

SACRAMENTO NORTHERN RAILWAY

TIME **23** TABLE

In Effect 12:01 A. M. "Pacific" Time

SUNDAY, APRIL 20, 1947

This Time Table is for the exclusive use and guidance of the employes concerned. The Company reserves the right to vary from it at pleasure.

Always have the revised Book of Rules of the Transportation Department at hand for reference.

W. H. [REDACTED] R. T. KEARNEY
Vice President and General Manager

W. W. [REDACTED] S. S. LONG
Superintendent of Transportation

FIRST SUBDIVISION

Eastward			Westward			Eastward			Westward			Eastward			Westward			
Fone, Scales, Wyes, Bulletin, Register Station, Standard Clocks, Interlocking Plant	SECOND CLASS	Distance from Oakland	Time Table No. 23 April 20, 1947			Capacity of Sidings in Freight Cars	Fone, Scales, Wyes, Bulletin, Register Station, Standard Clocks, Interlocking Plant	SECOND CLASS	Distance from Oakland	Time Table No. 23 April 20, 1947			Capacity of Sidings in Freight Cars	Fone, Scales, Wyes, Bulletin, Register Station, Standard Clocks	Distance from Oakland	Time Table No. 23 April 20, 1947		
	292 Sacramento Local Freight		STATIONS	293 Oakland Local Freight	STATIONS			292 Sacramento Local Freight		STATIONS	293 Oakland Local Freight	STATIONS						
	Leave Daily EX. SUN.		Distance from Pittsburg	Arrive Daily EX. SUNDAY	Yard		Leave Daily EX. SUNDAY		Distance from Sacramento	Arrive Daily Ex. Sunday	Yard		Distance from Oakland	Capacity of Sidings in Freight Cars				
PBKIY	8.30 AM	0.00	2S OAKLAND	39.05	6.30 PM	P. Y.	1.30 PM	37.02	A. B. S. WEST PITTSBURG	47.83	12.30 PM	Yard	P	79.13	RIVERVIEW	15.77	23 10 (Spur)	
P		1.79	1.79	37.26		P		37.69	MALLARD	47.16		Yard	P	83.05	ARGENTA	11.85	19	
P		2.99	1.20	36.06		P		38.21	Suisun Bay Car Ferry CHIPPS	46.64		42	P	83.87	BERMUDA	11.03	19	
P		5.50	2.51	33.55		P		39.27	1.00	45.58		4 (Spur)	P	85.02	OLARKSBURG	9.88	33	
P		8.80	3.30	30.25		P		40.62	1.35	44.23		9 (Spur)	P	85.47	WILLOW POINT	9.43	18	
P		10.93	2.13	28.12		P		42.16	1.54	44.23		9 (Spur)	P	86.37	CONISTON	8.53	21 9 (Spur)	
P		11.84	0.91	27.21		P		44.15	1.99	42.69		26 (Spur)	P	87.20	NEWTOWN	7.70	42	
P		13.74	1.90	25.31		P		44.15	4.45	40.70		68	P	87.79	CENTRAL	7.11	36 19 (Spurs)	
P		16.19	2.45	22.86		P		48.60	1.36	36.25		9 (Spur)	P	89.64	GREENDALE	5.26	25 14 (Spur)	
P		17.81	1.62	21.24		P		49.96	3.23	34.89		24 (Spur)	P	91.16	SILVERDALE	3.74	10 (Spur)	
P		19.54	1.73	19.51		P		53.19	0.86	31.66		70	P	92.33	SORROCA	2.57	29 12 (Spur)	
PB		21.56	2.02	17.49		P		55.87	2.63	28.98		12 (Spur)	P	93.39	VALDEZ	1.51	23 12 (Spur)	
P		21.66	0.10	17.49		P. Y.		56.73	0.86	28.98		Yard	P	94.90	OXFORD	0.00	17 21 (Spur)	
P		22.21	0.55	17.39		P		59.67	2.94	28.12		16						
P		23.03	0.82	16.84		P		62.28	2.61	25.18		6 (Spur)						
P		25.84	2.81	16.02		P		63.22	0.94	22.57		47						
PI		29.31	3.47	13.21		P		66.30	3.08	21.63		26 32 (Spur)						
P		31.13	1.82	9.74		P		67.41	1.11	18.55		46						
P		34.56	3.43	7.92		P		71.89	4.48	17.44		15 (Spurs)						
P		35.69	1.13	4.49		P		76.21	4.32	12.96		8 14 (Spur)						
PY	1.00	37.02	1.33	3.36		P		79.13	2.92	8.64		23 10 (Spur)						
P	1.10 PM	39.05	2.03	2.03		P		80.83	1.70	5.72		16 (Spur)						
	Arrive Daily EX. SUNDAY		0.00	1.30		P		83.74	2.91	4.02		Yard	Y.P.	56.73	DOZIER	18.77	Yard	
				1.20 PM		P		84.55	0.81	1.11		Yard	P.Y.	64.69	CORDERO	10.81	Yard	
			(39.05)			P.I.		84.55	0.30	0.30		Yard	Y.P.	65.44	VACAVILLE JCT.	10.06		
						P.B.K.I.	6.30 PM	84.85	0.00	8.30 AM		Yard		71.05	FAIRFIELD	4.45	10	
							Arrive Daily EX. SUNDAY			Leave Daily EX. SUN.				72.99	OLIMA	2.51	9 (Spur)	
									(47.83)					73.17	SUVAL	2.33	12 (Spur)	
														73.53	CHADBOURNE	1.97	32 (Spurs)	
														74.23	RUSSELL	1.27	15 (Spurs)	
														75.18	DANIELSON	0.32	6 4 (Spur)	
														75.50	WILLOTTA	0.00	22 (Spurs)	

Nos. 292 and 293 have no time-table superiority.

Eastward			Westward		
Fone, Scales, Wyes, Bulletin, Register Station, Standard Clocks	Distance from Oakland	Time Table No. 23 April 20, 1947			Capacity of Sidings in Freight Cars
		STATIONS	Distance from Willotta		
Y.P.	56.73	DOZIER	18.77	Yard	
P.Y.	64.69	CORDERO	10.81	Yard	
Y.P.	65.44	VACAVILLE JCT.	10.06		
	71.05	FAIRFIELD	4.45	10	
	72.99	OLIMA	2.51	9 (Spur)	
	73.17	SUVAL	2.33	12 (Spur)	
	73.53	CHADBOURNE	1.97	32 (Spurs)	
	74.23	RUSSELL	1.27	15 (Spurs)	
	75.18	DANIELSON	0.32	6 4 (Spur)	
	75.50	WILLOTTA	0.00	22 (Spurs)	

Eastward			Westward		
Fone, Scales, Wyes, Bulletin, Register Station, Standard Clocks	Distance from Oakland	Time Table No. 23 April 20, 1947			Capacity of Sidings in Freight Cars
		STATIONS	Distance from Vacaville		
Y.P.	65.44	VACAVILLE JCT.	4.46		
	69.90	VACAVILLE	0.00	9 36 (Spurs)	

SECOND SUBDIVISION

Eastward Westward 3

Fone, Scales, Wyes, Bulletin, Register Stations, Standard Clocks, Interlocking Plant	SECOND CLASS		Distance from Oakland	Time Table No. 23 April 20, 1947		Distance from Marysville	SECOND CLASS		Capacity of Sidings in Freight Cars
	192			193					
	Chico-Oroville Local Freight	Leave Daily Ex. Sunday		Sacramento Local Freight	Arrive Daily Ex. Sunday				
P.B.Y.K.		90.68	SACRAMENTO, C ST.	40.18				Yard	
P.O.	3.00 AM	91.20	0.52 HAGGIN	39.66	11.30 AM			Yard	
P.I.		92.19	0.99 GLOBE, W.P.R.R. Cross.	38.67				Yard	
P.		92.87	0.68 NORTH SACRAMENTO	37.99				29 (Spurs)	
P.		94.70	1.83 DEL PASO	36.16				8 (Spur)	
P.		98.81	4.11 RIO LINDA	32.05				38	
P.		100.12	1.31 ELVERTA	30.74				6 (Spur)	
P.		103.05	2.93 RIEGO	27.81				9 (Spur)	
P.I.		105.03	1.98 SANKEY, W.P.R.R. Cross.	25.83				27 (Spur)	
P.		108.42	3.39 PLEASANT GROVE	22.44				36 12 (Spur)	
P.		110.46	2.04 OATLETT	20.40				39 (Spurs)	
P.		114.65	4.19 EAST NICOLAUS	16.21				19 34 (Spurs)	
P.		118.06	3.41 RIO OSO	12.80				25 (Spur)	
P.		123.04	4.98 PLUMAS	7.82				7 (Spur)	
P.		124.94	1.90 ARBOGA	5.92				24 (Spur)	
P.		125.41	0.47 PEARSON	5.45				14 44 (Spurs)	
P.		128.07	2.66 ALICIA	2.79				9 (Spur)	
P.		129.64	1.57 SOUTH YUBA	1.22				52	
P.I.		130.55	0.91 OLIVER, W.P.R.R. Cross.	0.31					
P.B.Y.	6.00 AM	130.86	0.31 MARYSVILLE	0.00	8.00 AM			Yard	
	Arrive Daily Ex. Sunday		(40.18)		Leave Daily Ex. Sunday				

Eastward		OROVILLE BRANCH		Westward					
Fone, Scales, Wyes, Bulletin, Register Stations, Standard Clocks	SECOND CLASS		Distance from Oakland	Time Table No. 23 April 20, 1947		Distance from Oroville	SECOND CLASS		Capacity of sidings in Freight Cars
	194			195					
	Thermalito Local Freight	Leave Daily Ex. Sunday		Sacramento Local Freight	Arrive Daily Ex. Sunday				
P.Y.	10.00 AM	159.86	OROVILLE JCT.	5.40	3.15 PM			Yard	
P.	10.15 AM	163.08	3.22 THERMALITO	2.18	3.00 PM			10 21 (Spurs)	
P.		164.17	1.09 OROVILLE, Marysville Road	1.09				Yard	
P.B.		165.26	1.09 OROVILLE	0.00				Yard	
	Arrive Daily Ex. Sunday		(5.40)		Leave Daily Ex. Sunday				

Fone, Scales, Wyes, Bulletin, Register Stations, Standard Clocks, Interlocking Plant	SECOND CLASS		Distance from Oakland	Time Table No. 23 April 20, 1947		Distance from Chico	SECOND CLASS		Capacity of Sidings in Freight Cars
	190			193					
	Colusa Local Freight	Chico Oroville Local Freight		Marysville Local Freight	Sacramento Local Freight				
P.B.Y.	9.00 AM	8.30 AM	130.86	MARYSVILLE	48.35	3.30 PM	6.00 PM	Yard	
P.O.K.B.			132.12	1.26 YUBA CITY S.P.R.R. Cross.	47.09			Yard	
			133.42	1.30 PALORO	45.79			45 (Spurs)	
P.			134.13	0.71 HARTER	45.08			31 (Spurs)	
P.Y.	9.30 AM		134.82	0.69 COLUSA JUNCTION	44.39	3.00 PM		Yard	
P.			136.46	1.64 PEASE	42.75			24 10 (Spur)	
P.			137.17	0.71 NUESTRO	42.04			44	
P.			138.48	1.31 SANDERS	40.73			7 (Spur)	
P.			139.43	0.95 ENCINAL	39.78			26	
P.I.			143.54	4.11 LIVE OAK S.P.R.R. Cross.	35.67			22 29 (Spurs)	
P.			146.37	2.83 OHANDON	32.84			10 (Spur)	
P.			147.52	1.15 MANZANITA	31.69			8 (Spur)	
P.			149.25	1.73 EAST GRIDLEY	29.96			24 68 (Spurs)	
P.			150.92	1.67 PEACHTON	28.29			8 (Spur)	
P.			152.07	1.15 RICHLAND	27.14			3 (Spur)	
P.			153.57	1.80 EAST BIGGS	25.64			17 (Spur)	
P.			154.13	0.56 RIO BONITO	25.08			13 (Spur)	
P.			155.68	1.55 HASELBUSCH	23.53			3 (Spur)	
P.			157.04	1.36 LOREINE	22.17			10 (Spur)	
P.Y.			159.86	2.82 OROVILLE JOT.	19.35			Yard	
P.			162.66	2.80 SHIPPEE	16.55			23 (Spurs)	
P.			164.33	1.67 RAMADA	14.88			20	
P.			166.09	1.76 BLAVO	13.12			27	
P.			169.09	3.00 ESQUON	10.12			22 (Spur)	
P.			172.14	3.05 DURHAM	7.07			27 (Spurs)	
P.			176.40	4.26 SPEEDWAY	2.81			13	
P.			176.97	0.57 STIRLING JOT., S.P.R.R. Cross.	2.24			Yard	
P.Y.B.K.		11.30 AM	177.88	0.91 MULBERRY	1.33		2.00 PM	Yard	
			178.22	0.34 CHICO 16TH ST.	0.99				
P.Y.			179.21	0.99 CHICO	0.00			Yard	
	Arrive Daily Ex. Sunday	Arrive Daily Ex. Sunday		(48.35)		Leave Daily Ex. Sunday	Leave Daily Ex. Sunday		

Nos. 190, 191, 192, 193, 194 and 195 have no timetable superiority.

SECOND SUBDIVISION

Eastward		WOODLAND BRANCH		Westward		
Fone, Scales, Wyes, Bulletin, Register Station, Standard Clocks, Interlocking Plant	SECOND CLASS	Distance from Oakland	Time Table No. 23 April 20, 1947	Distance from Woodland	SECOND CLASS	Capacity of Sidings in Freight Cars
	196				197	
	Woodland Local Freight Leave Daily Ex. Sunday				Sacramento Local Freight Ar. Daily Ex. Sunday	
P. B.I.K.	9.00 AM	84.85	SACRAMENTO Front St. S.P.R.R. Cross. 0.30	17.01	4.00 PM	Yard
P.I.		84.55	BRODERIOK 1.52	16.71		Yard
I.		86.07	MIKON. S.P.R.R. Cross. 1.04	15.19		
P.		87.11	LOVDAL 3.69	14.15		16 5 (Spurs)
P.		90.80	BEATRICE 1.80	10.46		10 (Spur)
P.		92.60	KIESEL 1.47	8.66		22 (Spur)
P.		94.07	FREMONT 2.13	7.19		17
P.		96.20	CONAWAY 2.99	5.06		28 (Spurs)
P.		99.19	HEBRON 1.95	2.07		12 (Spurs)
I.P.		101.14	Woodland.S.P.R.R. Cross. 0.12	0.12		
P.	11.50 AM	101.26	WOODLAND (17.01)	0.00	1.30 PM	Yard
	Arrive Daily Ex. Sunday				Lv. Daily Ex. Sunday	

Eastward		COLUSA BRANCH		Westward		
Fone, Scales, Wyes, Bulletin, Register Station, Standard Clocks, Interlocking Plant	SECOND CLASS	Distance from Oakland	Time Table No. 23 April 20, 1947	Distance from Colusa	SECOND CLASS	Capacity of Sidings in Freight Cars
	190				191	
	Colusa Local Frt. Lv. Daily Ex. Sunday				Marysville Local Freight Arrive Daily Ex. Sunday	
P.Y.	9.30 AM	134.82	COLUSA JUNCTION 1.34	21.55	3.00 PM	Yard
P.		136.16	ALMENDRA 3.71	20.21		7 (Spur)
P.		139.87	D SUTTER 3.66	16.50		15 38 (Spurs)
P.		143.53	STOHLMAN 1.37	12.84		18 (Spur)
P.		144.90	TARKE 0.90	11.47		27
P.		145.80	LIRA 0.95	10.57		24 (Spur)
P.		146.75	BEE SPUR 1.39	9.62		27
P.I.		148.14	MERIDIAN 1.68	8.23		63 (Spurs)
P.		149.82	SYCAMORE 5.69	6.55		8 (Spur)
P.		155.51	ARBEE 0.86	0.86		17 (Spur)
P.	12.30 PM	156.37	COLUSA (21.55)	0.00	1.30 PM	Yard
	Ar. Daily Ex. Sunday				Leave Daily Ex. Sunday	

Nos. 190, 191, 196 and 197 have no Timetable superiority.

SPECIAL RULES



SPEED RESTRICTIONS GENERAL

Oakland, Shafter Avenue.....	22 MPH
Temescal to Rockridge.....	10 MPH
Havens to Temescal.....	20 MPH
Havens to Rockridge	
Freight engines operated as single unit.....	10 MPH
Passenger motors operated as single unit.....	10 MPH
Between Havens and Eastport.....	15 MPH
Eastport to Pinhurst.....	20 MPH
St. Marys to Burton, all curves.....	15 MPH
Concord—City limits.....	20 MPH
Ohmer—Eastward trains descending grade.....	20 MPH
West Pittsburg—Under Pass Curve.....	20 MPH
Between West Pittsburg and Pittsburg.....	15 MPH
Pittsburg—City limits.....	15 MPH
Pittsburg—All street crossings.....	10 MPH
Pittsburg—Columbia St.....	Stop and flag
Mallard—Eastward trains.....	Stop
Ferry Ramon—All movements on and off Ferry..	5 MPH
Chippis—Westward trains.....	Stop
Between Chippis and Montezuma all long trestles..	10 MPH
Drawbridge—Montezuma Slough.....	10 MPH
Willotta Branch—Between Vacaville Jet. and Willotta.....	20 MPH
Vacaville Branch—Between Vacaville Jet. and Vacaville.....	20 MPH

Highway—State Highway crossing between Armijo and Fairfield—All trains, engines, motors or cars must come to a stop, and no movement made over the crossing until a member of the train crew or other competent employee acting as a flagman has protected traffic on the highway.	
Arcade Trestle.....	15 MPH
Riverview Trestles.....	15 MPH
Holland Branch—All curves.....	15 MPH
Tower Bridge.....	15 MPH
Highway crossing west end Tower Bridge.....	10 MPH
Sacramento city limits.....	20 MPH
Except—All street intersections.....	15 MPH
Except—Other points covered by special timetable instructions.	
Sacramento—Arterials—All trains, yard engines..	Stop
Exception—Does not apply to the arterial stop sign located at Front and Capitol Avenue.	
Sacramento—Traffic Light Signals—All movements governed by signal indication or traffic officer signal.	
Sacramento, 19th and C streets, westward trains and yard engines.....	5 MPH
Del Paso—Highway crossing.....	15 MPH
Rio Linda—Road crossing.....	15 MPH
Riego—Road crossing.....	15 MPH
East Nicolaus—Road crossing.....	15 MPH
Marysville city limits.....	12 MPH

Marysville—Highway crossing north end D St. Bridge, yard engines.....	Stop and flag
Marysville—Arterials—Trains, yard engines.....	Stop
Marysville, 4th and Orange streets.....	Stop and flag
Yuba City—City limits.....	12 MPH
Yuba City—Arterials—Trains, yard engines.....	Stop
NOTE: At Plumas and Bridge Streets stop must be made even though a member of the train crew acts as a flagman.	
Yuba City, Cooper Ave., eastward trains.....	6 MPH
Yuba City, Cooper Ave., westward trains.....	Stop
Yuba City, Cooper Ave., yard engines.....	Slow and flag
Sanders—Road crossing.....	15 MPH
Encinal—Road crossing.....	15 MPH
Live Oak—Road crossings.....	15 MPH
Live Oak—City limits.....	15 MPH
East Biggs—Highway crossing.....	15 MPH
Rio Bonito—Highway crossing.....	15 MPH
Cut East of Hazelbusch—Road crossing.....	15 MPH
Durham—Highway crossing.....	15 MPH
Savona—Highway crossing.....	15 MPH
Edgar Slough highway crossing.....	20 MPH
Chico city limits.....	12 MPH
Chico—Arterials—Trains and yard engines.....	Stop
Woodland city limits.....	12 MPH

Woodland—Arterials—Trains and yard engines... Stop	
Road crossing, Shell Oil Plant, Woodland.....	6 MPH
Fremont Trestle.....	15 MPH
Rose Orchard—Trains must reduce to 20 MPH 300 feet from the road crossing and speed must not exceed 15 MPH when head end of train moves over the crossing.....	15 MPH
Kiesel—Highway crossing.....	15 MPH
Almendra—Road crossing.....	15 MPH
Sutter—Highway crossing.....	15 MPH
Meridian Bridge.....	6 MPH
Rowena road crossing.....	20 MPH
Colusa city limits.....	12 MPH
Colusa—Arterials—Trains and yard engines.....	Stop
Colusa, Bridge St.—Highway crossing.....	15 MPH
Thermalito—12th Street crossing.....	15 MPH
Thermalito—18th Street crossing.....	15 MPH
Oroville city limits.....	10 MPH
Approaching and passing over spring switches....	6 MPH
Light motors splitting spring switches, except oil buffer switches.....	6 MPH
All trains splitting oil buffer switches.....	10 MPH
Maximum Speed—All trains, and engines running light.....	30 MPH
Speed restriction signs indicating speed of freight trains are located at various places where speed should be reduced. Maximum speeds permitted under city ordinance do not dispense with the observance of Rule 93.	

MISCELLANEOUS

Westward freight and work trains must make air brake inspection and test at Moraga before train is moved over any portion of descending grade between Havens and Oakland, comply with instructions on Test Card Form 182, and be governed by tonnage rating and car limit as shown in schedule of locomotive ratings. Stop must be made at Havens for the purpose of turning up the retainers on all cars and placing the test card in the box.

Locomotives 603 and 604 are equipped with transfer valves, power and control connections so that these two locomotives when coupled can be handled as a single unit by one engineer.

Locomotives 660 and 661 are equipped with transfer valves but no power nor control connections so that these two locomotives when coupled will require two engineers for power operation but the engineer on the head locomotive will control the air brakes. This same method of operation will apply to locomotives 603 and 660 coupled, 604 and 660 coupled, 603 and 661 coupled and 604 and 661 coupled.

When two locomotives coupled are used in handling trains, not less than 3 air compressors must be in service.

When single locomotives are used both compressors must be in service.

Ninety (90) pounds brake pipe pressure must be carried at all times with main reservoir pressure setting of 110-130 pounds.

The A. A. R. recommended practice for air brake test and inspection must be observed, namely: that the cylinder condition and retaining valve be such that the brake would remain applied at least three minutes and that the piston travel on all cars be adjusted to nominally 7 inches.

Havens to Rockridge:

Trains having not less than 85% of the air brakes operative and whose total tonnage does not exceed 50 tons per operative brake may be handled by either two locomotives coupled or by one locomotive, provided they do not exceed the car limit.

Retaining valves must be in service on all cars and where there are three or more positions indicated the retainer handle must be set in high pressure position on all loaded cars and in low pressure position on all empty cars. On cars having retainers with two positions only the retainer handle must be set in the high pressure position on either loaded or empty cars.

The position of the retainer handles and the pressure holds are as follows:

1. Handle straight down..... {Direct release retainer not in service.
2. Handle horizontal..... Low pressure position.
3. Handle 45° below horizontal or half-way between Position 1 and 2.... {High pressure position.
4. Handle 45° above horizontal position. Slow release position.

NOTE—This position must not be used on any car between Havens and Rockridge.

No westward freight nor work train heavier than 50 tons per operative air brake will operate between Temescal and Rockridge unless permission is obtained from the proper officer.

Helper engine must be used on rear of all eastward freight and work trains between Oakland Yard and the summit of the grade east of Havens, except that when no helper is provided for an eastward freight or work train originating at Havens the Conductor must, after pulling out of the siding, see that the east switch of the siding is left open until rear of train passes the

spur switch when it must be opened before lining the east switch of the siding back for the main track. The spur switch will then be left open until the rear of the train passes the summit of the grade. Engineer must then stop and sound the required whistle signal calling his flagman in from the west. The brakeman will then line the spur track switch for the main track and return to his train.

The same rule will apply when pulling off the spur instead of the siding.

Work trains in this territory not originating at Havens must not go west of the summit of the grade unless the locomotive is on the west end of the train.

The trolley or pantograph must be down before removing any jumpers, handling 600-1200 volt switches, or when the engineer is repairing electrical equipment.

Should the pantograph become damaged so as to render it inoperative it must be locked or tied down and the pole trolley used instead. Should the damaged pantograph require repairs in order to lock or tie it down, extreme caution must be used to prevent the pantograph coming in contact with the trolley wire while repairs are being made.

The old type whistle must be blown approaching each street intersection in Oakland and blasts must be so spaced that the last blast will continue to the intersection. The air gong may be used, but the engine bell should be used only in an emergency.

The use of the pneumatic air horn between Terrace and Oakland, is prohibited.

Within the city limits of Pittsburg the use of the pneumatic air horn is prohibited. The old type whistle must be used and, if inoperative, the air gong shall be used.

High cars when placed on the old Ice House spur at Concord must be left west of the sand bins, so that engineer will have a clear view of the highway crossing, switches and signals.

Cars must not be left standing on Willow Pass road crossing just east of Concord station.

Controls operated by selectors in the dispatcher's office have been installed on color light signal at Burton and light signals at Dozier and are used to stop trains for train orders. After the train has been cleared by the dispatcher, the conductor shall clear the signals by pressing a button which is located by the side of the telephone and must see that the signals are clear before leaving the station.

Signs reading—Cars must not be switched beyond this point by S. P. Co.-S. N. Ry.—are located on tracks 1 and 7 at the Shell Chemical Plant, Shell Point.

The yard limits of Pittsburg include all tracks in Pittsburg, and between Pittsburg and the yard limit signs at West Pittsburg and Mallard. All movements between Pittsburg and West Pittsburg will be made in accordance with Rule 93.

Loaded cars in excess of 169,000 pounds, gross weight, must not be accepted from connecting lines nor handled in trains, unless permission is obtained from the proper officer, except between Las Juntas and Lafayette the gross weight must not exceed 200,000 pounds.

All freight engine pantographs should be lowered and mechanical lever left in down position before going on apron of boat and kept in that position during any operation over aprons at the Chipps and Mallard slips. When tying up freight engine the pantograph must be securely locked in the down position.

Engineers must shut off power at all sectional insulators in trolley except at places where insulators have been designed for pantograph operation.

The Captain, or his pilot, will have direct charge of train crews in loading and unloading the Ferry, and movements must be made in accordance with his instructions. 700 gross tons is the maximum load limit. Heavy and light cars must be placed on the Ferry so as to keep the load well balanced. Each track on the Ferry is approximately 220 feet long, but, only 210 track feet may be used. When shoving cars on the Ferry ahead of engine, no cars are to be coupled on to, or handled behind the engine.

Hand and air brakes must be set on all freight cars and air brakes set on freight engines. At night, all marker and classification lamps must be removed.

Blocks must not be removed until Ferry is against apron.

Engineers must move slowly and watch to the rear until entire train is moved off the Ferry.

The spur track which serves the packing house at Chadbourne crosses a State Highway. All trains, engines, motors or cars must come to a stop and no movement made over the crossing until a member of the train crew or other competent employee acting as a flagman has protected traffic on the highway.

The siding at Belleair is crossed by a County Road. At such times as cars are allowed to stand on this siding within a distance of two hundred (200) feet of either side of this county road, a member of the train crew or other competent employee shall protect the traffic on said road by acting as a human flagman for all trains, engines, motors or cars operating over the adjacent main line track. Cars which are stored on this siding must not be left standing within 200 feet of either side of the road crossing.

Inside switches of both crossovers at Riverview must be left lined and locked for Holland Branch.

The W. P. tracks on Front and R Streets leading to the C. P. C. Plant and P Street Dock may be used by S. N. yard crews under yard rules. W. P. yard engines have preference on these tracks.

City Ordinances require all trains and yard engines within one hundred feet of an intersection to stop immediately on the approach of any police, ambulance, or fire apparatus sounding siren or signal gong except they be at the time on, or crossing an intersection, in which event crossing must be cleared and then stop.

Civil, Military or Funeral processions must not be obstructed.

When trains and yard engines approach a street intersection simultaneously, except where traffic is controlled by traffic signals in service or traffic officer, the train, or yard engine, moving eastward must reduce speed, stopping if necessary, and must not enter the intersection until the train, or yard engine, moving in the westward direction has passed entirely out of the intersection and the engineer has a clear and unobstructed view.

Trains and Yard Engines operating on X St. will assume timetable directions of C. C. T. Co. trains as follows:
Eastward—Alhambra Blvd. to Front St.
Westward—Front St. to Alhambra Blvd.

The tracks on X Street and Front Street, Sacramento, are operated jointly with the C. C. T. Company.

The tracks in Haggin Yard are used by Western Pacific yard engines and crews when switching their cars to and from the Southern Pacific interchange. Crew must obtain a lineup of S.N. trains from the S.N. dispatcher before using the main track and obey yardmaster's instructions.

Trains and yard engines must not go west of 17th and D Streets, Sacramento.

Spring switches, except tongue switches, are indicated by yellow lenses and targets on Sacramento Northern tracks. On the joint track at Marysville, all inside switches on the Western Pacific have yellow lenses and targets, but are not spring switches.

Switch point locking devices are installed on switch leading to Packing Sheds Meinert, switch leading to Standard Oil Plant Walnut Creek, west switch at Burton, west switch siding at Pease and east switch siding at Encinal. To operate these devices, push down on footlever when throwing the switch.

When throwing oil buffer switches by hand, sufficient time must be allowed for the point to fit the traffic rail before movement is made over the switch.

Trains and yard engines must not block Plumas Street, Yuba City.

Back-up movements from the west end of the yard at Yuba City on to Bridge Street must be protected by a member of the train or yard crew acting as a flagman. Back-up movements over other street intersections or around sharp curves in switching service where the engineer's view is obstructed must be protected in the same manner. The conductor or foreman on the crew is jointly responsible with the engineer for this protection being given.

Back-up hose must be used by yard crews when shoving cars ahead of engine over city streets.

Yard crews must be cleared by Dispatcher for movements between Haggin and Globe.

SPECIAL RULES

Cars of gasoline when spotted for unloading at any oil spur must be left between the insulated joints and the end of the spur. No cars are to be left standing over the insulated joints or coupled to cars spotted between the insulated joints and end of spur.

Where power switches are installed on gasoline unloading tracks, they must not be closed until it has first been ascertained by a member of the crew that all cars have been disconnected and are ready to move. The power switches must be left open after switching has been completed.

Freight trains are limited to engine and three cars on Main Street, Chico.

Freight engines, but not freight cars may be moved around the North leg of the wye at 1st and Main Sts., Chico.

Color light signals which indicate red are installed on the train order masts at East Nicolaus and East Gridley, and are used for stopping trains for train orders. After receiving train order Conductor will clear the signal by pressing a button located near the telephone.

To reduce automobile accidents, special care should be used when approaching grade crossings known to be obscured or hazardous. Where vehicles are moving in public streets in the same direction as the train and are not clear of the track on which train is operating, speed should be so controlled as to permit train being stopped in case vehicle makes a sudden or unexpected stop or turn. When about to pass a vehicle moving in the same direction as train, the engineer should satisfy himself that the driver is aware of approach of the train.

The following instructions cover the use of push poles:

(a) The use of push poles in freight operations is prohibited, except in emergencies when poling of cars cannot otherwise be avoided.

(b) When such emergencies arise and it becomes absolutely necessary to pole cars, as quickly as pole is in position, member of crew placing pole must move into the clear a sufficient distance to insure his personal safety; being careful to place pole in pole pocket or in such position that pole will not slip. Such poling movements must be executed with great care and without cars coupled to engine, being careful to avoid misunderstandings of signals or damage to equipment. The use of non-standard push poles is strictly prohibited.

Rule 10 (H). When a yellow signal is required it will be displayed to the right of track in the direction of approach, one-quarter mile from structure or track over which speed of trains must be restricted. Where two or more main tracks are affected the signal will be displayed on each track the same as if it were a single track.

A green signal will be displayed similarly on each track immediately beyond the structure or track affected.

Trains must not exceed the speed specified by train order or bulletin, or fifteen miles an hour if no different speed is specified, while passing over the structure or track affected, until the rear of train clears the limit, which shall be indicated by a green signal.

Slow boards, where used, will be similarly placed and observed.

Rule 14-L. Engineers will sound signal 14 (L) in such a manner so as to prolong the last blast of the whistle until the train enters the road crossing. On slow speed movements the signal 14 (L) should be repeated if necessary.

Rule 17 amended. The headlight will be displayed at the front of every train when the visibility is such that a dark object as large as a man of average size can not be seen at a distance of 1500 feet. The headlight must be concealed when a train turns out to meet another and has stopped clear of main track, or is standing to meet trains at the end of two or more tracks or at junctions.

Rule 17-C. Headlights must be dimmed while moving within city limits of Sacramento.

Rule 18—Modified. Yard engines when making a continuous movement along city streets will not display the headlight at the rear by night. A red light must be displayed to the rear, and on the rear of the last car when cars are being handled.

Rule 21 of the Rules and Regulations of the Transportation Department is suspended.

Rule S-88—Fourth paragraph modified as follows: At meeting point when it is necessary for train which takes siding to back in, train will be brought to a stop before it proceeds over the switch, and in obscure places, or when other conditions require, flagman must precede train a sufficient distance to insure full protection before going over the switch to back in.

Rules S-90 (A) and 104 (C) are abrogated and the following will govern:

Trainmen and other employes must not unlock derails or main track switches to enter main track until the trains which are to be met or passed have cleared the switch, and must not place themselves in the vicinity of a main track switch or between fouling point and main track switch until expected trains have been met or passed.

When a superior train arrives at a meeting point in advance of the opposing train a member of the crew may proceed to and throw switch for opposing train to enter the siding but must immediately return to a position at the head end of his train where he must remain until the train to be met has passed the switch. Proceed signal must not be given to approaching train.

When a switch is thrown, the employe using it must see that both points have moved to proper position. A switch must be fastened as soon as thrown either way and when locked, the chain pulled to insure that lock is securely fastened.

Both switches of a cross-over to or from main track must be kept closed and secured when there is a car or engine on or immediately approaching either switch, except for a direct cross-over movement.

Rule 93. Second paragraph of Rule 93 is abrogated, and the following will govern:

Second and inferior class trains, extra trains and engines must approach and move with caution within yard limits.

When not protected by block signals or when moving against the current of traffic, first-class trains must approach and move with caution within yard limits.

Rule 99-A. The interpretation of this rule is that when a flagman is either sent to hold a train or is left at a point to hold a train, that his instructions must be in writing on Flagman's Hold Order, form 27.

Rule 104 (D) is abrogated and the following will govern:

Employes in alighting from trains to change switches must get off on opposite side of train from switch stand when to do so will not endanger their safety.

Unless there be ample time to do so without risk of accident, employes must not attempt to throw a switch until train has stopped, nor may a switch be closed until the last wheels have passed off the switch rails.

When a train backs in on a siding to be met or passed by another train, when his engine is clear, engineer must see that the switch is set for main track; but this does not relieve the trainmen from responsibility as to the proper position of the switch.

Rule 219—Amended. A Conductor taking a train order over the telephone circuit must not repeat or give the "X" response to a train order if the train has been cleared or of which the engine has passed the telephone booth or other point where the order is being received until he has obtained the signature of the engineer.

Rule 509—Amended. On single track when a preceding train is seen in the block in which the signals are actuated by track circuits, and the intervening track is seen to be clear, train after stopping, will proceed at once with caution not exceeding 12 miles per hour.

Rule 511—Amended. Both switches of a crossover between main tracks must be opened before a movement is started through the crossover, and one or both of the switches must be kept open until the movement is completed.

Rule 821 is amended as follows:

No more than one trainman shall ride on any leading footboard of an engine at any time.

Riding the leading footboard while going over street intersections, or standing or riding on footboard between engine and car when coupling or movement is being made is prohibited.

Rule 838. Cars must not be left standing on any spur or siding within 200 ft. of any highway crossing, if possible to avoid it.

Rule 970 must be observed by train crews before passing through tunnel No. 1, over ferry slips, and all long trestles and bridges.

Rule 973 is amended to read:

Know that cars which are left on side tracks clear street, highways or private crossings. Do not leave cars on sidings (passing tracks) when there is room for them on other tracks; if left so, notify Train Dispatcher immediately by wire. See that a sufficient number of hand brakes are set to hold the cars on side tracks. If brakes are inoperative, secure cars in some other manner. When the side track is on grade, if practicable, couple the cars together, and in addition to setting the brakes, block the wheels. When cars are set out on siding or spurs where there is a derail, leave them as near the derail as possible, and be sure the brakes are set.

Rule 1011. When wigwags or bells are found inoperative, train or engine must stop and be preceded over the crossing by a flagman. When a reverse movement is made on Main track or on siding or spur which is not in wigwag circuit a flagman must protect the crossing before the movement is made.

Flasher signals which operate in conjunction with wigwag signals are installed in advance of all wigwags which swing parallel with the tracks.

Rule 1070. Applies to two or more freight engines coupled and operated as one unit. Air-brake test must be made before the unit is moved and when engineer changes his operating position from one engine to the other.

Rule 1076 is amended to read as follows:

1076. Rear End Test Between Terminals:

When locomotive has been coupled to a train, or when two or more parts of a train have been coupled together, all brake pipe and signal pipe connections must be connected up and cocks in signal and brake pipes opened except on the rear end of the last car, which must be closed. After train is charged properly the engineman will apply the brakes with a 10-pound brake pipe reduction and signal the crew by one blast of the whistle. The conductor or the rear brakeman then will open the angle cock gently at the rear end of the last car, allowing only enough air to escape to cause brake pipe gauge hand in cab to fall without making an emergency application. When the engineman notes the brake pipe gauge hand falling he will answer with two blasts of the whistle. The conductor or the brakeman then will close the angle cock, and when the pressure has stopped falling, the engineman will release the brakes by placing the brake valve handle in release position until the brake pipe pressure is restored sufficiently to stand within 5 pounds of the pressure carried after handle is returned to running position. Two short releases then must be made. This must not be done until brake pipe pressure has settled.

On passenger trains, after the conductor or the brakeman has closed the angle cock, he will signal the engineman immediately by four blasts of the air signal whistle (using the signal cord on the rear car) to release the brakes, which must be done in the same manner as stated above for freight trains.

This rear end test will be made in the manner prescribed, at times and points designated by special instructions from the Superintendent.

This rule will apply at terminals where a yard test plant is available and the brakes have been tested by car inspectors by the use of such yard air plant.

Rule 1089—Amended. In case of power or air brake failure and there exists the possibility of not being able to hold the train with the air brakes, sufficient hand brakes must be set to hold the train.

Air must be cut in, and air brakes in operation, on all yard cuts, and trains moving within yards, under the following conditions:

When movements are made through towns or cities or when crossing streets within city limits (except when switching).

When movements are made on grades where air brakes are necessary to keep cars under control.

INTERLOCKING AND BLOCK SIGNALS

The Interlocking Plant at 40th and Shafter governs all movements to and from 40th Street. Limits extend from Home Signal located 100 feet east of Manila Street to Home Signal located 15 feet west of Webster Street. Dwarf semaphore signals govern movements from tracks in Oakland Yard to 40th Street.

The standard color of the masts supporting home signals is white, and the masts supporting distant signals is yellow.

Trains finding a Home Block Signal dark will make a test and if the Red Signal is working may proceed. In making this test train must be backed out of circuit after getting "Red" indication before proceeding.

At meeting points, the train taking the siding, may back out after the train has been met without waiting for the switch indicator to clear and if the facing Home Block Signal is clear may proceed.

Key System crossing College Avenue:

All cars, trains and yard engines must stop at College Avenue and no car, train or yard engine of either line shall proceed over this crossing if there is a car or train approaching on the other line at a distance from same, that would not permit of safe passage.

Southern Pacific Crossing at Las Juntas is protected by Stop Boards. All trains, engines, motors and cars must stop at stop boards and signal 14-B sounded before proceeding over the crossing, providing that there is no locomotive, motor, train or car of the Southern Pacific approaching the crossing from either direction.

When view is obscured by fog or inclement weather, a member of the crew must go forward to the crossing and ascertain that no train is approaching on the Southern Pacific Railway before proceeding over the crossing.

AUTOMATIC INTERLOCKER, CLYDE

Automatic Interlocking color light signals govern movement of Sacramento Northern trains and U. S. Naval Magazine, Port Chicago, California Railroad trains.

Sacramento Northern: Home signal located 610 feet east of crossing governs movement of trains over the crossing westward. Home signal located 578 feet west of crossing governs movement of trains over the crossing eastward. The westward distant signal is located 2410 feet in advance of the home signal and the preliminary circuit begins at a point 4938 feet east of the home signal. The eastward distant signal is located 3269 feet west of the home signal and the preliminary circuit begins at a point 5635 feet west of the home signal.

U. S. Naval Magazine, Port Chicago, California Railroad: Home signal located 509 feet east of crossing governs movement of trains over the crossing westward. Home signal located 500 feet west of crossing governs movement of trains over the crossing eastward.

The westward distant signal is located 2350 feet in advance of the home signal and the preliminary circuit begins at a point 2900 feet east of the home signal.

The eastward distant signal is located 2530 feet in advance of the home signal and the preliminary circuit begins at a point 4913 feet west of the home signal.

All signals are approached lighted.

Movement of Trains:

When train approaches the crossing and enters approach circuit, the home and distant signals should indicate—PROCEED.

When home signal indicates PROCEED, or PROCEED WITH CAUTION, the speed of engine must not exceed fifteen (15) miles per hour between the home signal and the crossing.

If no cause for signals being at STOP is seen or if there is a train on intersecting track standing outside of the home signals, with no indications that it is to immediately proceed, flagman must be sent ahead to operate a release located in box at the crossing. Box is provided with standard switch lock. Instructions for the operation of release are posted inside the box and are as follows:

Clockwork Time Release:

To Operate Clockwork Time Release:

(a) The release must not be operated when trains or engines are between the home signals or seen to be approaching on the intersecting tracks.

(b) To operate clockwork time release, turn knob to right to extreme position about one-quarter turn, then let go of knob and allow automatic release mechanism to run down, which will require four minutes. When knob is turned to extreme position and release mechanism has completed its operation, a red indicator light located in box with this clock release should light up indicating that home signals on intersecting track are in "STOP" position. The home signal on S. N. Ry. should then change from "STOP" to "PROCEED" or "PROCEED WITH CAUTION."

Note: Where home signals are involved in automatic block signal territory, flagman, upon receiving a red indicator light, must lock box and proceed in accordance with automatic block system rules and where no automatic block signals are involved, flagman will remain at the crossing until train arrives.

In case indicator light fails to appear, the movement must be protected in each direction on the intersecting line.

(c) In case operation of time release does not change the home signal indication from "STOP" to "PROCEED" or "PROCEED WITH CAUTION" after the expiration of the four minute time interval, a repeater red indicator light located on the home signal mast below the home signal should light up. If this repeater red indicator is lighted it indicates two conditions: (1) It indicates that the home signals on the intersecting line are in "STOP" position and, (2) It indicates that the reason the home signals did not change from "STOP" to "PROCEED" or "PROCEED WITH CAUTION" is because the block or track ahead of the train is occupied or at fault.

The tracks at the Shell Chemical Company's plant at Shell Point are used jointly by the Sacramento Northern and Southern Pacific. All movements over these tracks must be made with caution. The tracks leading from the Sacramento Northern and from the Southern Pacific cross at grade. All trains, motors, engines or cars of the Sacramento Northern shall stop at the "STOP" signs located at each approach to the crossing, and shall not proceed over the crossing until it has been ascertained that it is safe to do so. Several derails, properly signed, are installed on the various tracks.

A. T. & S. F. R. R. crossing at Pittsburg is protected by stop boards. All engines, trains, motors and cars must come to a stop at the "STOP" boards located on either side of the crossing and no movement made over this crossing until a flagman has preceded over the crossing and ascertained that it is safe to proceed. A. T. & S. F. R. R. have the preference at this crossing.

Southern Pacific Railroad crossing at Front and Capitol Ave., Sacramento, is protected by flagman.

Southern Pacific trains moving on Front Street, Sacramento, and yard engines switching on Front Street, shall stop before reaching the crossing at Front and Capitol Ave., and will proceed on hand signals from flagman on the ground at the crossing, flagman using a green flag by day and green light by night.

Sacramento Northern trains and yard engines moving over the crossing shall stop before reaching the crossing at Front and Capitol Ave., and will proceed on hand signals from the flagman using a yellow flag by day and a yellow light by night.

Rules governing movements over the SP crossing at Front and Capitol Avenue and movements through the interlocking plant on the Tower Bridge require that all movements over the SPRR. crossing are authorized by the flagman, using a yellow flag by day and a yellow light by night, and Rule 628 authorizes the signalman (tower operator) to use yellow signals whenever the interlocking signals are inoperative, therefore, when the interlocking signals are inoperative, engineers must receive a hand signal from the signalman (tower operator) in addition to the hand signal from the flagman, both using yellow signals.

Trains and yard cuts must stop and flag before crossing the SP. and WP. tracks at Front and R Streets except when a proceed signal is received from flagman. This rule means that trains must actually stop and be flagged over the crossing by a member of the crew unless a flagman is at the crossing in advance of the arrival of the train.

When Sacramento Northern trains and engines are moving on WP. tracks on Front Street and R Street, they must stop before crossing the SN. tracks on Front Street as provided for in WP. Transportation Rule 98, which reads as follows:

"Trains must approach the end of double track, junctions, railroad crossings at grade, and drawbridges, with caution. Where required by rule or by law, trains must stop."

"At railroad crossing at grade, unprotected by interlocking, trains must stop, and if view is obstructed one of the crew must go to the crossing and give signal when safe to proceed."

AUTOMATIC INTERLOCKER C & X STREETS, SACRAMENTO

Automatic Interlocking Color Light Signals governing movements of Western Pacific trains and Sacramento Northern trains are located at the crossings on "C" and "X" Streets, Sacramento.

MOVEMENT OF TRAINS OVER "C" STREET CROSSING, SACRAMENTO

WESTERN PACIFIC—Home signal located 480 feet east of crossing governs movement of trains over the crossing westward; Home signal located 450 feet west of crossing governs movement of trains over the crossing eastward. No distant signals.

MOVEMENT OF TRAINS OVER "X" STREET CROSSING, SACRAMENTO

WESTERN PACIFIC—Home signal located 450 feet east of crossing governs movement of trains over the crossing westward; Home signal located 450 feet west of crossing governs movement of trains over the crossing eastward. One distant signal 1480 feet west of home signal.

MOVEMENT OF TRAINS OVER "C" STREET CROSSING, SACRAMENTO

SACRAMENTO NORTHERN—Home signals governing movement of trains with the current of traffic over the crossing located at the curb line 72.5 feet on either side of crossing. Back-up signals governing reverse train movements over the crossing are located at the curb line 72.5 feet on either side of crossing. No distant signals.

Cars must not be left standing between the home signals unless coupled to another car or an engine which is standing outside of the home signals.

MOVEMENT OF TRAINS OVER "X" STREET CROSSING, SACRAMENTO

CENTRAL CALIFORNIA TRACTION COMPANY - SACRAMENTO NORTHERN—Home signals governing movement of trains with the current of traffic over the crossing located at the curb line 72.5 feet on either side of crossing; back-up signals governing reverse train movements over the crossing are located at the curb line 72.5 feet on either side of crossing. No distant signals.

Cars must not be left standing between the home signals unless coupled to another car or an engine which is standing outside of the home signals.

Cars or trains finding the home signals at "STOP," will stop clear of signal to permit it to change to "PROCEED" position when train on the Western Pacific has passed out of home signal limits.

CLOCKWORK TIME RELEASE

If no cause for signals being at "STOP" is seen, or if there is a train on the Western Pacific tracks standing outside of the home signals with no indication that it is to immediately proceed, trainman must be sent ahead to operate a release located in a box mounted on a post on the opposite side of the intersecting track, one release for each track. Box is provided with standard switch locks. Instructions for the operation of release are posted inside box. The instructions follow:

To operate clockwork time release, turn knob to right about one-quarter (1/4) turn; hold knob to right about two (2) seconds, and then let go of knob, allowing release mechanism to run down, which will require sixty (60) seconds at "C" Street and forty-five (45) seconds at "X" Street.

After release has run down, a red pilot light located inside of the release box should light up. This pilot light indicates home signals on intersecting tracks are in "STOP" position. Sacramento Northern signal should then change to "PROCEED."

The release must not be operated when Western Pacific trains or engines are between the home signals, or seen to be approaching.

If signals remain in STOP position be governed by Rule 663.

Speed of cars or trains over automatic interlocker must not exceed ten (10) miles per hour.

Note: The word Trains includes Yard Engines.

INTERLOCKER, GLOBE**THE WESTERN PACIFIC RAILROAD COMPANY**

Eastward —Home signal 605 feet west of crossing. Distant signal 3032 feet west of home signal. Preliminary circuit begins at a point 4602 feet west of home signal.

Westward —Home signal 605 feet east of crossing. Distant signal 4200 feet east of home signal. Preliminary circuit begins at a point 7232 feet east of home signal.

Semi-automatic interlocked two-position color light signals approach lighted. No derails.

SACRAMENTO NORTHERN RAILWAY

Eastward —Home signal 459 feet west of crossing. Normal indication STOP. No distant signal. Derail 409 feet west of crossing.

Westward —Home signal 460 feet east of crossing. Normal indication STOP. No distant signal. Derail 409 feet east of crossing.

Swanston Branch

Eastward —Home signal and derail same as for main track.

Westward —Home signal 380 feet east of crossing. Normal indication STOP. No distant signal. Derail 329 feet east of crossing.

Interlocking signals are semi-automatic two-position color light signals permanently lighted.

Hand Throw Switch Mechanism:

This is a manually operated electrically locked switch mechanism, pipe connected to the three derails and is located near the crossing. The normal position of the switch lever is down with the handle pointing east and the foot pedals locked down with switch locks. If switch mechanism is not left in normal position with locks in pedal hasps, Western Pacific signals will not clear.

Indicator:

The indicator located on a mast at the hand throw switch mechanism is a single-light type indicator. Normal indication clear.

Clock Work Time Release:

This time release is in a box located near the crossing and is secured with a switch lock. Instructions for the operation of this release are in the box.

Junction Switch Swanston Branch

This switch has a circuit controller and must be lined for the route to be used before westward home signal will clear.

Movement of Trains:

Movement of trains over the crossing will be made in accordance with signal indication. If signals are inoperative be governed by Rule 663.

Operation of Switch Mechanism:

When the indicator shows BLOCK CLEAR, remove both switch locks, depress foot pedal and reverse position of switch lever and then put switch lock back in hasps on foot pedals. This movement causes the signals on the Western Pacific to be in the STOP position, closes the derails on the Sacramento Northern and clears the home signals. The switch mechanism is electrically locked during the movement through the detector circuit and after train has cleared this circuit the switch mechanism must be restored to its normal position. When the indicator shows BLOCK OCCUPIED, trainmen will wait for five (5) minutes and if no train is seen or known to be approaching on the Western Pacific will remove switch locks from foot pedals and then operate time release. After four (4) minutes the red pilot light should light up indicating that the home signals on the Western Pacific tracks are in STOP position, clearing the indicator at the switch and releasing the electric lock on the switch mechanism, which can now be operated in the usual manner.

In the case of power failure, notify the dispatcher who will call the maintainer to operate the plant.

Speed of cars or trains must not exceed thirty (30) miles per hour over crossing.

AUTOMATIC INTERLOCKER, SANKEY

Sankey automatic interlocking plant crossing the Western Pacific tracks is located one-half mile west of Sankey.

Interlocking limits on the W. P. track extend from home light signal 600 feet east of crossing to home light signal 600 feet west of crossing, and on S. N. Ry. track between home light signals located 600 feet on both sides of crossing.

The distant signals are located 3000 feet in advance of the home signals, and the preliminary circuits extend 3000 feet in advance of the distant signals.

The instructions governing the operation of signals and the movement of trains through the interlocking plant at Live Oak will apply at Sankey interlocker.

AUTOMATIC INTERLOCKER, LIVE OAK

Live Oak automatic interlocking plant crossing the Southern Pacific tracks is located one-half mile east of Live Oak.

Interlocking limits on the S. P. track extend from home light signal SA-1522, 517 feet west of crossing, to home light signal SA-1523, 523 feet east of crossing, and on S. N. Railway track between home light signals located 600 feet on both sides of crossing.

The westbound distant signal is located 3000 feet in advance of the home signal and the preliminary circuit begins at a point 4800 feet east of the home signal. The eastbound distant signal is located 1300 feet in advance of the home signal, and the preliminary circuit begins at a point 2500 feet west of the home signal.

Normal Indication of Interlocking Home Signals—"STOP":

When train approaches the crossing and enters approach circuit, the home and distant signals should change to "PROCEED."

When home signal indicates "PROCEED" or "PROCEED WITH CAUTION" the speed of engine must not exceed thirty (30) miles per hour between the home signal and the crossing.

If no cause for signals being at "STOP" is seen or if there is a train on intersecting tracks standing outside of the home signals, with no indication that it is to immediately proceed, flagman must be sent ahead to operate a release located in box at the crossing. Box is provided with standard switch lock. Instructions for the operation of release will be posted inside box. The instructions follow:

CLOCKWORK TIME RELEASE**To Operate Clockwork Time Release:**

(a) The release must not be operated when trains or engines are between the home signals or seen to be approaching on the intersecting tracks.

(b) To operate clockwork time release, turn knob to right to extreme position about one-quarter turn, then let go of knob and allow automatic release mechanism to run down, which will require four minutes. When knob is turned to extreme position and release mechanism has completed its operation, a red indicator light located near this clock release should light up immediately indicating that home signals on intersecting track are in "STOP" position. The home signal on S. N. Ry. should then change from "STOP" to "PROCEED WITH CAUTION."

Note: Where home signals are involved in automatic block signal territory, flagman, upon receiving a red indicator light, must lock box and proceed in accordance with automatic block system rules and where no automatic block signals are involved, flagman will remain at the crossing until train arrives.

In case indicator light fails to appear, the movement must be protected in each direction on the intersecting line.

(c) In case operation of release does not change the home signal indication from "STOP" to "PROCEED WITH CAUTION" after predetermined time has elapsed, a repeater red indicator light located at home signal should then light up, indicating that home signals on intersecting line are in "STOP" position.

JOINT TRACK MARYSVILLE

Sacramento Northern trains operate over Western Pacific track between Sacramento Northern connection with Western Pacific main track, located 356 feet east and 355 feet west of bridge 178.18, Yuba River, Marysville. Sacramento Northern freight trains operate over Western Pacific passing siding between the west switch and the switch leading to the Sacramento Northern track opposite the Western Pacific passenger station at Marysville. These tracks are designated as Joint Tracks.

AUTOMATIC INTERLOCKING Signals (color light type) governing the Joint Track are located as follows:

THE WESTERN PACIFIC RAILROAD COMPANY

Eastward —Distant Signal MP 177.2, 4528 feet west of home signal.

Home signal 777 feet west of bridge 178.18.

Semi-automatic Home Signal SA-1784 located 45 feet west of SN. Junction switch east of bridge 178.18.

Westward —Home signal 722 feet east of bridge 178.18.

SACRAMENTO NORTHERN RAILWAY

Eastward —Home signal located 542 feet west of bridge 178.18.

Westward —Home signal located 525 feet east of bridge 178.18.

Home Signals located 542 feet west of bridge 178.18, and 525 feet east of bridge 178.18, will go to clear position when the junction switch and derails are lined up for the Sacramento Northern track, provided the block is clear, and will go to stop position when the forward wheels of an engine or car pass the signal.

DOUBLE SWITCH INDICATORS

Junction switches east and west of Bridge 178.18.

West siding switch.

West switch interchange track.

All trains and engines must have a clear indication by switch indicator before throwing the switch to enter the W. P. main track, or must proceed under flag protection.

DERAILS: Derailing switches, pipe connected and operated with the main track switches are located as follows:

On Western Pacific passing siding 193 feet east of west switch.

On Sacramento Northern track 182 feet west of Junction Switch west of bridge 178.18 and 157 feet east of Junction Switch east of bridge 178.18.

Care must be used in the handling of switches which are pipe connected to the derails to avoid a derailment. Employee opening main track switch that is pipe connected to derails, must lock the switch open and it must remain locked until train has cleared derailing switch.

Engineer must not start his train until home signal clears and brakeman has crossed over track to opposite side of switch stand.

NORMAL POSITION OF SWITCHES—Junction switches must be locked for Western Pacific main track when not in use.

MOVEMENT OF TRAINS—Movement of trains over the Joint Track will be made in accordance with the indication of signals, regardless of right or class. All trains of both companies must approach and pass through the limits of the Joint Track with caution, not exceeding a speed of fifteen (15) miles per hour.

If no cause for signals being at stop is seen or if there is a train on W. P. track outside of home signals with no indication that it is to immediately proceed, be governed by Rule 663.

In using the Joint Track, freight trains should avoid delays to other trains of either company.

No engine, car, or train of the Sacramento Northern shall be operated over the railroad crossing located 752 feet east of Bridge 178.18 where the Sacramento Northern passenger track crosses the Western Pacific house track, without being brought to a stop at the Stop Board and preceded over the crossing by a member of its crew who shall determine first that it is safe to proceed. The Stop Boards are located on each side of this crossing 100 feet from the crossing. Sacramento Northern trains and yard engines operating on the Western Pacific house track must approach this crossing with caution and not move onto or over the crossing until it shall be determined first that it is safe to proceed.

Note: WITH CAUTION, means—To run at restricted speed, according to conditions, prepared to stop short of a train, engine, car, misplaced switch or other obstruction, or before reaching a stop signal. Where circumstances require, train must be preceded by a flagman.

Sacramento Northern trains and engines using Western Pacific tracks, Marysville, will be governed by rules in current Western Pacific Timetable.

The single track between Marysville and Yuba City is protected by Automatic Block Signals. Movement of Trains and Yard Engines will be made over this track in accordance with the indication of signals.

S. P. Crossing—Mikon. Interlocked. Home signals and derails 300 feet east and west of crossing. No distant signals.

S. P. Crossing—Woodland. Interlocked. Home signals and derails 300 feet east and west of crossing. No distant signals.

DRAWBRIDGE SIGNALS

Montezuma Slough Drawbridge has train stop arms. Home Signals located 659 feet east and 840 feet west indicate position of draw. Distant Signals 2119 feet east and 1740 feet west of Home Signals.

The normal position of the drawbridge at Montezuma Slough will be OPEN and the tripper arms down and signals governing movements over the drawbridge will be in the STOP position.

Between the hours of 8:00 A.M. and 10:00 P.M., or until all freight train movements are completed, daily except Sundays, an operator will be on duty to open the drawbridge.

TOWER BRIDGE, SACRAMENTO

Bridge Interlocking Signals and Derails:

Note: Directions used are those applicable to the Main Track to Oakland.

Signals and derails are located 413 feet east of Bridge on Capitol Ave., 285 feet east of Bridge on Front Street, and 350 feet west of Bridge. The switch leading to the River Spur serves as a derail west of the Bridge.

The interlocking home signal at River Spur derailing switch is a three-unit signal; the upper signal governs movements to Front Street, the middle signal governs movements to Capitol Ave., and the lower signal governs movements to the River Spur.

Signal No. 2 located at the east end of the Bridge governing eastward movements is a three-indication light signal. Green indication governs movements to Front Street. Yellow indication governs movements to Capitol Ave. The red indication is a stop signal.

The switch at the east end of the Bridge is electrically operated from the tower.

Broderick Junction Interlocking Plant:

Interlocking home signals are located 163 feet east of Junction switch on Woodland Branch, 712 feet west of Junction Switch on main track, and 13 feet east of Junction Switch on main track. The interlocking home signal located 13 feet east of Junction Switch is a two-unit light signal. The upper signal governs movements to Oakland main track, and the lower signal governs movements to Woodland Branch. These interlocking signals are operated by remote control from the tower.

Dual Control Switch:

The dual control switch at Broderick Junction is operated by remote control from the tower and is so equipped that it may be operated by trainmen, when authorized to do so by the towerman. When trainmen are authorized by towerman to operate this dual control switch by hand, the selector lever must be kept in hand-throw position until all movements over the switch have been completed. All movements within the working limits must be made with caution and upon completion notify towerman.

Trainmen must notify engineer when the selector lever is in hand-throw position, and also notify him when it is returned to motor position, so he may know when to be governed by the interlocking signals governing movements over the switch.

The selector and hand-throw levers must not be forced. They will move easily when properly in mesh, although some manipulation of first one and then the other may be necessary to get them in proper mesh. If the switch was lined for Woodland Branch when dual control use was started it must be again lined for Woodland Branch before selector lever is restored to motor position.

Block Signal System:

That portion of the Automatic Block Signal system on the First Subdivision between Broderick and Riverview begins and ends at the home block signal located 350 feet west of Tower Bridge.

Switch Indicators:

The switches leading into the main track from Westside Spur and the drill track are protected by switch indicators. The switch leading from the River Spur to the main track is protected by light signals operated from the tower.

Movements of Trains and Yard Engines:

Movements through and between these two interlocking plants shall be made in accordance with signal indication. In case of signal failure at Tower Bridge Interlocking Plant, be governed by Rule 663 and failure at Broderick Junction Interlocking Plant, be governed by Rules 663 and 509.

Trains and yard engines must not exceed a speed of 15 miles per hour over the bridge and 10 miles per hour over the highway crossing west of the bridge.

Eastward trains and yard engines entering the main track from the drill track at east switch Westgate must have clear indication by switch indicator before opening the switch.

When the switch is opened an indicator light in the tower will light, indicating to the towerman that a train is approaching. When the interlocking home signal clears, train or yard engine may proceed.

When the interlocking home signal at east switch Westgate indicates "STOP" eastward trains of more than three cars on either the main track or drill track shall remain back of the County Road crossing until the signal clears.

Telephones:

Telephones are installed in the tower, at Interlocking Home Signal on Capitol Ave., Front Street, in the shelter house at Broderick Junction, and on a post half way between River Spur and Westside Spur for trainmen to communicate with the towerman. The telephones on Front Street and Broderick Junction have a double-throw switch to connect the phone on the dispatcher's line.

Whenever there is switching to be done on the River Spur or Westside Spur, which requires several movements from the main track to these spurs, or movements on the main track through or into the limits of the Interlocking Plant at Broderick Junction, the conductor shall communicate with the towerman and advise him so that there shall be no delay in the operation of signals or switches.

There is a signal box located on the interlocking home signal on Front Street which is operated by using a switch key. Opera-

tion of this signal box gives the towerman an indication in the tower that a train is on Front Street, and ready to move through the plant. This signal box is to be used when whistle signal cannot be heard.

Route Whistle Signals:

- From Capitol Ave. or Front Street to Oakland..... o
- From Capitol Ave. or Front Street to Woodland..... o o
- From Capitol Ave. to Front or in reverse direction..... o o o o
- From Oakland or Woodland to Capitol Ave..... o o o
- From Oakland or Woodland to Front Street..... o
- From Oakland or Woodland to River Spur..... o o
- From River Spur to Main Track.. o o
- From Oakland to Woodland or in reverse direction..... o o o o
- From main track between interlocking plants to Oakland..... o
- From main track between interlocking plants to Woodland.... o o

Meridian Bridge. Interlocked. Home signals and derails 300 feet east and west of the bridge. Trains will approach and pass through the interlocking limits WITH CAUTION.

FIRST AID STATIONS

(Supplied with First Aid Cabinets and Stretchers)

Oakland	Dozier
Eastport	Riverview
Concord	Vacaville Jct.
Ferry Ramon	Colusa Jct.
Drawbridge	Oroville Jct.

ELECTRIC LOCOMOTIVE RATING IN TONS

Engine	Working Voltage	Sacramento Yard	Car Limit (See Note)	Tons Per Operative Brake	Oakland to Temescal	Temescal to Havens	Havens to Concord	Concord to Las Juntas	Las Juntas to Havens	Concord and P. Chicago	P. Chicago and Sacramento	W. Pitts. to Pittsburg	Col. Steel Plant to Pittsburg	Riverview and Oxford	Front St. to Broderick	Dozier and Cordero (See Note)	Cordero and Vaca Jct.	Marysville to Yuba City	Yuba City to Marysville
410	600	700			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1240	800
420	600	700			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1240	800
430	600	600			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1240	840
440	600	425			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1000	500
441	600	630			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1180	680
442	600	600			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1180	680
603	600 1400	500	10	50	170	240	340	1000	310	270	1000	500	340	1000	340	730	520	1000	500
604	600 1400	500	10	50	170	240	340	1000	310	270	1000	500	340	1000	340	730	520	1000	500
605	600 1400	500	8	50	200	270	350	1100	350	280	1000	500	340	1000	340	730	520	1000	500
606	600 1400	400	8	50	180	270	310	990	350	250	800	450	300	800	275	600	430	800	400
650	600 1400	750	10	50	300	430	550	1650	560	450	1650	720	480	1650	450	1140	800	1240	840
651	600 1400	750	10	50	300	430	550	1650	560	450	1650	720	480	1650	450	1140	800	1240	840
652	600 1400	750	10	50	300	430	550	1650	560	450	1650	720	480	1650	450	1140	800	1240	840
653	600 1400	750	10	50	300	430	550	1650	560	450	1650	720	480	1650	450	1140	800	1240	840
654	600 1400	750	10	50	300	430	550	1650	560	450	1650	720	480	1650	450	1140	800	1240	840
660	600 1400	750	10	50	300	430	550	1650	560	450	1650	720	480	1650	450	1140	800	1240	840
661	600 1400	750	10	50	300	430	550	1650	560	450	1650	720	480	1650	450	1140	800	1240	840

TWO ENGINES IN TRAIN IN SERVICE

650-654	Class	.....	540	860	990	2970	1120	810
650-660	"	.....	540	860	990	2970	1120	810
660-661	"	.....	540	860	990	2970	1120	810
603-604	"	.....	340	480	680	2000	620	540
605-606	"	.....	350	540	600	1880	700	480
660-605	"	.....	330	570	570	2600	750	500
660-606	"	.....	300	560	530	2160	750	480

THREE ENGINES IN TRAIN IN SERVICE

650-603-604	Class	.....	400	580	860	3300	860	640
660-603-604	"	.....	400	580	860	3300	860	640
605-603-604	"	.....	400	580	860	3300	860	640
606-603-604	"	.....	400	580	860	3300	860	640
605-606-650	"	.....	400	610	830	3300	880	630

NOTE: Between Havens and Rockridge westward Engines 603 & 604 coupled, and Engines 660 & 661 coupled, car limit 20 cars.
 Tonnage ratings from Pittsburg to West Pittsburg westward same as between Port Chicago and Sacramento.
 Tonnage ratings between Dozier and a point 6 miles east of Dozier on the Willotta Branch are the same as between Port Chicago and Sacramento.

44 TON DIESEL ELECTRIC LOCOMOTIVE RATINGS IN TONS

FIRST SUBDIVISION		
Sacramento.....	To Dozier.....	850
Dozier.....	And Chipps.....	1000
Dozier (see note).....	To Vacaville Jct.....	640
Vacaville Jct.....	And Vacaville.....	950
Vacaville Jct.....	And Willotta.....	800
Vacaville Jct.....	To Sacramento.....	1000
Holland Branch.....		700
SECOND SUBDIVISION		
Sacramento.....	To Chico.....	800
Chico.....	To Yuba City.....	800
Yuba City.....	To Marysville.....	550
Marysville.....	To Sacramento.....	800
Woodland Branch.....		1200
Colusa Branch.....		800
SACRAMENTO BELT LINE		
Front Street and Tower Bridge.....		700
X Street, Alhambra Blvd., & C Street.....		800
Haggin Ascending Grade.....		650

Note:—Tonnage rating from Dozier to a point 6 miles east of Dozier on the Willotta Branch is 850 tons.

The following is a list of all Steam and Electric Railroad crossings and junctions, protection provided for movements over them, and the name of the Railroad having prior right in the use of the crossing or Junction not protected by signals or flagman:

LOCATION	NAME OF RR.	PROTECTION	RESTRICTION	RIGHT	LOCATION	NAME OF RR.	PROTECTION	RESTRICTION	RIGHT
Oakland—40th & Shafter.....	Oakland Terminal..	Interlocking Signals.....	5 mi. per hr.....	Governed by Signal	Pittsburg.....	A. T. & S. F. R. R.	PITTSBURG BRANCH		
Oakland—College Ave.....	Key System.....	Crossing Signals.....	Stop.....	S. N. Ry.			No Signals.....	Stop and Flag.....	A. T. & S. F. R. R.
Las Juntas.....	S. P. Co.....	No Signals.....	Stop.....	S. P. Co.	Sacramento: Front St. N. to "Q" Inc.... Front & "R" Sts..... Front & "X" Sts..... 19th & "X" Sts..... Alhambra Blvd. & "X" St. Jct. Joint Track..... Alhambra Blvd. & "R" St.. 19th & "C" Sts..... Mikon..... Woodland..... D. M. Yard, all crossings.....	SACRAMENTO BELT LINE			
Clyde.....	U.S. Naval Magazine Port Chicago, Calif. R. R.	Automatic Interlocking Signals	15 mi. per hr.....	Governed by Signal		{ S.P.Co.&W.P.R.R. Industrial Tracks S.P.Co. & W.P.R.R.	No Signals.....	Caution.....	S. P. Co. & W. P. R. R.
Shell Point Shell Chem. Co.....	S. P. Co.....	No Signals.....	Stop.....	S. N. Ry.		No Signals.....	Stop and Flag—Except when proceed signal is received from flagman.	S. P. Co. & W. P. R. R.	
Sacramento: Front St. & Capitol Ave.....	S. P. Co.....	Flagman.....	Stop.....	Governed by Flagman		C. C. T. Co.....	No Signals.....	Caution.....	S. P. Co. & W. P. R. R.
Globe.....	W. P. R. R.....	Interlocking Signals.....	30 mi. per hr.....	Governed by Signal		W. P. R. R.....	Automatic Interlocking Signals	10 mi. per hr.....	Governed by Signal
Sankey.....	W. P. R. R.....	Automatic Interlocking Signals	30 mi. per hr.....	Governed by Signal		C. C. T. Co.....	No Signals.....	Stop.....	C. C. T. Co.
Marysville—Joint Track.....	W. P. R. R.....	Interlocking Signals.....	15 mi. per hr.....	Governed by Signal		S. P. Co.....	No Signals.....	Stop and Flag—Except when proceed signal is received from flagman.	S. P. Co.
Marysville—House Track.....	W. P. R. R.....	No Signals.....	Stop and Flag.....	S. N. Ry.		W. P. R. R.....	Automatic Interlocking Signals	10 mi. per hr.....	Governed by Signal
Yuba City.....	S. P. Co.....	No Signals.....	Stop—Except when pro- ceed signal is received from flagman.....	S. P. Co.		WOODLAND BRANCH			
Live Oak.....	S. P. Co.....	Automatic Interlocking Signals	30 mi. per hr.....	Governed by Signal		S. P. Co.....	Interlocking Signals.....	20 mi. per hr.....	Governed by Signal
Stirling Jct.....	S. P. Co.....	No Signals.....	Stop.....	S. P. Co.		S. P. Co.....	Interlocking Signals.....	10 mi. per hr.....	Governed by Signal
						CHICO YARD			
					No Signals.....	Stop.....	D. M. Co.		

YARD LIMITS DEFINED BY YARD LIMIT SIGNS		SIDE AND OVERHEAD OBSTRUCTIONS (Not Standard Clearance)		Sacramento—Tracks serving Freight House, 2nd and Capitol Ave.—Side (when cars are standing on tracks which are adjacent.)	ADDITIONAL COMMERCIAL STATIONS				
Stations	Facilities for Handling	Distance from Oakland	Capacity in Freight Cars						
Oakland	South Yuba	} Marysville Yard	Tunnel No. 1—Side and overhead. Protected by Signal Bell Tell Tale.	Woodland—Woodland Lbr. Co., Spur, Side.	Eastport	LCL	6.60	..	
Moraga	Marysville		Concord—Hay Warehouse side and overhead.	Trainmen will at all times look out for low hanging trolley and span wires.		Wilcox	LCL	7.09	..
Walnut Creek	Yuba City		Ferry Ramon—End towers outside tracks—side and overhead.			Redwood Inn	LCL	7.75	..
Concord	Paloro		General—All loading platforms—side.			Canyon	LCL	8.07	..
Port Chicago	Harter		General—Receiving pipes at oil company spurs—side.			Valle Vista	LCL	9.72	..
McAvoy		Chico—Chico Vecino, Trees, side.			Nichols	LCL	33.13	..	
Pittsburg	Colusa Jct.	Crane Spur—Marysville Road, Oroville.			Greenspot	CL	34.64	2	
West Pittsburg	Colusa	Marysville—Diamond Match Warehouse—side.			Honker	LCL	40.29	..	
Mallard	Arbee	Marysville—Orange St. track—two dwellings—side.			Highway	CL	64.65	5	
Chippis	Live Oak	Clarksburg—Sugar plant eaves—side.			Dudley	CL	84.01	23	
Dozier	East Gridley	Sacramento—Subway, side and overhead. Trainmen must not ride on top or side of cars when going through subway.			West Sacramento ...	CL & LCL	84.42	Yard	
Cordero	Oroville Jct.				Peethill	CL	85.02	15	
Libfarm					Pencilwood	CL & LCL	93.49	30	
Riverview	Oroville				Swanston	CL & LCL	93.71	9	
Woodland	Marysville Road				Reed	CL & LCL	126.79	26	
Westgate	Stirling Jct.				Barber	CL	178.22	10	
Broderick	Mulberry								
Sacramento	Chico								
Haggin									
Globe									
N. Sacramento									
STOCK CORRALS									
Moraga—DD	Sycamore—SD	Durham—SD							
Montezuma—SD	Rio Vista Jct.—DD	Vale—DD							
Dozier—DD	Saxon—DD	Bunker—DD							
Molena—DD	Olcott—DD	Libfarm—DD							
Hebron—SD	Colusa—DD	Shippee—SD							
Sankey—DD	Sutter—SD	Swanston—DD							
Arboga—SD	Peethill—DD								

TRAINMASTER

.....Oakland

ASSISTANT TRAINMASTERS

H. J. MULFORD Sacramento
M. R. ROWE Marysville

F. R. JUSTIS

CHIEF DISPATCHER

..... Sacramento

Map of Sacramento Northern Railway and Connections

