day on the Tehachapi Pass today. UP counts do not break out UP trains versus train run by BNSF, the major user of the line. Separately, BNSF related it typically runs 24 trains per day on the Pass. Reconciling the BNSF statement with UP’s would mean UP is running just 8 trains per day on the Pass. That is, UP volume is just a third of BNSF’s.

However, in 2008 UP daily train volume was about 60 percent of BNSF’s<sup>6</sup>. It is reasonable to assume that that ratio would hold true. If so, there should be at least 38 trains per day on the Pass: 24 BNSF and 14 UP. Furthermore, the 14 daily train figure is closer to UP train volumes north of Bakersfield and south of South Mojave.

The 38 train per day figure used in this analysis and the companion Grade Separation Study should be considered a conservative high-side figure: it may be less, but not much less, and one that has the potential to grow. In 2006, train volume on Tehachapi Pass in fact totaled 38 per day. In 2008, it averaged 40 trains per day. It is reasonable to assume that train volumes on the Pass will increase as general economic conditions improve.

In order to more efficiently handle the higher volumes of trains over Tehachapi Pass on the UP Mojave Subdivision, plans are on the books to add track and upgrade the signal/train control system, thus enhancing line capacity.

BNSF average daily train volumes appear in **Table 8**. BNSF reported that typical BNSF freight train lengths are 5,800 feet to 8,200 feet. Train counts include SJVR and UP freight trains, and

<sup>6</sup> Per operations simulation for the Tehachapi route provided by BNSF to Caltrans for a 2008 Trade Corridor Improvement Fund (TCIF) application for Pass line capacity improvements.

*San Joaquin* passenger trains operating on BNSF lines via statutory right<sup>7</sup>. A typical *San Joaquin* train is about 400 feet long (four cars and a locomotive). In the table, freight train detail is noted with an “F” and passenger trains are noted with a “P”.

**Table 8: BNSF Average Daily Train Volumes in Kern County**

Line	End Points	Trains per Day <sup>1</sup>
<b>Bakersfield Subdivision</b>	County Line to Gomez	24 F/12 P
	Gomez to Bakersfield	26 F/12 P
<b>Mojave Subdivision</b>	Bakersfield to Amtrak Station	26 F/12 P
	Amtrak Station to Kern Junction	26 F
	South Mojave to Sanborn	24 F
	Sanborn to County Line	24 F

1. “F” = Freight Trains, “P” = Passenger Trains

BNSF train counts on its Mojave Subdivision include local trains serving the U.S. Government-owned lines in Edwards Air Force Base and the U.S. Borax trackage west and north of Boron.

**PRIVATE AND GOVERNMENT RAILWAY TRAIN VOLUMES**

The U.S. Borax track west of Boron sees one round trip or two trains six days a week. Train service on the U.S. Government-owned lines in Edwards Air Force Base is less frequent. BNSF reported the only activity on the government line running south from Edwards is storage of BNSF railcars.

**CONCEPTUAL SHORT LINE RAIL SYSTEM ALTERNATIVE USE EVALUATION**

This study has investigated 252 miles of rail lines operated by Class I railroads (including the Lone Pine Subdivision); 81 miles operated by short lines (SJVR and Trona), and 26 miles of abandoned lines (Levee to Taft and Hollis to the Tulare/Kern County Line).

This section identifies potential alternative uses for existing and former railroad rights-of-way, and where such alternative uses might have the best potential. The emphasis here is on rights-of-way over which short line railroads once did or currently do operate. As previously noted, the two short lines operating in Kern County are the San Joaquin Valley Railroad and the Trona Railway.

**POTENTIAL ALTERNATIVE USES**

The SJVR and the Trona Railway provide critical links for shippers along their lines to the national rail system through their connections to the BNSF and UP, but volumes on these lines are light. Most segments of these rail corridors in Kern County have two or fewer daily trains.

<sup>7</sup> “Federal law gives Amtrak the right of access to freight railroads’ tracks outside the Northeast Corridor on very favorable terms: passenger trains have priority over freight trains, and Amtrak must pay freight railroads only the marginal, ‘out-of-pocket’ cost of using their tracks.” per the Congressional Budget Office website.

The following are potential options for alternative uses for short line corridors that could improve the transportation conditions in Kern County. These options have not been vetted with property owners but are simply examples showing what other jurisdictions have done modifying or repackaging abandoned or light volume rail corridors to enhance the overall mobility needs for a broader population.

### PEDESTRIAN, BICYCLE, EQUESTRIAN TRAIL

Abandoned rail lines have been converted to trails for use by pedestrians, bicyclists, and equestrians. An example of such a conversion is the Iron Horse Trail (**Figure 6**), a former Southern Pacific Railroad (SP) line running between Concord and San Ramon. Plans are on the books to expand the trail north to Suisun Bay and east to Livermore, for a total trail length of 33 miles, connecting two counties and 12 cities. The SP line was abandoned in 1977.

**Figure 6: Iron Horse Trail**



Photo source: WSA

The trail is maintained by the East Bay Regional Park District (EBRPD). According to the EBRPD website, “The trail corridor connects residential and commercial areas, business parks, schools, public transportation, regional trails and community facilities. Throughout its entire length, opportunities to view the valley ridgeline and landscape features like Mt. Diablo create a pleasant trail experience.”

A closer example of such a conversion is Tulare Santa Fe Trail in Tulare (**Figure 7**). This rails-to-trails conversion was enabled by the acquisition of the property by the City of Tulare from the former Atchison Topeka and Santa Fe Railway, which had ceased operating the line in 1989. The trail runs 4 miles, from Prosperity Avenue in the east to Inyo Avenue in the west.

According to the City of Tulare’s website, “The trail system travels through visually diverse areas including the more rural sections at the western and eastern edges of the city, residential areas, downtown and the redevelopment area. The trail also links directly with existing bicycle paths and facilitates bicycle and pedestrian travel from residential areas to the downtown area, commercial/retail shopping areas, and schools. An equestrian trail is also included. The trail's lighting is available until 10:00 p.m. daily.”

An even closer example is the trail conversion of the former Sunset Railroad line to a mixed use trail between Second Street and Hillard Street in Taft.

**Figure 7: Tulare Santa Fe Trail**



Photo source: WSA

## TRANSIT OPERATIONS

Many rail corridors have been modified for public transit uses. These modifications are more common in urban areas where population and employment densities are higher. Public transit uses range from dedicated bus systems to light rail to commuter rail and intercity rail systems which can often times utilize existing rail infrastructure.

### Bus Rapid Transit

The Orange Line (**Figure 8**), operated by the Los Angeles County Metropolitan Transportation Authority (Metro), is an example of a Bus Rapid Transit (BRT) service running on a former railroad right-of-way between Warner Center and the Metro Red Line subway station in North Hollywood, CA. The 14-mile route is exclusive to Metro buses and includes 14 San Fernando Valley stations. Service began in 2005. The line was built on the former SP Burbank Branch. The Los Angeles County Transportation Commission, precursor to Metro, purchased the right-of-way from SP in 1991.

**Figure 8: Bus Rapid Transit**



Photo source: Darrell Clarke, obtained from [www.thetransitcoalition.us](http://www.thetransitcoalition.us)

### Light Rail Transit

Light rail transit (LRT) is a fixed guideway system found typically along dense residential and commercial corridors, such as in San Jose, San Francisco, Sacramento and Los Angeles. A Santa Clara Valley Transportation Authority (VTA) light rail vehicle in Menlo Park is seen in **Figure 9**. LRT systems are typically electrically propelled, with overhead catenary systems; though diesel powered LRT systems exist (see discussion of the New Jersey Transit RiverLINE below). Station stops are frequent, often within less than a mile of each other. For the most part, LRT systems operate on their own tracks separate from freight and conventional passenger trains (commuter rail or Amtrak).

**Figure 9: Light Rail Transit**



Photo source: WSA

An example of LRT sharing a right-of-way with freight trains is seen in **Figure 10**. Here, the VTA Vasona Line (San Jose to Campbell) is shown in a right-of-way with a UP freight line in Campbell. The LRT tracks (on right) and freight tracks are separate.

LRT systems and freight trains can also share tracks, though LRT and freight service are temporally separated (freight trains run at night when LRT is not running). An example of such track sharing is the San Diego Trolley's San Diego-San Ysidro/Tijuana Line, where the LRT system uses the tracks exclusively during most of the day. The San Diego and Imperial Valley Railroad, a freight hauling short line, uses the track exclusively in the late night/early morning hours, when the trolley is not running.

**Figure 10: LRT Sharing Right-of-Way with Freight Rail (Spatial Separation)**



Photo source: WSA

### **Commuter and Intercity Rail**

Commuter rail and Amtrak intercity rail services often share track with freight railroads. Commuter rail examples include the Metrolink commuter rail system in Los Angeles and Altamont Commuter Express (ACE) in Northern California. Commuter rail is generally defined as passenger rail service run predominantly in the peak commute period and in the peak commute direction linking outlying residential areas with urban work centers. A typical commuter rail journey is 30 miles long or even longer. Station stops commonly average every 5 to 6 miles. Typical rolling stock includes locomotives with trailing coaches (**Figure 11**).

**Figure 11: Metrolink Commuter Train**



Photo source: WSA

Metrolink trains shares track with BNSF and UP trains. The underlying rights-of-way are owned by BNSF and UP, and in some cases by public agencies which are sponsors of the commuter rail service, e.g., Metro in Los Angeles County.

ACE runs on the UP from Stockton to Santa Clara, thence on publicly agency-owned track to San Jose. An example of a commuter rail station on a freight rail right-of-way is the Tracy Station on the UP's Oakland Subdivision, shown in **Figure 12**.

**Figure 12: Commuter Rail Station**



Photo source: WSA

An example of shared use by intercity trains are the Amtrak/Caltrans *San Joaquins*, which run on BNSF track in Kern County. Intercity passenger rail is generally defined as service operating between cities. A typical *San Joaquin* journey is of 100 mile or more. Rolling stock includes locomotives and trailing coaches, similar to the equipment used by Metrolink and ACE.

**Diesel Multiple Units**

A variation of traditional commuter rail equipment are diesel multiple units (DMUs), or self-propelled railcars, also called Diesel LRT. Examples of DMU service include New Jersey Transit’s RiverLINE between Camden and Trenton, NJ, and North County Transit District’s SPRINTER service operating on the Oceanside to Escondido Line in San Diego County (**Figure 13**). Both of these services share track with freight rail trains. However, freight rail service is relegated to night time/early morning operations when the DMUs are not running. The reason for this temporal separation of DMU and freight service is that these DMUs do not comply with the crashworthiness standards of the FRA required for contemporaneous operations.

**Figure 13: Non-FRA Compliant DMUs, RiverLINE Left and SPRINTER Right (Temporal Separation)**



Photo source: WSA

In recent years, a new type of DMU, which is compliant with FRA crash strength requirements, has emerged, enabling full shared use of a rail corridor by DMU, freight trains and traditional passenger equipment (commuter rail and intercity rail). **Figure 14** shows an “FRA compliant” DMU. Variants of this car type are in operation on the Wilson to Beaverton West Side Express service in Portland, OR; and on Tri-Rail linking Miami, Fort Lauderdale, and West Palm Beach, FL. Older style self-propelled railcars, known as Rail Diesel Cars (RDCs), are in service on Trinity Railway Express (TRE), operating between Dallas and Fort Worth, TX.

The attraction of DMUs versus traditional locomotive-hauled trainsets lies in that they are generally less expensive to operate on lines with lower ridership potential, have a lower profile and more stylish appearance, and are less noisy.

**Figure 14: FRA Complaint DMU (No Temporal Separation)**



Photo source: Bill Farquhar

#### TRANSIT AND NON-MOTORIZED USES

Transit and non-motorized travel can also share a rail corridor if ROW is available and property separation is provided. This separation can be horizontal (typically 25 feet of separation is recommended) or vertical (**Figure 15**) where right-of-way is limited and costly to obtain.

**Figure 15: Rail and Trail Shared Use Corridor (Vertical Separation)**



Photo Source: WSA

An example of horizontal separation is the Fillmore Trail (**Figure 16**), running for 2 miles west of the historic Fillmore Station in Fillmore in Ventura County. The trail is laid alongside the track of the Fillmore and Western Railway, a tourist railroad running regular dinner train service. The right-of-way was purchased by the Ventura County Transportation Commission (VCTC) from SP in 1995. The trail is open to walkers, cyclists and line-in skaters.

**Figure 16: Rail and Trail Shared Use Corridor (Horizontal Separation)**



Photo source: WSA

### MOTORIZED AND UTILITY CORRIDOR USES

Rights-of-way can be shared by railroads and motorists, and truckers. Until 1957, the lower deck of the San Francisco Oakland Bay Bridge was half passenger railroad and half highway (**Figure 17**). The deck was subsequently converted to all highway use.

**Figure 17: Rail and Vehicle Shared Use Corridor (Horizontal Separation)**



Photo source: <http://www.keyrailpix.org/gallery2/v/keyrailmain/album06/sfobb.jpg.html>

Rail rights-of-way can also be shared with motor vehicle traffic. An example is the Whittier Tunnel, south of Anchorage, AK (**Figure 18**), formally known as the Aton Anderson Memorial tunnel. The Alaska Railway tunnel was reconstructed in the late 1990s to handle both train and motor vehicle traffic. Only one mode can use the tunnel at a time, i.e., temporal separation.

**Figure 18: Rail and Vehicle Shared Use Corridor (Temporal Separation)**



Photo source: [http://en.wikipedia.org/wiki/Anton\\_Anderson\\_Memorial\\_Tunnel](http://en.wikipedia.org/wiki/Anton_Anderson_Memorial_Tunnel)

More common examples of shared-use of right-of-way by motor vehicle and rail traffic are streetcar systems which operate in mixed flow environments (**Figure 19**).

**Figure 19: Rail and Vehicle Shared Use Corridor (No Separation)**



Photo source: WSA

A traditional use for railroad rights-of-way have been for utility applications: pipelines for oil and gas and fiber optic cables. Indeed, the Sprint fiber optic cable network was originally laid mostly on SP rights-of-way. Conceivably, overhead power transmission lines and even water irrigation canals could be built in railroad rights-of-way.

### AGRICULTURAL USE

Though not a transportation use, agricultural use of a former rail right-of-way is one way to preserve a corridor until such time as a more desirable transportation use for a corridor becomes obvious. Indeed, major portions of the former SP Eastside Line north of Hollis are now orchards.

## BEST LOCATIONS FOR ALTERNATIVE USES

The best locations on rail rights-of-way for the aforesaid transportation alternatives, with the exception of pipelines and fiber optic cables which are buried underground, are either where trains no longer run or where the rights-of-way are wide enough to accommodate all uses safely.

## POTENTIAL FOR TRAIL USE

Future land use projections indicate that growth in Bakersfield will expand in the areas served by the SJVR (**Figure 20**). This expansion will make the short line rail rights-of-way potentially good candidates for horizontal separation of the rail line and a trail – much like the Fillmore Trail in Ventura County. These trails could offer recreational options to area residents. The SJVR Subdivisions are, for the most part, 100 feet wide, though portions of them are less. Such a width is adequate for building a trail.

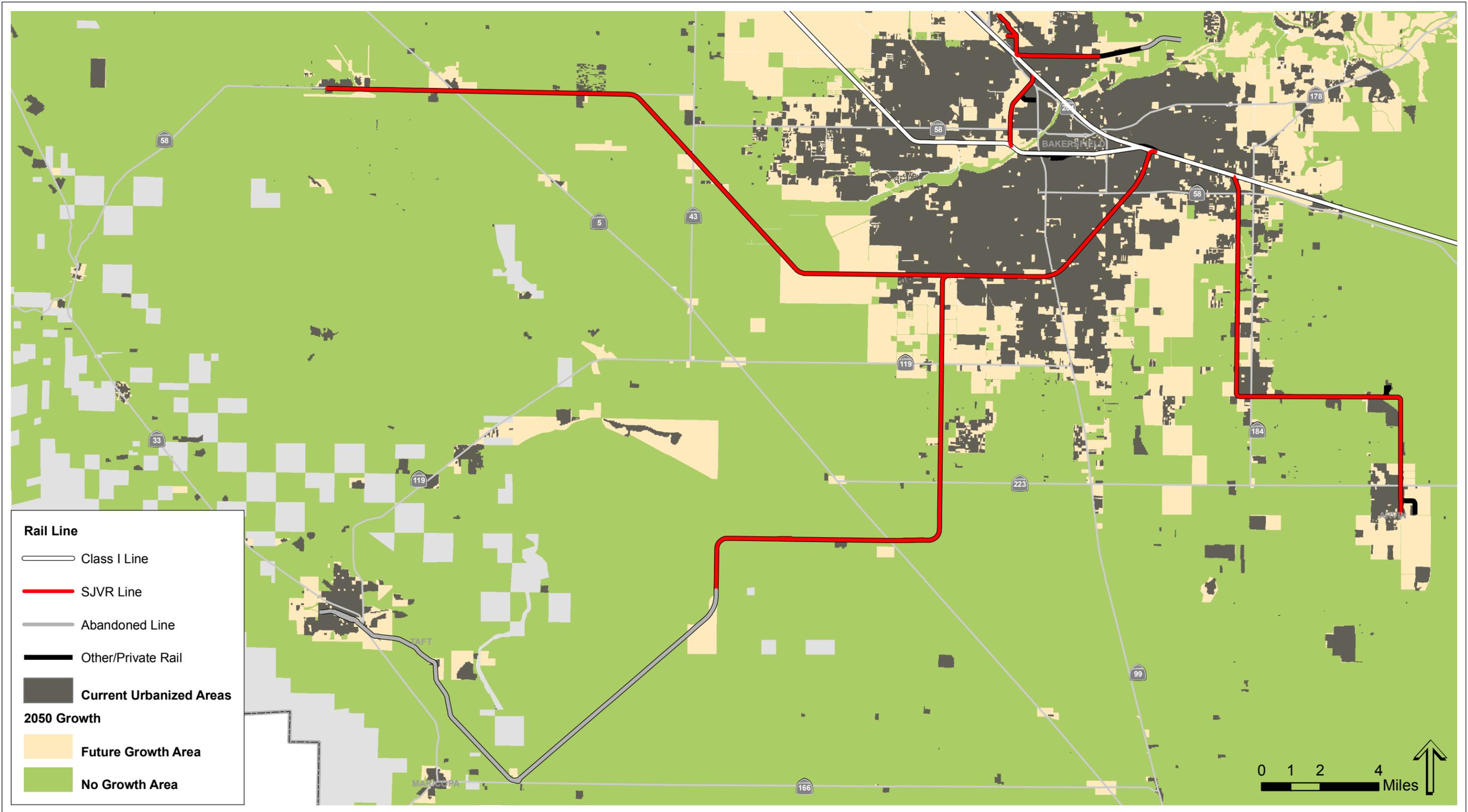
The current bike plan for Kern County overlaid with the SJVR Subdivisions appears as **Figure 21**. The map suggests the potential for creation of Class 1 bikeways (paths) on rail rights-of-way that parallel existing and planned bikeways (striped or signed) which share streets with cars, trucks and buses. These new bikeways would be in addition to the existing and planned bikeways. SJVR lines that could conceivably host bikeways now and in the future include the Buttonwillow, Sunset, Arvin, Oil City and Landco Subdivisions and the Airport Lead.

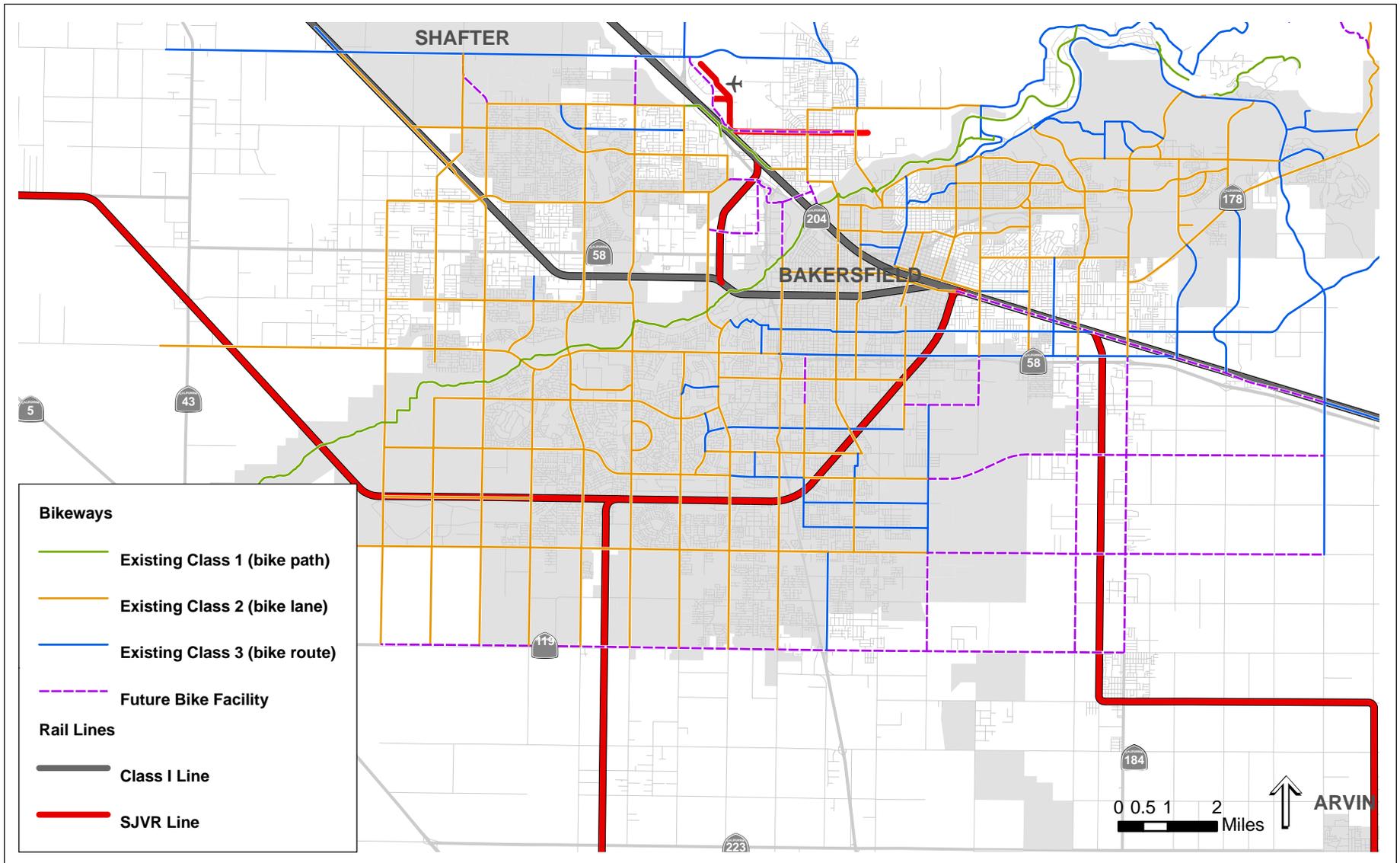
The abandoned portion of the Sunset Railroad between Levee and Taft is largely intact and wide enough (generally between 100 and 200 feet) for a trail. Most of it has not been converted to another use. Turning the former ROW into a mixed use trail (pedestrian, bike and equestrian – much like the Tulare Santa Fe Trail) would implement a recreational option between Bakersfield and Taft.

On the other hand, most of the abandoned SP Eastside Line, running north of Hollis on the Famoso Subdivision to the Tulare/Kern County Line (and thence to Richgrove Strathmore, Exeter and Fresno), is in agricultural use, as noted. Thus, conversion of the former ROW to a trail would appear to be more challenging than the Levee-to-Taft ROW.

It is worth noting that SJVR has filed for abandonment of the former Eastside Line from Jovista (west of Richgrove) to Richgrove, Strathmore and Exeter. Tulare County Association of Governments (TCAG) is investigating the potential of acquiring the 44 miles of rail line with the intention of maintaining freight rail service there. Were this to happen, the restoration of the former ROW as a rail line between Hollis and Richgrove may become a realistic alternative.

Because of its relative isolation at Searles and short length running to the San Bernardino/Kern County Line (10,000 feet), the Trona Railway right-of-way is not an obvious choice for use as a trail.





**BAKERSFIELD BIKEWAYS AND RAIL RIGHTS-OF-WAY**  
**FIGURE 21**

The abandoned portion of the Lone Pine Subdivision to the Inyo/Kern County Line, beginning 3 miles northwest of Searles, was studied under a separate effort and the results are included in Appendix A. That effort also studied the former right-of-way from the county line to Laws in Inyo County. The findings show the right-of-way as far north as Laws, and current ownership.

### POTENTIAL FOR TRANSIT USE

The potential exists for implementing rail transit on SJVR lines in Kern County – in particular on the Buttonwillow, Arvin, Landco, and Oil City Subdivisions. The specific types of transit use could include LRT, diesel DMUs, and FRA complaint DMUs. Given the relatively short distances involved, traditional commuter rail equipment (as used by Metrolink) would be less practical here.

One challenge for rail transit service on the Buttonwillow Subdivision is a direct means of access to downtown Bakersfield work centers and the Amtrak Station. Such access could be provided by a fixed guideway constructed in Union Avenue between Ming Avenue and the Amtrak Station. How this can be done is seen in **Figure 22**, showing a guideway of the Houston Metro LRT system set in a city street but separated from a traffic lane by means of a mountable barrier.

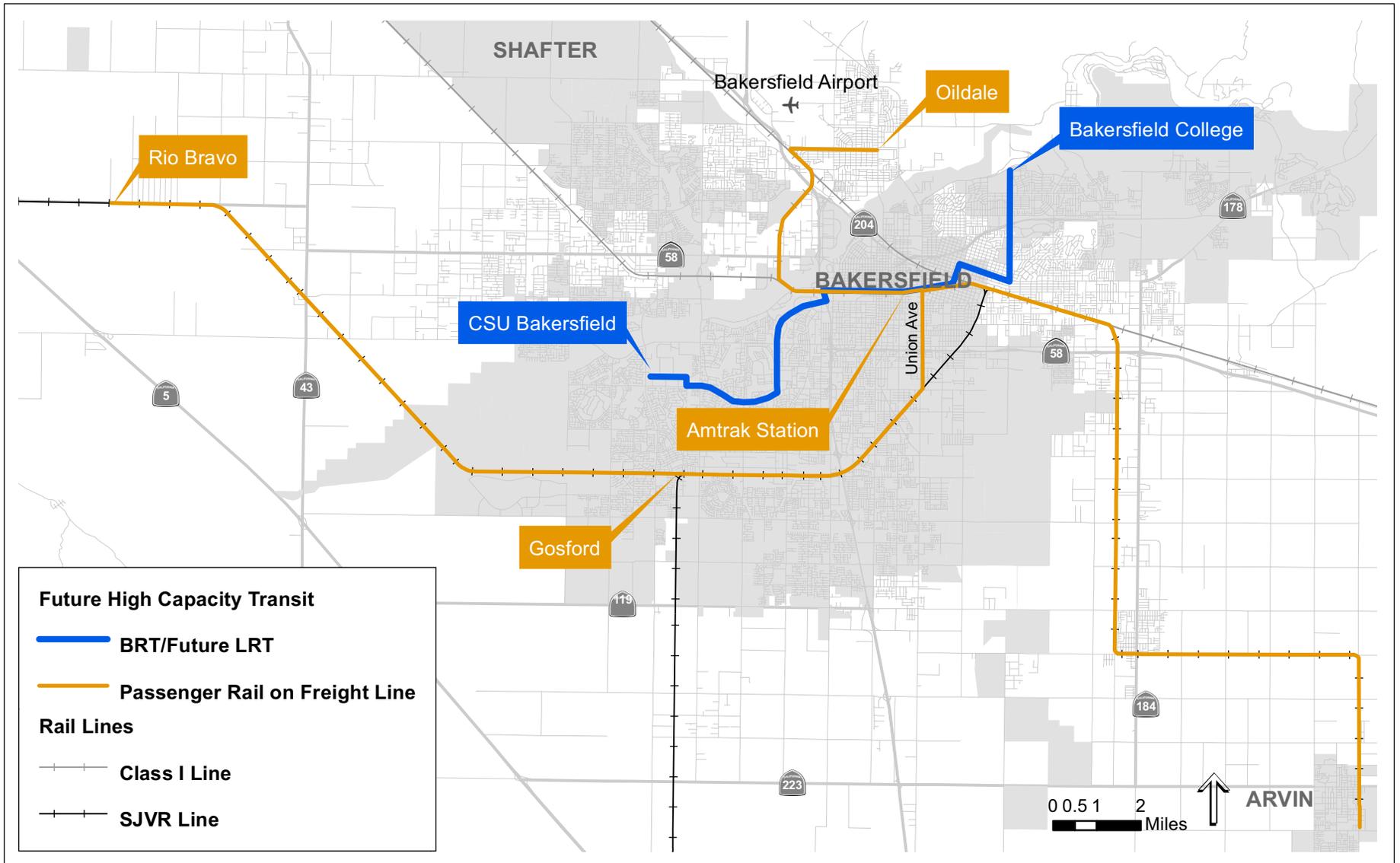
**Figure 22: Houston Metro Guideway Separation from Roadway**



Photo source: WSA

Kern COG planners have envisioned a potential BRT route running east-west between Bakersfield College and California State University Bakersfield. This route in time could become a light rail route connecting with the other rail transit services on the aforesaid SJVR Subdivisions at the Bakersfield Amtrak Station, as shown in **Figure 23**.

The creation of a rail transit network in Bakersfield would argue for one rail mode for all rail transit lines. The advantage of one mode lies in the economies realized with a single equipment type: a larger order of one type of equipment versus smaller orders of multiple types could lower per unit acquisition cost; also, only one type of maintenance facility would be required (diesel and electric vehicles cannot share a single facility).



FUTURE HIGH CAPACITY TRANSIT CONCEPTS IN BAKERSFIELD

FIGURE 23

Given the urban setting and short shopping patterns envisioned for the future, the likely mode would be either electric or diesel light rail. As noted, LRT and freight service can share a rail right-of-way with either temporal or spatial separation. Both approaches should be explored for LRT deployment on SJVR lines in Bakersfield.

Such right-of-way sharing would require the concurrence of SJVR and the underlying track owner, if other than SJVR. Indeed, a starting point may be the public acquisition of these lines – just as VTA acquired the Vasona Line from the former SP (now UP). In any case, the light freight train volumes on these lines would seem to make such joint use feasible.

Kern COG planners have also identified new rail transit services on BNSF and UP main and branch lines. The implementation of passenger service on Class I lines would likely involve commuter rail, utilizing either traditional locomotive-hauled equipment or FRA compliant DMUs, which can share track without temporal separation from freight services.

Envisioned is passenger rail service on the BNSF Bakersfield Subdivision, running between Tulare/Kern County Line and downtown Bakersfield. Such a commuter rail deployment there would bring commuters from north of Bakersfield to central Bakersfield work centers. Also envisioned is the extension of Metrolink service from its current terminus in Lancaster to Tehachapi on the UP Mojave Subdivision and toward California City on the UP Lone Pine Subdivision.

Commuter rail service on BNSF and/or UP will likely require extensive negotiation. These Class I carriers are likely to insist on capacity improvements such as double track or long passing sidings. They will also likely to insist on indemnification from any liability vis a vis transit service, regardless of fault. Nevertheless, these carriers host commuter rail services today. Thus the precedent exists for the implementation of new commuter rail services in Kern County.

## **APPENDIX A: SEARLES TO LAWS RAIL RIGHT-OF WAY OWNERSHIP STUDY**

Technical Memorandum

## MEMO

**To:** Ben Raymond, KernCOG

**Date:** February 4, 2010

**From:** Justin Fox, WSA

**Subject:** Searles to Laws Rail Right-of-Way Ownership Study

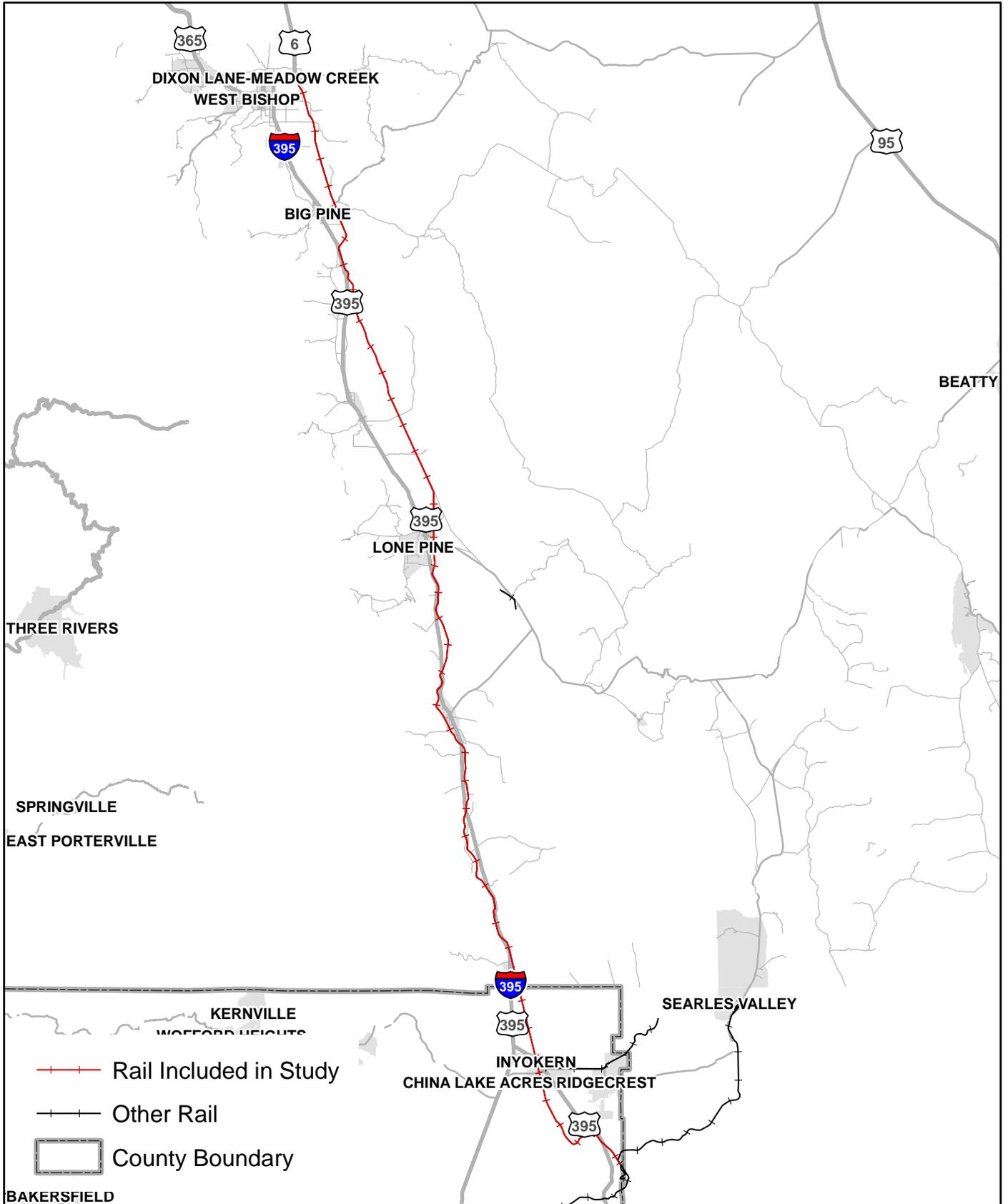
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### **Purpose of Study**

The purpose of this study was to identify and document the current ownership of the former Southern Pacific Railroad right-of-way between Searles in Kern County and Laws in northern Inyo County.

The study area includes approximately 90 miles of the former SP standard gauge Jawbone Branch (northern section of the Lone Pine Branch) right-of-way between Searles and Owenyo, and another approximately 52 miles of former Carson and Colorado (C&C) narrow gauge right-of-way between Owenyo and Laws. Figure 1 shows the rail corridor studied. The C&C was purchased by the SP in 1900, and the SP in turn was purchased by the Union Pacific Railroad (UP) in 1996. Not covered in the analysis is 18 miles of C&C trackage running south from Owenyo to Keeler or the former U.S. Navy line to China Lake, which connected with the Jawbone Branch north of Inyokern.

The C&C narrow gauge route was abandoned in 1960. The SP Jawbone Branch, excepting about 3 miles running northwest of Searles, has been out of service since the 1980s and subsequently abandoned. That three-mile segment and the Lone Pine Branch running between Searles and Mojave were subjects of the recent *Kern County Rail Study*.



## Methodologies

Based on WSA's recent work on the Kern County Rail Study and discussions with Inyo County staff, two different methodologies were used to collect and create the right-of-way survey. These two methodologies reflect a difference in resources between Kern County and Inyo County and the need to obtain data directly from the Inyo County Assessor's office for these areas of the study.

In Part 1, from Searles to the Inyo County Line, WSA used a similar process to that of the *Kern County Rail Study*. This process included selecting all existing parcels which lie along the designated GIS rail alignments for Kern County and extract the corresponding parcel maps (in TIFF format) from the assessor's parcel map database aligned with these properties. These maps were then projected in GIS and rights-of-way sketched or identified from these images. The resulting spatial file for this task shows abandoned line property boundaries and an attribute field for ownership, as identified in the parcel maps. Parcels with unknown ownership which lie beneath the abandoned rail corridor are presumed to belong to UP.

In Part 2, from the Inyo County Line to Laws, WSA used existing historic railroad mapping as well as images from the National Agricultural Imagery Program (NAIP), the USDA Farm Services Agency (via Google Earth), and the Federal Railroad Administration to identify and map the former SP and C&C rights-of-way. Once the abandoned rail alignment was mapped, WSA used GIS to select all parcels (and corresponding APNs) from the County's GIS database which appeared to occupy the SP and C&C rights-of-way<sup>1</sup>. Parcel maps were obtained to confirm that appropriate parcels were selected along the existing rail line<sup>2</sup>. Using the APNs, ownership information for these parcels was then obtained from the Inyo County Assessor's office. WSA discovered that many parcels appear to belong to the C&S and SP, with the presumed current owner being UP.

The precision of the resulting maps and ownership data is sufficient for the purpose of this study. However, since this effort did not include any field surveying or title searches, the resulting data are not appropriate for legal determination of property lot boundaries or ownership.

## Findings

The parcel identification and mapping effort for the abandoned rail right-of-way in Kern County revealed a relatively clear outline of the existing corridor which was confirmed using the assessor's parcel maps. This alignment primarily consists of parcels designated as Union Pacific ownership or voids within the parcel mapping which were assigned an "unknown" ownership status. The ownership of these parcels in tabular form is shown in Attachment A by APN and the mapping of these parcels is shown in Attachment B.

The mapping effort in Inyo County revealed a wider range of ownership along the largely abandoned Carson & Colorado line. Ownership of these parcels in tabular form is shown in Attachment C by APN and spatially in the maps included as Attachment D. According to the Assessor's data, ownership of these parcels is held primarily by either the Southern Pacific (now Union Pacific) or the City of Los Angeles Department of Water

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<sup>1</sup> The Inyo County parcel GIS files revealed some areas where the former right-of-way parcels can easily be identified. In other areas, the right-of-way cannot be identified at all. In such cases, WSA noted the APN for the parcel through which WSA believed the right-of-way once passed but did not create new shapefiles which represent these rights-of-way.

<sup>2</sup> The precision of the resulting maps is sufficient for the purpose of this study. However, since mapping does not include any field surveying or title searches, the maps are not appropriate for legal determination of property lot boundaries or for ownership.

and Power. Many parcels where the abandoned alignment existed are large and do not reflect a clear outline of the rail corridor like the Southern Pacific parcels. The historic alignment within these larger parcels are shown in many of the parcel maps obtained from Inyo County Assessor's office and are included in Attachment E.

**Attachment A**

Kern County Rail Right-of-Way Ownership Information  
*Searles to Inyo County Line*

APN Number	Size (Sq. Ft)	Size (Acres)	Designated Land Use	Owner
056-095-44	2,541,399	58.34	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
056-113-57	220,594	5.06	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
056-113-58	409,599	9.40	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
056-114-69	1,114,480	25.58	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
084-021-18	804,600	18.47	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
084-023-18	269,206	6.18	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
084-251-05	553,847	12.71	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
097-140-19	1,659,098	38.09	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
341-082-39	528,384	12.13	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
341-084-14	2,548,267	58.50	UNDEVELOPED LAND >20AC MT/DES	SCOTT ERNEST JOHN
341-084-15	358,377	8.23	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
341-084-16	317,333	7.28	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
352-085-09	90,911	2.09	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
352-085-10	1,016,172	23.33	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO
511-020-04	1,737,650	39.89	ASSESSORS UTILITY PARCELS	UNION PACIFIC R/R CO

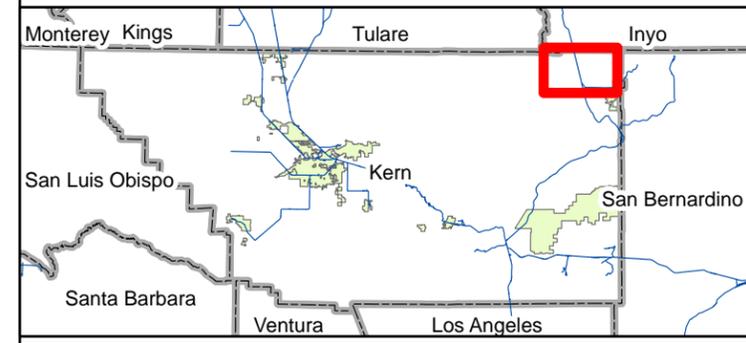
**Attachment B**

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Kern County Rail Right-of-Way Maps  
*Searles to Inyo County Line*

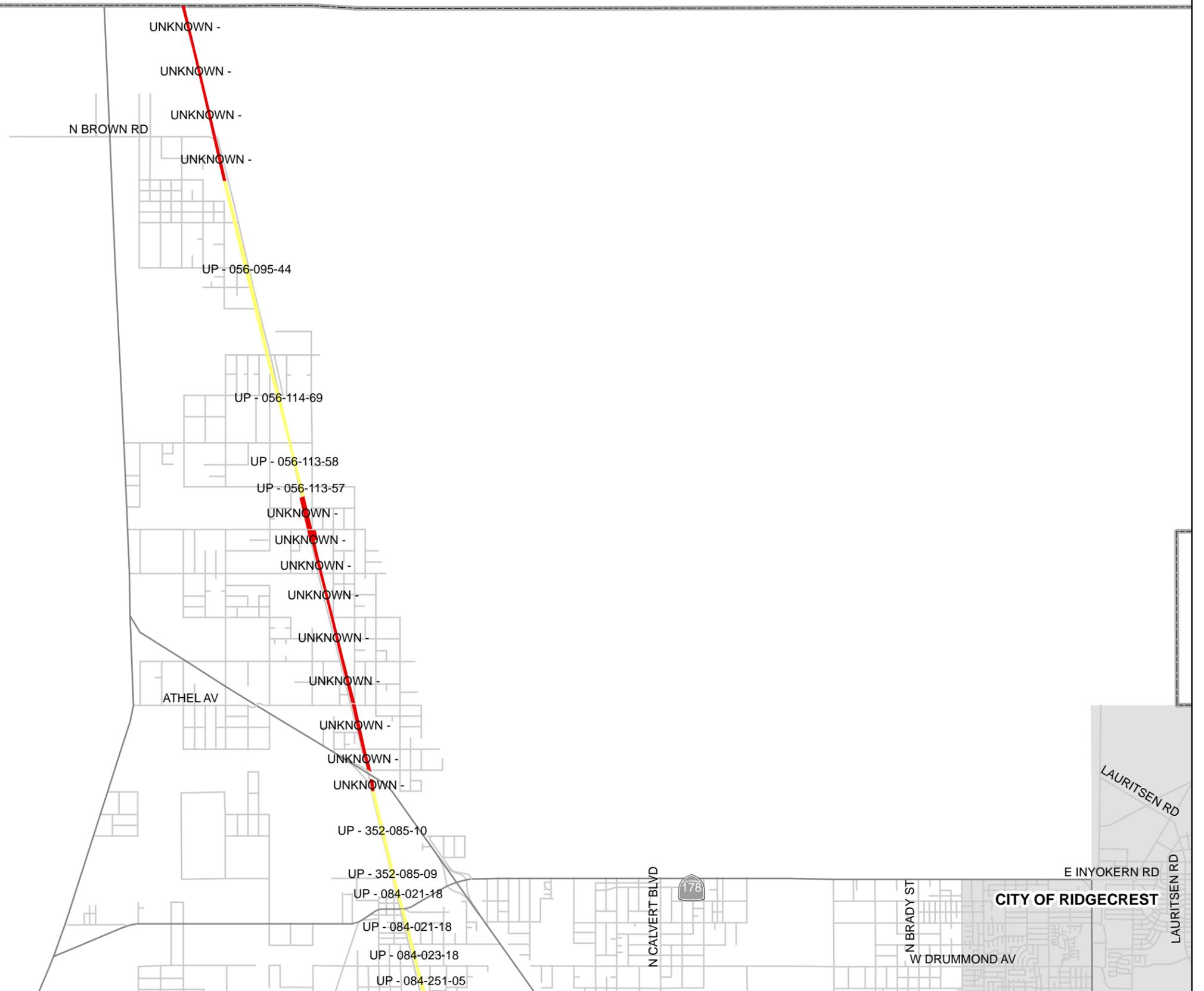


# Inyokern to County Line



**Legend**

kern_roadshield	<b>ROW Owner</b>
Kern County Boundary	OTHER THAN RR
City Limits	TRONA RAILWAY
	UNKNOWN
	UP



## Attachment C

### Inyo County Rail Right-of-Way Ownership Information Kern County Line to Laws

APN Number	Size (Sq. Ft)	Size (Acres)	Designated Land Use	Owner
037-160-47	1,093,238.42	25.10	Open Space and Recreation	SOUTHERN PACIFIC TRANS CO
037-160-46	549,762.08	12.62	Open Space and Recreation	SOUTHERN PACIFIC TRANS CO
037-150-03	408,515.51	9.38	Open Space and Recreation	SOUTHERN PACIFIC TRANS CO
037-440-03	4,268.09	0.10	Open Space and Recreation	SOUTHERN PACIFIC TRANS CO
037-440-02	76,890.84	1.77	Rural Protection	SOUTHERN PACIFIC TRANS CO
037-150-RR	407,922.32	9.36	Open Space and Recreation	<i>No Parcel Information</i>
037-150-RR	713,794.00	16.39	Open Space and Recreation	<i>No Parcel Information</i>
037-150-RR	80,936.23	1.86	Open Space and Recreation	<i>No Parcel Information</i>
037-150-RR	58,692.68	1.35	Open Space and Recreation	<i>No Parcel Information</i>
037-230-15	1,179,307.72	27.07	Open Space and Recreation	CALAMARO MICHAEL H
037-230-14	594,346.14	13.64	Open Space and Recreation	SOUTHERN PACIFIC TRANS CO
037-230-13	279,754.70	6.42	Open Space and Recreation	SOUTHERN PACIFIC TRANS CO
037-120-RR	1,320,268.50	30.31	Residential Reserve	<i>No Parcel Information</i>
029-190-11	560,485.13	12.87	Rural Protection	SOUTHERN PACIFIC TRANS CO
021-030-03	2,348,350.94	53.91	Natural Resources	CITY OF LOS ANGELES DWP
018-230-10	13,449,113.22	308.75	Natural Resources	CITY OF LOS ANGELES DWP
037-020-01	2,148,401.57	49.32	Rural Protection	SOUTHERN PACIFIC TRANS CO
029-100-04	1,882,481.77	43.22	Rural Protection	SOUTHERN PACIFIC TRANS CO
022-220-07	27,668,082.69	635.17	Natural Resources	CITY OF LOS ANGELES DWP
023-110-11	1,977,266.14	45.39	Natural Resources	CITY OF LOS ANGELES DWP
023-110-14	21,689.37	0.50	Natural Resources	CITY OF LOS ANGELES DWP
023-110-13	26,235,066.08	602.27	Natural Resources	CITY OF LOS ANGELES DWP
023-110-12	45,821.25	1.05	Natural Resources	CITY OF LOS ANGELES DWP
029-180-RR	267,102.77	6.13	Residential Reserve	<i>No Parcel Information</i>
037-230-16	350,299.31	8.04	Open Space and Recreation	SOUTHERN PACIFIC TRANS CO
037-120-34	684,424.33	15.71	Rural Protection	SOUTHERN PACIFIC TRANS CO
037-080-07	809,777.82	18.59	Rural Protection	WESTERN LAND & MINING LLC
037-080-06	2,307,579.35	52.97	Rural Protection	SOUTHERN PACIFIC TRANS CO
037-070-01	3,668,272.23	84.21	Rural Protection	SOUTHERN PACIFIC TRANS CO
037-040-08	3,781,717.26	86.82	Rural Protection	SOUTHERN PACIFIC TRANS CO
037-020-01	472,882.26	10.86	Rural Protection	SOUTHERN PACIFIC TRANS CO
033-240-12	9,571,056.17	219.72	Open Space and Recreation	BEILICKE DEITER & CATHERINE
037-020-01	437,049.22	10.03	Rural Protection	SOUTHERN PACIFIC TRANS CO
033-210-28	4,944,016.16	113.50	State and Federal Lands	USA BUREAU OF LAND MGMT
033-220-01	158,970.58	3.65	Rural Protection	SOUTHERN PACIFIC TRANS CO

APN Number	Size (Sq. Ft)	Size (Acres)	Designated Land Use	Owner
033-110-01	170,444.00	3.91	Rural Protection	SOUTHERN PACIFIC TRANS CO
033-110-54	5,324,880.96	122.24	State and Federal Lands	USA BUREAU OF LAND MGMT
033-110-17	6,044,576.93	138.76	Open Space and Recreation	CG ROXANE WATER CO PTSP
033-210-03	2,117,489.74	48.61	Rural Protection	SOUTHERN PACIFIC TRANS CO
033-490-02	18,368,582.68	421.68	Natural Resources	INDIAN WELLS VLY WATER DIST NOELDNER JONATHAN L & ANGELA
033-020-23	1,705,279.25	39.15	Rural Protection	USA BUREAU OF LAND MGMT
033-210-28	11,156,586.58	256.12	State and Federal Lands	USA BUREAU OF LAND MGMT
033-110-01	324,615.88	7.45	Rural Protection	SOUTHERN PACIFIC TRANS CO
033-110-01	46,143.19	1.06	Rural Protection	SOUTHERN PACIFIC TRANS CO
026-060-27	205,670.02	4.72	Public Service Facilities	CALAMARO MICHAEL H
033-020-16	17,661,184.34	405.45	State and Federal Lands	USA BUREAU OF LAND MGMT
033-020-15	10,020,087.66	230.03	State and Federal Lands	USA BUREAU OF LAND MGMT
029-200-04	310,862.79	7.14	Rural Protection	SOUTHERN PACIFIC TRANS CO
029-190-23	163,484.90	3.75	Open Space and Recreation	SOUTHERN PACIFIC TRANS CO
029-190-24	162,612.60	3.73	Open Space and Recreation	SOUTHERN PACIFIC TRANS CO
013-030-13	24,572,550.82	564.11	Natural Resources	CITY OF LOS ANGELES DWP
013-030-13	2,841,313.34	65.23	Natural Resources	CITY OF LOS ANGELES DWP
013-030-05	111,556.28	2.56	Natural Resources	CITY OF LOS ANGELES DWP
029-180-03	827,895.52	19.01	Rural Protection	SOUTHERN PACIFIC TRANS CO
029-170-19	1,464,237.42	33.61	State and Federal Lands	STATE OF CA STATE LAND DIVN
029-120-48	406,049.03	9.32	State and Federal Lands	STATE OF CA LANDS DIVN
029-120-36	13,285.73	0.30	State and Federal Lands	USA BUREAU OF LAND MGMT
029-120-47	2,579,417.25	59.22	Rural Protection	SOUTHERN PACIFIC TRANS CO
029-100-04	1,032,172.57	23.70	Rural Protection	SOUTHERN PACIFIC TRANS CO
026-180-03	979,211.82	22.48	Rural Protection	SOUTHERN PACIFIC TRANS CO
026180SOPAC	1,553,223.83	35.66	Residential Reserve	<i>No Parcel Information</i>
026-060-29	518,364.81	11.90	Open Space and Recreation	CALAMARO MICHAEL H
026-170-05	1,707,115.83	39.19	Rural Protection	SOUTHERN PACIFIC TRANS CO
026-140-08	28,263,414.43	648.84	Natural Resources	CITY OF LOS ANGELES DWP
026-140-02	262,838.71	6.03	Rural Protection	SOUTHERN PACIFIC TRANS CO
013-010-09	26,025,535.57	597.46	Natural Resources	CITY OF LOS ANGELES DWP
022-150-18	15,528,228.18	356.48	Natural Resources	CITY OF LOS ANGELES DWP
026-060-28	264,348.84	6.07	Open Space and Recreation	SOUTHERN PACIFIC TRANS CO
026-050-20	396,367.16	9.10	General Industrial	SOUTHERN PACIFIC TRANS CO
026-050-29	262,990.32	6.04	Rural Protection	SOUTHERN PACIFIC TRANS CO
026-050-26	17,238,095.68	395.73	Natural Resources	CITY OF LOS ANGELES DWP
026-010-12	28,170,068.69	646.70	Natural Resources	CITY OF LOS ANGELES DWP
026-010-11	27,887,983.84	640.22	Natural Resources	CITY OF LOS ANGELES DWP
023-140-13	21,421.25	0.49	Rural Protection	SOUTHERN PACIFIC TRANS CO

APN Number	Size (Sq. Ft)	Size (Acres)	Designated Land Use	Owner
023-140-11	24,536,698.34	563.29	Natural Resources	CITY OF LOS ANGELES DWP
023-140-10	11,608,722.01	266.50	Natural Resources	CITY OF LOS ANGELES DWP
023-140-09	882,314.32	20.26	Natural Resources	CITY OF LOS ANGELES DWP
023-120-12	25,480,499.67	584.95	Natural Resources	CITY OF LOS ANGELES DWP
023-120-11	38,018.11	0.87	Rural Protection	SOUTHERN PACIFIC TRANS CO
023-120-10	13,738,054.62	315.38	Natural Resources	CITY OF LOS ANGELES DWP
023-110-12	27,948,448.03	641.61	Natural Resources	CITY OF LOS ANGELES DWP
022-220-10	27,882,578.85	640.10	Natural Resources	CITY OF LOS ANGELES DWP
022-220-09	27,875,675.20	639.94	Natural Resources	CITY OF LOS ANGELES DWP
022-210-05	20,798,256.54	477.46	Natural Resources	CITY OF LOS ANGELES DWP
022-150-20	26,269,034.69	603.05	Natural Resources	CITY OF LOS ANGELES DWP
022-110-14	24,957,851.92	572.95	Natural Resources	CITY OF LOS ANGELES DWP
022-110-13	201,874.75	4.63	Rural Protection	SOUTHERN PACIFIC TRANS CO
022-110-15	8,716,312.89	200.10	Natural Resources	CITY OF LOS ANGELES DWP
022-110-12	798,595.44	18.33	Rural Protection	SOUTHERN PACIFIC TRANS CO
022-110-11	33,813,424.81	776.25	Natural Resources	CITY OF LOS ANGELES DWP
022-110-10	487,155.75	11.18	Natural Resources	CITY OF LOS ANGELES DWP
021-230-02	981,253.27	22.53	Natural Resources	CITY OF LOS ANGELES DWP
021-220-15	1,280,865.08	29.40	Natural Resources	CITY OF LOS ANGELES DWP
021-210-15	11,806.89	0.27	Rural Protection	SOUTHERN PACIFIC TRANS CO
021-210-14	1,149,405.83	26.39	Natural Resources	CITY OF LOS ANGELES DWP
021-210-06	1,111,563.72	25.52	Natural Resources	CITY OF LOS ANGELES DWP
021-200-12	20,039.09	0.46	Rural Protection	SOUTHERN PACIFIC TRANS CO
021-200-13	2,112,717.05	48.50	Natural Resources	CITY OF LOS ANGELES DWP
021-200-11	278,918.51	6.40	Natural Resources	CITY OF LOS ANGELES DWP
021-110-06	1,521,533.96	34.93	Rural Protection	SOUTHERN PACIFIC TRANS CO
021-110-07	151,732.41	3.48	Natural Resources	CITY OF LOS ANGELES DWP
021-110-05	443,114.42	10.17	Rural Protection	SOUTHERN PACIFIC TRANS CO
021-070-09	162,889.19	3.74	Natural Resources	CITY OF LOS ANGELES DWP
021-060-16	20,021.96	0.46	Rural Protection	SOUTHERN PACIFIC TRANS CO
021-060-17	608,012.60	13.96	Natural Resources	CITY OF LOS ANGELES DWP
021-060-15	277,456.60	6.37	Rural Protection	SOUTHERN PACIFIC TRANS CO
021-060-14	5,174,041.69	118.78	Natural Resources	CITY OF LOS ANGELES DWP
021-060-09	1,744,093.00	40.04	Natural Resources	CITY OF LOS ANGELES DWP
021-060-13	279,122.84	6.41	Rural Protection	SOUTHERN PACIFIC TRANS CO
021-060-12	24,176,638.65	555.02	Natural Resources	CITY OF LOS ANGELES DWP
018-230-11	1,653,218.78	37.95	Rural Protection	SOUTHERN PACIFIC TRANS CO
018-190-06	22,224.27	0.51	Natural Resources	CITY OF LOS ANGELES DWP
018-190-02	2,335,958.12	53.63	Rural Protection	SOUTHERN PACIFIC TRANS CO
018-110-13	27,770,341.45	637.52	Natural Resources	CITY OF LOS ANGELES DWP

APN Number	Size (Sq. Ft)	Size (Acres)	Designated Land Use	Owner
018-110-10	21,772,830.96	499.84	Natural Resources	CITY OF LOS ANGELES DWP
018-100-11	27,349,336.62	627.85	Natural Resources	CITY OF LOS ANGELES DWP
018-100-01	6,864,005.37	157.58	Natural Resources	CITY OF LOS ANGELES DWP
018-100-10	17,277,498.23	396.64	Natural Resources	CITY OF LOS ANGELES DWP
018-080-13	1,743,277.35	40.02	Natural Resources	CITY OF LOS ANGELES DWP
018-080-28	11,000,895.54	252.55	Natural Resources	CITY OF LOS ANGELES DWP
018-080-28	10,937,649.64	251.09	Natural Resources	CITY OF LOS ANGELES DWP
018-080-21	6,912,992.60	158.70	Natural Resources	CITY OF LOS ANGELES DWP
016-230-10	50,024.80	1.15	Rural Protection	SOUTHERN PACIFIC TRANS CO
016-230-09	129,545.45	2.97	Natural Resources	CITY OF LOS ANGELES DWP
016-230-11	6,038,999.68	138.64	Natural Resources	CITY OF LOS ANGELES DWP
016-230-08	24,248,877.74	556.68	Natural Resources	CITY OF LOS ANGELES DWP
016-220-05	10,487,050.56	240.75	Natural Resources	CITY OF LOS ANGELES DWP
016-220-09	15,631,094.30	358.84	Natural Resources	CITY OF LOS ANGELES DWP
016-220-08	27,771,555.29	637.55	Natural Resources	CITY OF LOS ANGELES DWP
013-060-10	77,040.85	1.77	Rural Protection	SOUTHERN PACIFIC TRANS CO
016-210-09	19,041,859.86	437.14	Natural Resources	CITY OF LOS ANGELES DWP
013-060-11	27,974,617.66	642.21	Natural Resources	CITY OF LOS ANGELES DWP
013-060-09	27,880,787.11	640.05	Natural Resources	CITY OF LOS ANGELES DWP
013-040-12	27,751,357.64	637.08	Natural Resources	CITY OF LOS ANGELES DWP
013-040-08	27,657,687.28	634.93	Natural Resources	CITY OF LOS ANGELES DWP
013-030-10	25,983,391.40	596.50	Natural Resources	CITY OF LOS ANGELES DWP
013-010-10	124,869.68	2.87	Rural Protection	SOUTHERN PACIFIC TRANS CO
013-010-08	27,870,032.54	639.81	Natural Resources	CITY OF LOS ANGELES DWP
010-170-12	27,373,808.09	628.42	Natural Resources	CITY OF LOS ANGELES DWP
010-170-11	27,324,001.64	627.27	Agriculture	CITY OF LOS ANGELES DWP
010-250-02	75,036.34	1.72	Public Service Facilities	SOUTHERN PACIFIC TRANS CO
010-250-03	398,635.54	9.15	Public Service Facilities	COUNTY OF INYO
010-220-10	39,525.56	0.91	Public Service Facilities	BISHOP MUSEUM / HISTORICAL SOC
010-170-10	15,291,147.66	351.04	Agriculture	CITY OF LOS ANGELES DWP
010-220-09	224,651.54	5.16	General Industrial	STANDARD INDUSTRIAL MINERALS
010-190-05	577,936.40	13.27	General Industrial	CITY OF LOS ANGELES DWP
010-180-07	70,367.60	1.62	Agriculture	CITY OF LOS ANGELES DWP
010-160-04	6,123,683.36	140.58	Agriculture	CITY OF LOS ANGELES DWP
010-220-13	49,528.04	1.14	General Industrial	HERITAGE PROPANE LLC
018-090-14	27,594,039.71	633.47	Natural Resources	CITY OF LOS ANGELES DWP
026-060-27	312,610.95	7.18	Public Service Facilities	CALAMARO MICHAEL H
026-050-18	862,882.91	19.81	Natural Resources	CITY OF LOS ANGELES DWP
026-060-26	393,645.05	9.04	Open Space and Recreation	SOUTHERN PACIFIC TRANS CO

APN Number	Size (Sq. Ft)	Size (Acres)	Designated Land Use	Owner
033-430-10	910,225.23	20.90	General Industrial	SOUTHERN PACIFIC TRANS CO
033-510-02	129,517.51	2.97	General Industrial	SOUTHERN PACIFIC TRANS CO
033-020-25	392,338.75	9.01	Rural Protection	SOUTHERN PACIFIC TRANS CO
029-170-18	316,252.13	7.26	Rural Protection	SOUTHERN PACIFIC TRANS CO
022-150-19	424,760.28	9.75	Rural Protection	CARSON & COLORADO RAILWAY INC
018-220-02	2,501,490.42	57.43	Rural Protection	SOUTHERN PACIFIC TRANS CO
018-110-12	686,412.79	15.76	Rural Protection	SOUTHERN PACIFIC TRANS CO
033-110-01	147,951.14	3.40	Rural Protection	SOUTHERN PACIFIC TRANS CO
033-510-06	256,165.19	5.88	Rural Protection	SOUTHERN PACIFIC TRANS CO
022-150-19	164,300.12	3.77	Rural Protection	CARSON & COLORADO RAILWAY INC
022-220-08	50,044.44	1.15	Rural Protection	SOUTHERN PACIFIC TRANS CO
021-220-14	16,822.33	0.39	Rural Protection	SOUTHERN PACIFIC TRANS CO
018-110-11	26,287,362.81	603.47	Natural Resources	CITY OF LOS ANGELES DWP
013-040-11	258,137.17	5.93	Rural Protection	SOUTHERN PACIFIC TRANS CO
013-040-10	180,096.09	4.13	Rural Protection	SOUTHERN PACIFIC TRANS CO
013-040-09	113,350.30	2.60	Rural Protection	SOUTHERN PACIFIC TRANS CO
013-030-12	73,890.90	1.70	Rural Protection	SOUTHERN PACIFIC TRANS CO

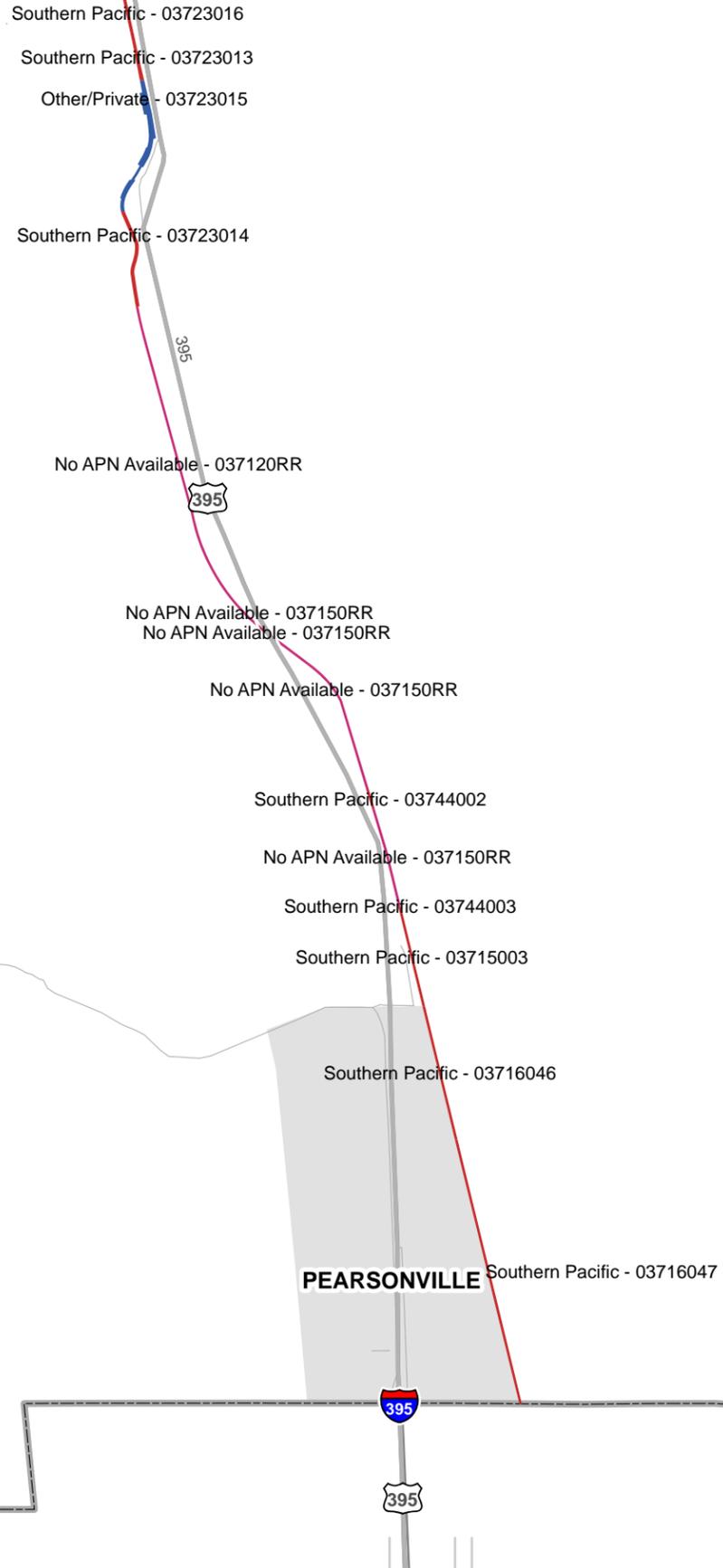
**Attachment D**

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Inyo County Rail Right-of-Way Mapping  
*Kern County Line to Laws – Mapping is shown from South to North*

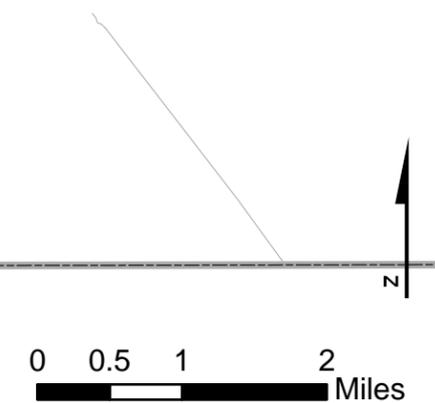
# Inyo County

Map 1/10



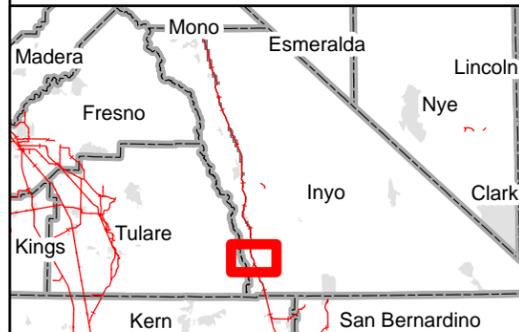
## Legend

- County Boundary
- ROW Owner**
- CA Lands Division
- Carson & Colorado Railway Inc
- City of Los Angeles DWP
- Inyo County
- No APN Available
- Other/Private
- Southern Pacific
- USA BLM
- City Limits



# Inyo County

Map 2/10

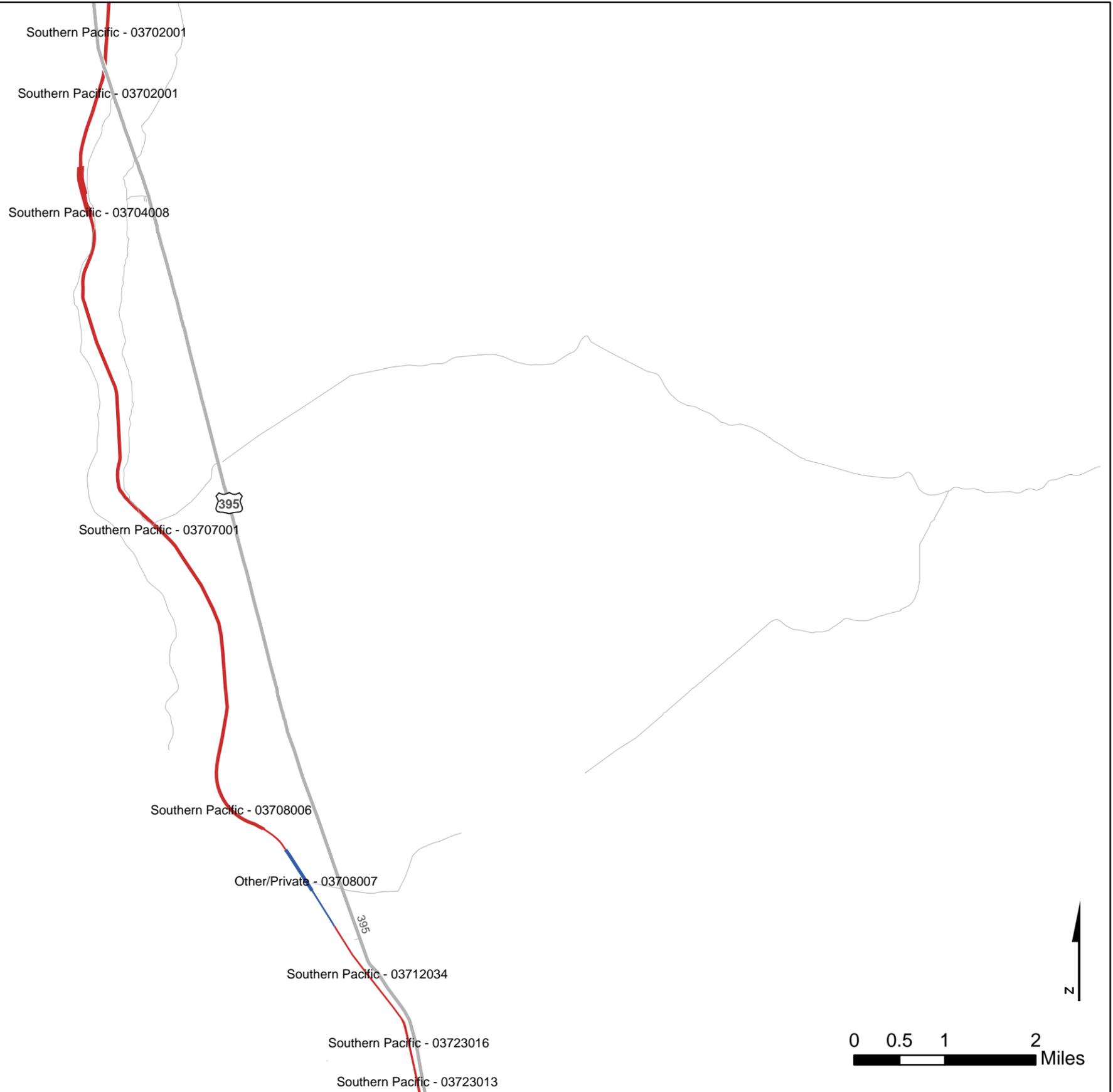


## Legend

County Boundary

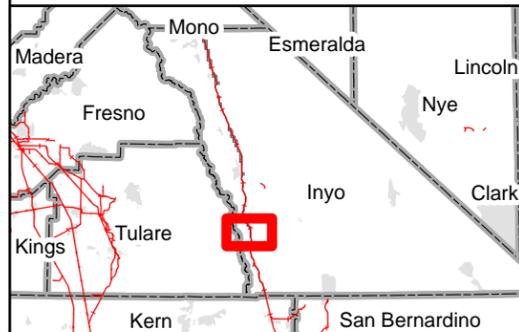
### ROW Owner

- CA Lands Division
- Carson & Colorado Railway Inc
- City of Los Angeles DWP
- Inyo County
- No APN Available
- Other/Private
- Southern Pacific
- USA BLM
- City Limits



# Inyo County

Map 3/10



## Legend

County Boundary

### ROW Owner

CA Lands Division

Carson & Colorado Railway Inc

City of Los Angeles DWP

Inyo County

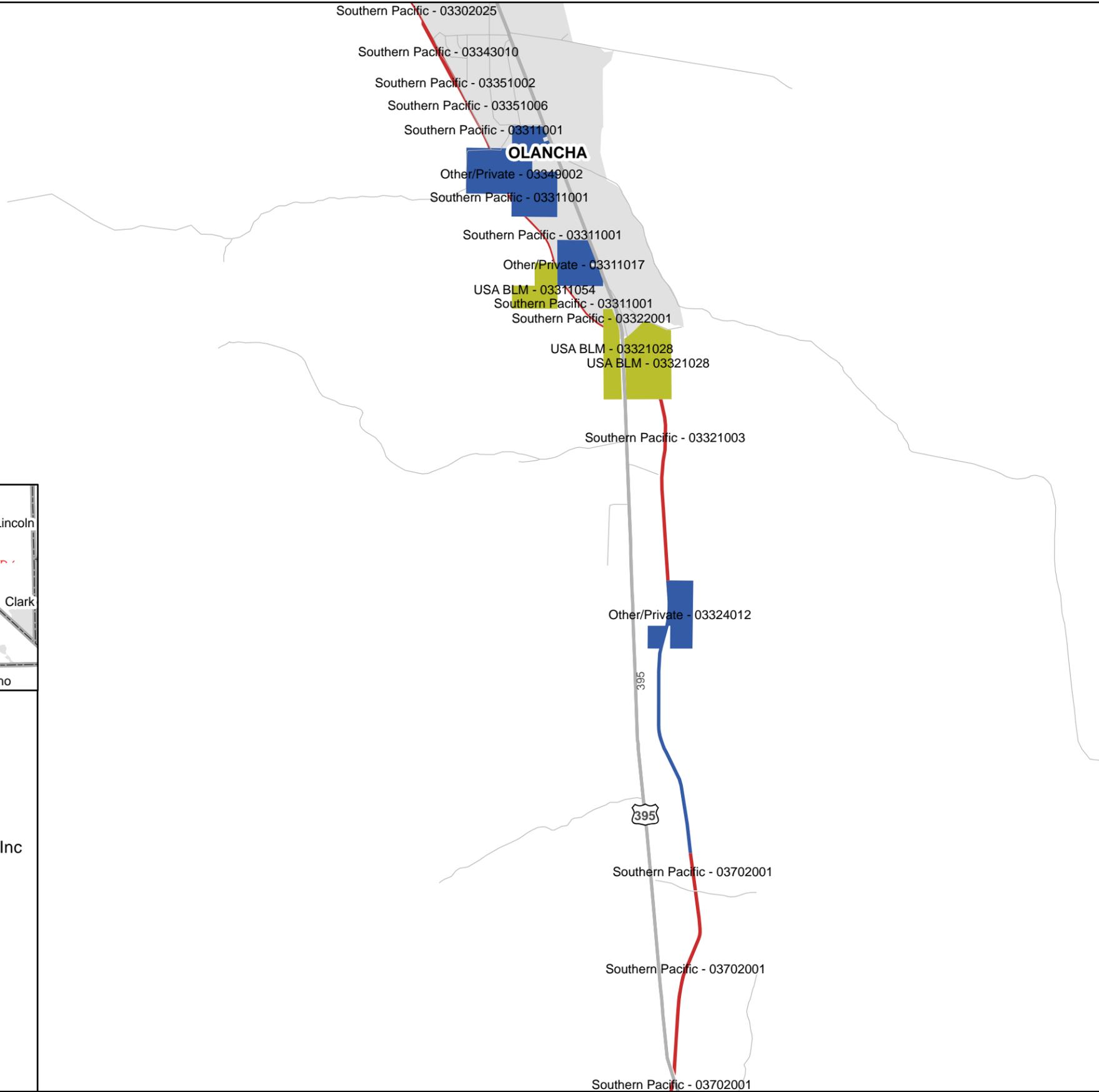
No APN Available

Other/Private

Southern Pacific

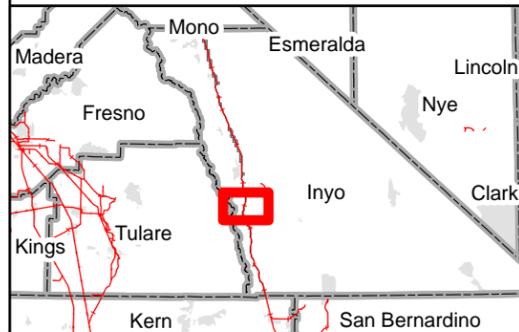
USA BLM

City Limits



# Inyo County

Map 4/10



## Legend

County Boundary

### ROW Owner

- CA Lands Division
- Carson & Colorado Railway Inc
- City of Los Angeles DWP
- Inyo County
- No APN Available
- Other/Private
- Southern Pacific
- USA BLM
- City Limits

Southern Pacific - 02912047  
CA Lands Division - 02912048  
CA Lands Division - 02917019  
Southern Pacific - 02917018  
Southern Pacific - 02918003  
No APN Available - 029180RR  
Southern Pacific - 02919011  
Southern Pacific - 02919024  
Southern Pacific - 02919023  
Southern Pacific - 02920004  
USA BLM - 03302015  
**CARTAGO**  
USA BLM - 03302016  
Other/Private - 03302023  
**OLANCHA**  
Southern Pacific - 03302025  
Southern Pacific - 03343010

190

395

395



0 0.5 1 2 Miles

# Inyo County

Map 5/10

LONE PINE

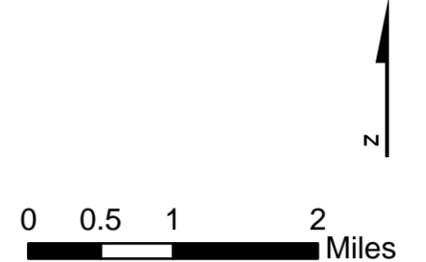
KEELER

Southern Pacific - 02606026  
Other/Private - 02606027  
Other/Private - 02606027  
Southern Pacific - 02606028  
Other/Private - 02606029  
Southern Pacific - 02614002  
City of Los Angeles DWP - 02614008  
Southern Pacific - 02617005  
Southern Pacific - 02618003  
No APN Available - 026180SOPAC  
Southern Pacific - 02910004  
Southern Pacific - 02910004  
USA BLM - 02912036  
Southern Pacific - 02912047



## Legend

- County Boundary
- ROW Owner**
- CA Lands Division
- Carson & Colorado Railway Inc
- City of Los Angeles DWP
- Inyo County
- No APN Available
- Other/Private
- Southern Pacific
- USA BLM
- City Limits



# Inyo County

Map 6/10

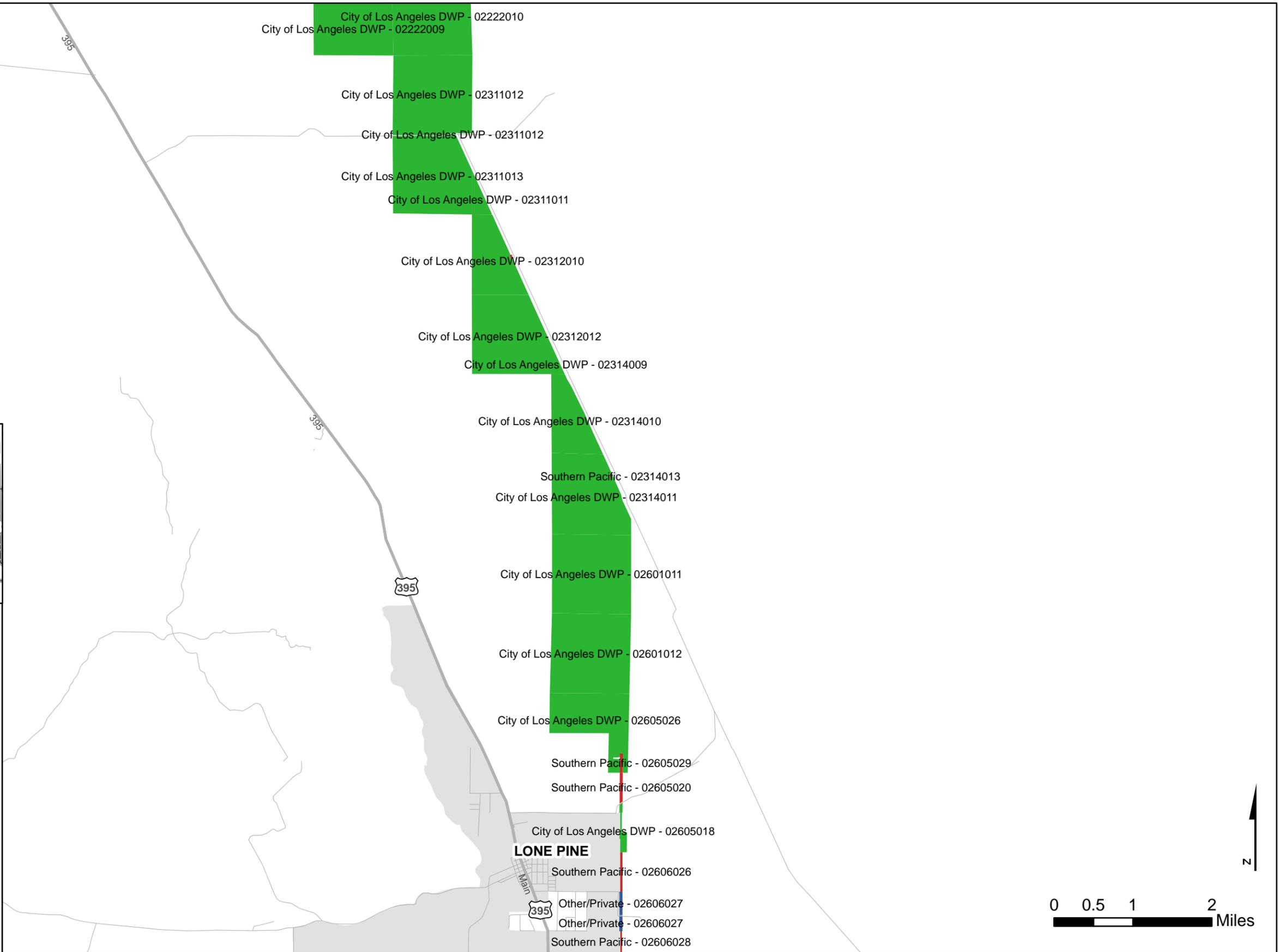


## Legend

County Boundary

### ROW Owner

- CA Lands Division
- Carson & Colorado Railway Inc
- City of Los Angeles DWP
- Inyo County
- No APN Available
- Other/Private
- Southern Pacific
- USA BLM
- City Limits



# Inyo County

Map 7/10



## Legend

County Boundary

### ROW Owner

CA Lands Division

Carson & Colorado Railway Inc

City of Los Angeles DWP

Inyo County

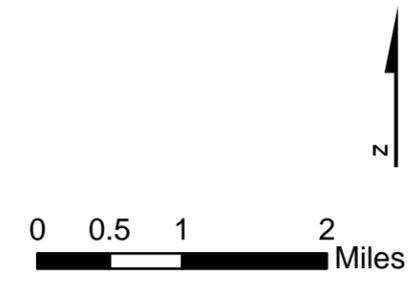
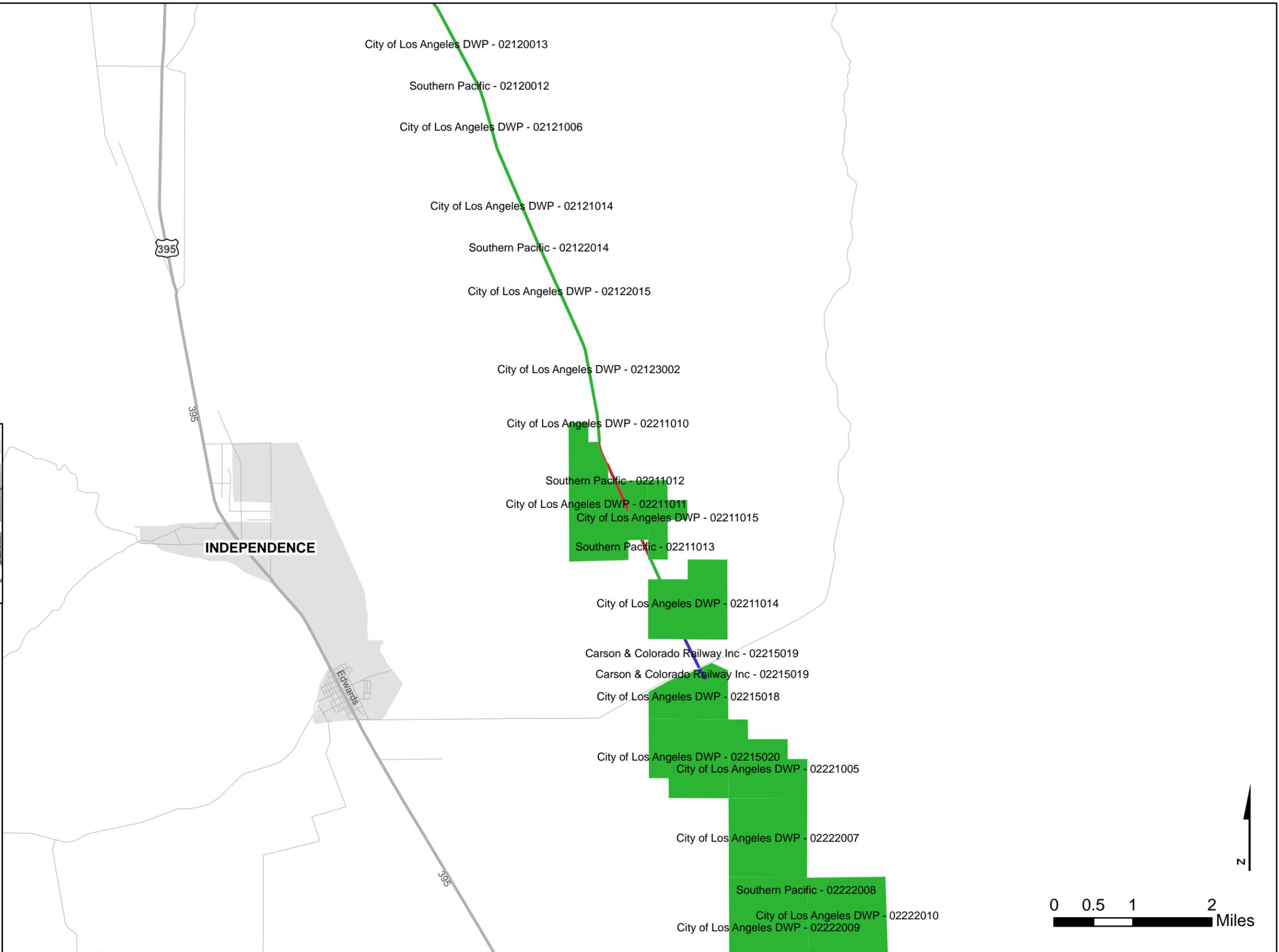
No APN Available

Other/Private

Southern Pacific

USA BLM

City Limits



# Inyo County

Map 8/10

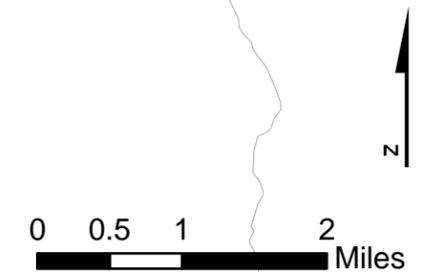
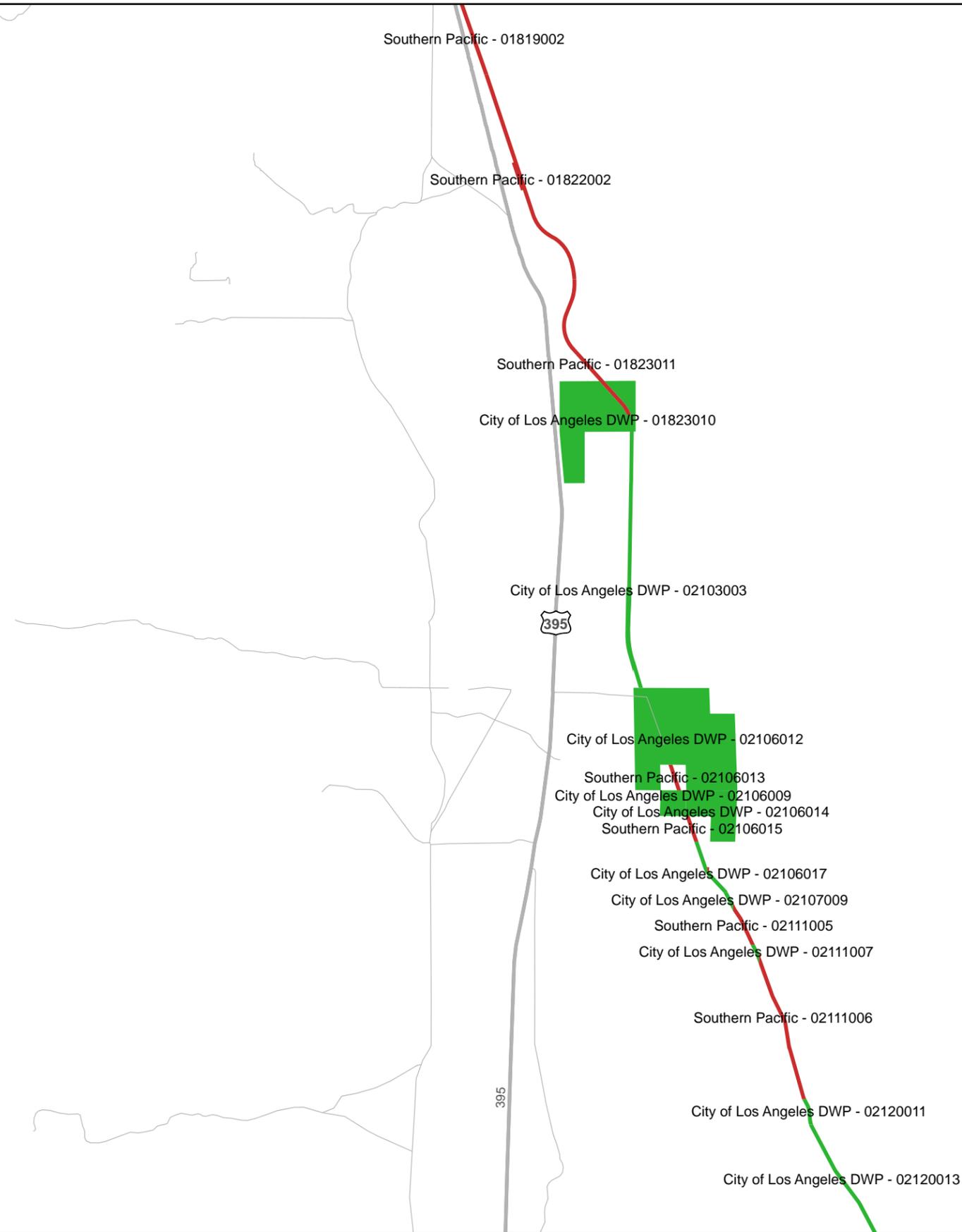


## Legend

County Boundary

### ROW Owner

- CA Lands Division
- Carson & Colorado Railway Inc
- City of Los Angeles DWP
- Inyo County
- No APN Available
- Other/Private
- Southern Pacific
- USA BLM
- City Limits



# Inyo County

Map 9/10

WILKERSON

City of Los Angeles DWP - 01622008

City of Los Angeles DWP - 01622005  
City of Los Angeles DWP - 01622009

City of Los Angeles DWP - 01623008

City of Los Angeles DWP - 01623009

City of Los Angeles DWP - 01623011  
Southern Pacific - 01623010

City of Los Angeles DWP - 01808021

City of Los Angeles DWP - 01808028

City of Los Angeles DWP - 01808028

City of Los Angeles DWP - 01808013

City of Los Angeles DWP - 01810001

City of Los Angeles DWP - 01809014  
City of Los Angeles DWP - 01810010

City of Los Angeles DWP - 01810011

City of Los Angeles DWP - 01811010

City of Los Angeles DWP - 01811011  
City of Los Angeles DWP - 01811013  
Southern Pacific - 01811012

Southern Pacific - 01819002

City of Los Angeles DWP - 01819006

Southern Pacific - 01822002

BIG PINE



## Legend

County Boundary

### ROW Owner

CA Lands Division

Carson & Colorado Railway Inc

City of Los Angeles DWP

Inyo County

No APN Available

Other/Private

Southern Pacific

USA BLM

City Limits

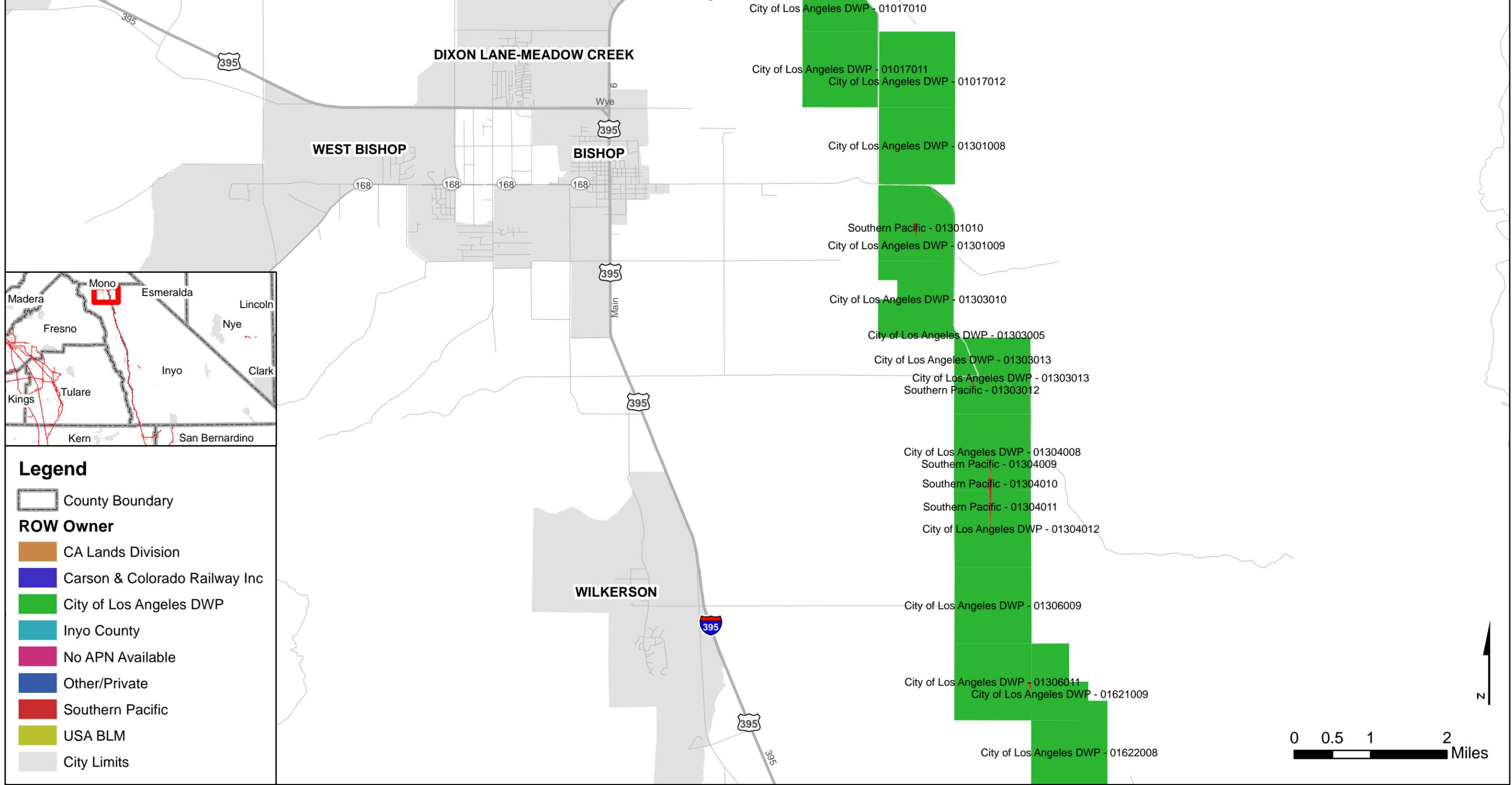
0 0.5 1 2 Miles



# Inyo County

Map 10/10

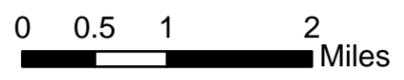
ROUND VALLEY



- City of Los Angeles DWP - 01016004
- City of Los Angeles DWP - 01018007
- City of Los Angeles DWP - 01019005
- Other/Private - 01022009
- Inyo County - 01025003
- City of Los Angeles DWP - 01017010
- City of Los Angeles DWP - 01017011
- City of Los Angeles DWP - 01017012
- City of Los Angeles DWP - 01301008
- Southern Pacific - 01301010
- City of Los Angeles DWP - 01301009
- City of Los Angeles DWP - 01303010
- City of Los Angeles DWP - 01303005
- City of Los Angeles DWP - 01303013
- City of Los Angeles DWP - 01303013
- Southern Pacific - 01303012
- City of Los Angeles DWP - 01304008
- Southern Pacific - 01304009
- Southern Pacific - 01304010
- Southern Pacific - 01304011
- City of Los Angeles DWP - 01304012
- City of Los Angeles DWP - 01306009
- City of Los Angeles DWP - 01306011
- City of Los Angeles DWP - 01621009
- City of Los Angeles DWP - 01622008

## Legend

- County Boundary
- ROW Owner**
- CA Lands Division
- Carson & Colorado Railway Inc
- City of Los Angeles DWP
- Inyo County
- No APN Available
- Other/Private
- Southern Pacific
- USA BLM
- City Limits



**Attachment E**

---

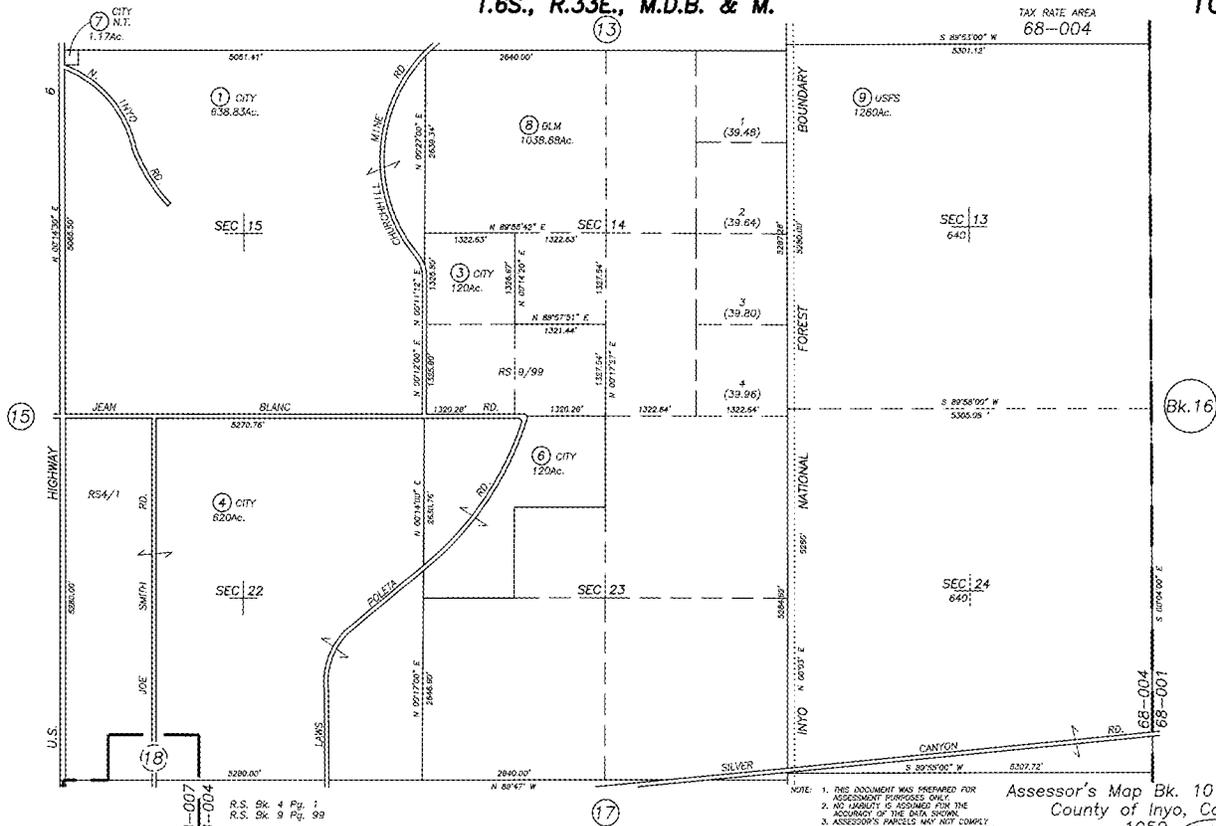
Inyo County Rail Right-of-Way Parcel Maps

03-10-86  
01-17-87  
03-22-10

T.6S., R.33E., M.D.B. & M.

TAX RATE AREA  
68-004

10-16



NOTE: 1. THIS DOCUMENT WAS PREPARED FOR ASSESSMENT PURPOSES ONLY.  
2. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN.  
3. ASSESSOR'S PARCELS MAY NOT COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.

Assessor's Map Bk. 10 Pg. 16  
County of Inyo, Calif.  
1950

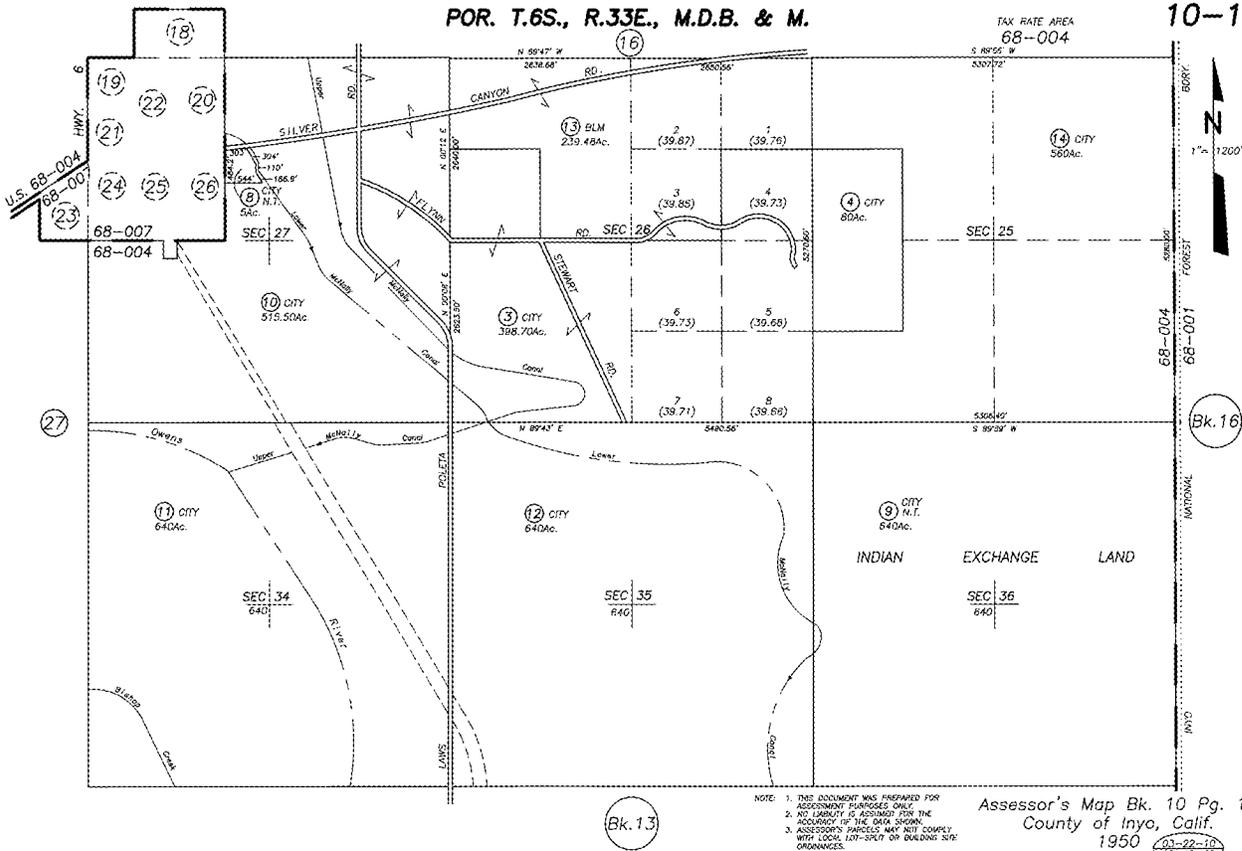
01016.tif

07-17-87  
03-22-10

POR. T.6S., R.33E., M.D.B. & M.

TAX RATE AREA  
68-004

10-17



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Assessor's Map Bk. 10 Pg. 17  
County of Inyo, Calif.  
1950

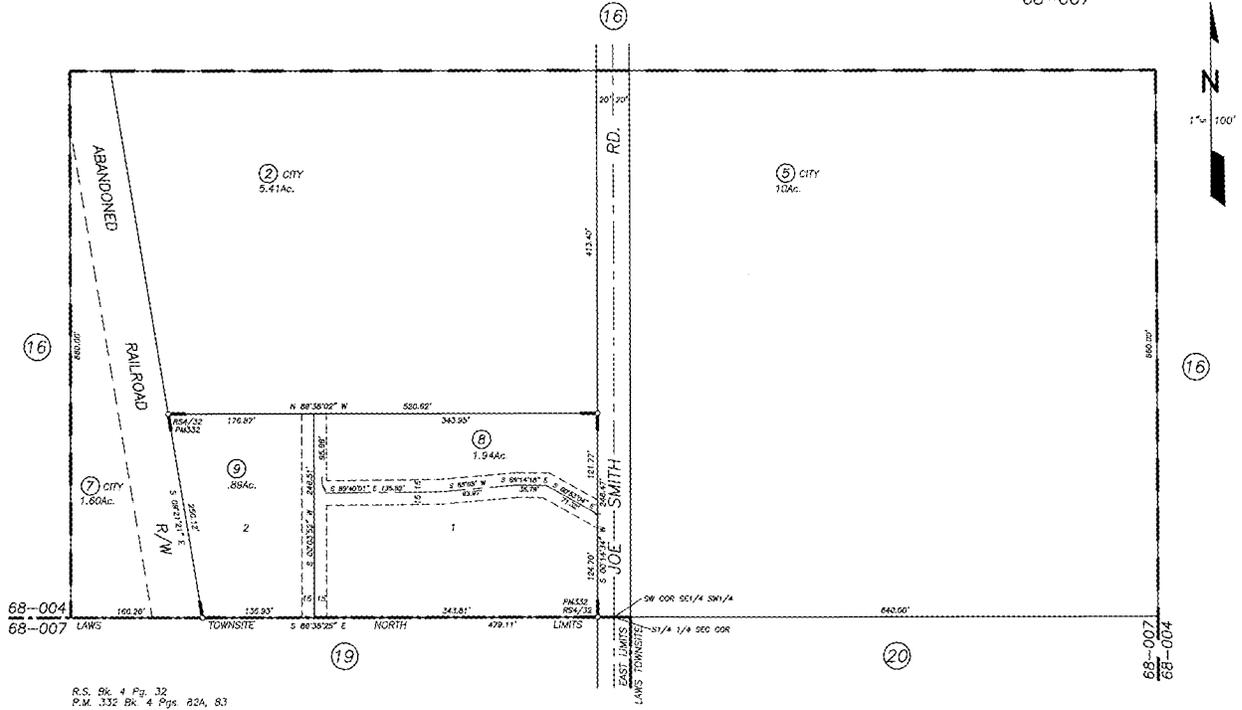
01017.tif

03-11-86  
08-17-88  
03-22-10

POR. S1/4 SW1/4 SEC. 22 T.6S., R.33E., M.D.B. & M.

TAX RATE AREA  
68-007

10-18



R.S. Bk. 4 Pg. 32  
P.M. 332 Bk. 4 Pgs. 22A, 83

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Assessor's Map Bk. 10 Pg. 18  
County of Inyo, Calif.  
1950

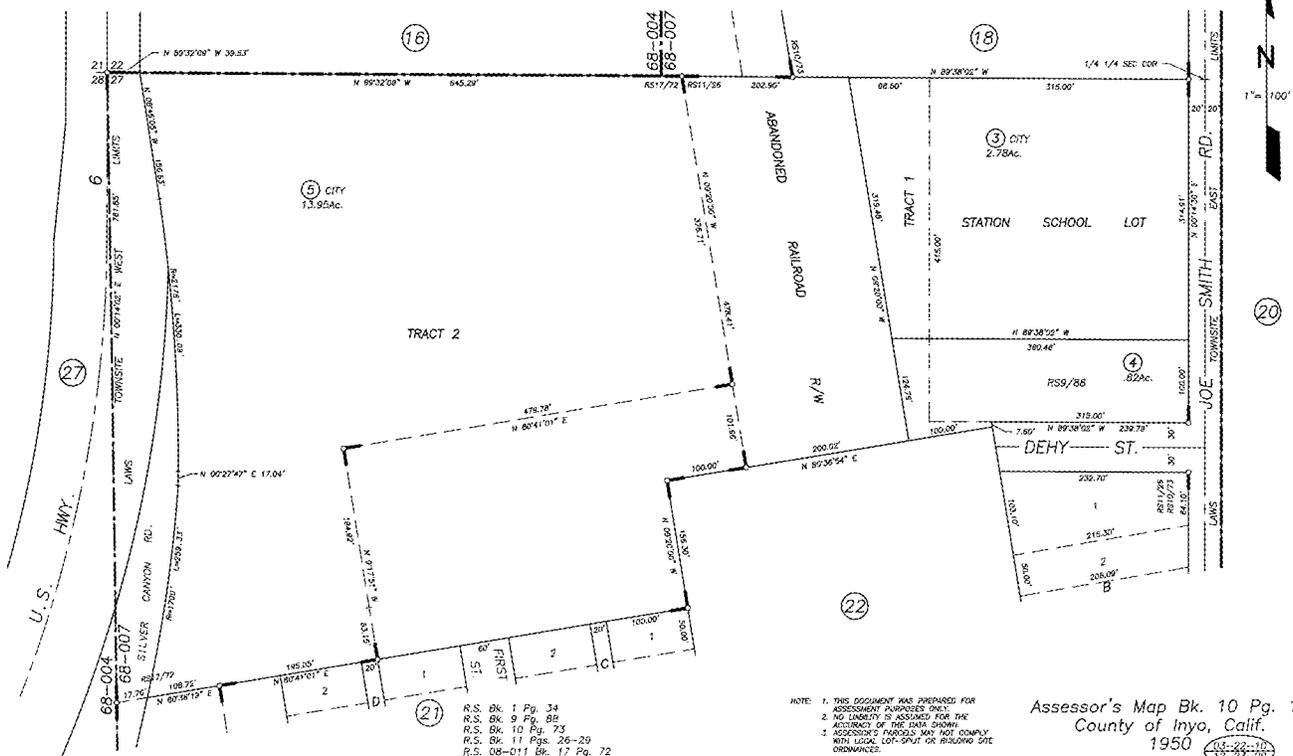
01018.tif

09-08-83  
12-22-08  
03-22-10

POR. NW1/4 NW1/4 SEC. 27 T.6S., R.33E., M.D.B. & M.  
LAWS TOWNSITE

TAX RATE AREA  
68-007

10-19



R.S. Bk. 1 Pg. 34  
R.S. Bk. 9 Pg. 88  
R.S. Bk. 10 Pg. 73  
R.S. Bk. 11 Pgs. 26-29  
R.S. 08-011 Bk. 17 Pg. 72

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Assessor's Map Bk. 10 Pg. 19  
County of Inyo, Calif.  
1950

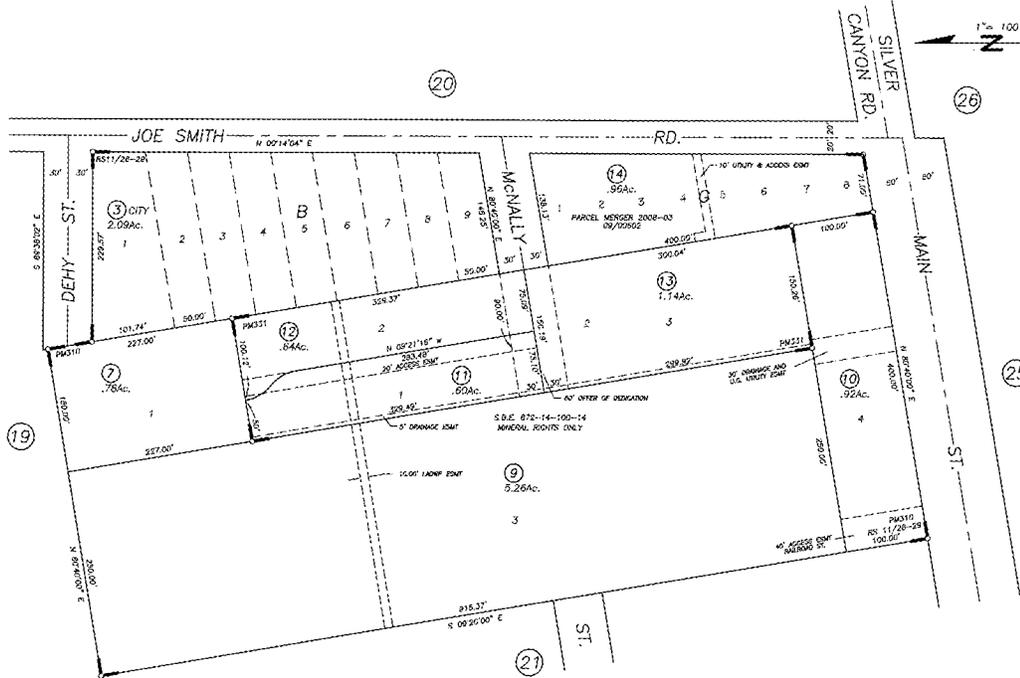
01019.tif

02-06-97  
06-06-99  
03-13-09  
08-21-09  
03-22-10

POR. W1/2 NW1/4 SEC. 27 T.6S., R.33E., M.D.B. & M.  
LAWS TOWNSITE

TAX RATE AREA  
68-007

10-22



LAW TOWNSITE M.O.R. Bk. 1 Pg. 34  
R.O.S. Bk. 11 Pgs. 26-29  
P.M. 310 Bk. 4 Pg. 56  
P.M. 331 Bk. 4 Pg. 64,65

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WITH LOCAL LOT-SPLIT OR ZONING DIST.  
ORDINANCES.

Assessor's Map Bk. 10 Pg. 22  
County of Inyo, Calif.  
1950 01-22-10  
08-21-09

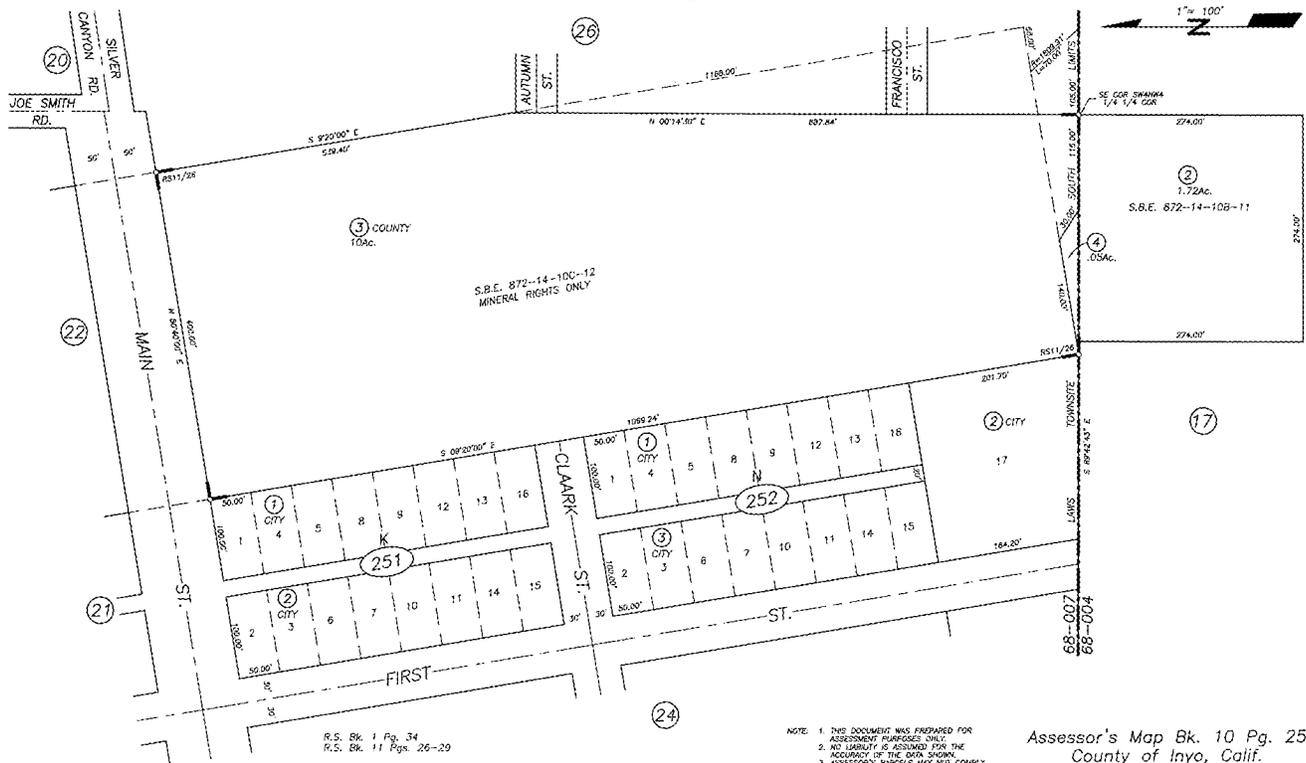
01022.tif

10-26-95  
09-09-03  
03-22-10

POR. E1/2 SW1/4 NW1/4 SEC. 27 T.6S., R.33E., M.D.B. & M.  
LAWS TOWNSITE

TAX RATE AREA  
68-004 68-007

10-25



R.S. Bk. 1 Pg. 34  
R.S. Bk. 11 Pgs. 26-29

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ACCURACY OF THE DATA SHOWN.  
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WITH LOCAL LOT-SPLIT OR ZONING DIST.  
ORDINANCES.

Assessor's Map Bk. 10 Pg. 25  
County of Inyo, Calif.  
1950 01-22-10  
08-21-09

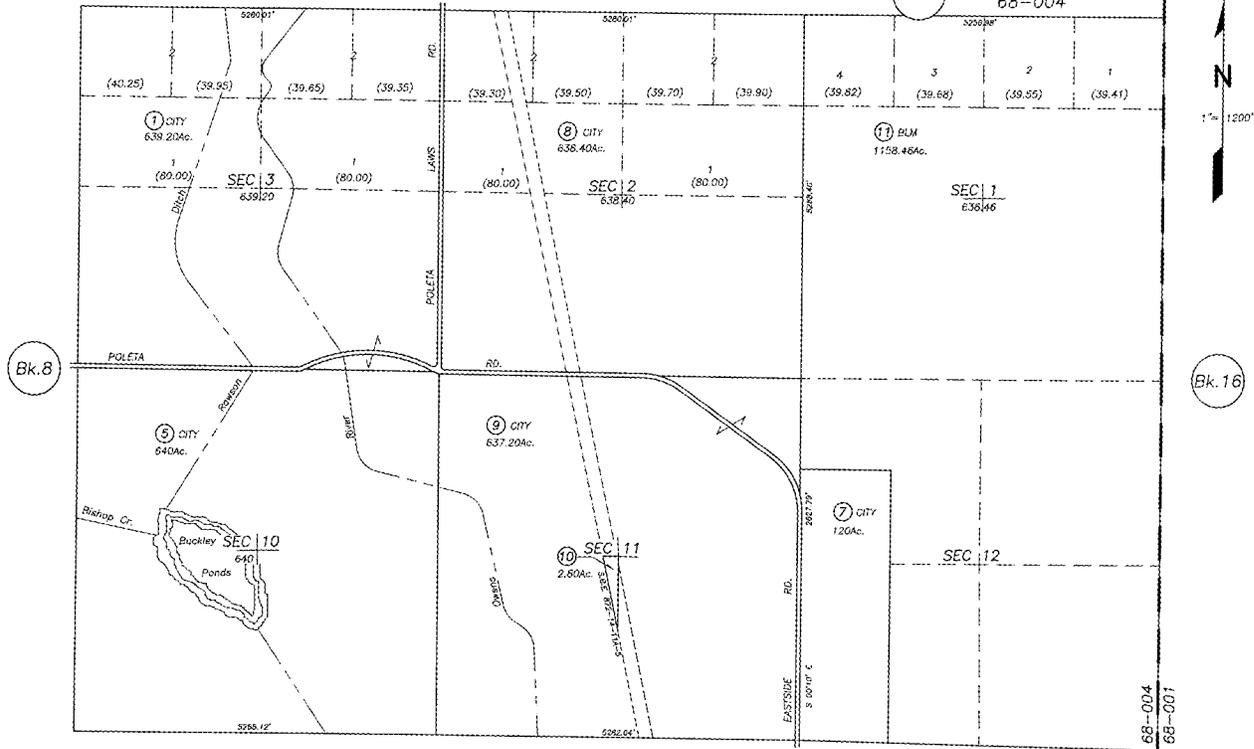
01025.tif

POR. T.7S., R.33E., M.D.B. & M.

BK.10

TAX RATE AREA  
68-004

13-01



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Assessor's Map Bk. 13 Pg. 01  
County of Inyo, Calif.  
1950

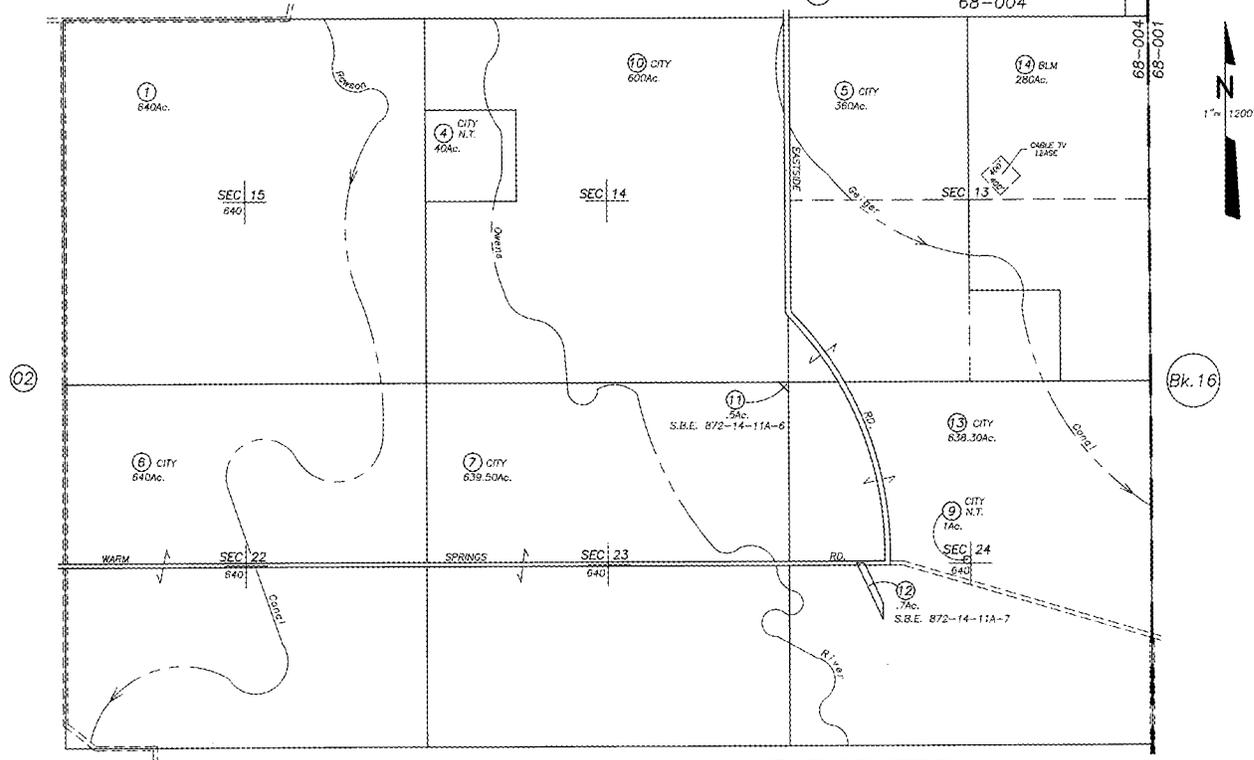
01301.tif

POR. T.7S., R.33E., M.D.B. & M.

01

TAX RATE AREA  
68-004

13-03



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3. ASSESSEE'S PARCELS MAY NOT COMPLY WITH LOCAL LOT-SPEC OR BUILDING SITE ORDINANCES.

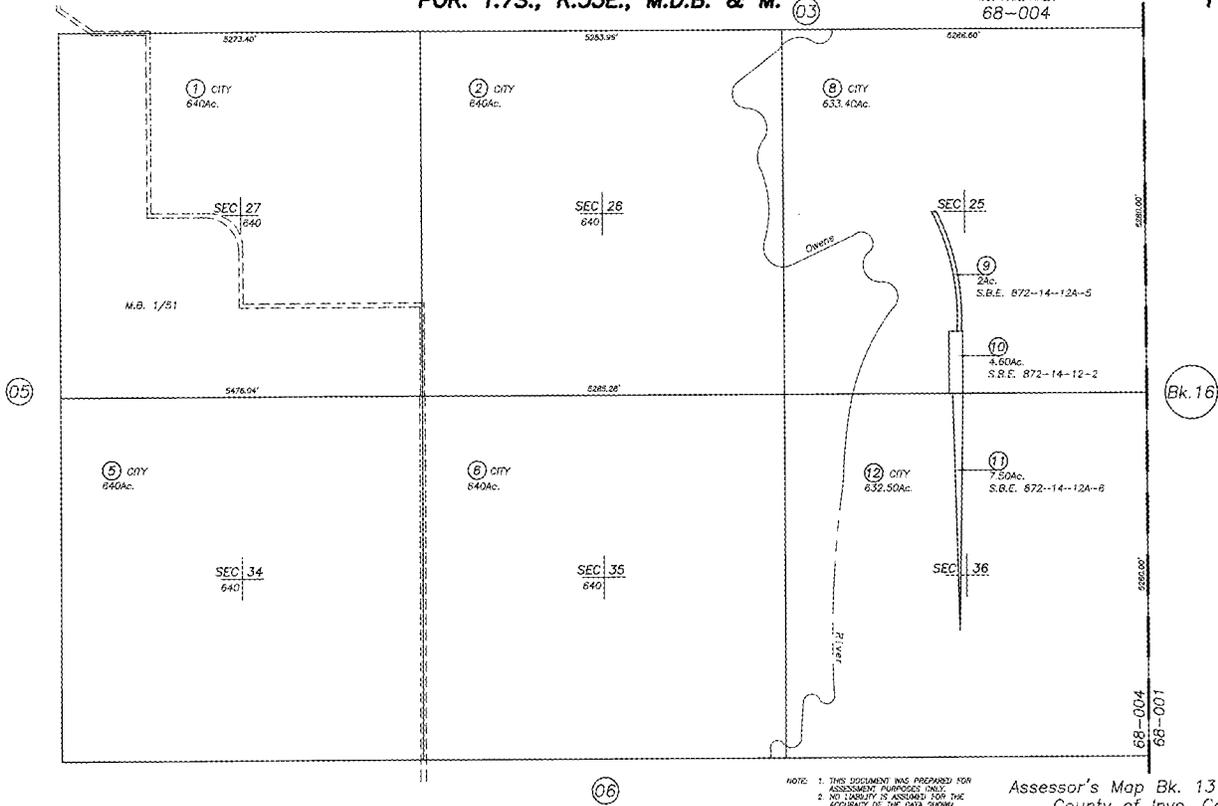
Assessor's Map Bk. 13 Pg. 03  
County of Inyo, Calif.  
1950

01303.tif

POR. T.7S., R.33E., M.D.B. & M.

TAX RATE AREA  
68-004

13-04



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ACCURACY OF THE DATA SHOWN.  
3. ASSESSOR'S PARCELS MAY NOT COMPLY  
WITH LOCAL LOT-SPLIT OR BUILDING SITE  
ORDINANCES.

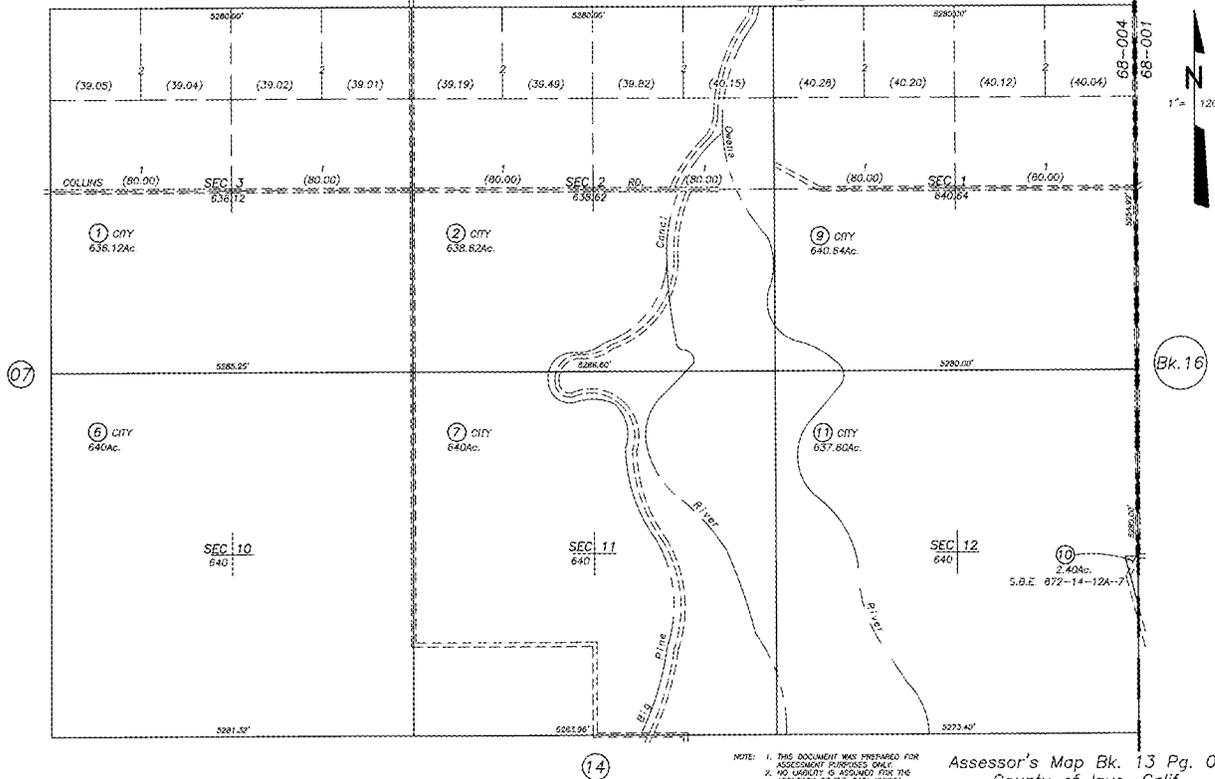
Assessor's Map Bk. 13 Pg. 04  
County of Inyo, Calif.  
1950

01304.tif

POR. T.8S., R.33E., M.D.B. & M.

TAX RATE AREA  
68-004

13-06



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WITH LOCAL LOT-SPLIT OR BUILDING SITE  
ORDINANCES.

Assessor's Map Bk. 13 Pg. 06  
County of Inyo, Calif.  
1950

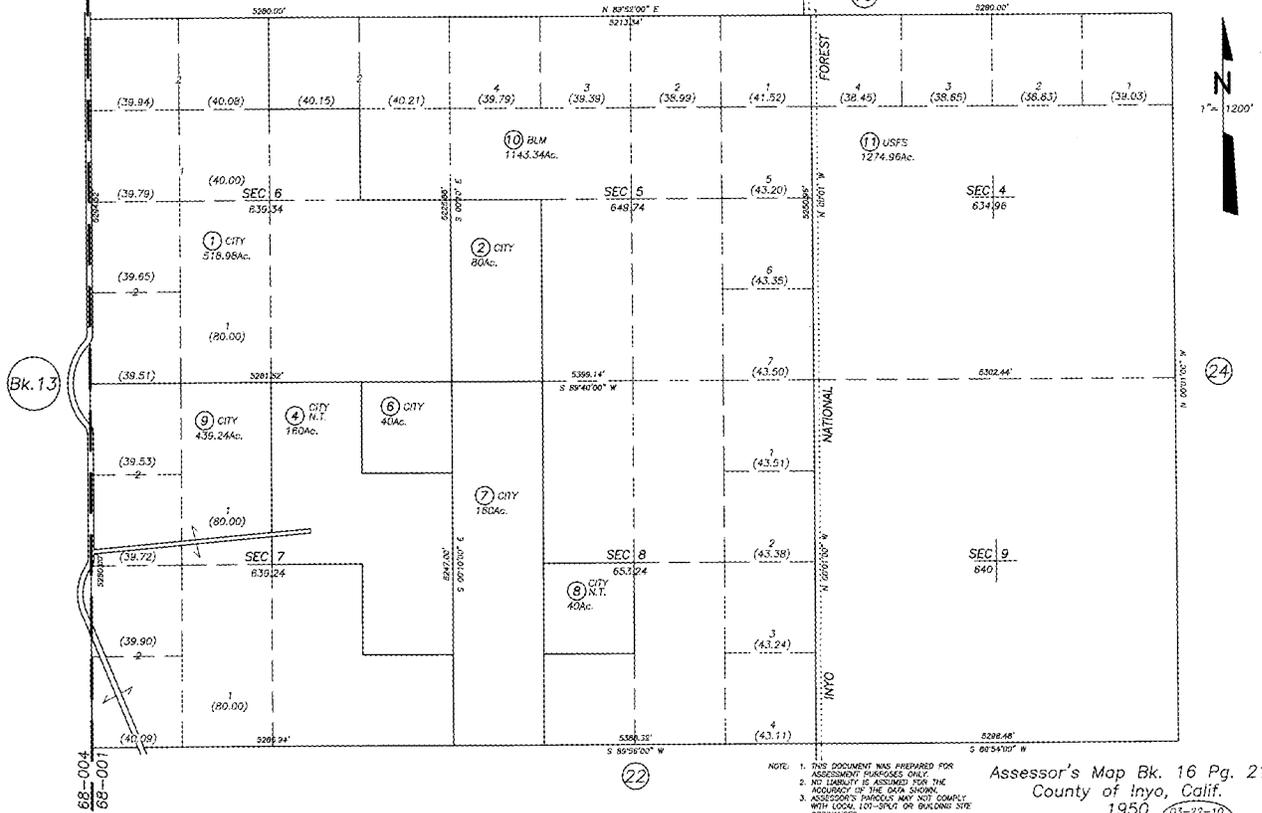
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06-09-89  
10-14-87  
03-22-10

POR. T.8S., R.34E., M.D.B. & M.

TAX RATE AREA  
68-001

16-21



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Assessor's Map Bk. 16 Pg. 21  
County of Inyo, Calif.  
1950

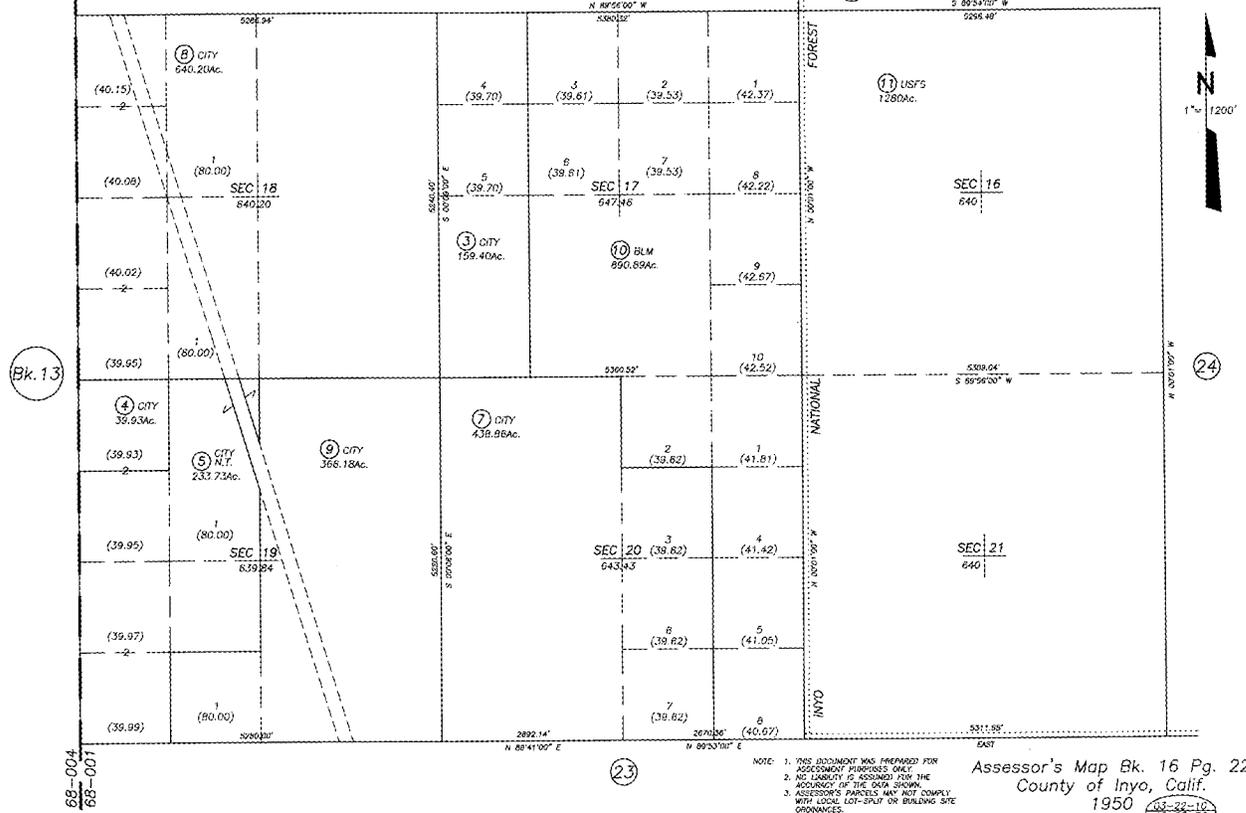
01621.tif

06-09-89  
03-23-89  
03-22-10

POR. T.8S., R.34E., M.D.B. & M.

TAX RATE AREA  
68-001

16-22



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3. ASSESSOR'S PARCELS MAY NOT COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SIZE ORDINANCES.

Assessor's Map Bk. 16 Pg. 22  
County of Inyo, Calif.  
1950

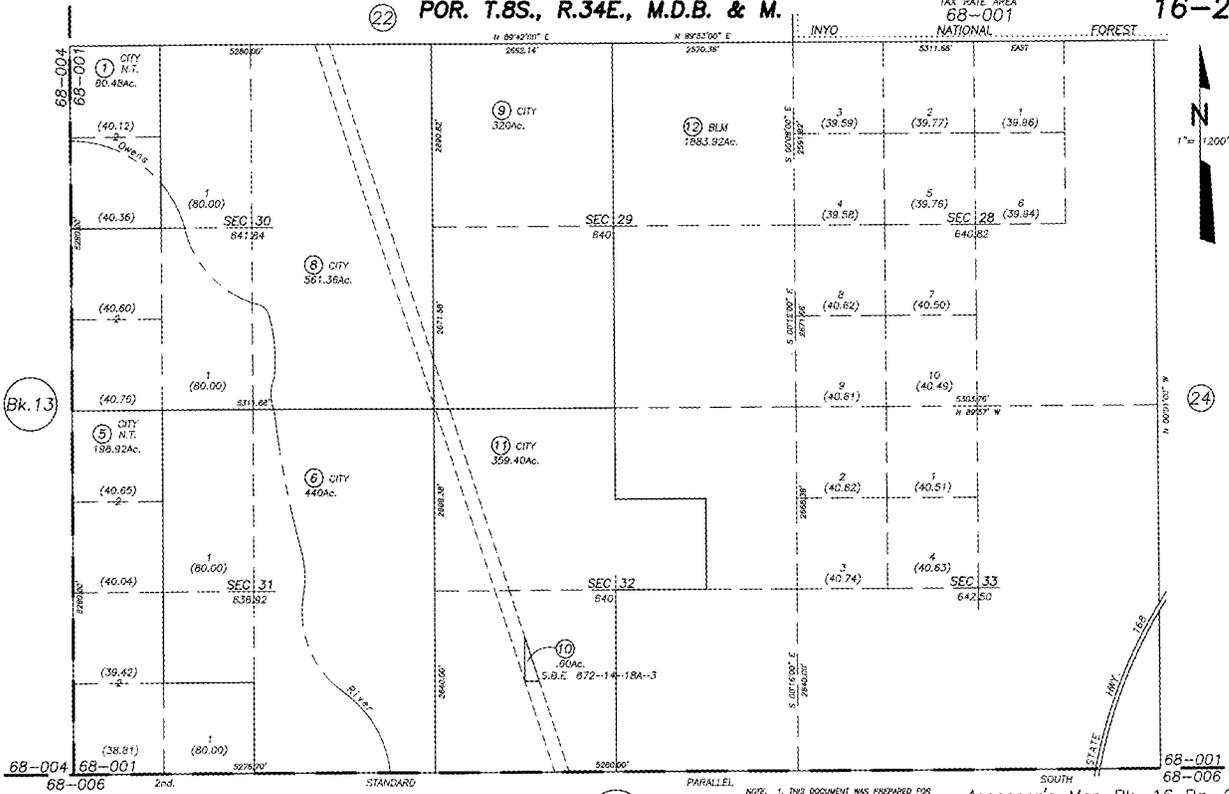
01622.tif

08-09-89  
12-04-87  
03-22-10

22 POR. T.8S., R.34E., M.D.B. & M.

TAX RATE AREA  
68-001

16-23



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Assessor's Map Bk. 16 Pg. 23  
County of Inyo, Calif.  
1950

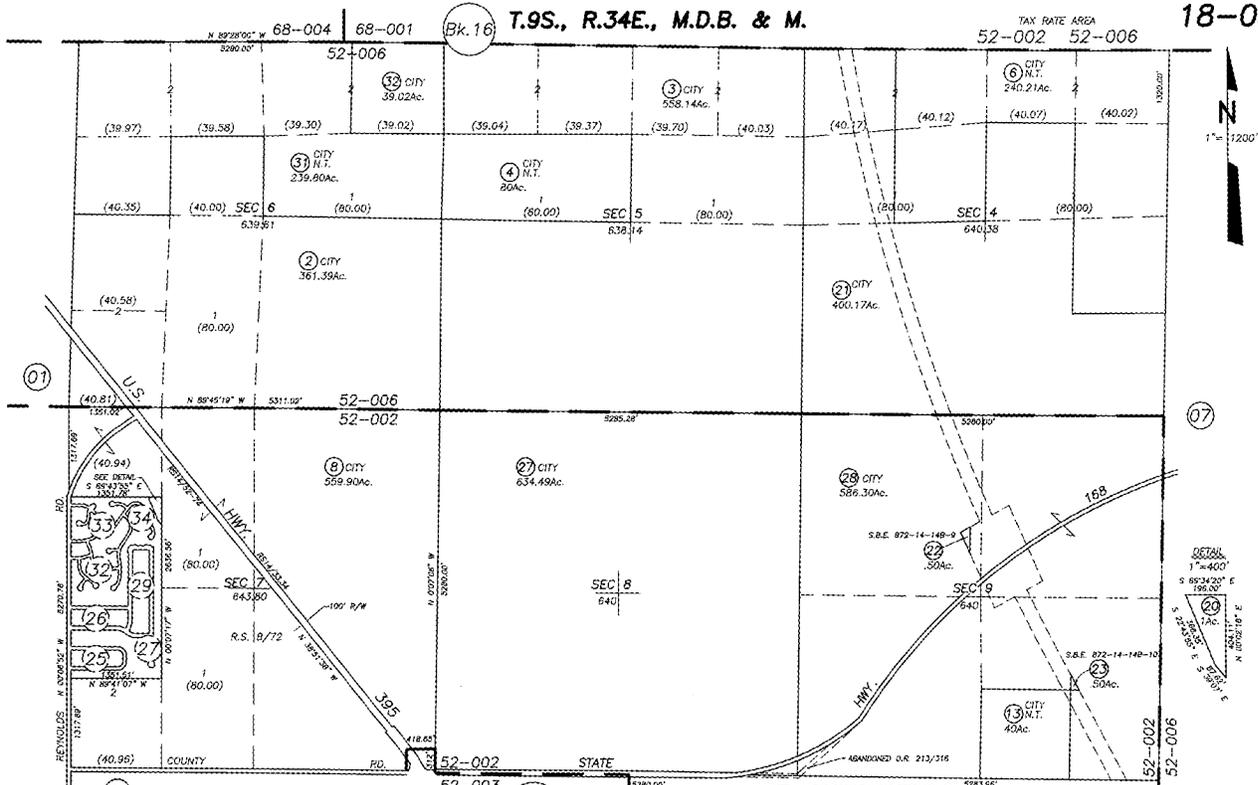
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10-15-98  
10-20-03  
03-22-10

16 T.9S., R.34E., M.D.B. & M.

TAX RATE AREA  
52-002 52-006

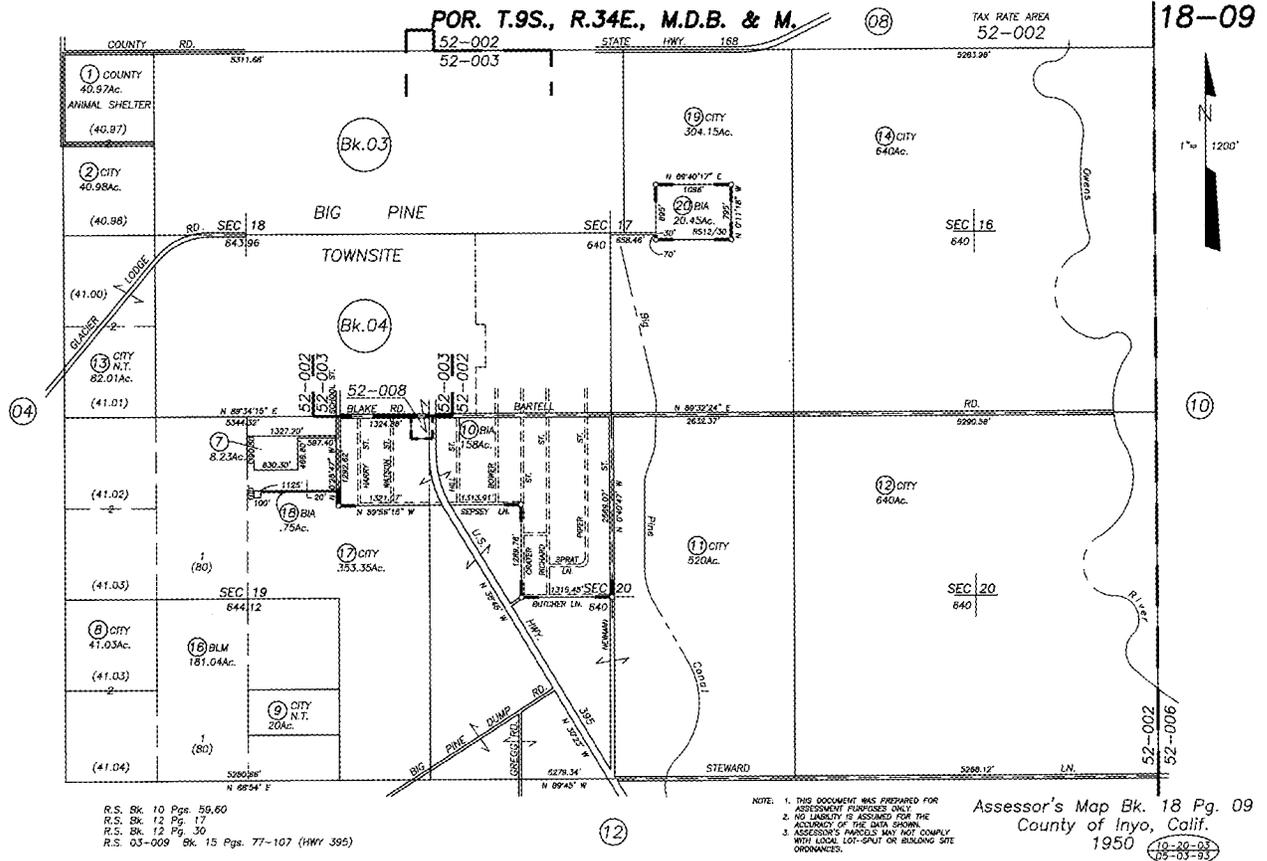
18-08



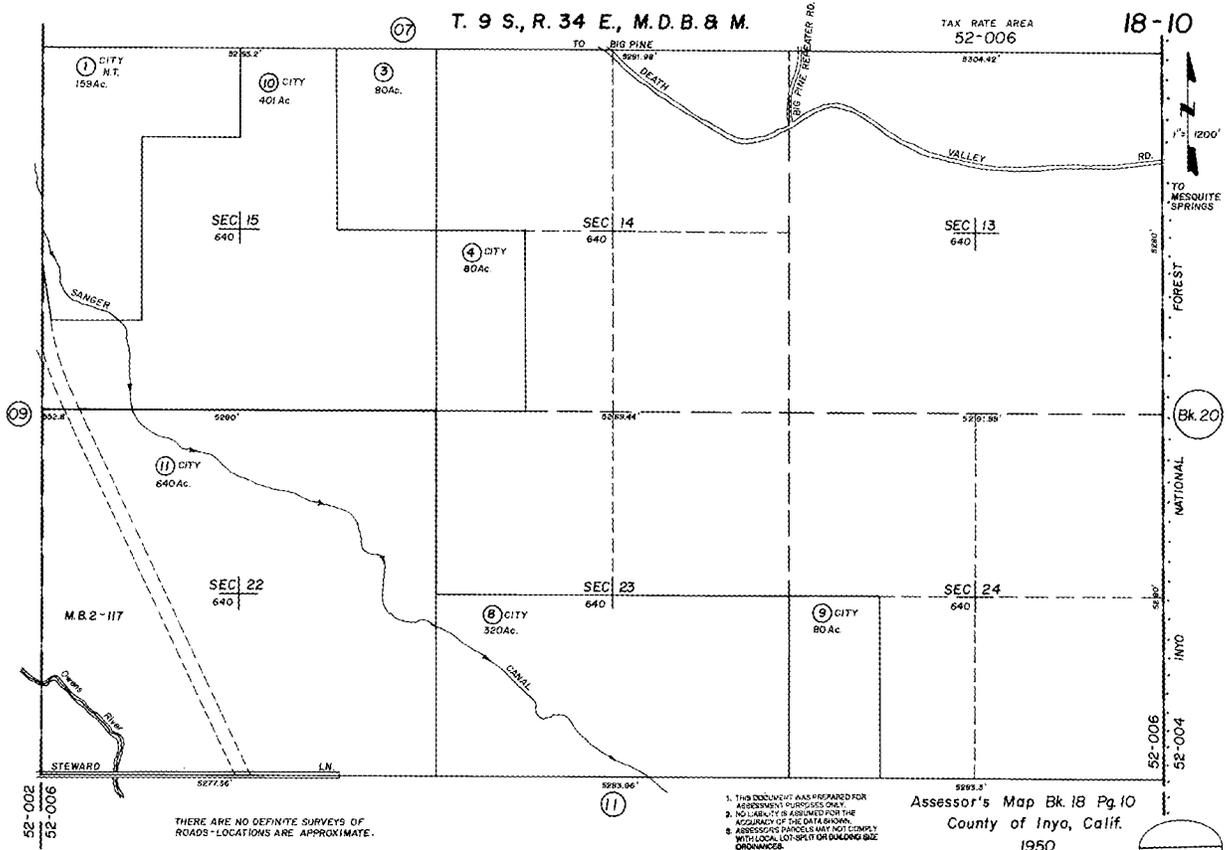
NOTE: 1. THIS DOCUMENT WAS PREPARED FOR ASSESSMENT PURPOSES ONLY.  
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Assessor's Map Bk. 18 Pg. 08  
County of Inyo, Calif.  
1950

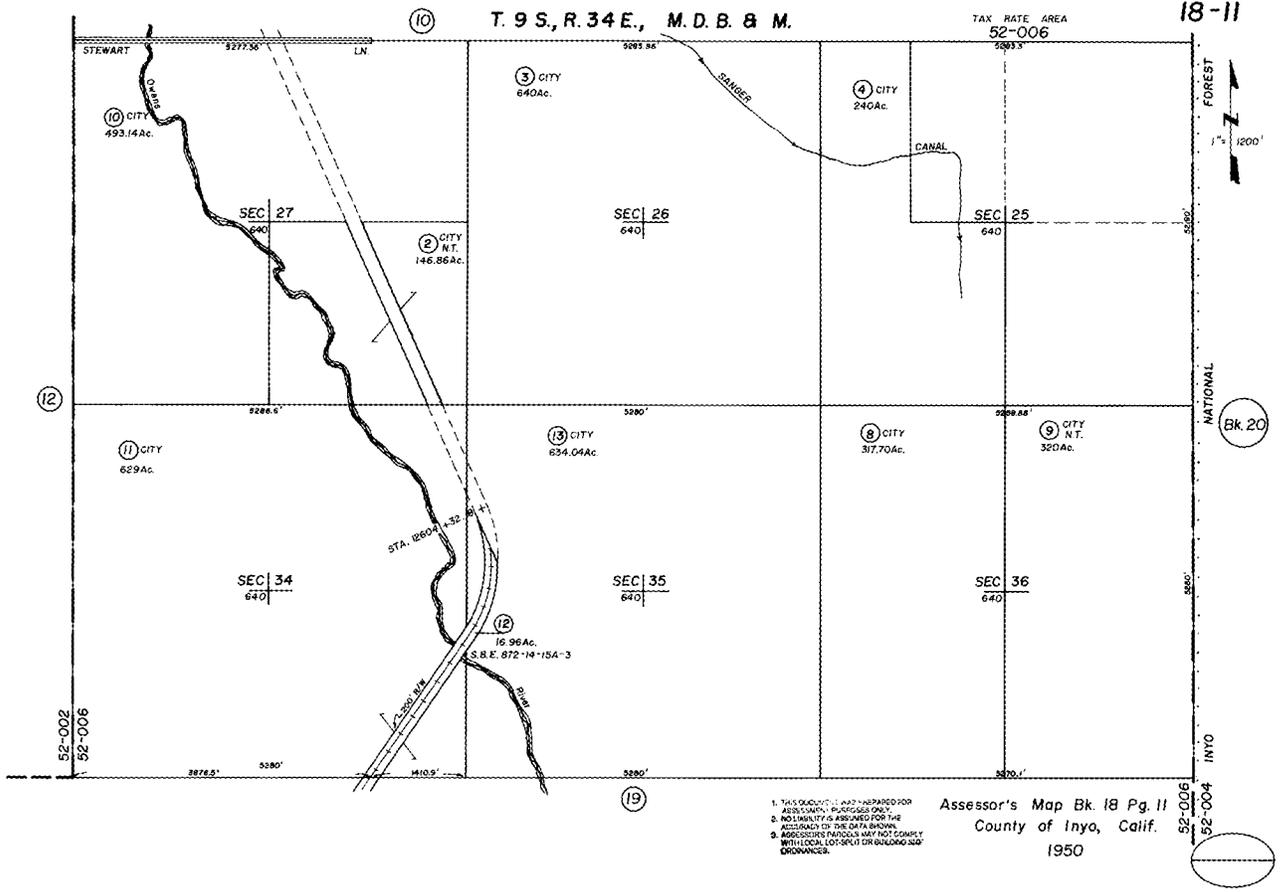
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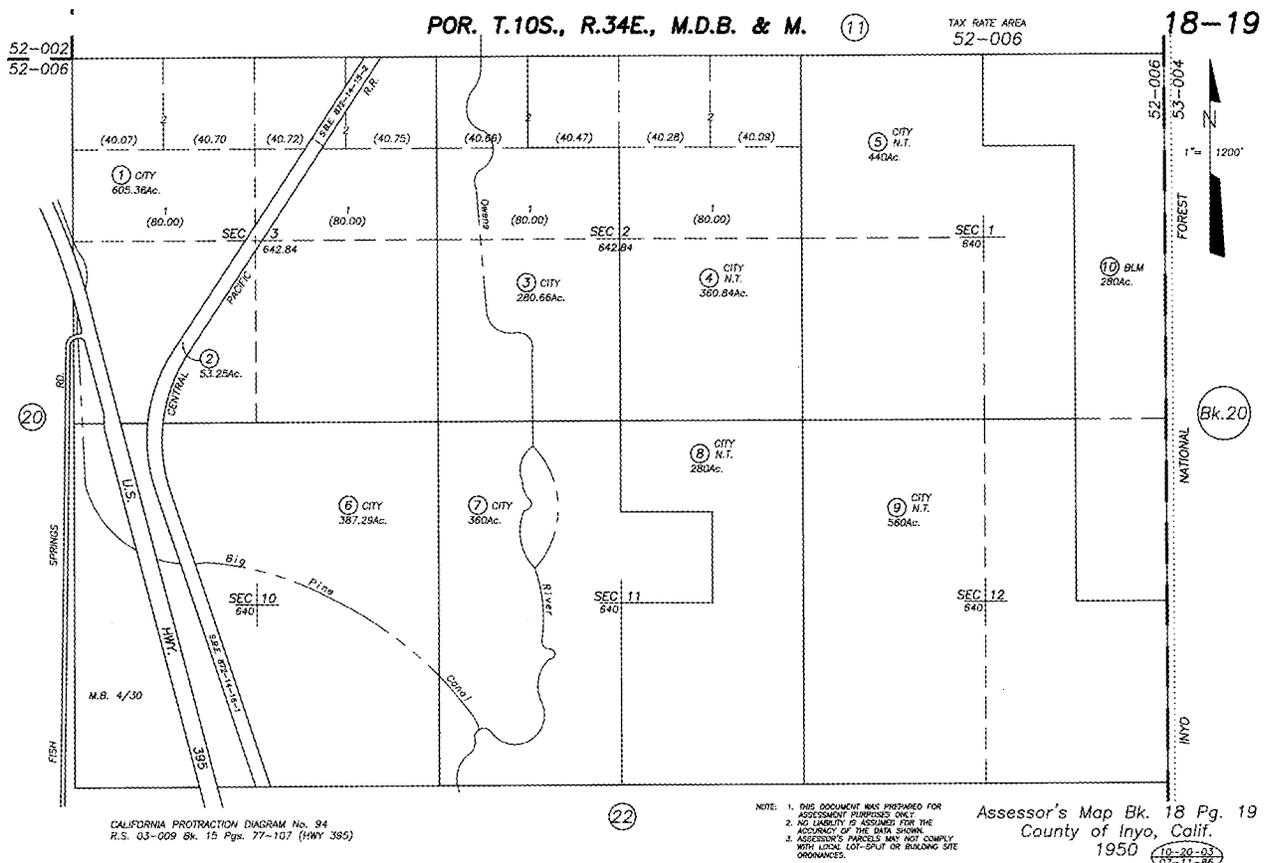
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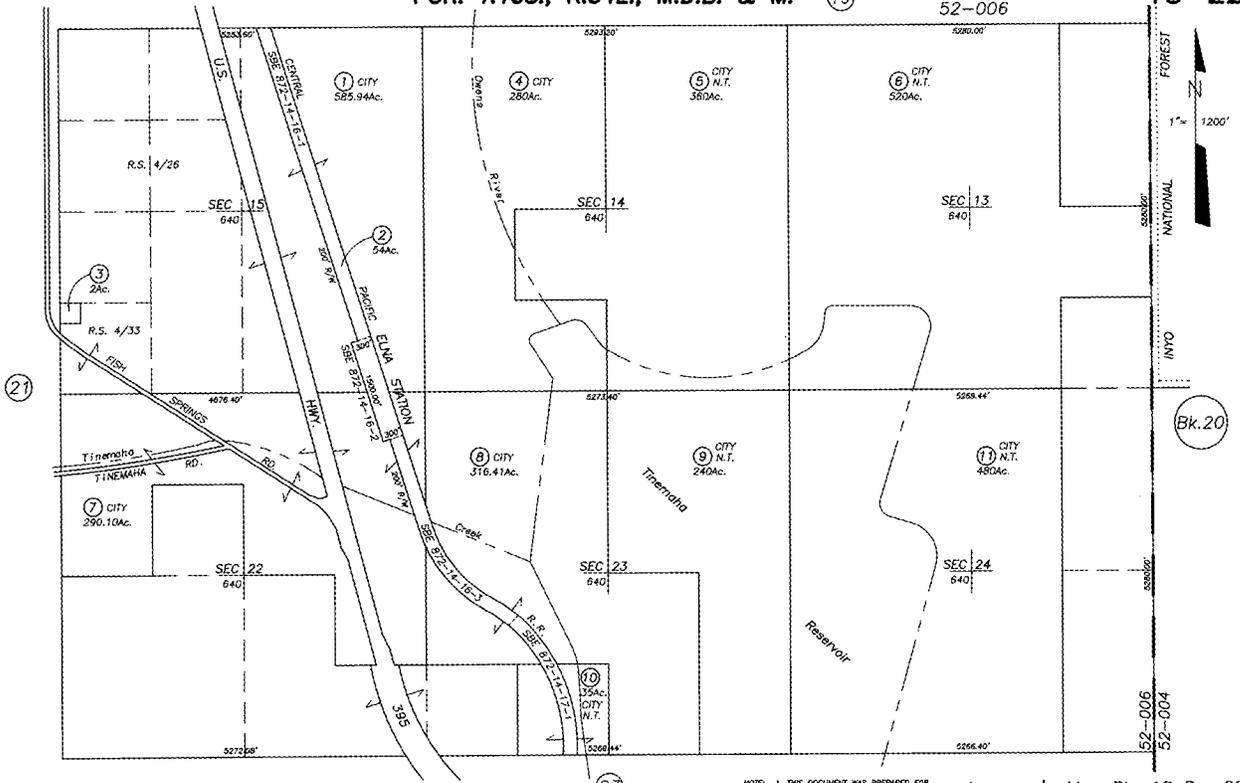
01810.tif



01811.tif



01819.tif

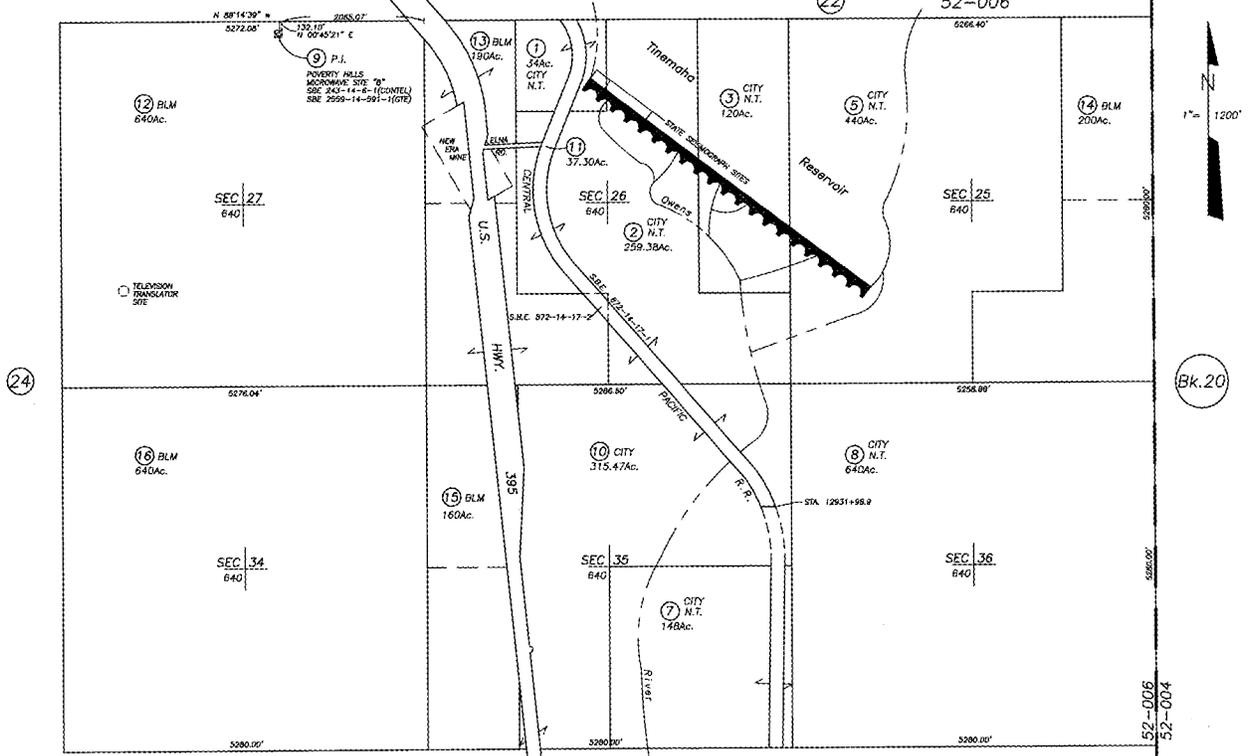


R.S. Bk. 4 Pg. 26  
 R.S. Bk. 4 Pg. 33  
 R.S. 03-008 Bk. 15 Pgs. 77-107 (HWY 395)

NOTE: 1. THIS DOCUMENT WAS PREPARED FOR ASSESSMENT PURPOSES ONLY.  
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Assessor's Map Bk. 18 Pg. 22  
 County of Inyo, Calif.  
 1950 (10-20-01 11-05-85)

01822.tif



R.S. 03-008 Bk. 15 Pgs. 77-107 (HWY 395)

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Assessor's Map Bk. 18 Pg. 23  
 County of Inyo, Calif.  
 1950 (10-20-01 04-05-84)

01823.tif

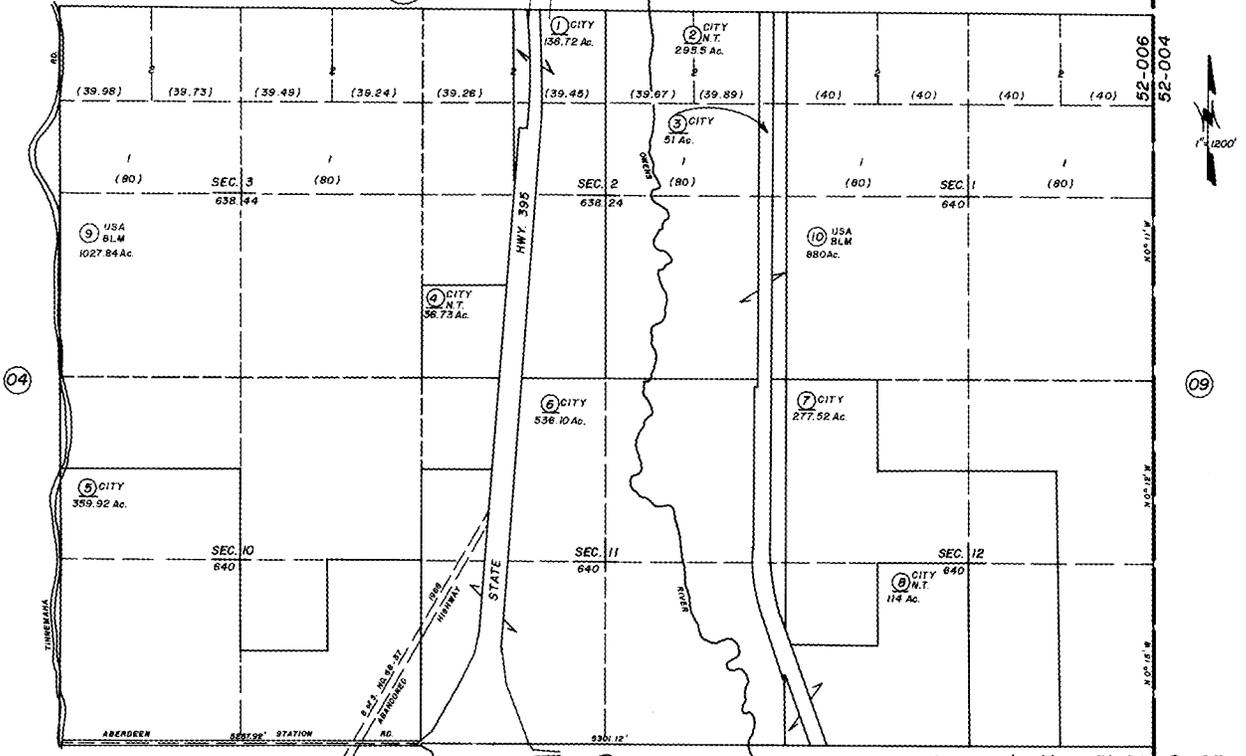
5-5-84

Bk. 18

T. 11S., R. 34E., M. D.B. & M.

TAX RATE AREA  
52-006

21-03



NOTE - ACREAGES ARE APPROXIMATE.

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3. ADEQUATE NOTICE WAS NOT GIVEN WITH THE LAST STATE OF CALIFORNIA COORDINANCE.

Assessor's Map Bk. 21 - Pg. 03  
County of Inyo, Calif.  
1950

5-5-84

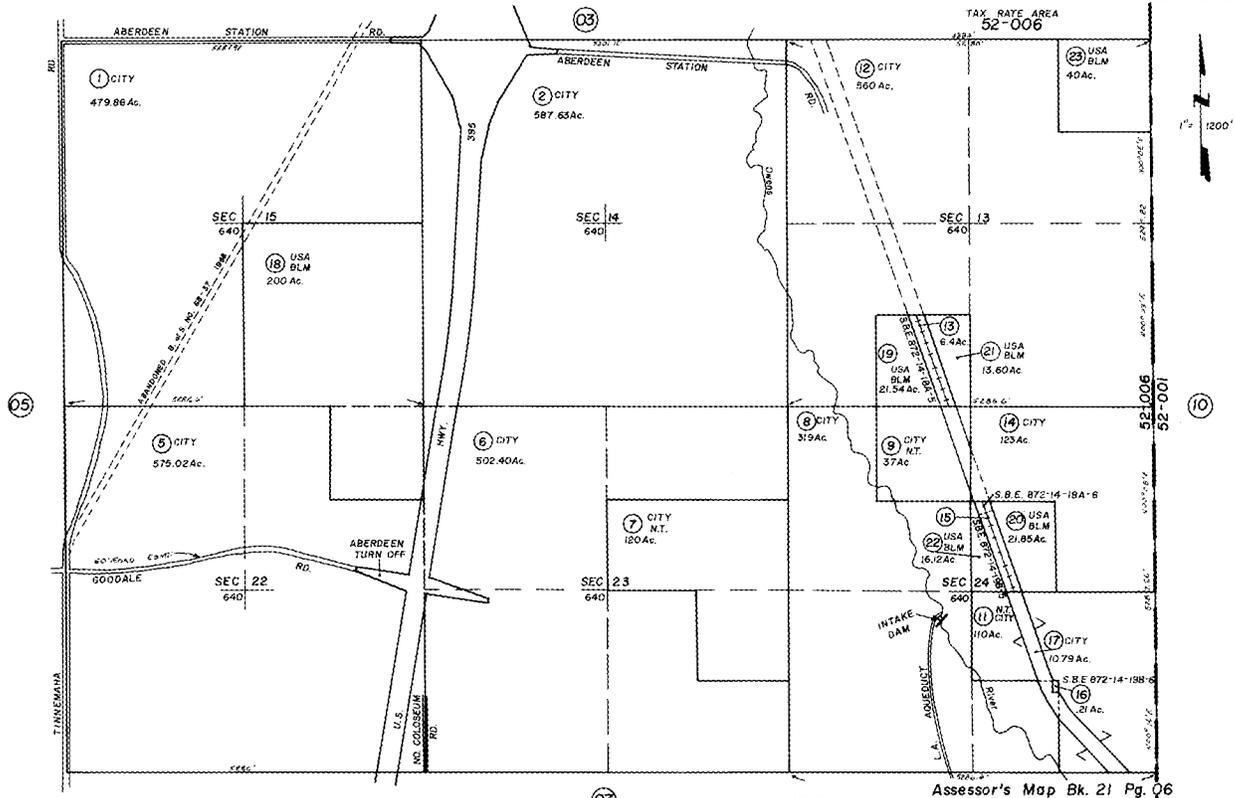
02103.tif

12-9-80  
2-1-86

T. 11S., R. 34E., M. D.B. & M.

TAX RATE AREA  
52-006

21-06



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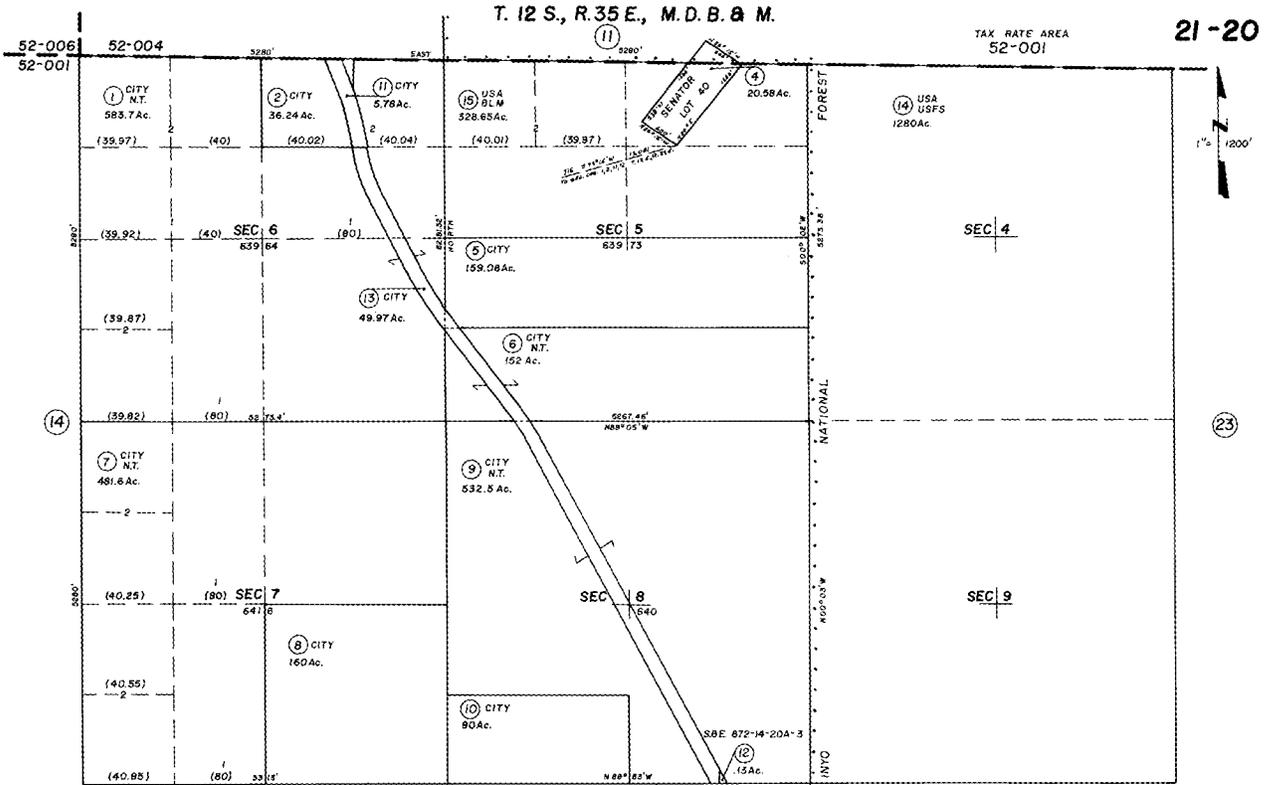
Assessor's Map Bk. 21 Pg. 06  
County of Inyo, Calif.  
1950

5-5-84

02106.tif



1-6-77  
5-11-86



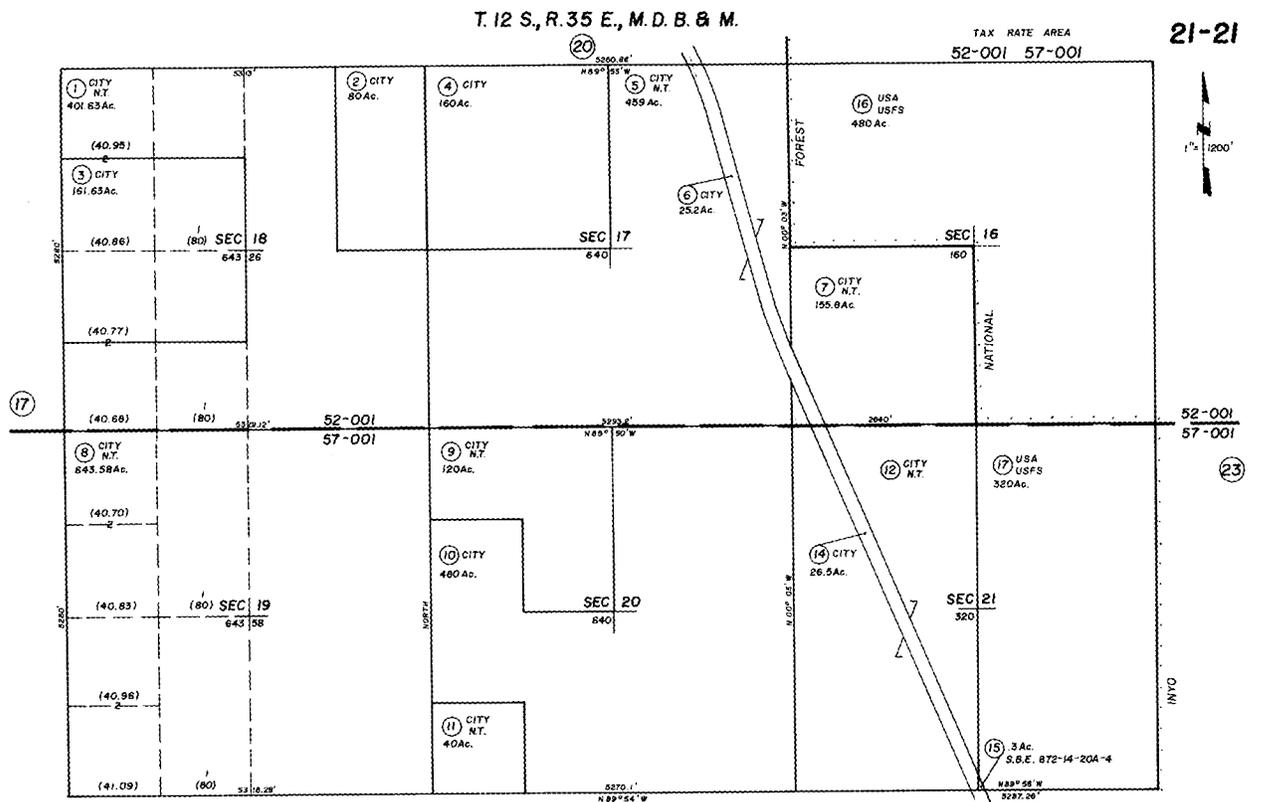
CALIFORNIA PROTRACTOR DIAGRAM NO. 70

Assessor's Map Bk. 21 Pg. 20  
County of Inyo, Calif.  
1950

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3. ASSASSOR'S PARCELS MAY NOT CORRELATE WITH LOCAL LOT SPLIT OR BUILDING DEPARTMENT RECORDS.

02120.tif

1-4-77  
11-12-86



Assessor's Map Bk. 21 Pg. 21  
County of Inyo, Calif.  
1950

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3. ASSASSOR'S PARCELS MAY NOT CORRELATE WITH LOCAL LOT SPLIT OR BUILDING DEPARTMENT RECORDS.

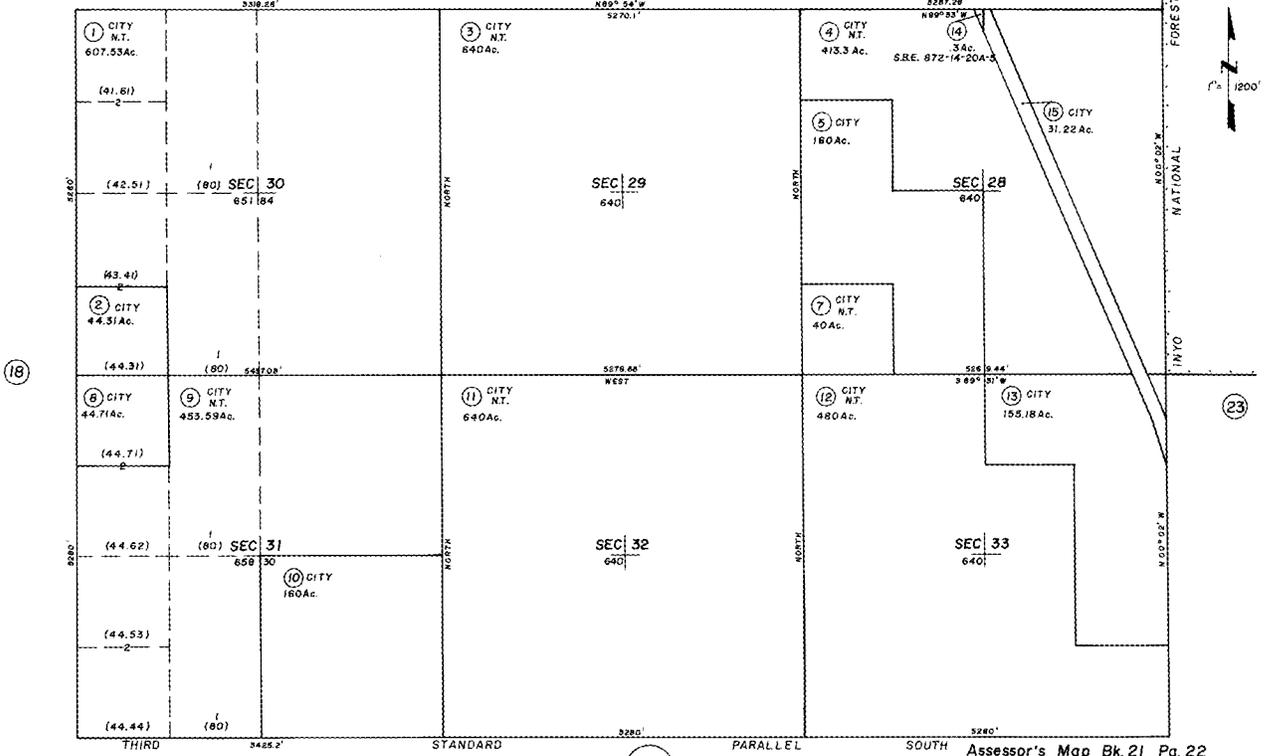
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1-4-77  
2-1-86

T. 12 S., R. 35 E., M. D. B. & M.

TAX RATE AREA  
57-001

21-22



Assessor's Map Bk. 21 Pg. 22  
County of Inyo, Calif.  
1950

1. THIS SECTION WAS PREPARED FOR THE ASSessor's OFFICE BY THE COUNTY OF INYO.
2. LIABILITY IS ASSIGNED FOR THE ACCURACY OF THE DATA SHOWN.
3. ASSessor's CHANGES MAY NOT CONFORM WITH LOCAL ORDINANCES OR REGULATIONS.

Bk. 22

2-14-86

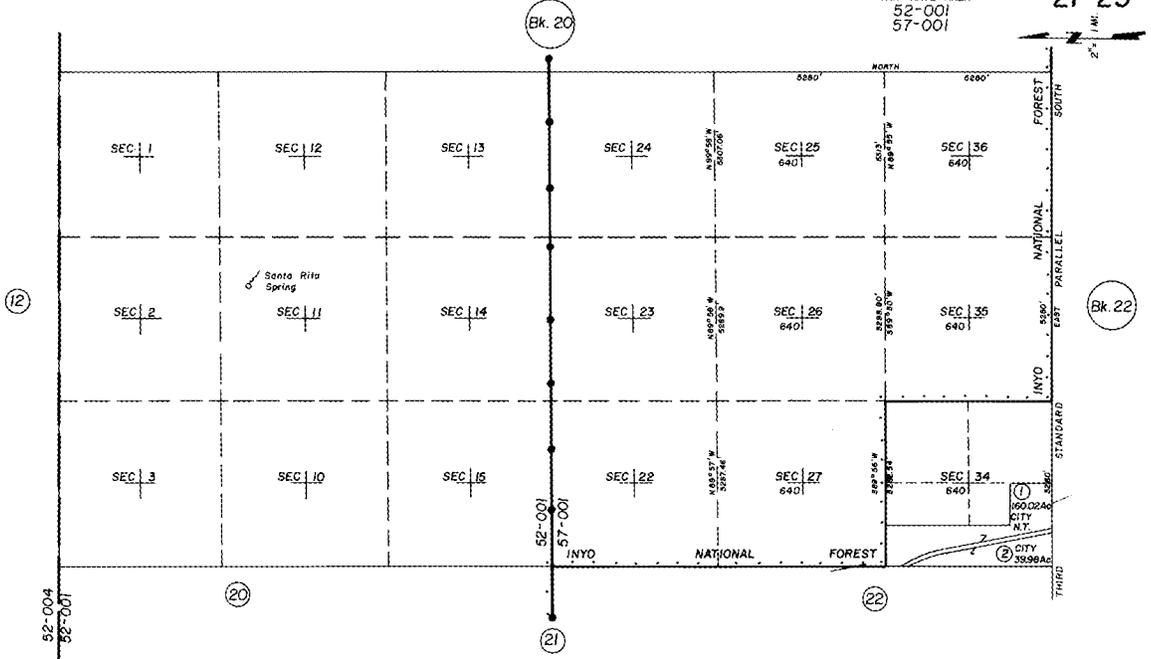
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1-4-77

T. 12 S., R. 35 E., M. D. B. & M.

TAX RATE AREA  
52-001  
57-001

21-23



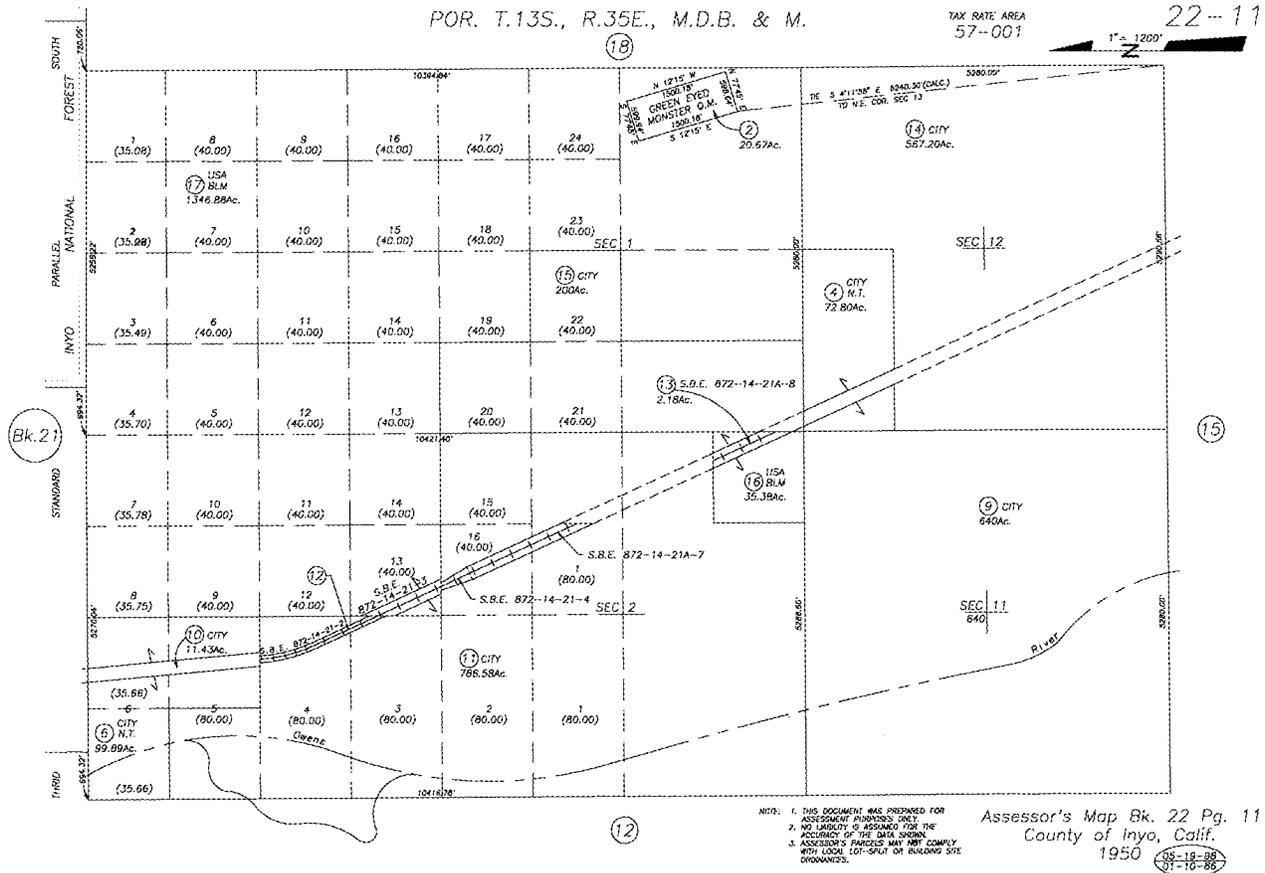
Assessor's Map Bk. 21 Pg. 23  
County of Inyo, Calif.  
1950

1. THIS SECTION WAS PREPARED FOR THE ASSessor's OFFICE BY THE COUNTY OF INYO.
2. LIABILITY IS ASSIGNED FOR THE ACCURACY OF THE DATA SHOWN.
3. ASSessor's CHANGES MAY NOT CONFORM WITH LOCAL ORDINANCES OR REGULATIONS.

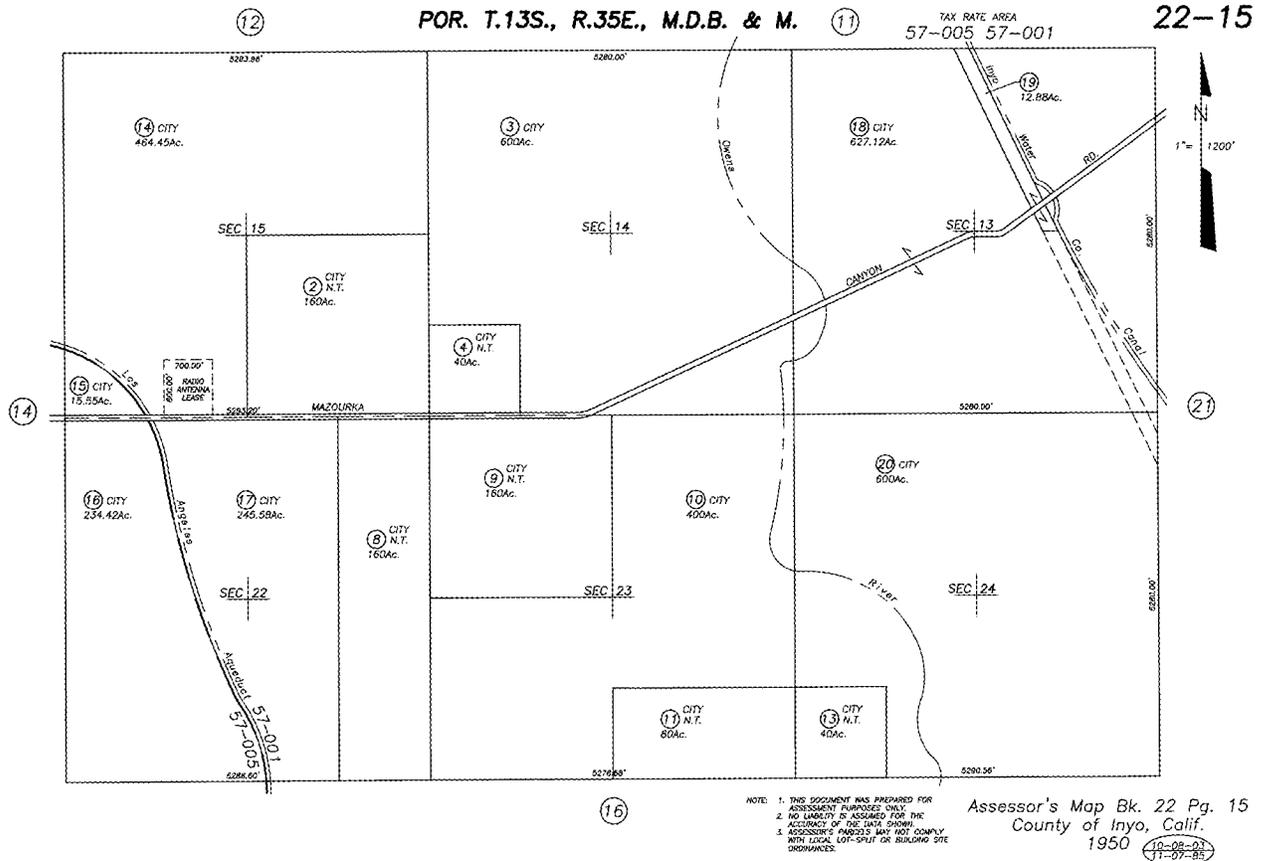
Bk. 20

2-14-86

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02211.tif



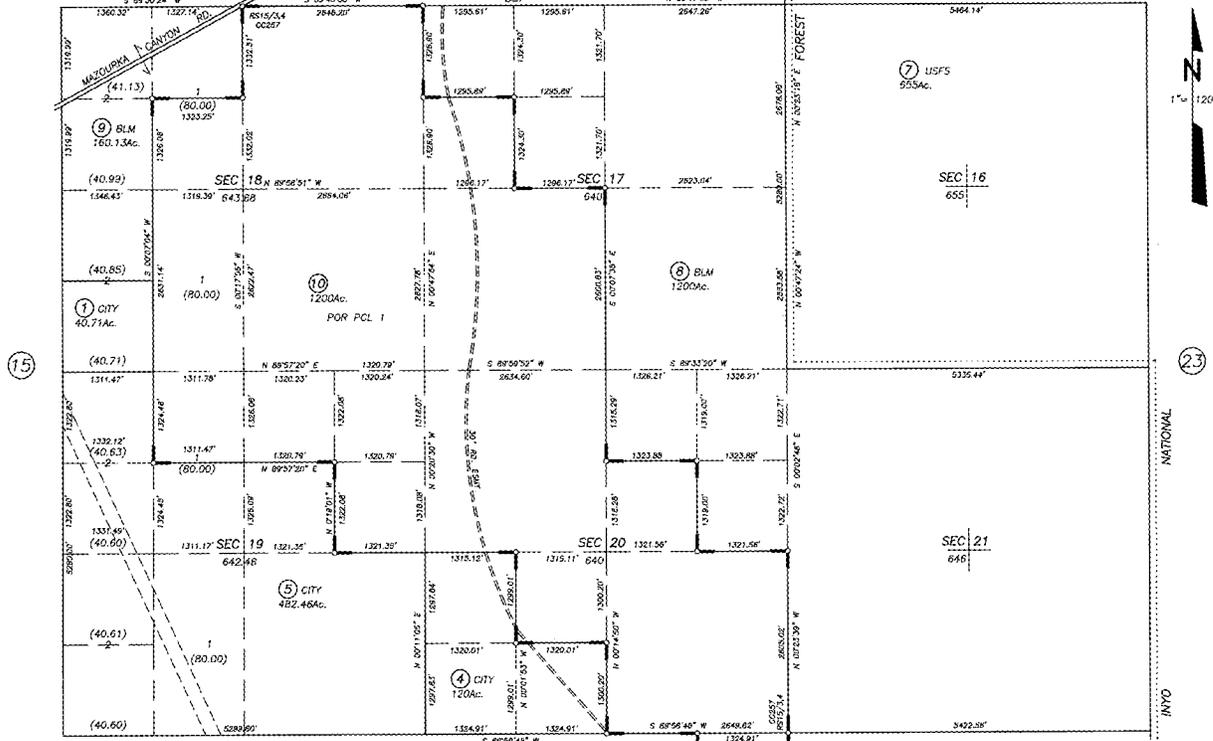
02215.tif

12-11-00  
08-13-01  
12-27-07

POR. T.13S., R.36E., M.D.B. & M.

TAX RATE AREA  
57-001

22-21



CALIFORNIA PROTRACTION DIAGRAM No. 61  
R.S. 01-001 Bk. 15 Pgs. 3,4  
C.C. 257 - 07/05751

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ORDINANCES.

Assessor's Map Bk. 22 Pg. 21  
County of Inyo, Calif.  
1950

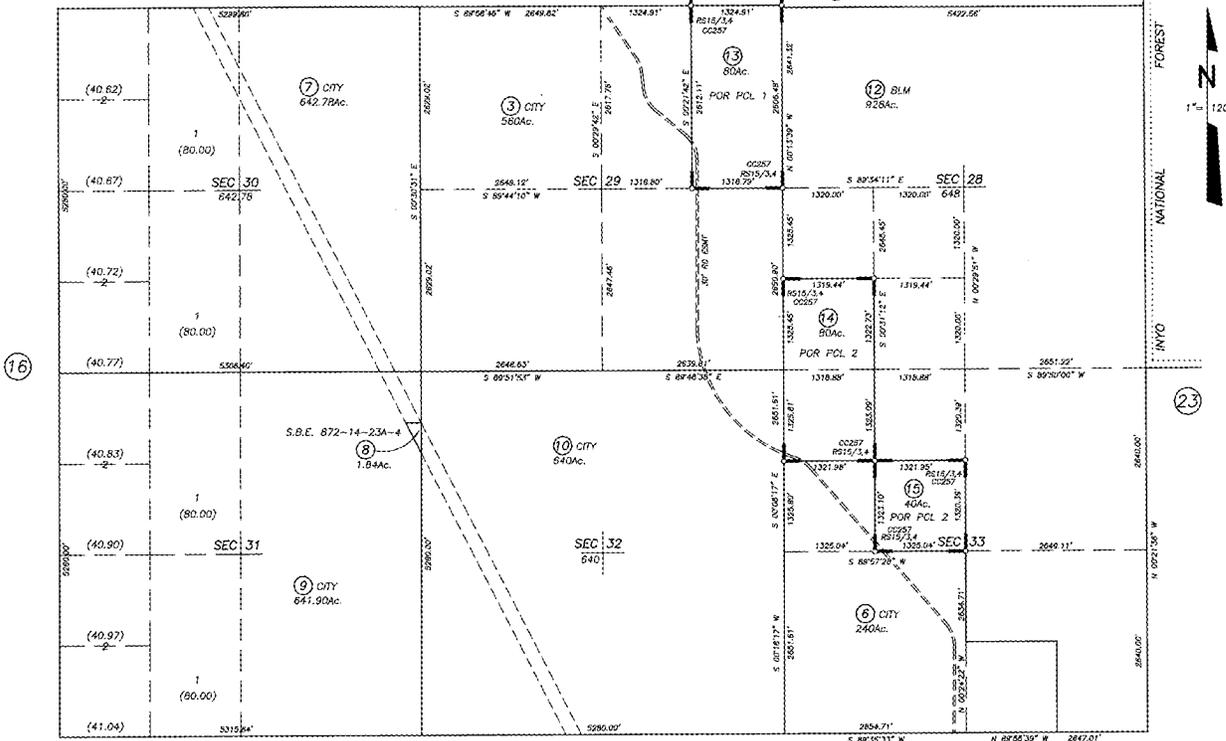
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12-11-00  
08-13-01  
12-27-07

POR. T.13S., R.36E., M.D.B. & M.

TAX RATE AREA  
57-001

22-22



CALIFORNIA PROTRACTION DIAGRAM No. 61  
R.S. 01-001 Bk. 15 Pgs. 3,4  
C.C. 257 - 07/05751

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WITH LOCAL LOT-SPLIT OR BUILDING SITE  
ORDINANCES.

Assessor's Map Bk. 22 Pg. 22  
County of Inyo, Calif.  
1950

02222.tif

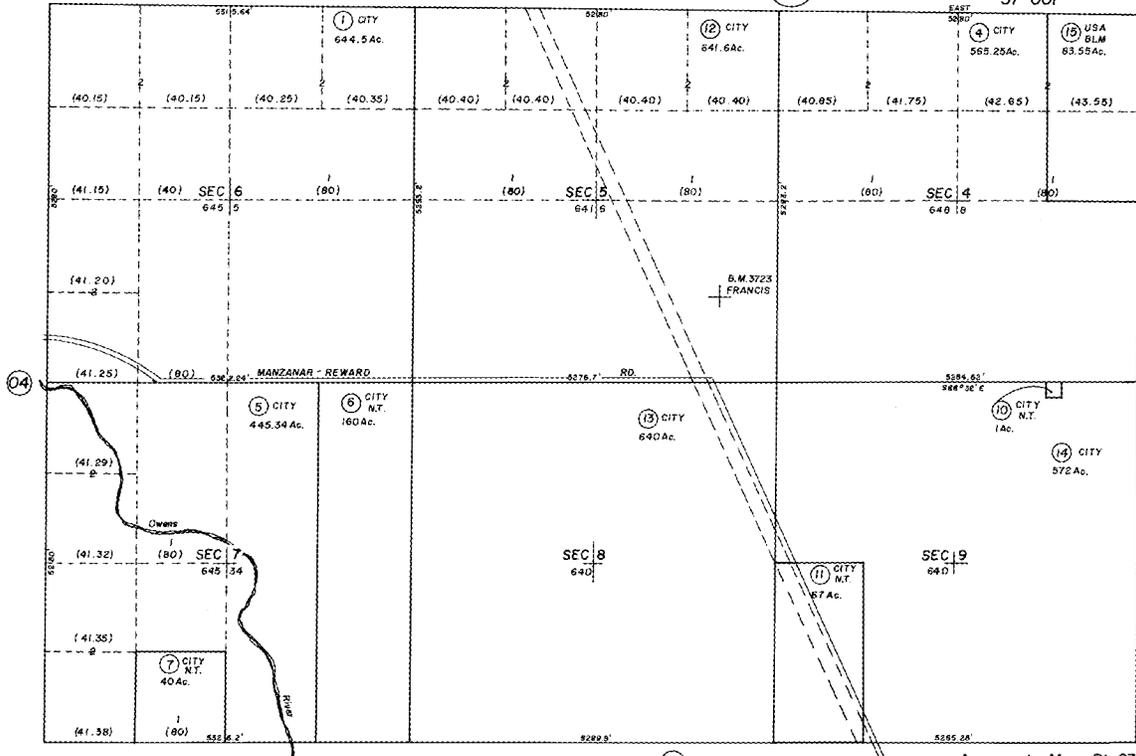
1-2-77  
5-22-86

T.14 S., R. 36 E., M. D. B. & M.

Bk.22

TAX RATE AREA  
57-001

23-11



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ACCURACY OF THE DATA SHOWN.  
3. ASSESSOR'S PARCELS MAY NOT COMPLY  
WITH LOCAL LOT-SPLIT OR BUILDING SIZE  
ORDINANCES.

5-22-86

02311.tif

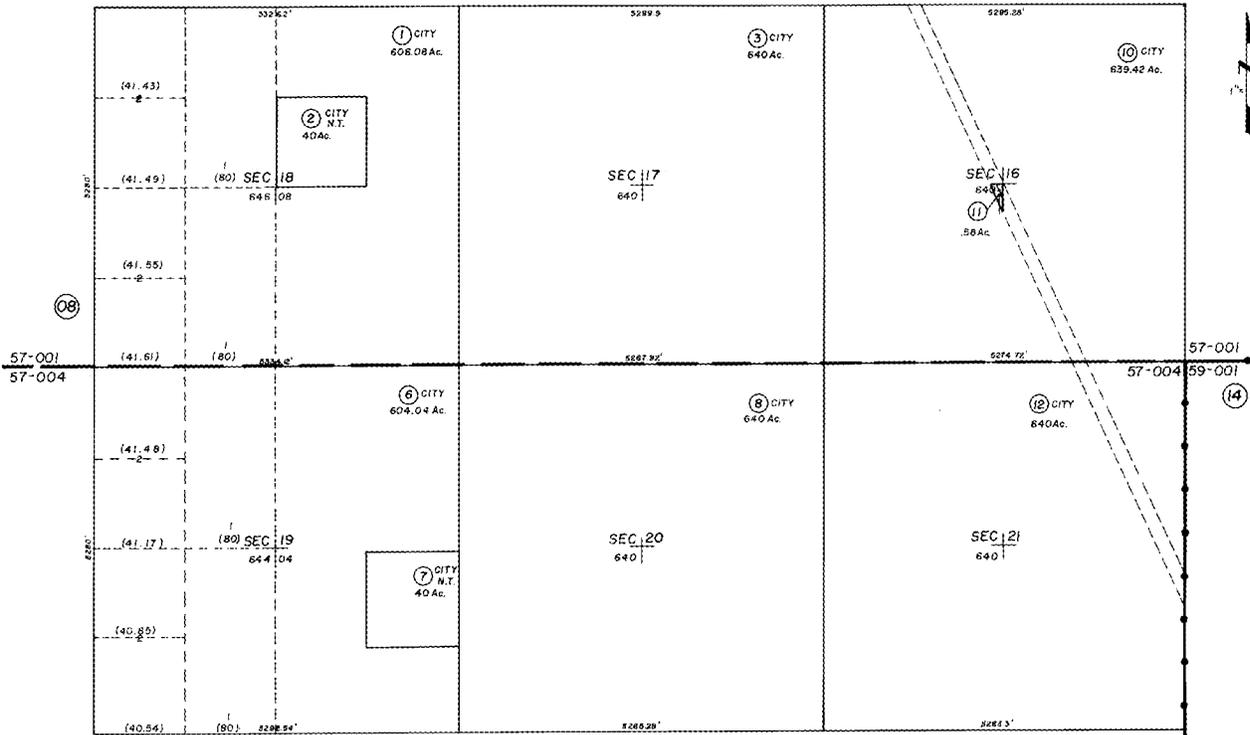
1-2-77  
5-22-86

T.14 S., R.36 E., M. D. B. & M.

11

TAX RATE AREA  
57-004 57-001

23-12



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WITH LOCAL LOT-SPLIT OR BUILDING SIZE  
ORDINANCES.

5-22-86

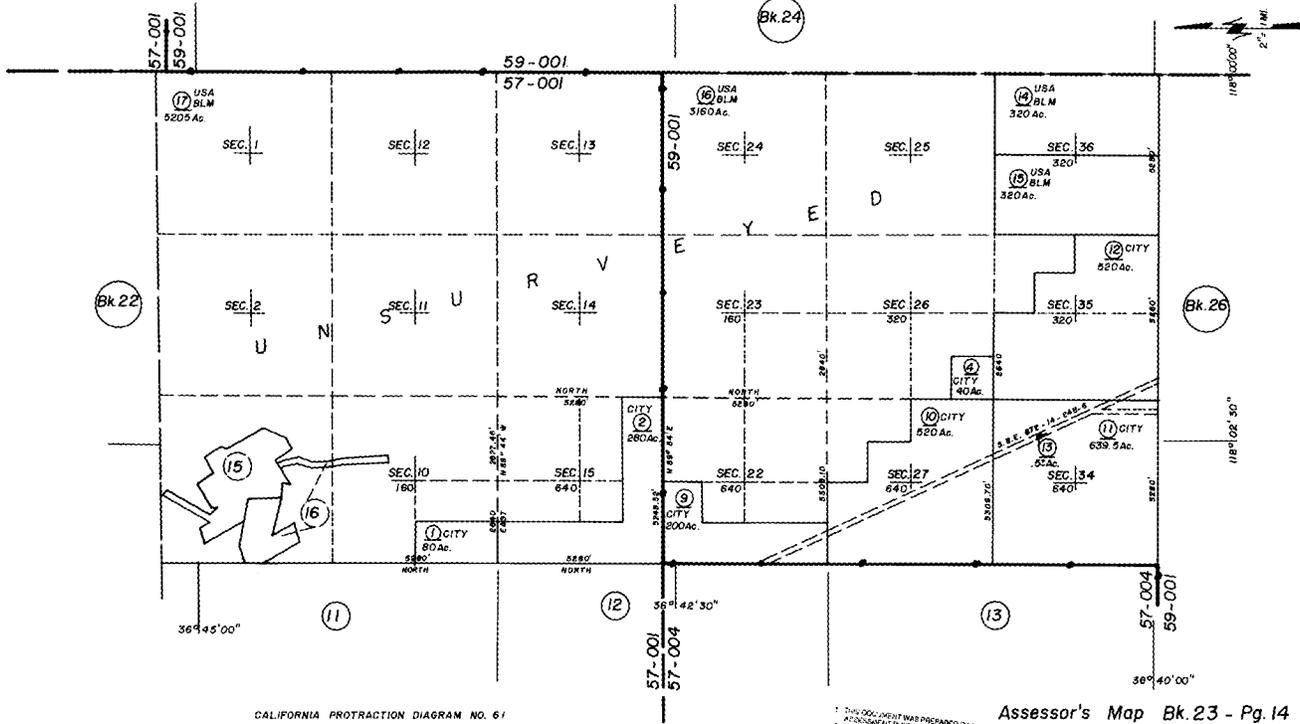
02312.tif

Redrawn  
7/83  
6-29-83

E 1/2 T. 14 S., R. 36 E., M.D.B. & M.

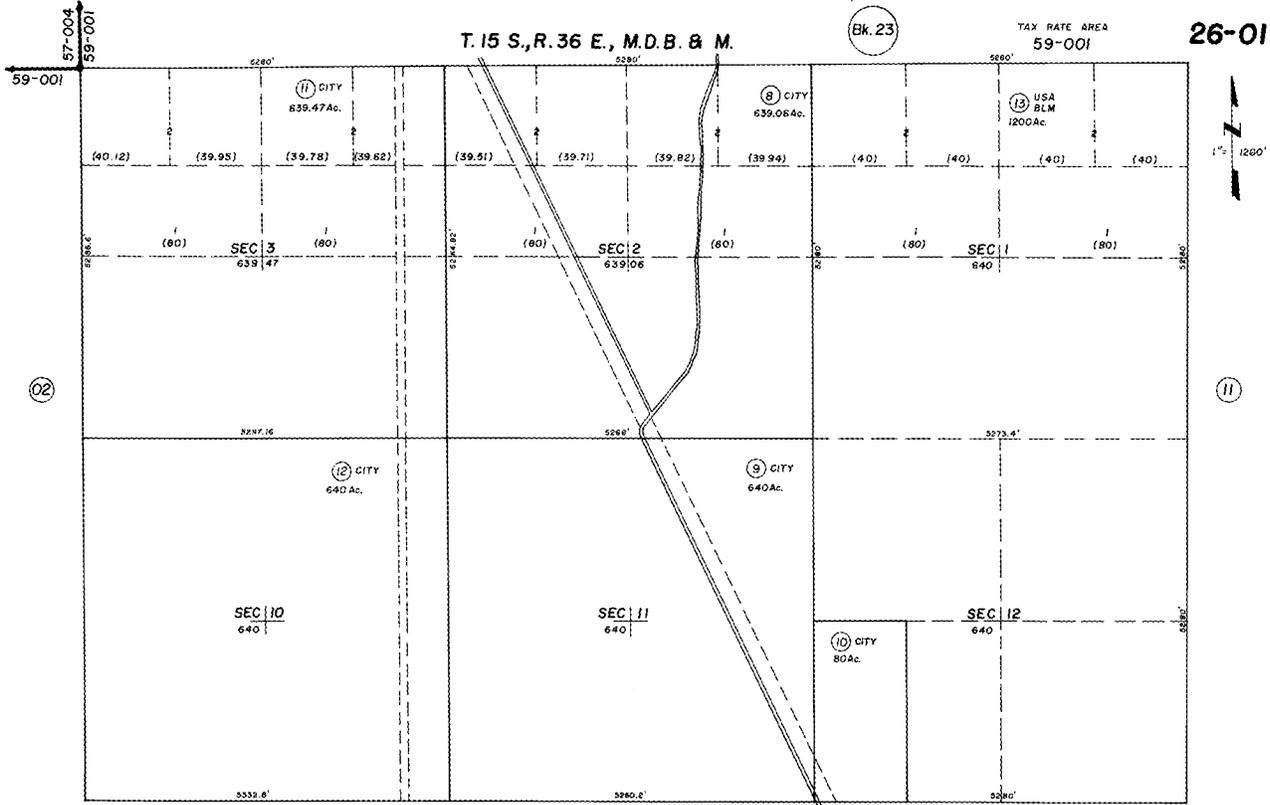
TAX RATE AREA  
57-001  
59-001

23-14



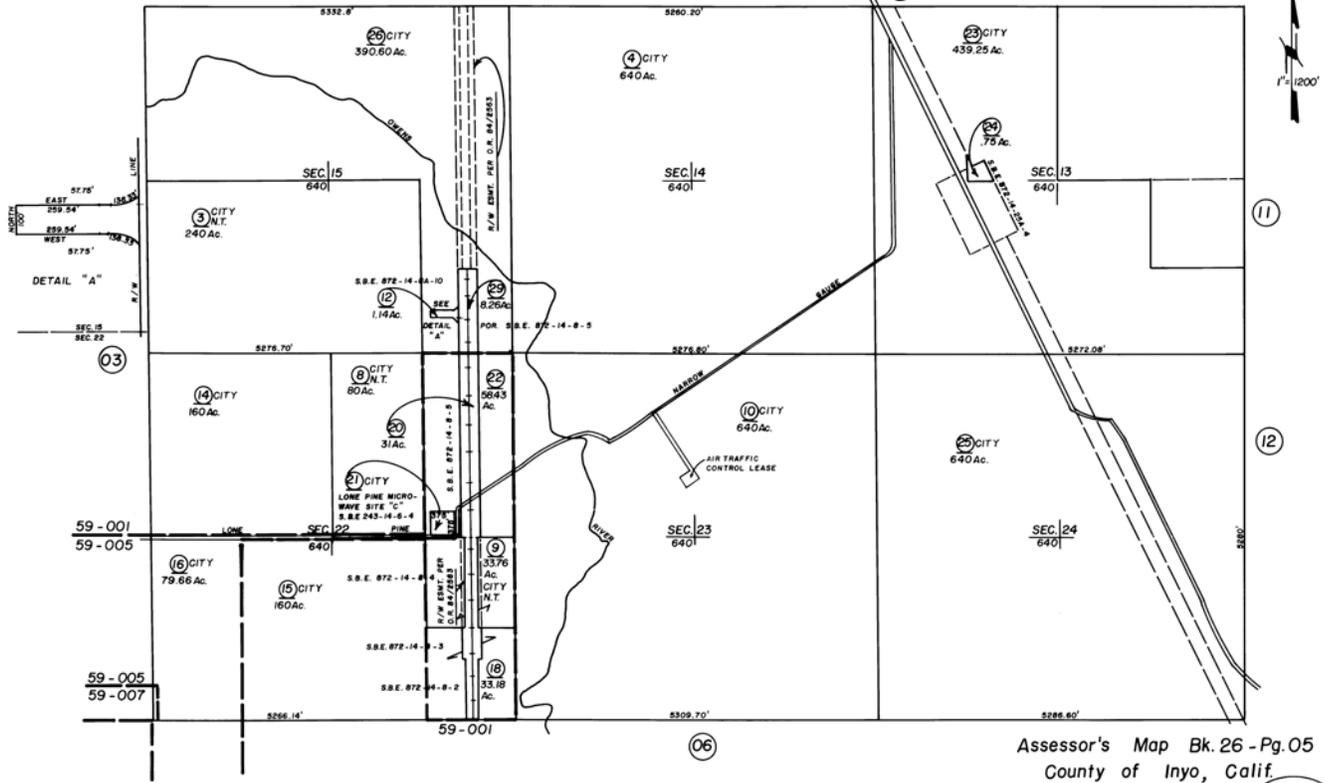
Assessor's Map Bk. 23 - Pg. 14  
County of Inyo, Calif.  
1950  
6-9-89

02314.tif



Assessor's Map Bk. 26 Pg. 01  
County of Inyo, Calif.  
1950  
6-11-89

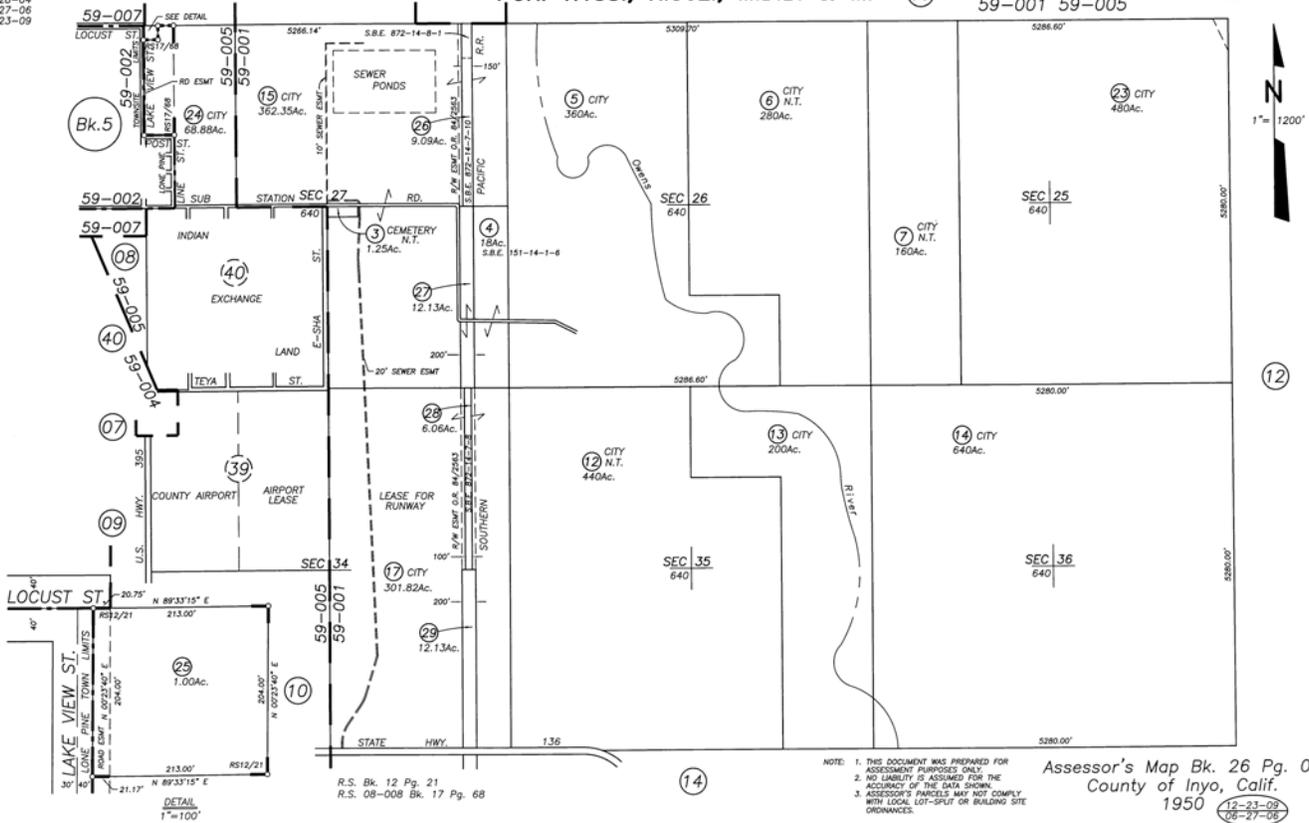
02601.tif



Assessor's Map Bk. 26 - Pg. 05  
County of Inyo, Calif.  
1950

02605.tif

09-16-01  
12-28-04  
06-27-06  
12-23-09



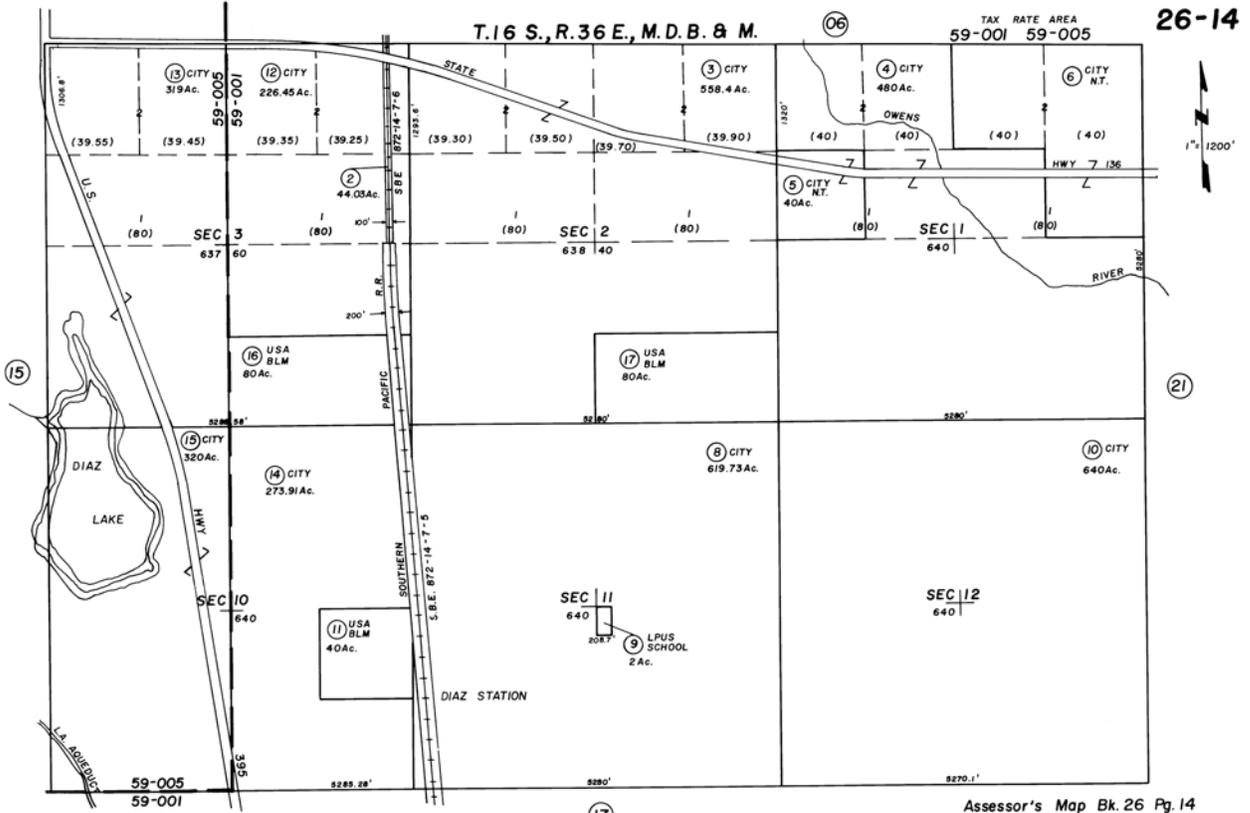
Assessor's Map Bk. 26 Pg. 06  
County of Inyo, Calif.  
1950

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R.S. Bk. 12 Pg. 21  
R.S. 08-008 Bk. 17 Pg. 68

02606.tif

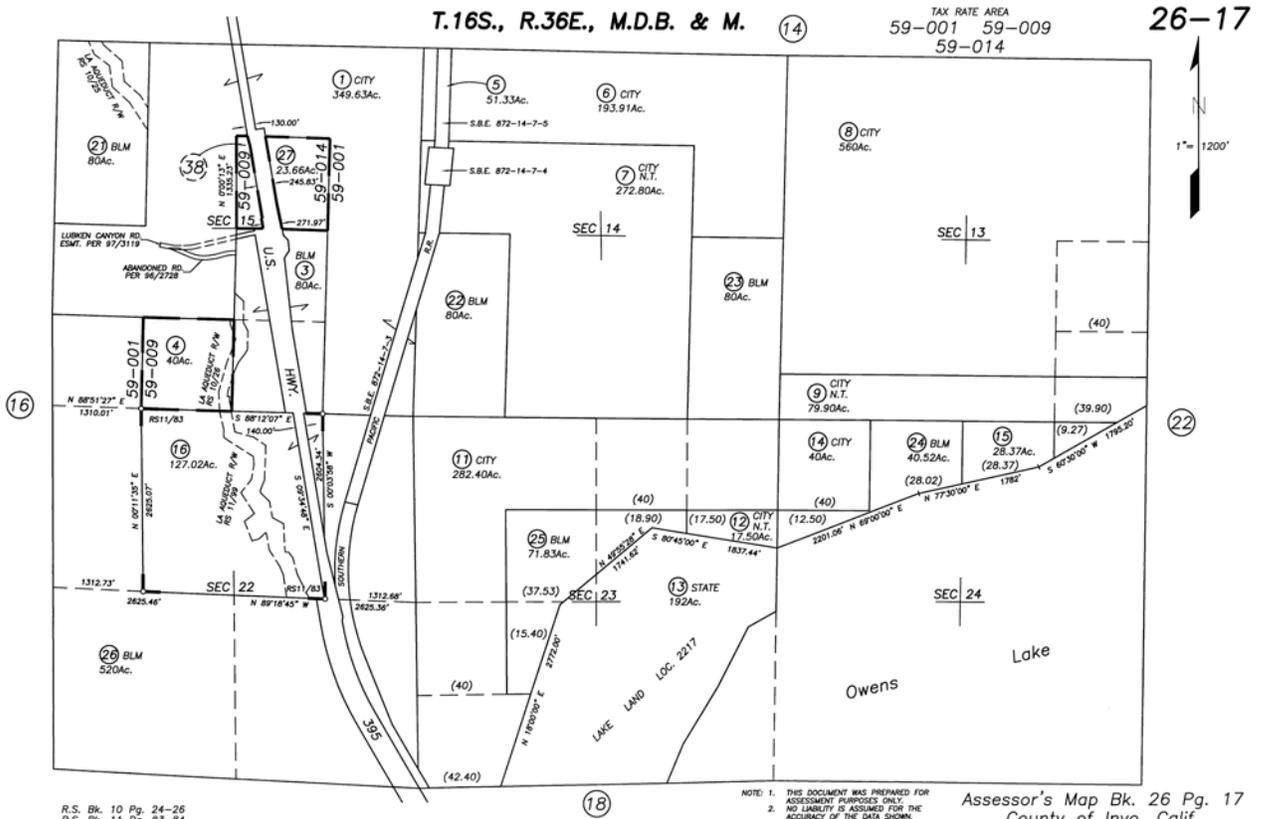
77  
11-6-92



Assessor's Map Bk. 26 Pg. 14  
County of Inyo, Calif.  
1950

11-6-92

02614.tif



Assessor's Map Bk. 26 Pg. 17  
County of Inyo, Calif.  
1950

09-25-97  
10-05-97

R.S. Bk. 10 Pg. 24-26  
R.S. Bk. 11 Pg. 83-84  
R.S. Bk. 11 Pg. 98-99  
R.S. Bk. 13 Pgs. 41-70 HWY. R/W

U.S. HWY 395 R/W 94/4023

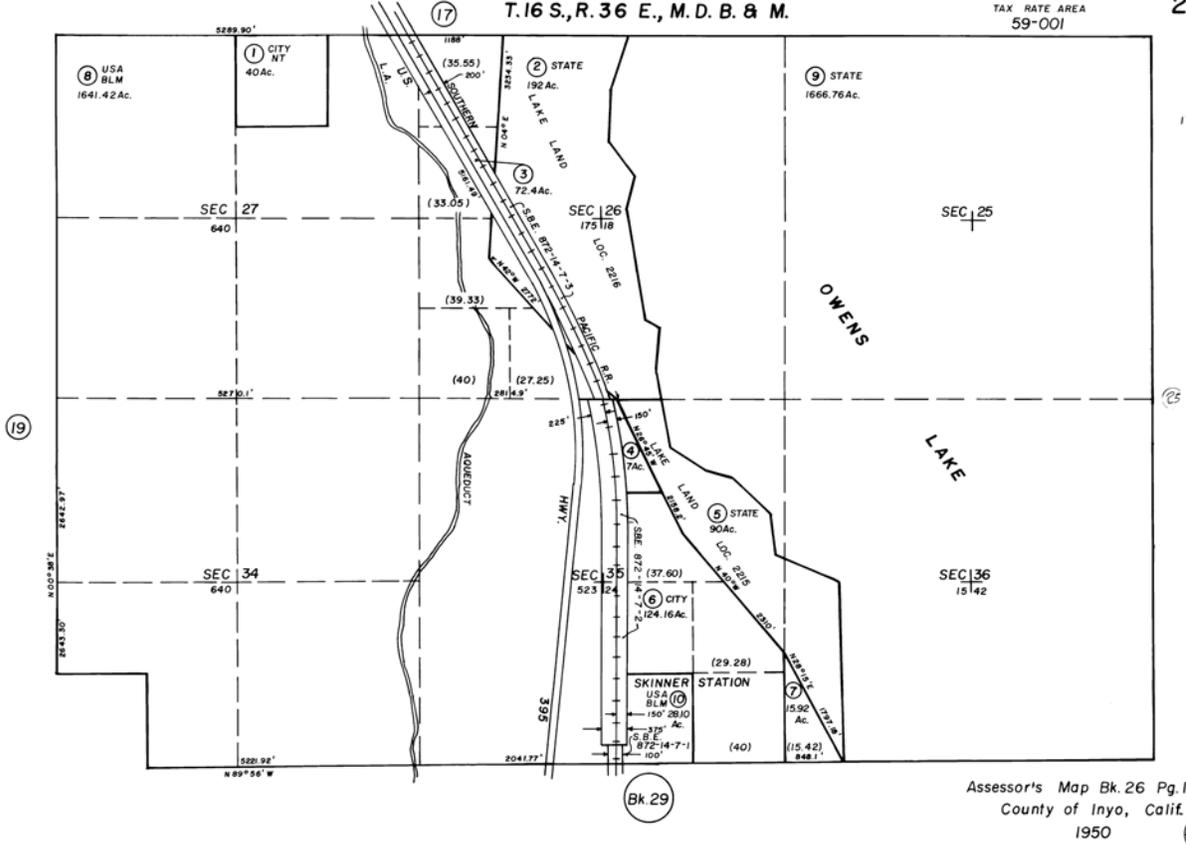
NOTE: 1. THIS DOCUMENT WAS PREPARED FOR  
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ASSESSOR'S PARCELS MAY NOT COMPLY  
WITH LEGAL LOT-SPLIT OR BUILDING SITE  
ORDINANCES.

02617.tif

T.16 S., R.36 E., M. D. B. & M.

TAX RATE AREA  
59-001

26-18



Assessor's Map Bk. 26 Pg. 18  
County of Inyo, Calif.  
1950

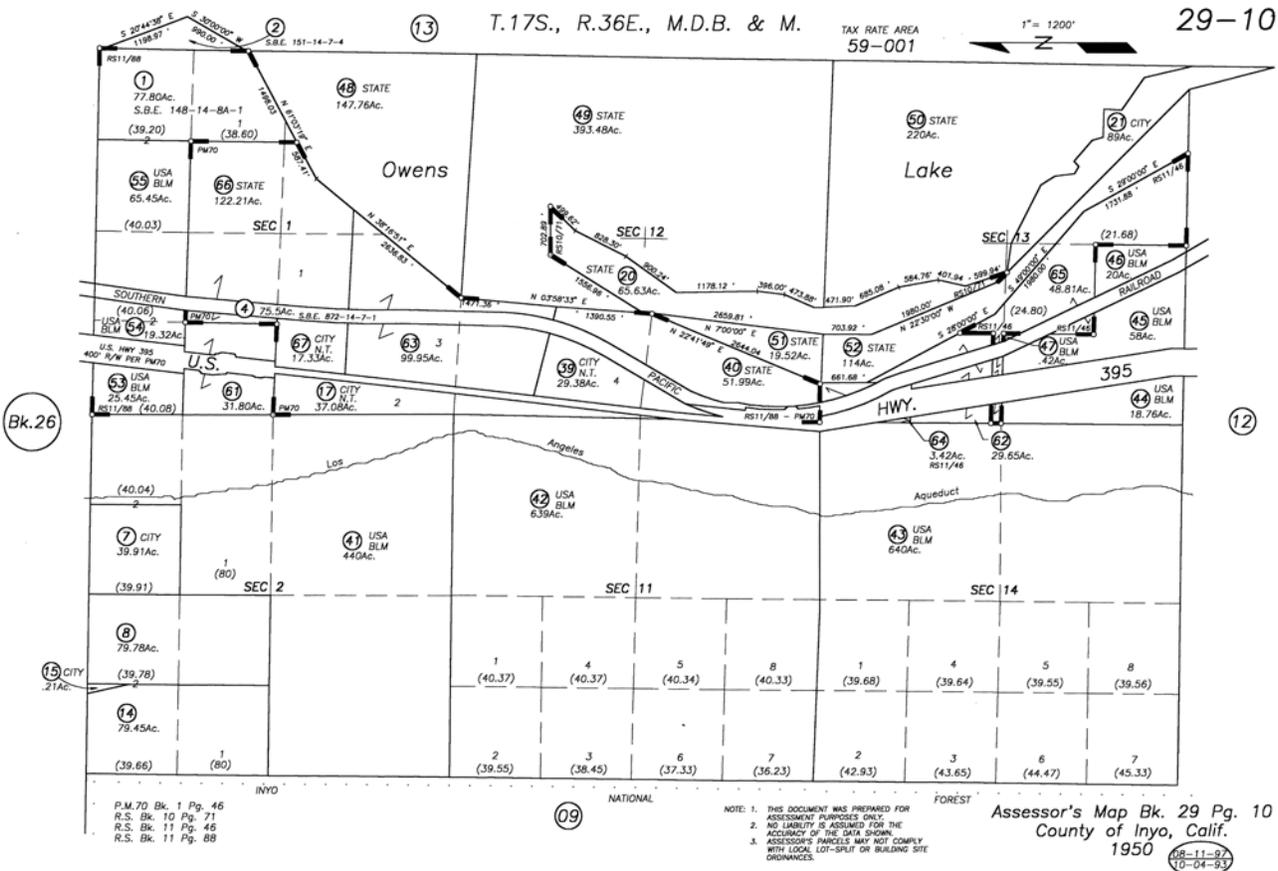
1-12-87

02618.tif

T.17 S., R.36 E., M. D. B. & M.

TAX RATE AREA  
59-001

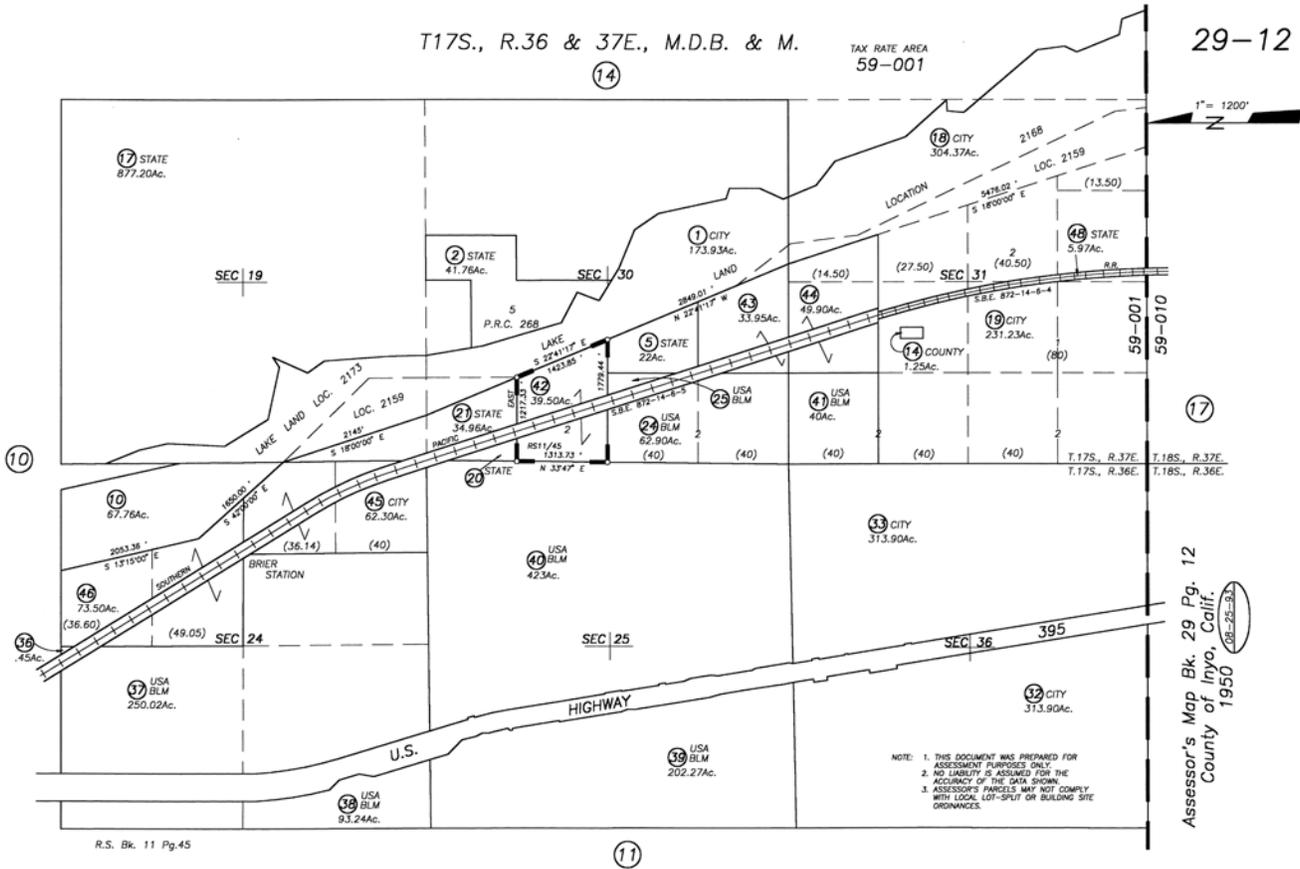
29-10



Assessor's Map Bk. 29 Pg. 10  
County of Inyo, Calif.  
1950

10-04-83

02910.tif

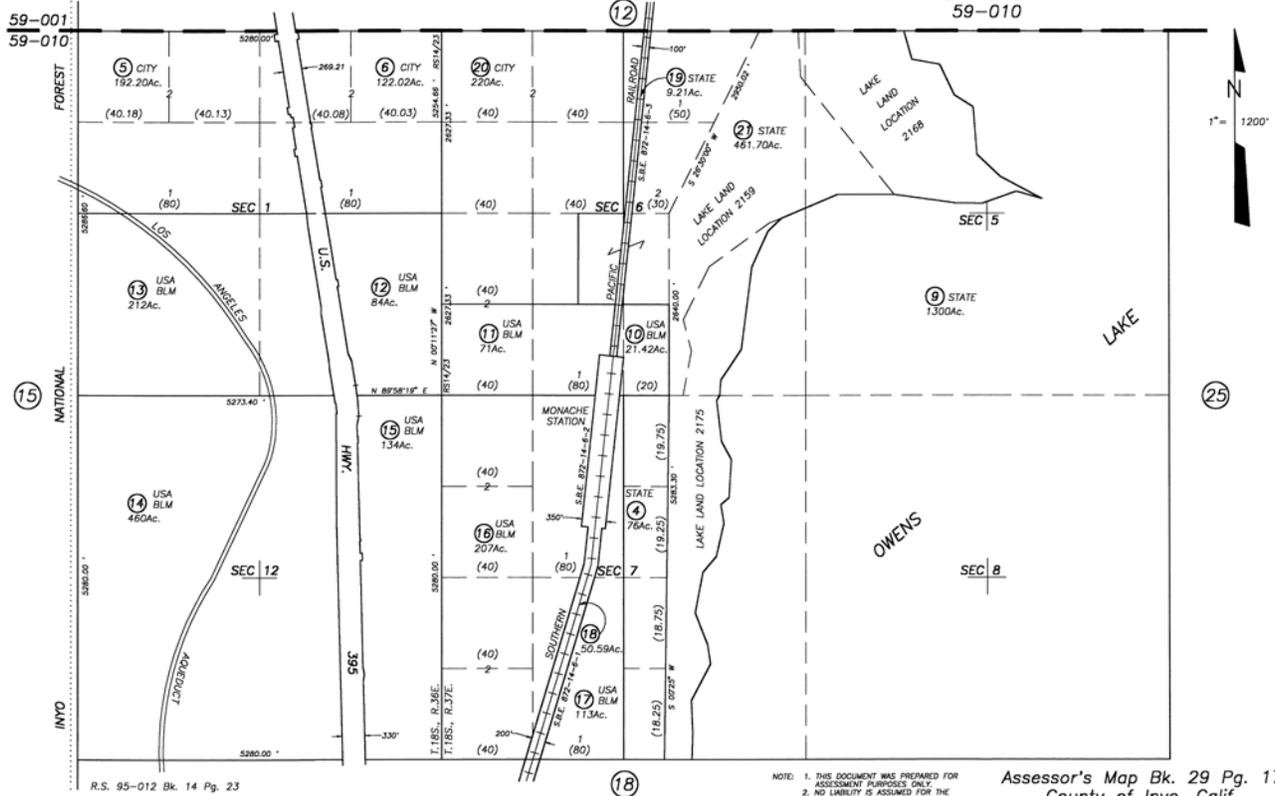


R.S. Bk. 11 Pg.45

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Assessor's Map Bk. 29 Pg. 12  
 County of Inyo, Calif.  
 1950 (08-25-03)

02912.tif

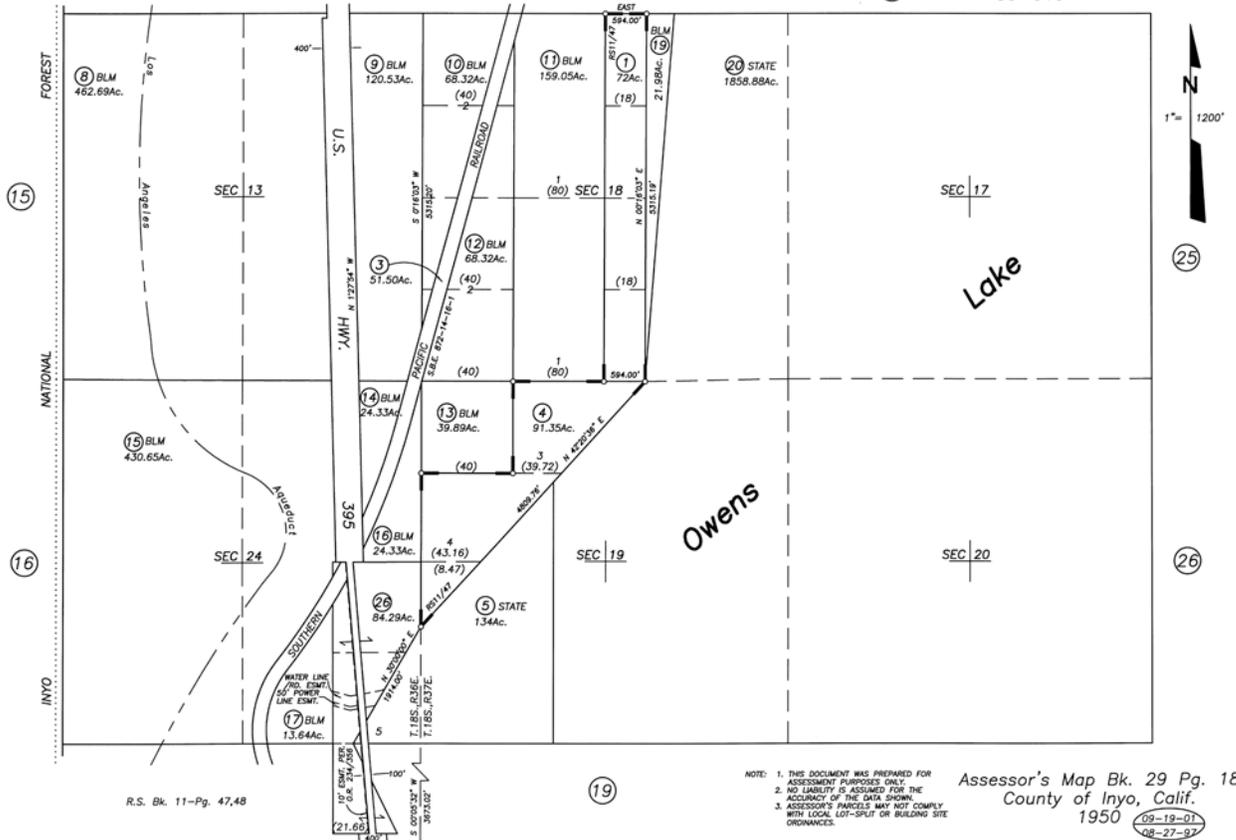


R.S. 95-012 Bk. 14 Pg. 23

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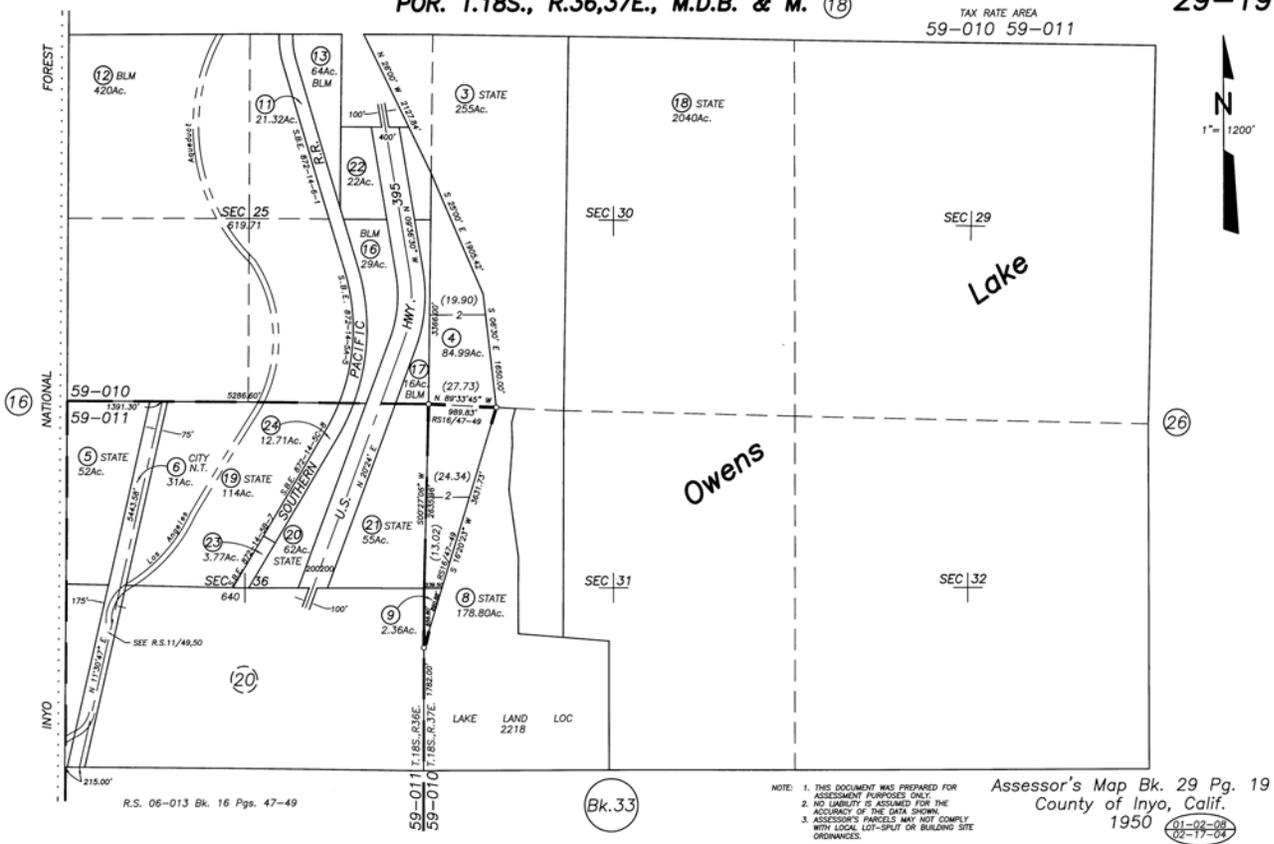
Assessor's Map Bk. 29 Pg. 17  
 County of Inyo, Calif.  
 1950 (08-14-97)  
 (09-09-93)

02917.tif



02918.tif

12-06-85  
04-18-89  
02-17-04  
01-02-08



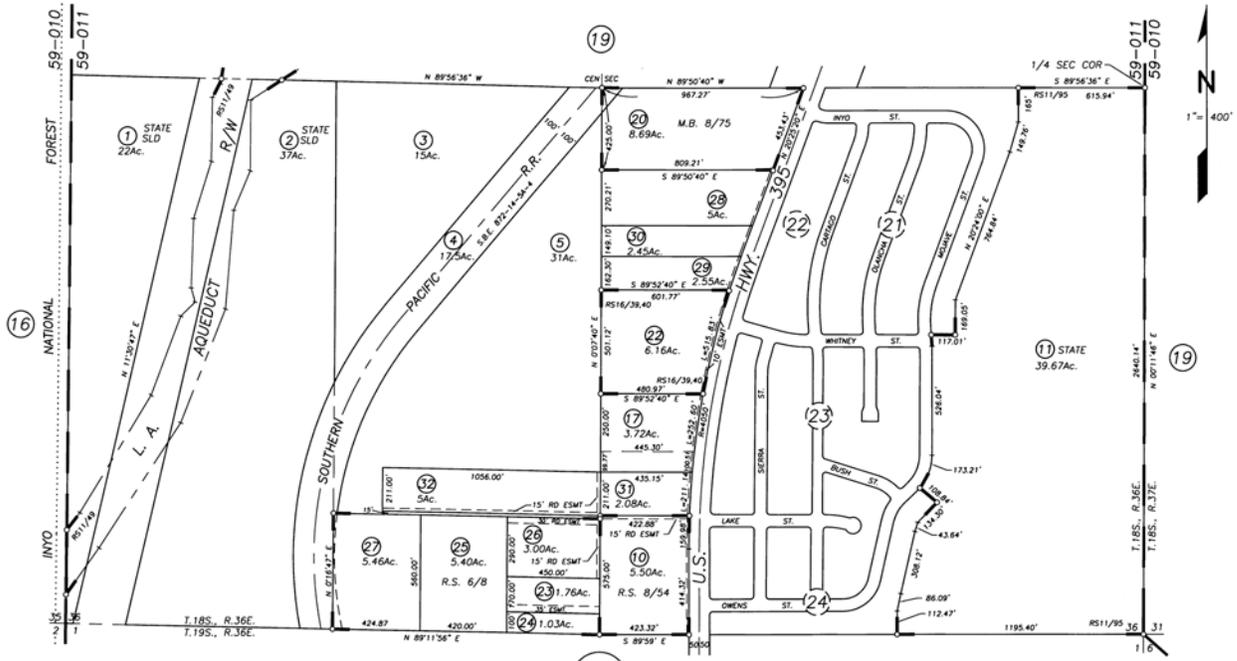
02919.tif

12-06-85  
02-17-04  
07-21-05  
07-06-06

S1/2 SEC. 36, T.18S., R.36E., M.D.B. & M.

TAX RATE AREA  
59-011

29-20



R.S. Bk. 6 Pg. 8  
R.S. Bk. 11 Pgs. 95,96  
R.S. Bk. 11 Pgs. 49,50 LA AQUEDUCT R/W FENCE LINE  
R.S. 05-004 Bk. 16 Pgs. 39,40

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Assessor's Map Bk. 29 Pg. 20  
County of Inyo, Calif.  
1950

Bk. 33

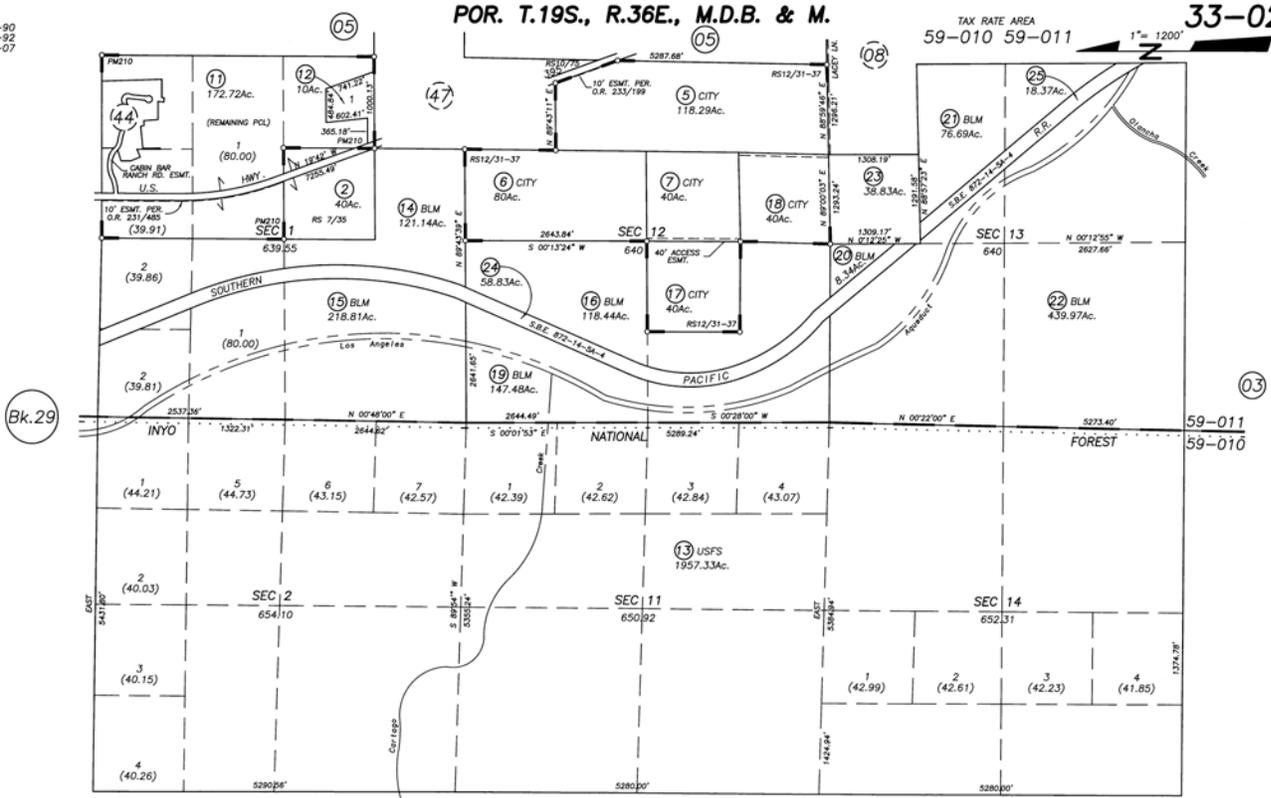
02920.tif

11-01-90  
03-12-92  
04-27-07

POR. T.19S., R.36E., M.D.B. & M.

TAX RATE AREA  
59-010 59-011

33-02



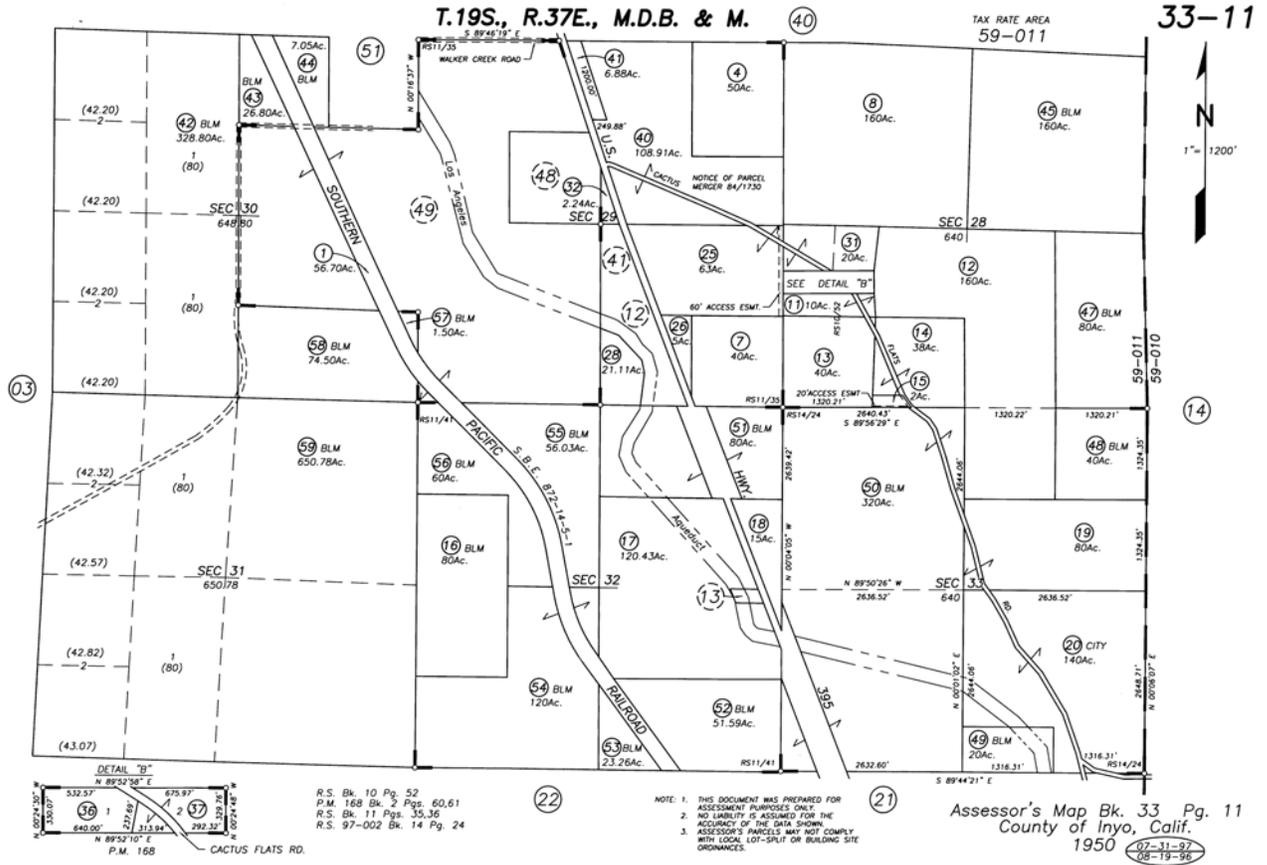
R.S. Bk. 7 Pg. 35  
R.S. Bk. 10 Pg. 75  
P.M. 210 Bk. 3 Pgs. 33,34  
R.S. Bk. 12 Pgs. 31-37

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Assessor's Map Bk. 33 Pg. 02  
County of Inyo, Calif.  
1982

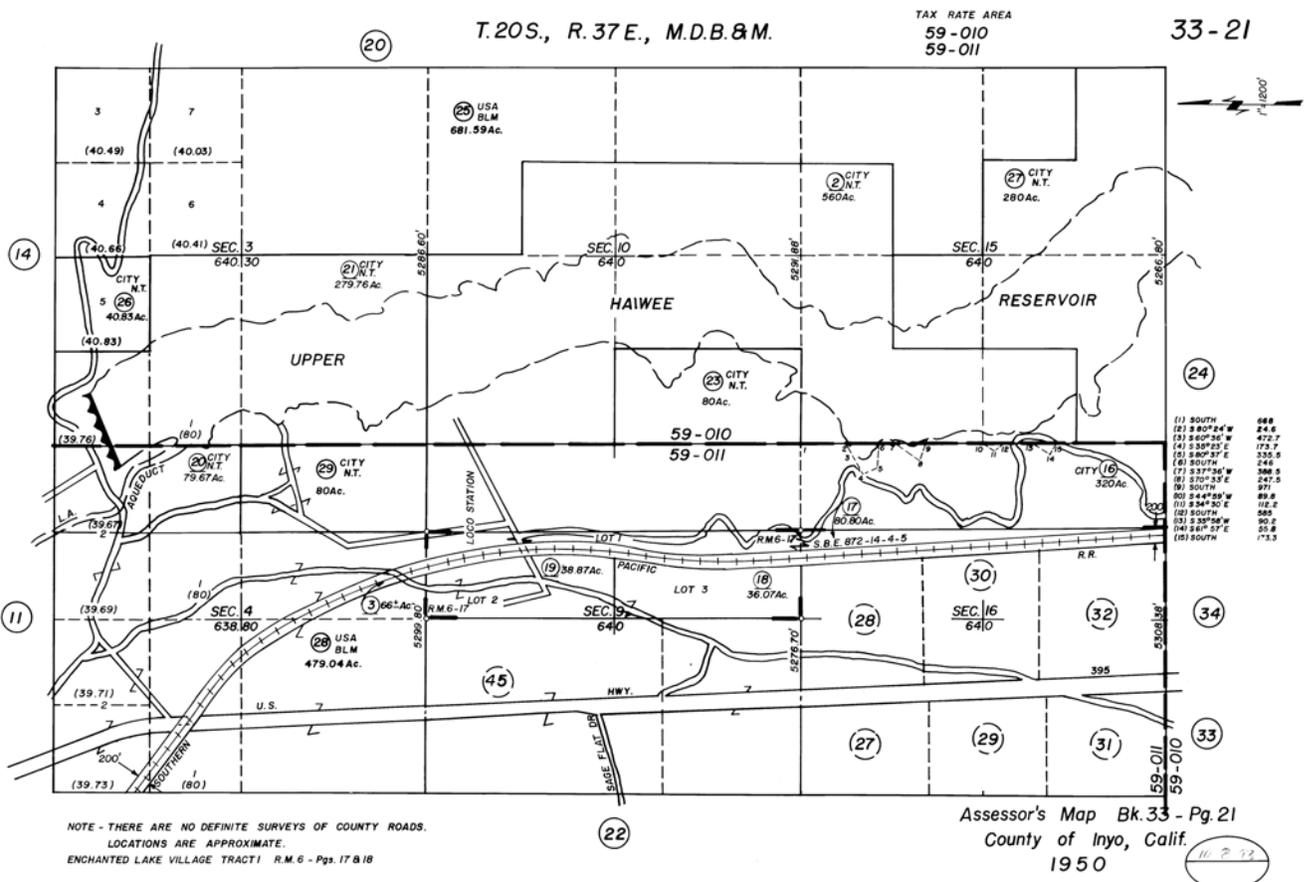
Bk. 29

03302.tif

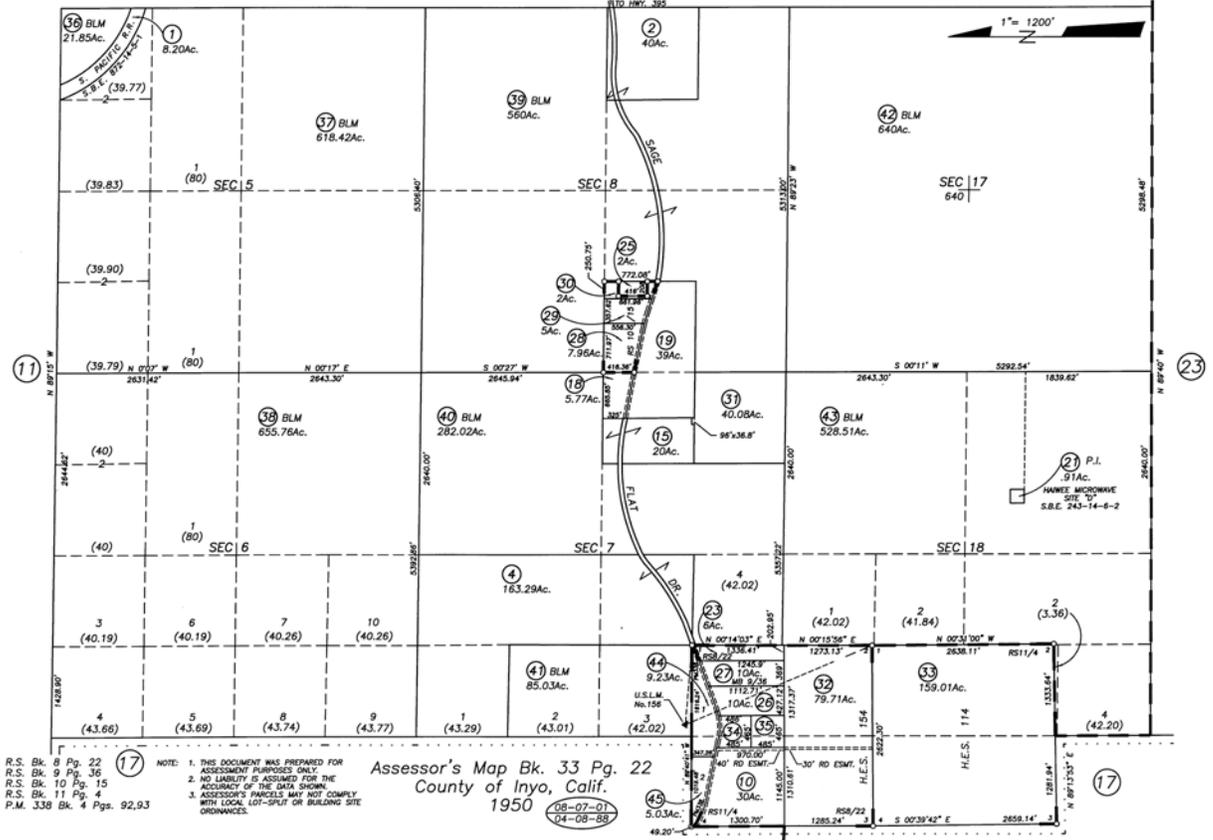


03311.tif

12-2-92  
11-15-91  
1-4-95  
10-8-93



03321.tif

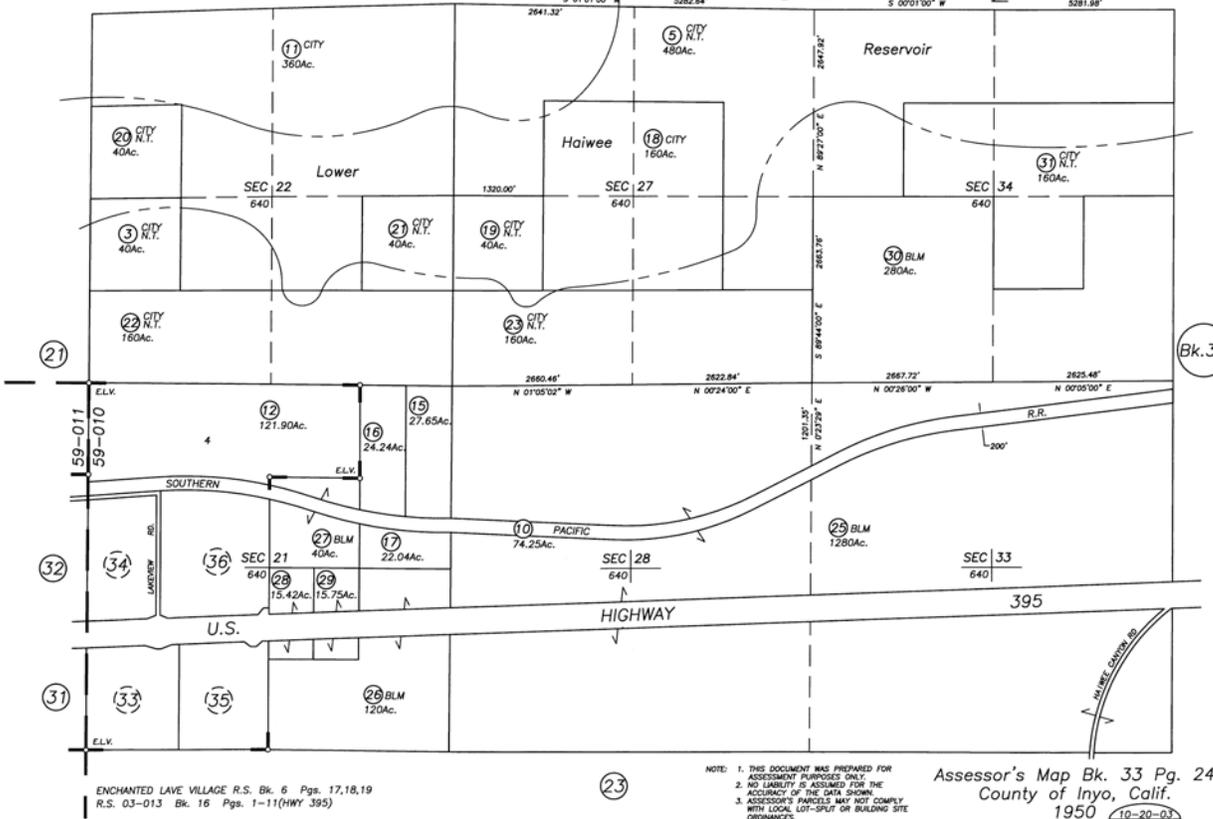


R.S. Bk. 8 Pg. 22  
 R.S. Bk. 9 Pg. 36  
 R.S. Bk. 10 Pg. 15  
 R.S. Bk. 11 Pg. 4  
 P.M. 338 Bk. 4 Pgs. 92,93

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Assessor's Map Bk. 33 Pg. 22  
 County of Inyo, Calif.  
 1950

03322.tif



ENCHANTED LAKE VILLAGE R.S. Bk. 6 Pgs. 17,18,19  
 R.S. 03-013 Bk. 16 Pgs. 1-11(HWY 395)

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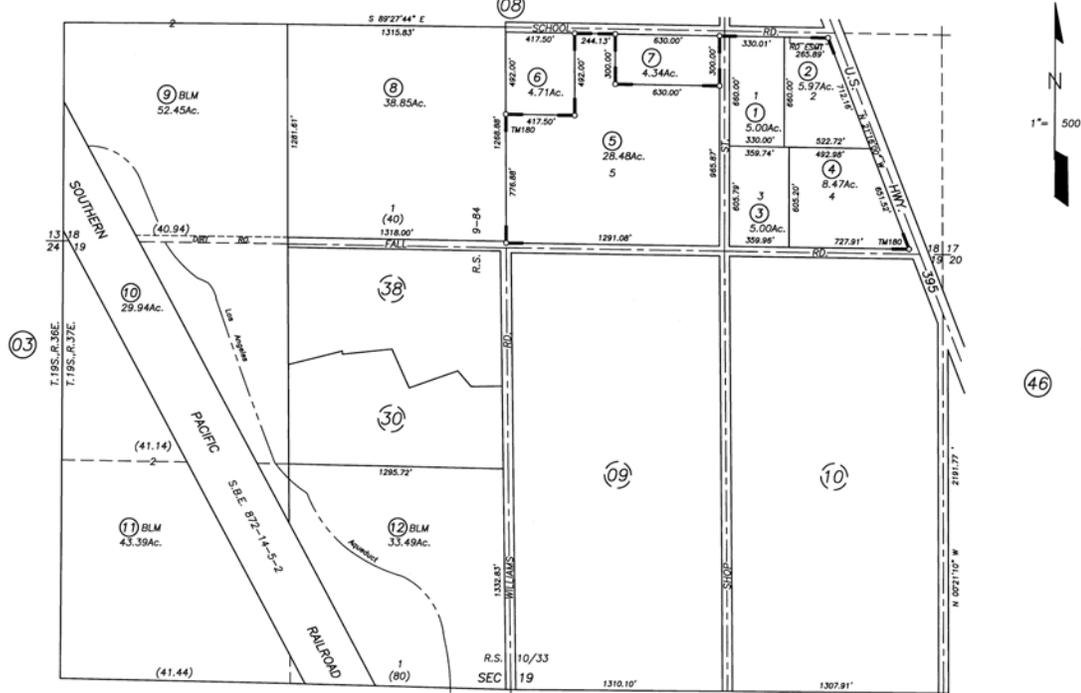
Assessor's Map Bk. 33 Pg. 24  
 County of Inyo, Calif.  
 1950

03324.tif

S1/2 S1/2 SEC. 18 T.19S., R.37E., M.D.B. & M.  
N1/2 SEC. 19 T.19S., R.37E., M.D.B. & M.

TAX RATE AREA  
59-011

33-43



R.S. Bk. 9 Pg. 84  
R.S. Bk. 10 Pg. 33  
T.M. 180 Bk. 3 Pgs 98-100

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WITH LOCAL LOT-SPLIT OR BUILDING SITE  
ORDINANCES.

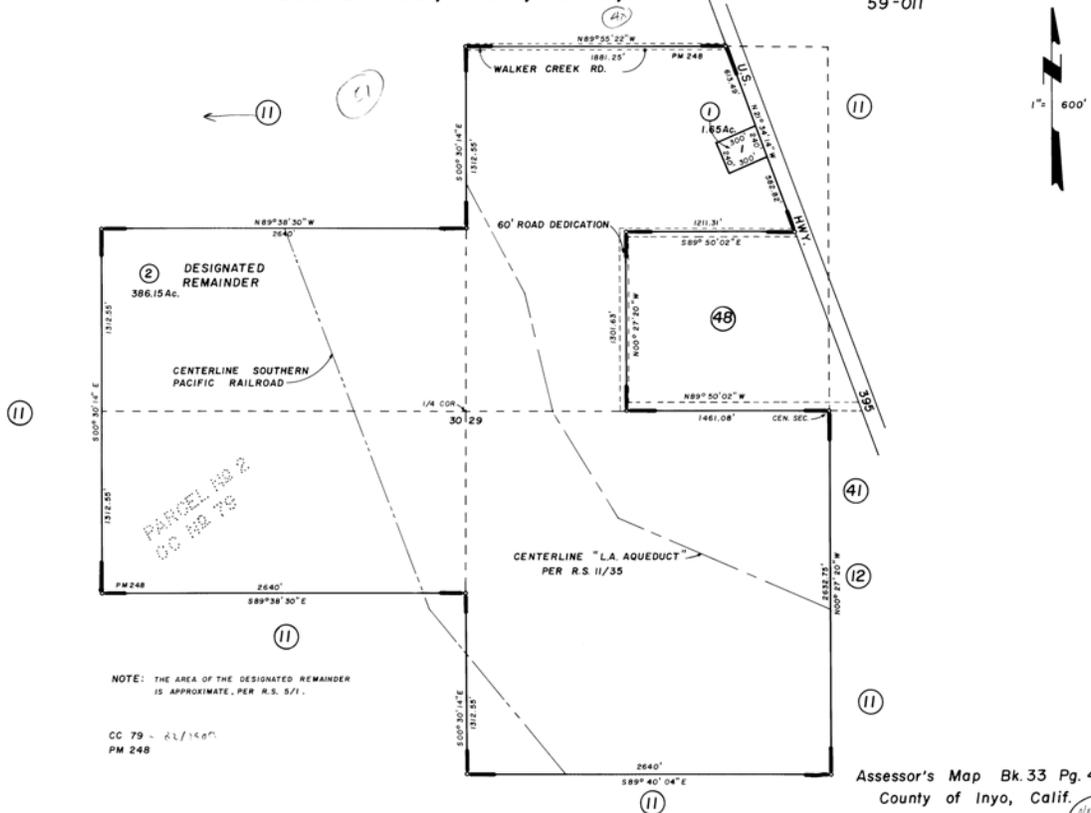
Assessor's Map Bk. 33 Pg. 43  
County of Inyo, Calif.  
1990

03343.tif

POR. SECS. 29 & 30, T. 19 S., R. 37 E., M. D. B. & M.

TAX RATE AREA  
59-011

33-49



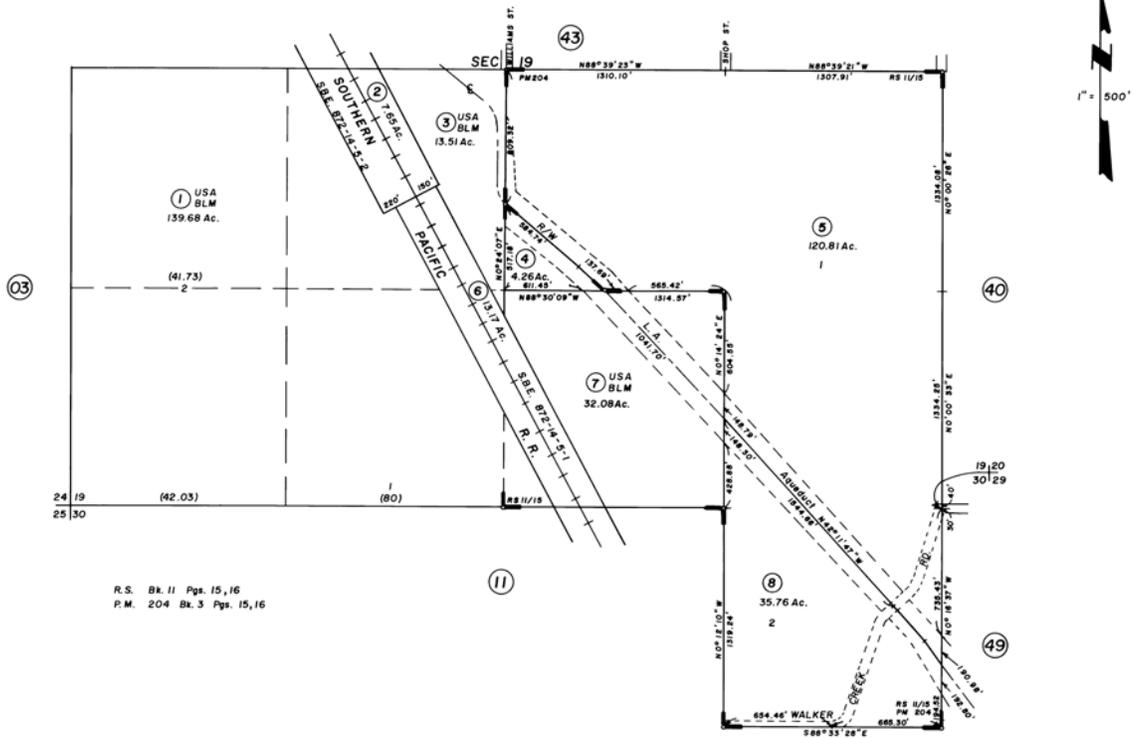
NOTE: THE AREA OF THE DESIGNATED REMAINDER  
IS APPROXIMATE, PER R.S. 5/1.

CC 79 - 82/1960  
PM 248

Assessor's Map Bk. 33 Pg. 49  
County of Inyo, Calif.

1986

03349.tif

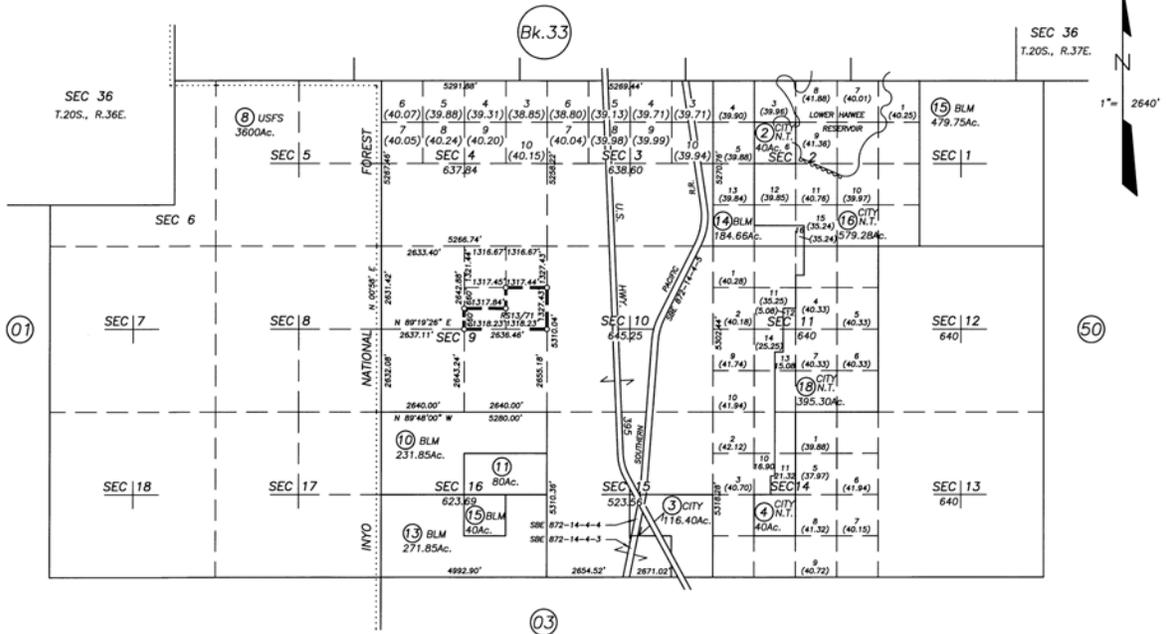


R.S. Bk. 11 Pgs. 15, 16  
P.M. 204 Bk. 3 Pgs. 15, 16

Assessor's Map Bk. 33 Pg. 49  
County of Inyo, Calif.  
1990

9-27-90

03351.tif



REF: 1979 BLM MAP  
1981 U.S. PLAT No. 44-1574-B

R.S. Bk. 13 Pg. 71  
R.S. 03-013 Bk. 16 Pgs. 1-11(HWY 395

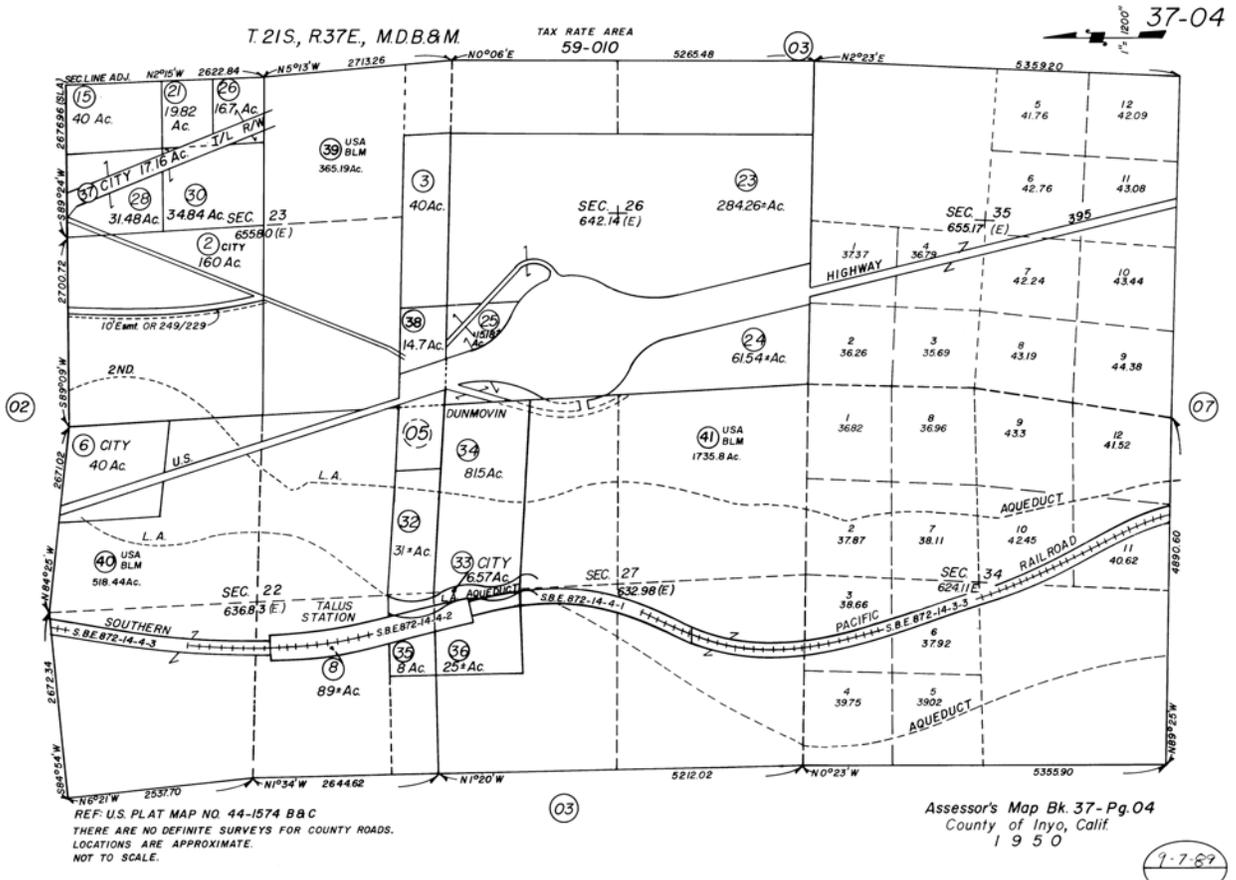
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ORDINANCES.

Assessor's Map Bk. 37 Pg. 02  
County of Inyo, Calif.  
1950

10-20-01  
10-31-94

03702.tif

1-1-86  
9-7-89



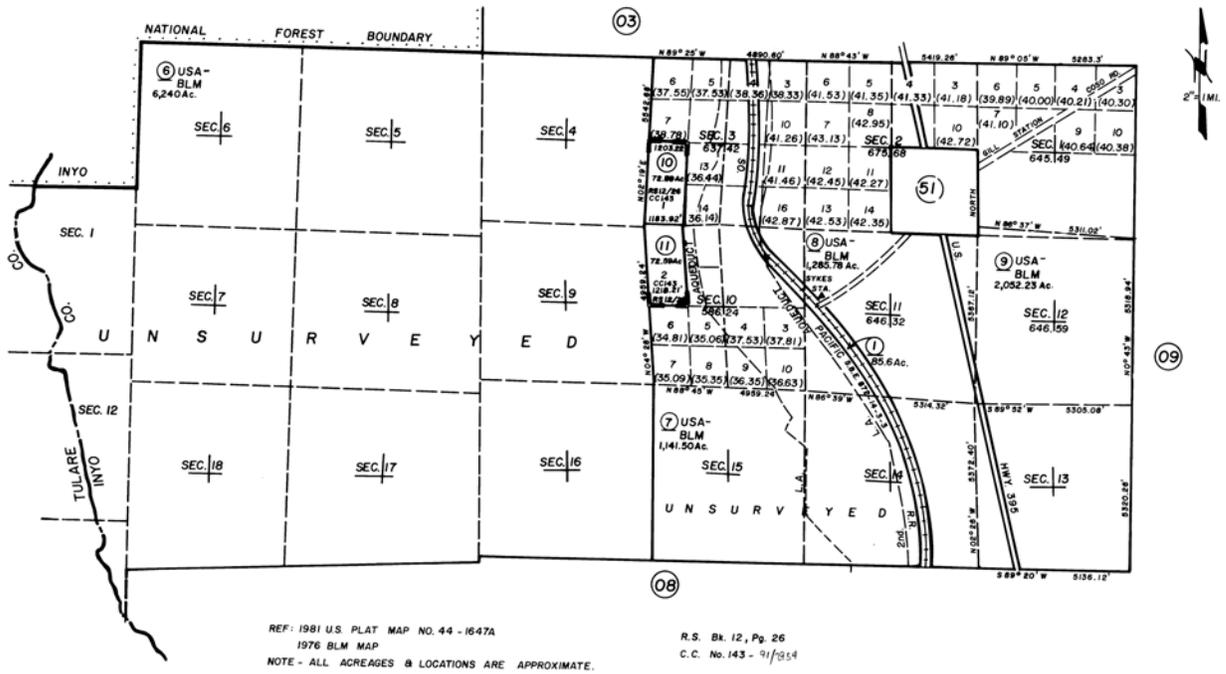
03704.tif

R-30-R4  
3-5-91

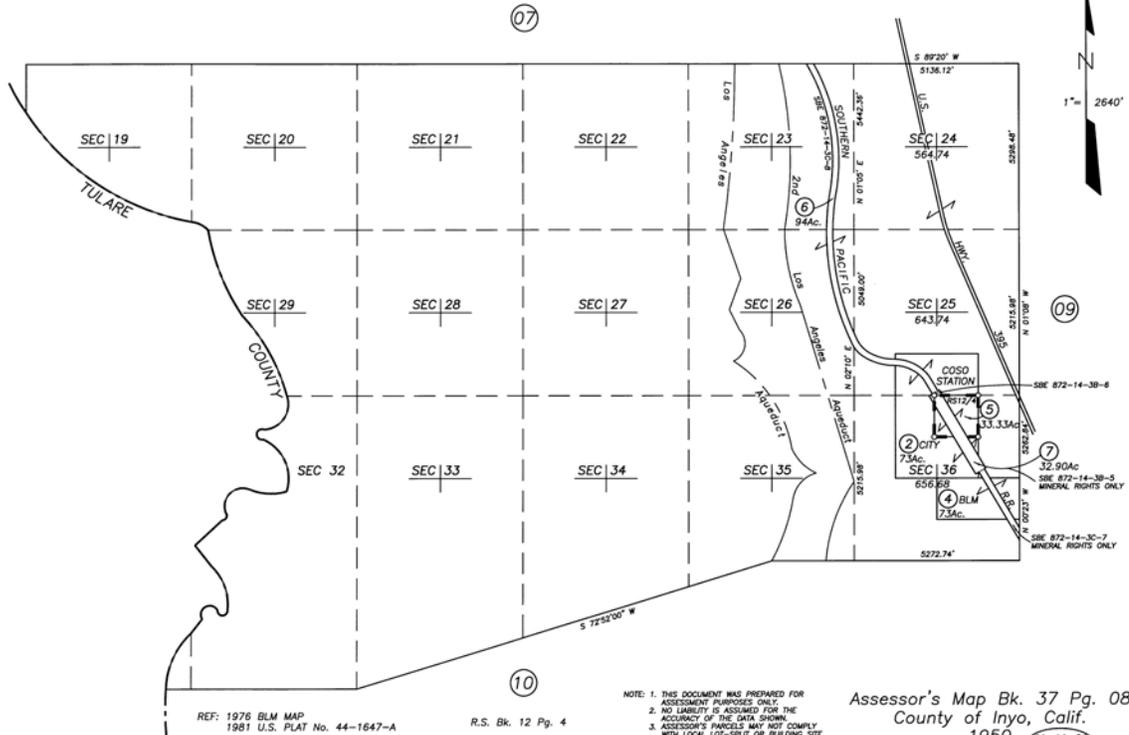
POR. N1/2 T. 22 S., R. 36 E., M. D. B. & M.  
POR. N1/2 T. 22 S., R. 37 E., M. D. B. & M.

TAX RATE AREA 59-010

37-07

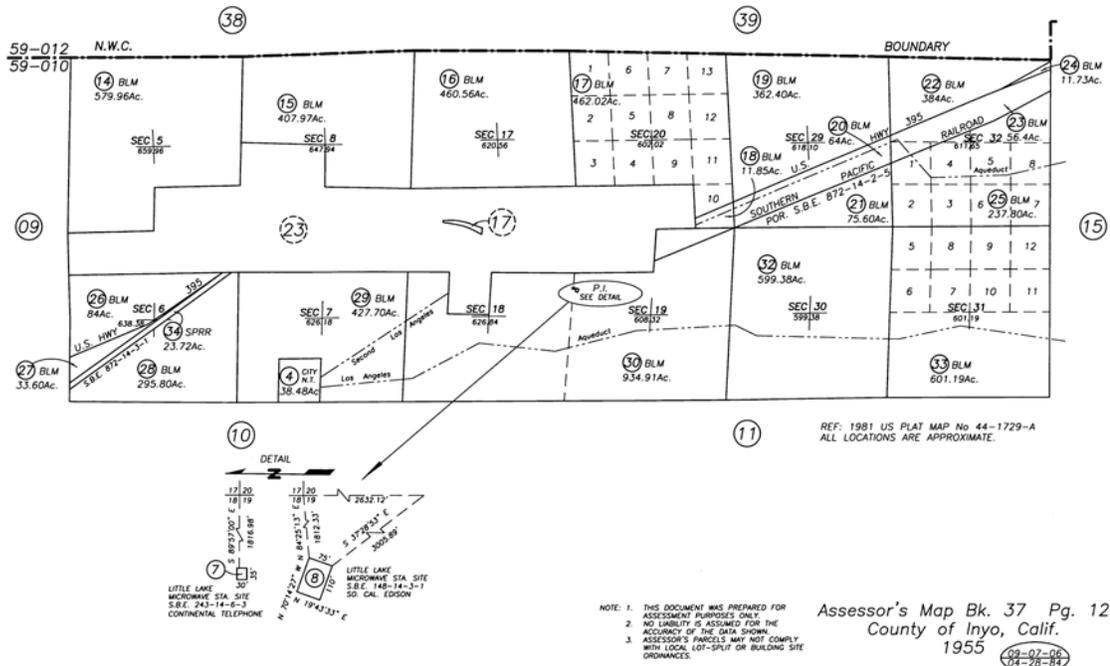


03707.tif



03708.tif

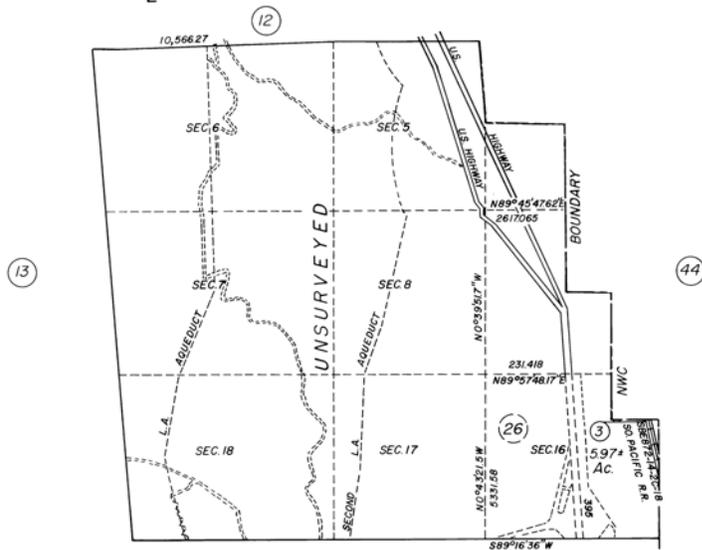
04-28-84  
09-07-06



03712.tif

N 1/2 T24S, R38E, M.D.B. & M.

TAX RATE AREA 59-010



REF: 1978 BLM MAP  
1981 PLAT MAP T24S, R38E  
ALL LOCATIONS ARE APPROXIMATE.

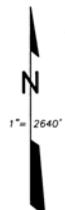
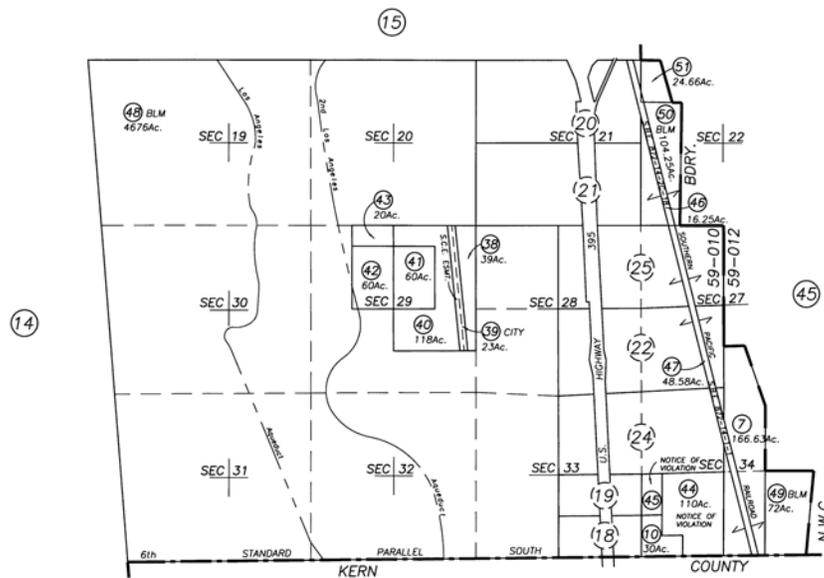
Assessor's Map Bk 37 Pg 15  
County of Inyo, Calif.  
1950

RE-DRAWN  
2-24-52

03715.tif

POR. S1/2 T.24S., R.38E., M.D.B. & M.

TAX RATE AREA 59-010



REF: 1978 BLM MAP  
1981 PLAT MAP T.24S., R.38E.

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Assessor's Map Bk. 37 Pg. 16  
County of Inyo, Calif.  
1950

05-21-98  
09-04-97

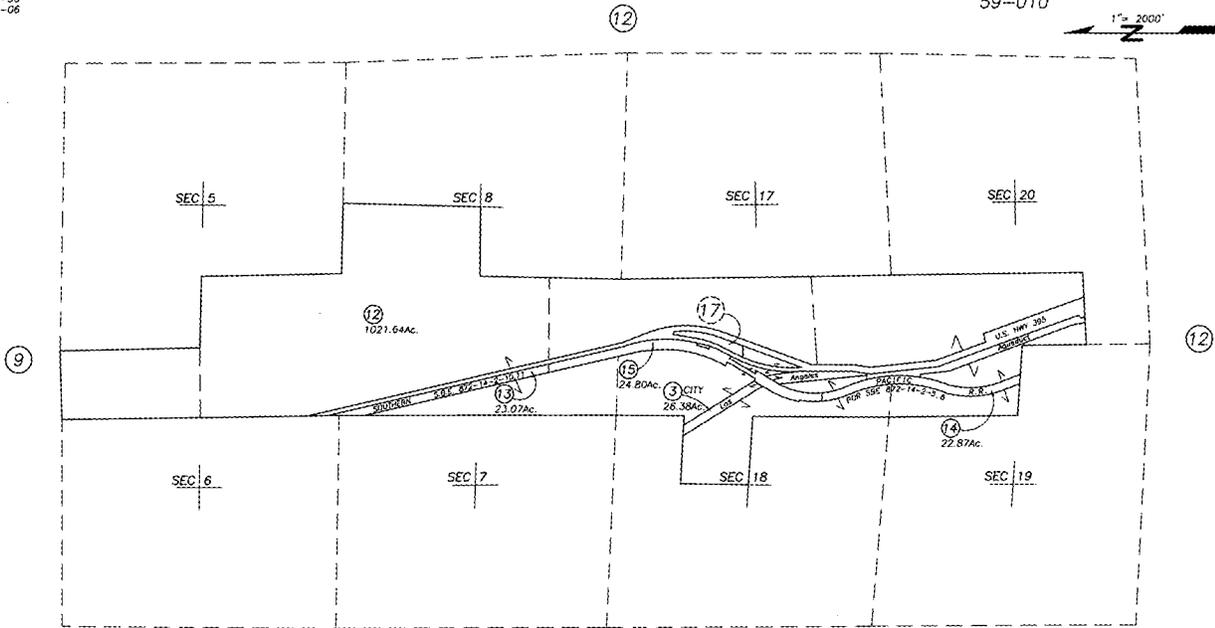
03716.tif

04-00-83  
06-12-86  
06-14-06

POR. SEC. 5,6,7,8,17,18,19,20 T.23S., R.38E., M.D.B. & M.

TAX RATE AREA  
59-010

37-23



R.S. Bk. 10 Pg. 6

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Assessor's Map Bk. 37 Pg. 23  
County of Inyo, Calif.  
1970

06-14-06  
06-12-96

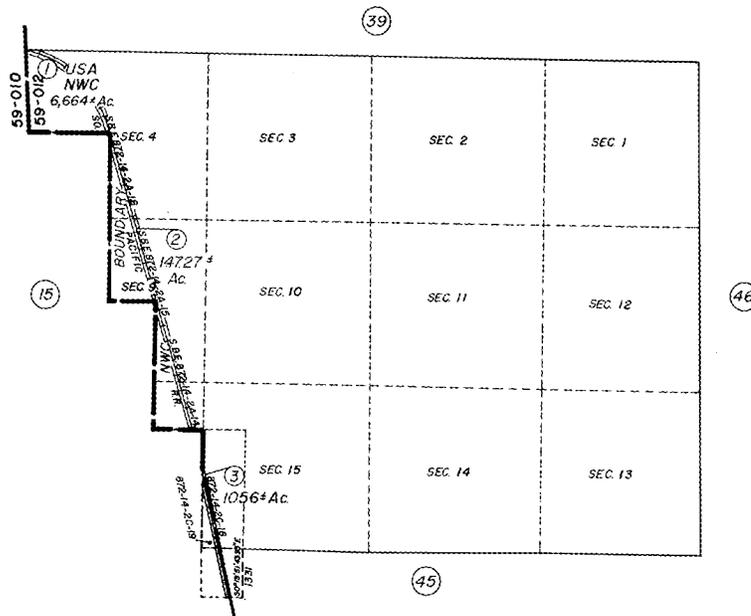
03723.tif

04-00-83  
06-12-86  
06-14-06

N<sup>1</sup>/<sub>2</sub>T24S, R38E, MDB&M  
NAVAL WEAPONS CENTER

TAX RATE AREA  
59-012

37-44



REF 1978 BLM MAP  
1981 PLAT. MAP T24S, R38E  
All Locations Are Approximate

Assessor's Map Bk. 37 Pg. 44  
County of Inyo, Calif.  
1981



03744.tif



-45

PTN. OF SEC. 28 & SEC. 29 T. 29 S. R. 28 E.

SCHOOL DIST. 7-3

37

38

39

40

41

KENTUCKY

ST.

BEALE AVE.  
overcrossing

SOUTHERN PACIFIC

RAILROAD

SUMNER

ST.

BK. 17

SEC. 28  
SEC. 29