The Road Inventory of Sonny Bono Salton Sea National Wildlife Refuge Calipatria, CA





Prepared By: Federal Highway Administration Central Federal Lands Highway Division April 2012



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INTRODUCTION

The Transportation Equity Act for the 21st Century (Public Law 105-178) created the Refuge Roads Program. Refuge roads are those public roads that provide access to or within a unit of the National Wildlife Refuge System and for which title and maintenance responsibility is vested in the United States Government. Funds from the Highway Trust Fund are available for refuge roads and can be used by the station to pay the cost of:

- (a) Maintenance and improvements of refuge roads.
- (b) Maintenance and improvements of:
 - (1) Adjacent vehicle parking areas
 - (2) Provision for pedestrians and bicycles and
 - (3) Construction and reconstruction of roadside rest areas that are located in or adjacent to wildlife refuges
- (c) Administrative costs associated with such maintenance and improvements.

The funds available for refuge roads are to be disbursed based on the relative needs of the various refuges in the National Wildlife Refuge System, and taking into consideration:

- (a) The comprehensive conservation plan for each refuge;
- (b) The need for access as identified through land use planning; and
- (c) The impact of land use planning on existing transportation facilities.

To determine the relative needs of the U.S. Fish and Wildlife Service, the Federal Highway Administration (FHWA) was asked to inventory all public access roads and parking lots and provide a condition assessment of each. In 2008 the inventory was expanded to include administrative (service use only) roads and parking lots. An FHWA representative meets with refuge personnel to identify route segments and assign route numbers and functional classifications (See Appendix) for each route. All roads and parking lots are mapped using Trimble GPS units and visually assessed for condition using the RSL method of evaluation developed at Utah State University (See Appendix). Culverts, Gates, Guardrails and Low Water Crossings are also mapped and inspected for any obvious defects.

An estimate is provided, in year 2008 dollars, based on the condition determined by the rating system. Estimates are based upon data and location factors from the 2008 RS Means Heavy Construction Cost Data 22nd Annual Edition. Cost estimates should be evaluated on a case-bycase basis when being used for programming purposes.

Native Surfaced roads and parking lots already inventoried will not be re-inventoried and will not appear individually in report chapters 5, 6 and 8. Mileages and areas of native surfaced roads and parking lots will still appear in all summaries in the report and will remain in the road inventory database. In addition to this report, the FHWA will furnish the condition ratings of each route and segment to the Fish and Wildlife Service in a Microsoft Access database so the data can be included in their Real Property Inventory.

Sonny Bono Salton Sea NWR

Summaries

Route Miles and Percentages by Functional Class and Condition

Condition Rating (Based on RSL)*

	Exce	ellent	Go	ood	F	air	Po	oor	Fai	iled	TOTAL
F. C.	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%	MILES
ı	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
II	0.00	0.0%	1.51	70.5%	0.63	29.5%	0.00	0.0%	0.00	0.0%	2.15
III	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
IV	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
٧	0.00	0.0%	20.99	81.5%	4.75	18.5%	0.00	0.0%	0.00	0.0%	25.74
Totals	0.00	0.0%	22.50	80.7%	5.39	19.3%	0.00	0.0%	0.00	0.0%	27.88

^{*}For a description of condition ratings for the various surface types see the Appendix.

Route Miles and Percentages by Surface Type and Condition

Paved Condition Rating [Condition(RSL)]

	Exce	ellent	Go	ood	Fa	air	Po	or	Fai	iled	TOTAL
Surface	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%	MILES
AS	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
СО	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
Totals	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00

Unpaved Condition Rating [Condition(RSL)]

	Exce	ellent	Go	od	Fa	air	Po	oor	Fai	iled	TOTAL
Surface	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%	MILES
GR	0.00	0.0%	4.79	88.3%	0.63	11.7%	0.00	0.0%	0.00	0.0%	5.42
NA	0.00	0.0%	17.71	78.8%	4.75	21.2%	0.00	0.0%	0.00	0.0%	22.46
PR	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
Totals	0.00	0.0%	22.50	80.7%	5.39	19.3%	0.00	0.0%	0.00	0.0%	27.88

Square Footage (Parking Areas)

Condition Rating

Condition Rating											
	Exce	ellent	Go	ood	F	air	Po	or	Fai	led	Total
	Square		Square		Square		Square		Square		Square
Surface	Feet	%	Feet	%	Feet	%	Feet	%	Feet	%	Feet
AS	0	0.0%	19,499	58.0%	14,118	42.0%	0	0.0%	0	0.0%	33,617
СО	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
GR	0	0.0%	93,462	55.1%	76,251	44.9%	0	0.0%	0	0.0%	169,713
NA	0	0.0%	0	0.0%	8,266	100.0%	0	0.0%	0	0.0%	8,266
PR	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Totals	0	0.0%	112,961	53.4%	98,635	46.6%	0	0.0%	0	0.0%	211,596

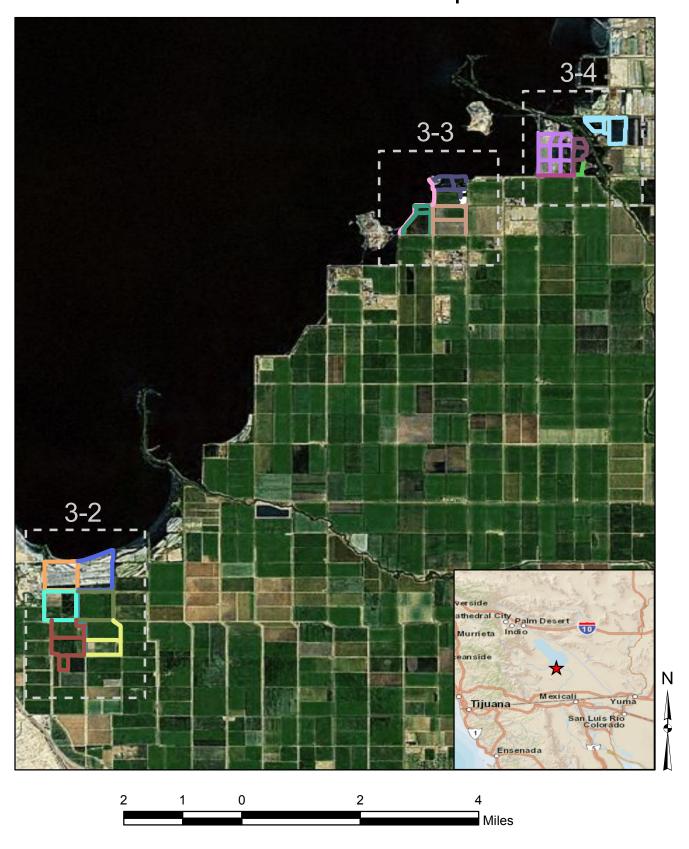
Sonny Bono Salton Sea NWR Summaries

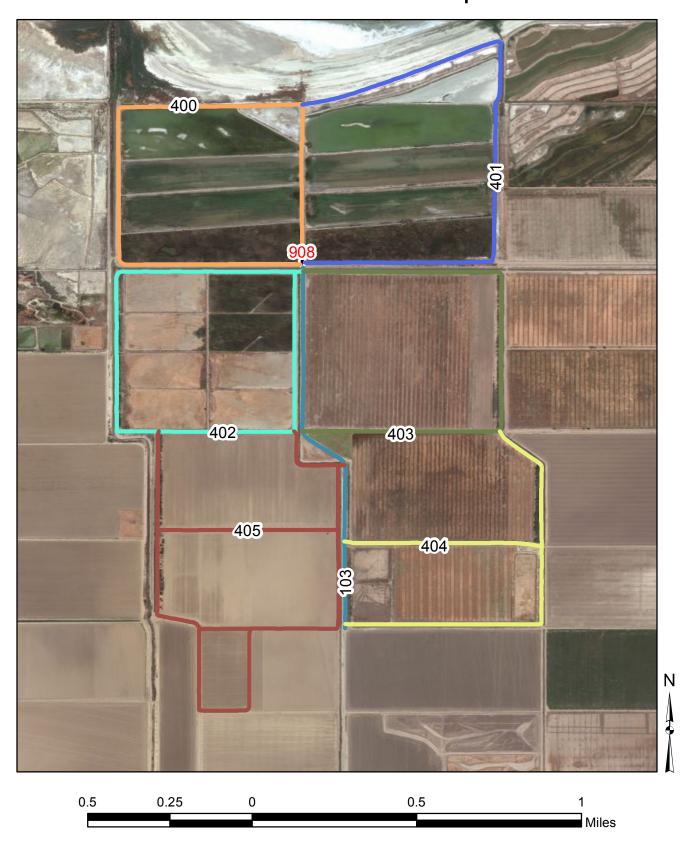
Route Miles and Percentages by Use Type and Condition Road Condition Rating: Public/Administrative Use

USE	Exce	ellent	Go	od	Fa	air	Po	or	Fai	led	TOTAL
TYPE	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%	MILES
Public (FC I-III)	0.00	0.0%	1.51	70.5%	0.63	29.5%	0.00	0.0%	0.00	0.0%	2.15
Admin (FC IV-V)	0.00	0.0%	20.99	81.5%	4.75	18.5%	0.00	0.0%	0.00	0.0%	25.74
Totals	0.00	0.0%	22.50	80.7%	5.39	19.3%	0.00	0.0%	0.00	0.0%	27.88

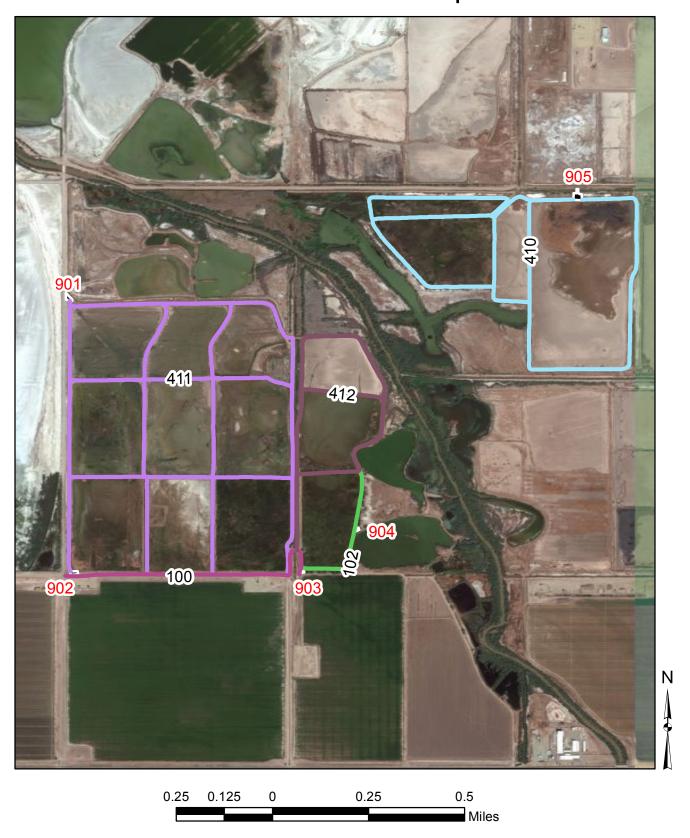
Parking Condition Rating: Public/Administrative Use

	· · · · · · · · · · · · · · · · · · ·										
USE	Exce	ellent	Go	od	Fa	air	Po	or	Fail	led	Total
TYPE	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft
Public	0	0.0%	50731	63.8%	28806	36.2%	0	0.0%	0	0.0%	79,537
Admin	0	0.0%	62230	47.1%	69829	52.9%	0	0.0%	0	0.0%	132,059
Totals	0	0.0%	112,961	53.4%	98,635	46.6%	0	0.0%	0	0.0%	211,596









Sonny Bono Salton Sea - 81631 Route Identification List

Shading Color Key:

White = Paved Routes

Yellow = Unpaved Routes

RTE#	Asset Number	ROUTE NAME	RTE MI	ROUTE DESCRIPTION	PAVED MI	UN- PAVED MI	LANES	FC
100	10049346	H3 - H6 Access Road	0.63	From Garst Road to H9 Parking (Route 903)	-	0.63	1	2
102	-	H7 Access Road	0.37	From H3 - H6 Access Road (Route 100) to Dike Road that surrounds Hazard 7-9 (Route 412)	-	0.37	1	2
103	10000709	Vendel Road	1.14	From Vendel Public Road to Observation Tower Parking (Route 908)	-	1.14	2	2
400	10000670	1-4 A Ponds Road (Includes Sea Wall)	1.86	From Observation Tower Parking (Route 908) around ponds and back to Observation Tower Parking (Route 908)	1	1.86	1	5
401	10000671	1-5 B Ponds Road (Includes Sea Wall)	1.69	From From Observation Tower Parking (Route 908) to 1-4 A Ponds Road (Includes Sea Wall) (Route 400)	-	1.69	1	5
402	10000660	Reidman Ponds 1-4 Perimeter Road	1.89	From Vedal Road (Route 103) around Reidman Ponds 1-4	1	1.89	1	5
403	10000672	Pond 257 Perimeter Road	1.49	From Vendal Road (Route 103) around Pond 257	-	1.49	1	5
404	10000644	North and South Johnson Road	1.63	From Pond 257 Perimeter Road (Route 403) to Vendal Road (Route 103)	-	1.63	1	5
405	10000665	North, Middle and South Flammang Fields Road	2.82	From Reidman Ponds 1-4 Perimeter Road (Route 402) Vendal Road (Route 103)	-	2.82	1	5
406	10000653	Headquarter Ponds B,C, and D Road	1.42	From Shop B Parking (Route 801) to Sea Wall Road (Route 407)	-	1.42	2	5
407	10000641	Sea Wall Road	1.25	From Headquarter Ponds B,C, and D Road (Route 406) to Mcnerney Road	-	1.25	1	5
408	10000695	Dike Road that surround Union 461 and the Yuma Clapper Rail Pond	1.41	From U1 - U2 Parking (Route 906) to U3 - U4 Parking (Route 907)	-	1.41	1	5
409	10000658	Dike Road surrounds 419 and 420	1.90	From Mcnerney Road to HQ/ VC RV Overflow Parking (Route 910)	-	1.90	1	5
410	10000656	Dike Road that surrounds Hazard Ponds 10-11/12	2.74	To H10 - H13 Parking (Route 905) around Hazard Ponds 10-11/12	-	2.74	1	5
411	10000655	Dike Road that surrounds all ponds in Hazard 1-6, 1A-3A	4.26	From H1- H2a Parking (Route 901) to H3 - H6 Access Road (Route 100)	-	4.26	1	5
412	10000694	Dike Road that surrounds Hazard 7-9	1.38	From H3 - H6 Access Road (Route 100) to H7 Access Road (Route 102)	-	1.38	1	5

Sonny Bono Salton Sea - 81631 Route Identification List (Parking)

Shading Color Key:

White = Paved Routes
Green = Unpaved Routes

Route #	Asset Number	ROUTE NAME	Area (Sq Ft)	ROUTE DESCRIPTION	Surface Type
800	10000666	Shop A Parking	14,118	From HQ/ VC Parking (Route 900)	Asphalt
801	10000666	Shop B Parking	62,230	From Shop A Parking (Route 800)	Gravel
802	,	Equipment Parking	55,711	From Headquarter Ponds B,C, and D Road (Route 406)	Gravel
900	-	HQ/ VC Parking	19,499	From Estelle Road	Asphalt
901	-	H1- H2a Parking	4,048	From Garst Road	Native
902	-	H3 - H6 Parking	4,218	From H3 - H6 Access Road (Route 100)	Native
903	-	H9 Parking	1,379	From H3 - H6 Access Road (Route 100)	Gravel
904	-	H7 HC Parking	1,556	From H7 Access Road (Route 102)	Gravel
905	-	H10 - H13 Parking	9,904	From Schrimpf Road	Gravel
906	-	U1 - U2 Parking	7,132	From Mcnerney Road	Gravel
907	-	U3 - U4 Parking	3,504	From Mcnerney Road	Gravel
908	-	Observation Tower Parking	9,989	From Vendel Road (Route 103)	Gravel
910	-	HQ/ VC RV Overflow Parking	18,308	From Dike Road surrounds 419 and 420 (Route 409)	Gravel

CHANGES TO THE FISH AND WILDLIFE SERVICE ROAD INVENTORY REPORT

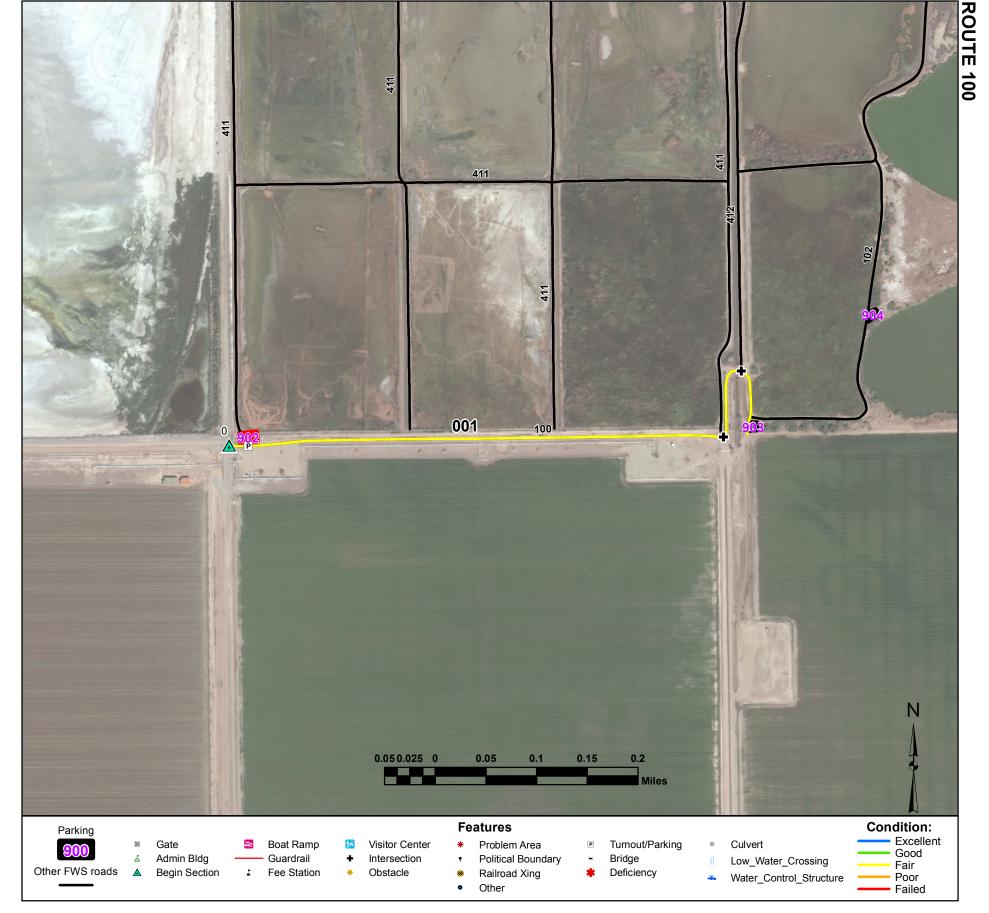
Sonny Bono Salton Sea NWR

	Routes added to previous inventory:									
Rte #	Rte Name	Reason For Addition								
40	0 1-4 A Ponds Road (Includes Sea Wall)	New Administrative Route								
40	1 1-5 B Ponds Road (Includes Sea Wall)	New Administrative Route								
40	2 Reidman Ponds 1-4 Perimeter Road	New Administrative Route								
40	Pond 257 Perimeter Road	New Administrative Route								
40	4 North and South Johnson Road	New Administrative Route								
40	North, Middle and South Flammang Fields Road	New Administrative Route								
40	6 Headquarters Ponds B, C, and D Road	New Administrative Route								
40	7 Sea Wall Road	New Administrative Route								
40	8 Dike Road that surround Union 461 and the Yuma Clapper Rail Pond	New Administrative Route								
40	9 Dike that surrounds 419 and 420	New Administrative Route								
41	Dike Road that surrounds Hazard Ponds 10-11/12	New Administrative Route								
41	1 Dike Road that surrounds all ponds in Hazard 1-6, 1A-3A	New Administrative Route								
41	2 Dike Road that surrounds Hazard 7-9	New Administrative Route								
80	0 Shop A Parking	New Administrative Route								
80	1 Shop B Parking	New Administrative Route								
80	2 Equipment Parking	New Administrative Route								

	Poutoc removed from	n previous inventory:
Rte #		Reason For Removal
909	H8 Parking	currently used as road
101	Hazard Lake Road	not owned by refuge

	Routes modified from previous inventory:								
Rte #	Rte Name	Type of Modification	Description of Modification						
100	H3 - H6 Access Road	Geometry Change							
103	Vendel Road	Geometry Change							
908	Observation Tower Parking	Geometry Change							
901	H1-H2a Parking	Surface Change							
902	H3 - H6 Parking	Surface Change							

mments:	



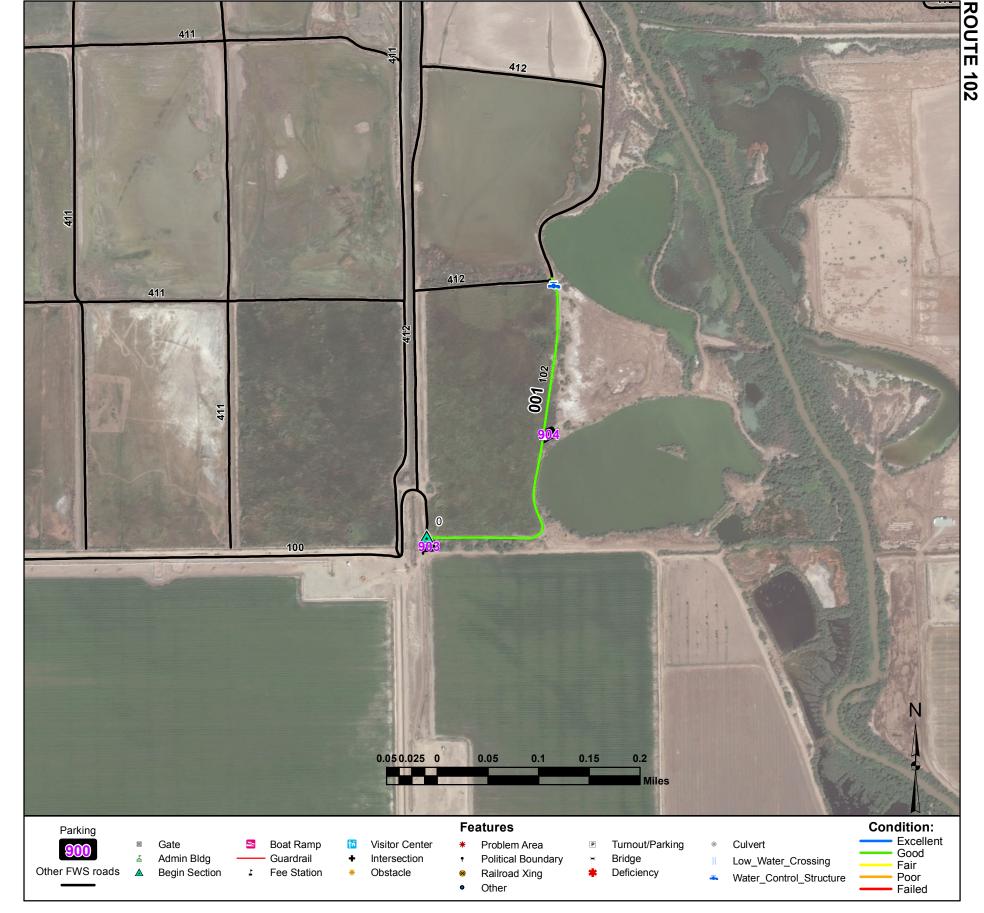
H3 - H6 Access Road

From Garst Road to H9 Parking (Route 903)

Route Number: 100 Total Route Mileage: 0.63

Asset Number Section Number	10049346 001		
Section Length (miles) Inspection Date	0.63 12-08-2011		
Surface Type	Gravel		
Number of Lanes Roadway Width (feet)	1 12		
Condition	Fair		
Remaining Service Life (years) Estimated Cost to Repair Current Replacement Value	\$2,700 \$513,700		

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section Turnout/Parking Intersection Intersection Turnout/Parking	001-0.0 001-0.02 001-0.5 001-0.57 001-0.62						



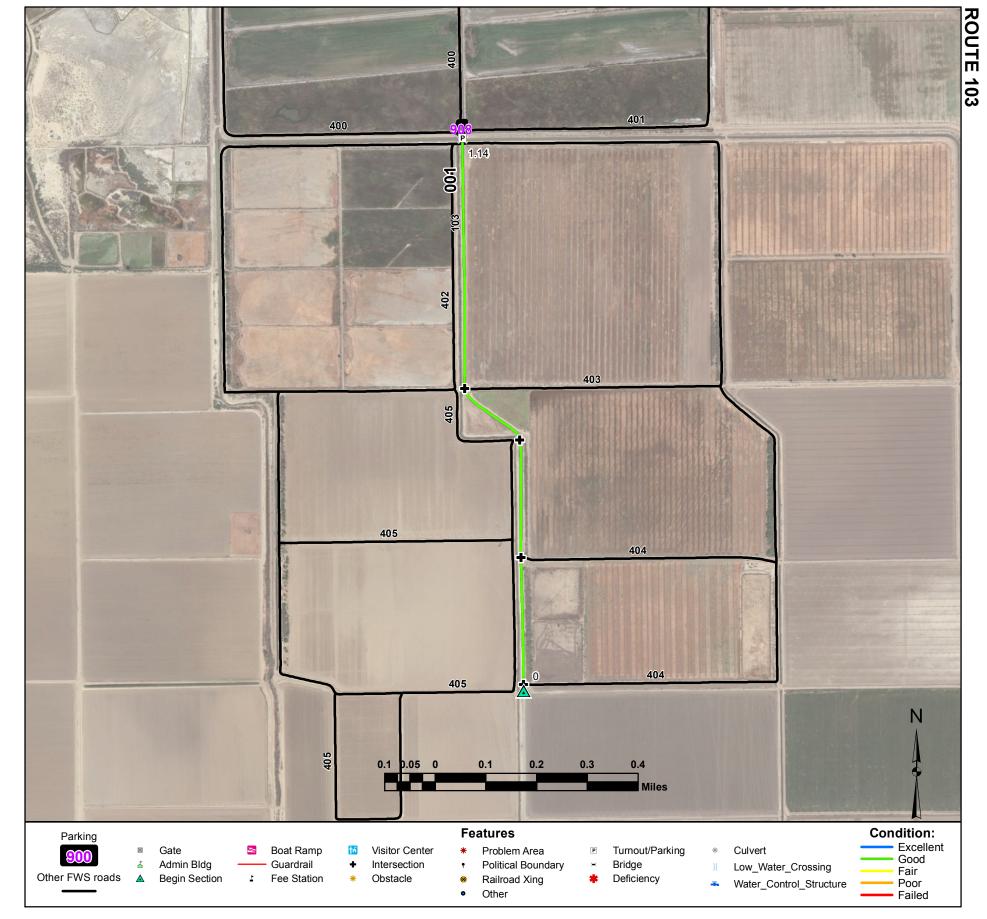
H7 Access Road

From H3 - H6 Access Road (Route 100) to Dike Road that surrounds Hazard 7-9 (Route 412)

Route Number: 102 Total Route Mileage: 0.37

Asset Number	-		
Section Number	001		
Section Length (miles)	0.37		
nspection Date	12-08-2011		
Surface Type	Gravel		
Number of Lanes	1		
Roadway Width (feet)	12		
ondition	Good		
Remaining Service Life (years)	5		
Estimated Cost to Repair	\$700		
Current Replacement Value	\$301,000		

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section Turnout/Parking Water Control Structure	001-0.0 001-0.22 001-0.36						



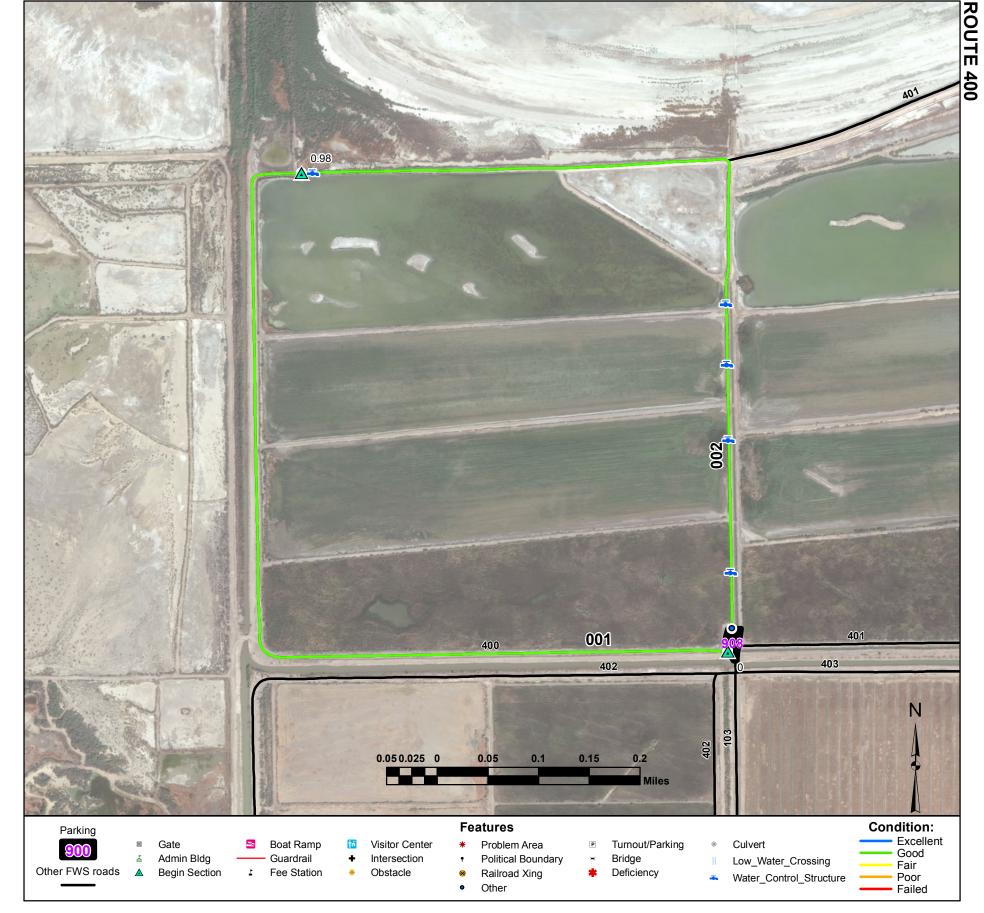
Vendel Road

From Vendel Public Road to Observation Tower Parking (Route 908)

Route Number: 103 Total Route Mileage: 1.14

Asset Number Section Number Section Length (miles) Inspection Date	10000709 001 1.14 12-07-2011		
Surface Type Number of Lanes Roadway Width (feet)	Gravel 2 24		
Condition Remaining Service Life (years) Estimated Cost to Repair Current Replacement Value	Good 5 \$2,200 \$929,000		

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
ntersection	001-0.01						
Intersection	001-0.26						
Intersection	001-0.49						
Intersection	001-0.65						
Bridge	001-1.14						
Turnout/Parking	001-1.14						



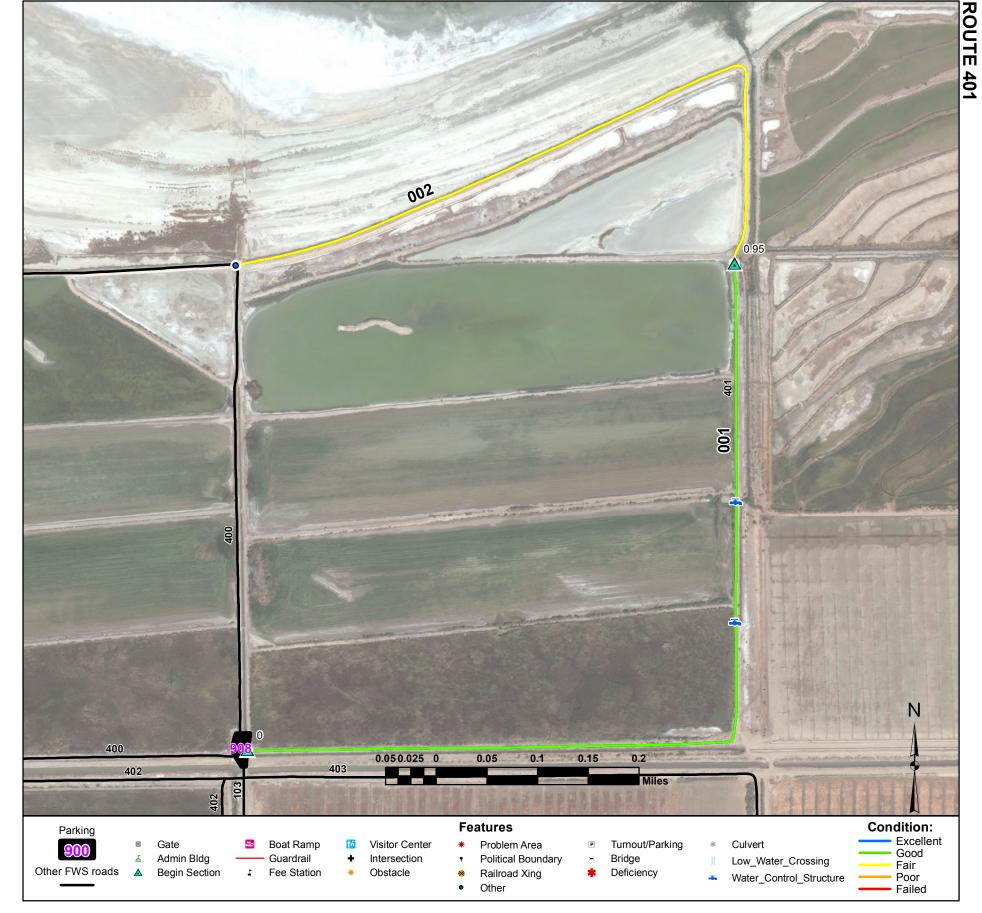
1-4 A Ponds Road (Includes Sea Wall)

From Observation Tower Parking (Route 908) around ponds and back to Observation Tower Parking (Route 908)

Route Number: 400 Total Route Mileage: 1.86

Asset Number	10000670	10000670		
Section Number	001	002		
Section Length (miles)	0.98	0.88		
Inspection Date	12-07-2011	12-07-2011		
Surface Type	Native	Native		
Number of Lanes	1	1		
Roadway Width (feet)	12	12		
Condition	Good	Good		
Remaining Service Life (years)	5	5		
Estimated Cost to Repair	\$2,000	\$1,800		
Current Replacement Value	\$410,100	\$371,600		

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Other	001-0.0						
Other	001-0.98						
Begin Section	002-0.98						
Other	002-0.98						
Water Control Structure							
Water Control Structure							
Water Control Structure	002-1.62						
Water Control Structure	002-1.69						
Water Control Structure							
Other	002-1.86						



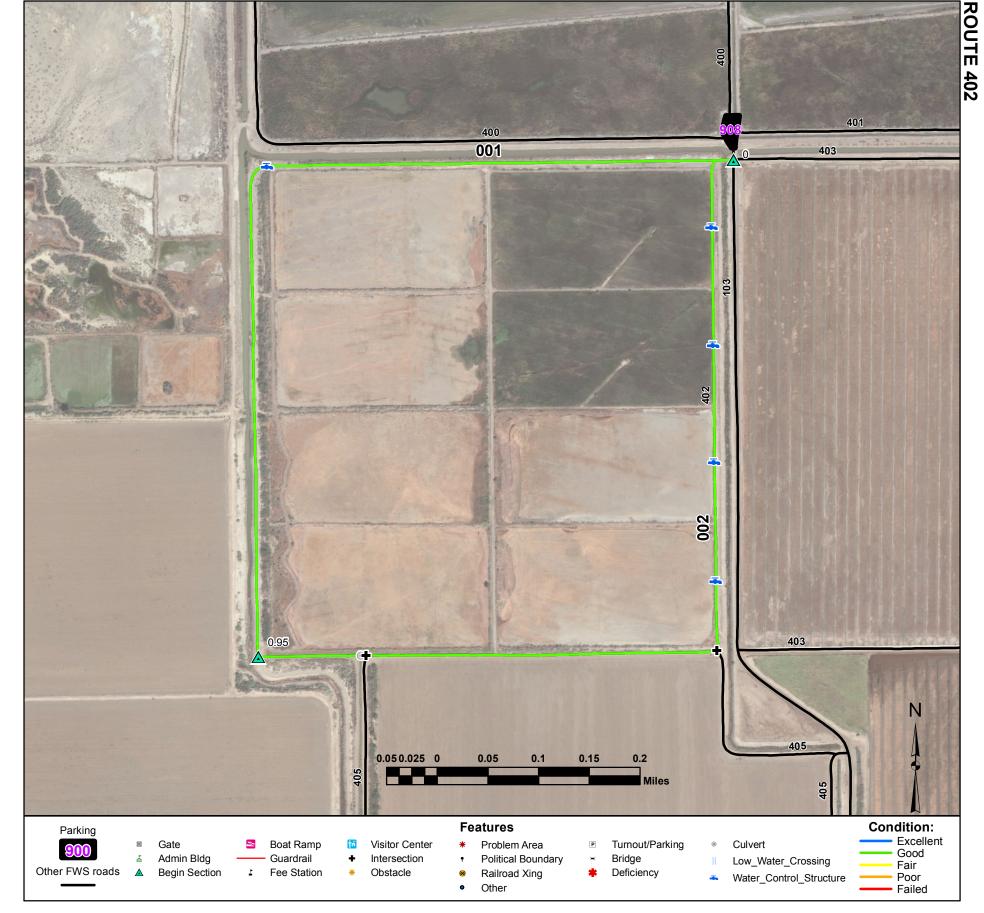
1-5 B Ponds Road (Includes Sea Wall)

From From Observation Tower Parking (Route 908) to 1-4 A Ponds Road (Includes Sea Wall) (Route 400)

Route Number: 401 Total Route Mileage: 1.69

		1	
Asset Number	10000671	10000671	
Section Number	001	002	
Section Length (miles)	0.95	0.74	
Inspection Date	12-07-2011	12-07-2011	
Surface Type	Native	Native	
Number of Lanes	1	1	
Roadway Width (feet)	12	12	
Condition	Good	Fair	
Remaining Service Life (years)	7	4	
Estimated Cost to Repair	\$1,900	\$1,900	
Current Replacement Value	\$399,200	\$309,900	

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Other	001-0.0						
Water Control Structure	001-0.63						
Water Control Structure	001-0.73						
Other	001-0.95						
Begin Section	002-0.95						
Other	002-0.95						
Other	002-1.69						
				1			



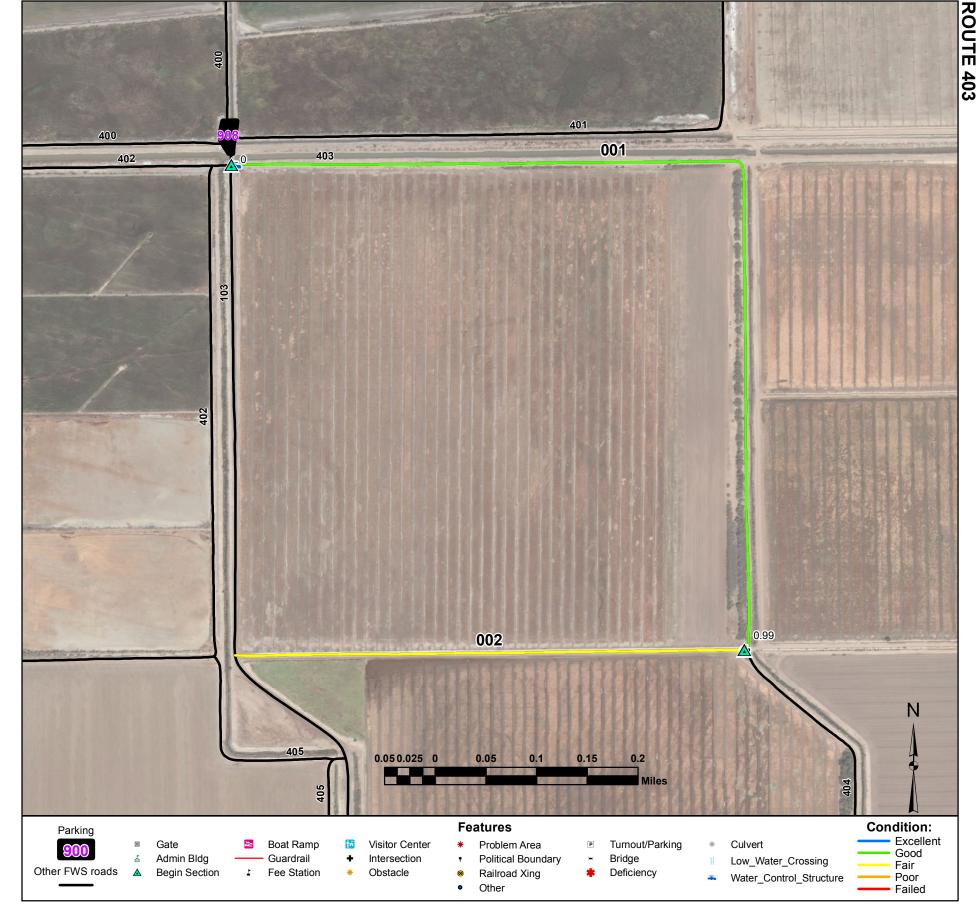
Reidman Ponds 1-4 Perimeter Road

From Vedal Road (Route 103) around Reidman Ponds 1-4

Route Number: 402 Total Route Mileage: 1.89

Asset Number	10000660	10000660		
Section Number	001	002		
Section Length (miles)	0.95	0.94		
Inspection Date	12-07-2011	12-07-2011		
Surface Type	Native	Native		
Number of Lanes	1	1		
Roadway Width (feet)	14	12		
Condition	Good	Good		
Remaining Service Life (years)	7	5		
Estimated Cost to Repair	\$1,900	\$1,900		
Current Replacement Value	\$400,900	\$394,200		

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Water Control Structure	001-0.5						
Begin Section	002-0.95						
Culvert	002-1.06						
Intersection	002-1.07						
Intersection	002-1.45						
Water Control Structure	002-1.51						
Water Control Structure	002-1.62						
Water Control Structure	002-1.72						
Water Control Structure	002-1.83						



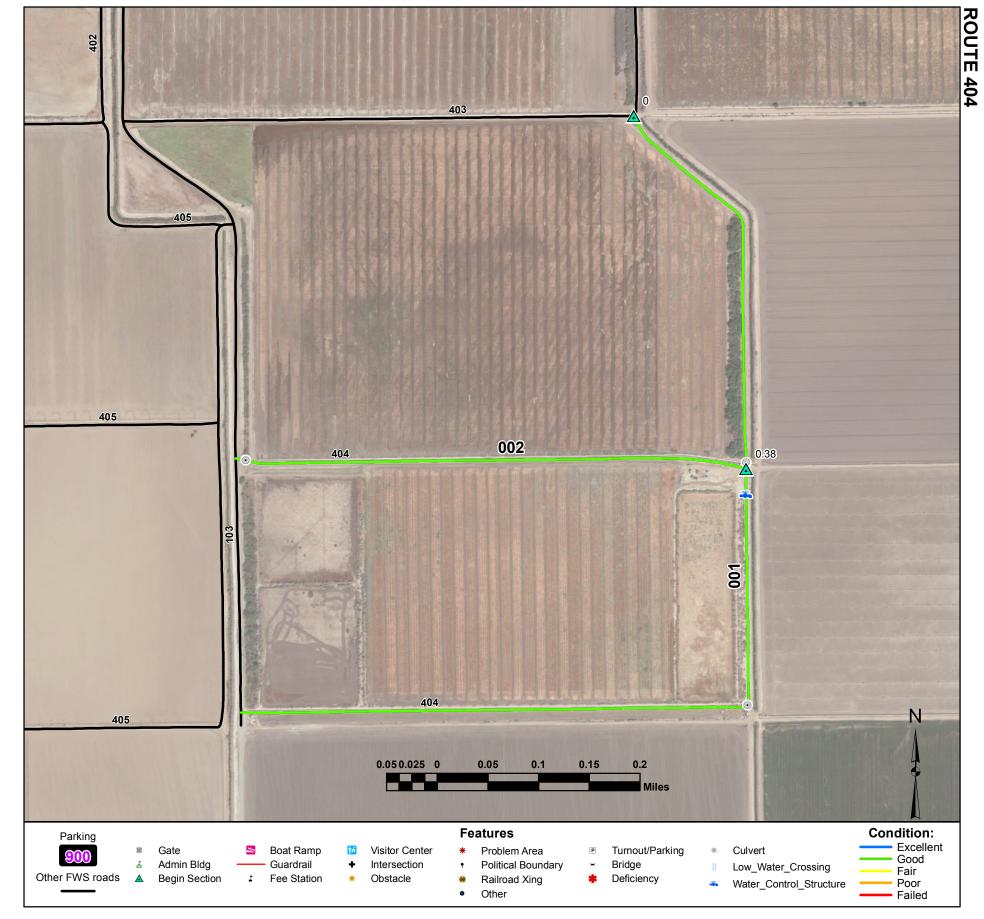
Pond 257 Perimeter Road

From Vendal Road (Route 103) around Pond 257

Route Number: 403 Total Route Mileage: 1.49

Asset Number Section Number	10000672 001	10000672 002		
Section Length (miles)	0.99	0.50		
Inspection Date	12-07-2011	12-07-2011		
Surface Type	Native	Native		
Number of Lanes	1	1		
Roadway Width (feet)	14	14		
Condition	Good	Fair		
Remaining Service Life (years)	5	4		
Estimated Cost to Repair	\$2,000	\$1,300		
Current Replacement Value	\$414,800	\$211,200		

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Water Control Structure	001-0.0						
Culvert	001-0.99						
Intersection	002-0.98						
Begin Section	002-0.99						



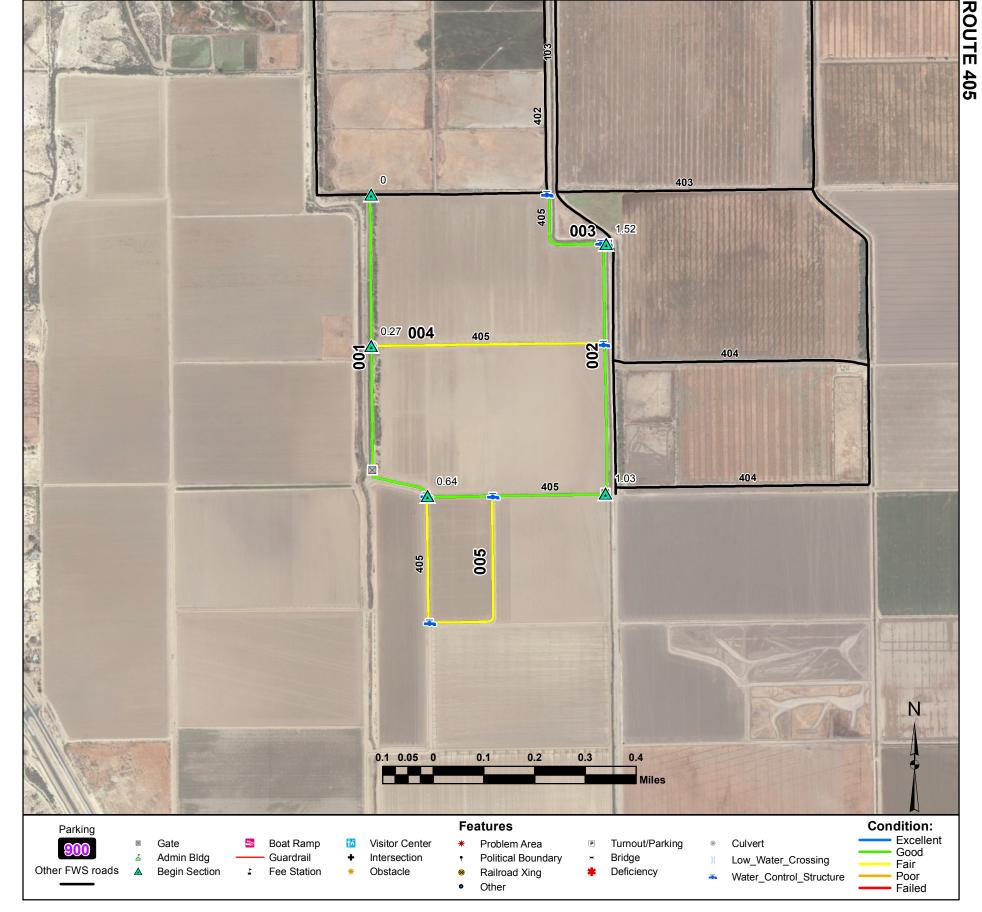
North and South Johnson Road

From Pond 257 Perimeter Road (Route 403) to Vendal Road (Route 103)

Route Number: 404 Total Route Mileage: 1.63

Asset Number	10000644	10000644	
Section Number	001	002	
Section Length (miles)	1.13	0.51	
Inspection Date	12-07-2011	12-07-2011	
Surface Type	Native	Native	
Number of Lanes	1	1	
Roadway Width (feet)	14	14	
Condition	Good	Good	
Remaining Service Life (years)	5	5	
Estimated Cost to Repair	\$2,300	\$1,000	
Current Replacement Value	\$475,000	\$212,500	

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Culvert	001-0.37						
Water Control Structure	001-0.4						
Culvert	001-0.59						
Begin Section	002-0.38						
Culvert	002-0.87						



North, Middle and South Flammang Fields Road

From Reidman Ponds 1-4 Perimeter Road (Route 402) Vendal Road (Route 103)

Route Number: 405 Total Route Mileage: 2.82

Asset Number Section Number	10000665	10000665	10000665	10000665	10000665
	001	002	003	004	005
Section Length (miles) Inspection Date	1.03	0.51	0.21	0.46	0.62
	12-07-2011	12-07-2011	12-07-2011	12-07-2011	12-07-2011
Surface Type Number of Lanes Roadway Width (feet)	Native	Native	Native	Native	Native
	1	1	1	1	1
	14	14	14	14	14
Condition Remaining Service Life (years) Estimated Cost to Repair Current Replacement Value	Good	Good	Good	Fair	Fair
	7	7	7	3	3
	\$2,100	\$1,000	\$400	\$1,200	\$1,600
	\$432,300	\$212,900	\$88,300	\$193,500	\$260,700

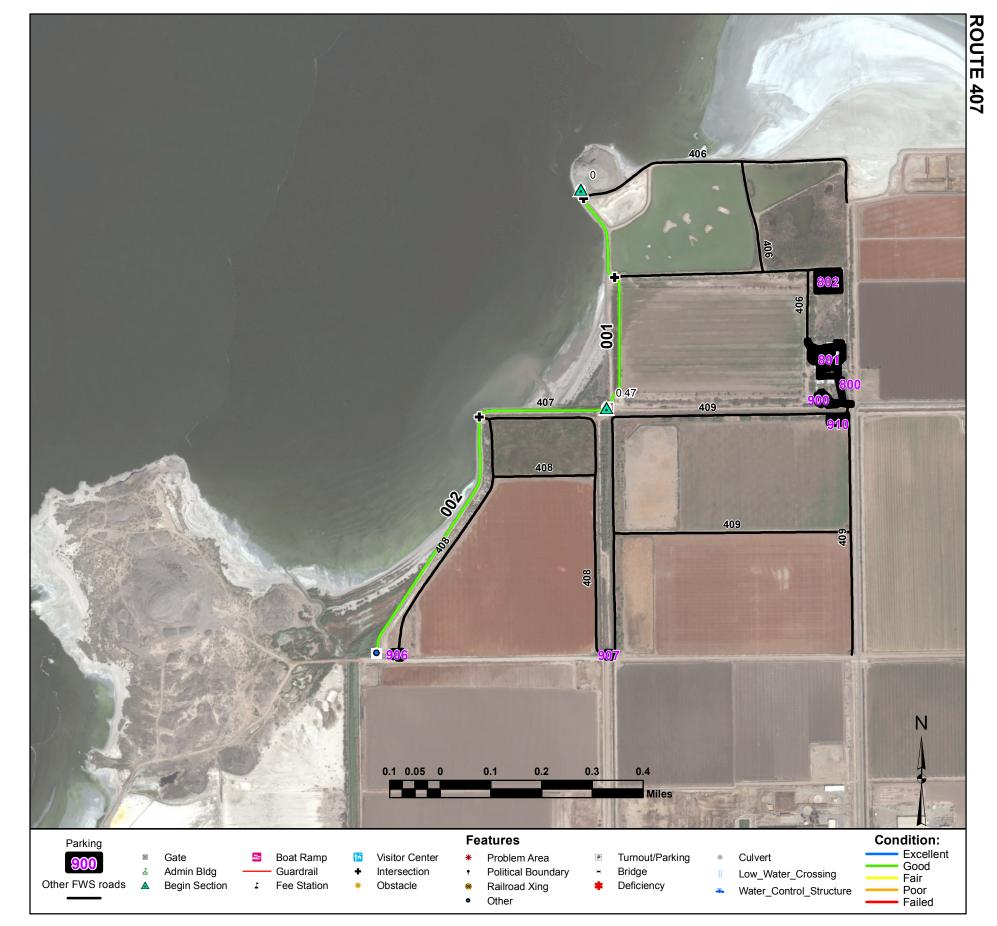
Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0	Water Control Structure	005-0.88				
Gate	001-0.5						
Water Control Structure	001-0.64						
Water Control Structure	001-0.78						
Begin Section	002-1.03						
Gate	002-1.03						
Water Control Structure	002-1.32						
Gate	002-1.52						
Water Control Structure	002-1.52						
Begin Section	003-1.52						
Water Control Structure	003-1.53						
Water Control Structure	003-1.72						
Begin Section	004-0.27						
Culvert	004-0.28						
Begin Section	005-0.64						



Headquarter Ponds B,C, and D RoadFrom Shop B Parking (Route 801) to Sea Wall Road (Route 407)

Route Number: 406	Total Route	Total Route Mileage: 1.42			
Asset Number	10000653	10000653	10000653	10000653	10000653
Section Number	001	002	003	004	005
Section Length (miles)	0.14	0.38	0.22	0.06	0.62
Inspection Date	12-07-2011	12-07-2011	12-07-2011	12-07-2011	12-07-2011
Surface Type	Gravel	Gravel	Native	Native	Native
Number of Lanes	2	1	1	1	1
Roadway Width (feet)	20	14	14	14	14
Condition	Good	Good	Good	Good	Good
Remaining Service Life (years)	7	5	5	5	5
Estimated Cost to Repair	\$300	\$700	\$500	\$100	\$1,300
Current Replacement Value	\$112,100	\$310,300	\$93,500	\$27,000	\$259,700

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Begin Section	002-0.14						
Other	002-0.23						
Other	002-0.52						
Begin Section	003-0.27						
Other	003-0.27						
Water Control Structure	003-0.47						
Other	003-0.49						
Begin Section	004-0.14						
Turnout/Parking	004-0.18						
Begin Section	005-0.0						
Gate	005-0.0						
Other	005-0.07						
Other	005-0.62						



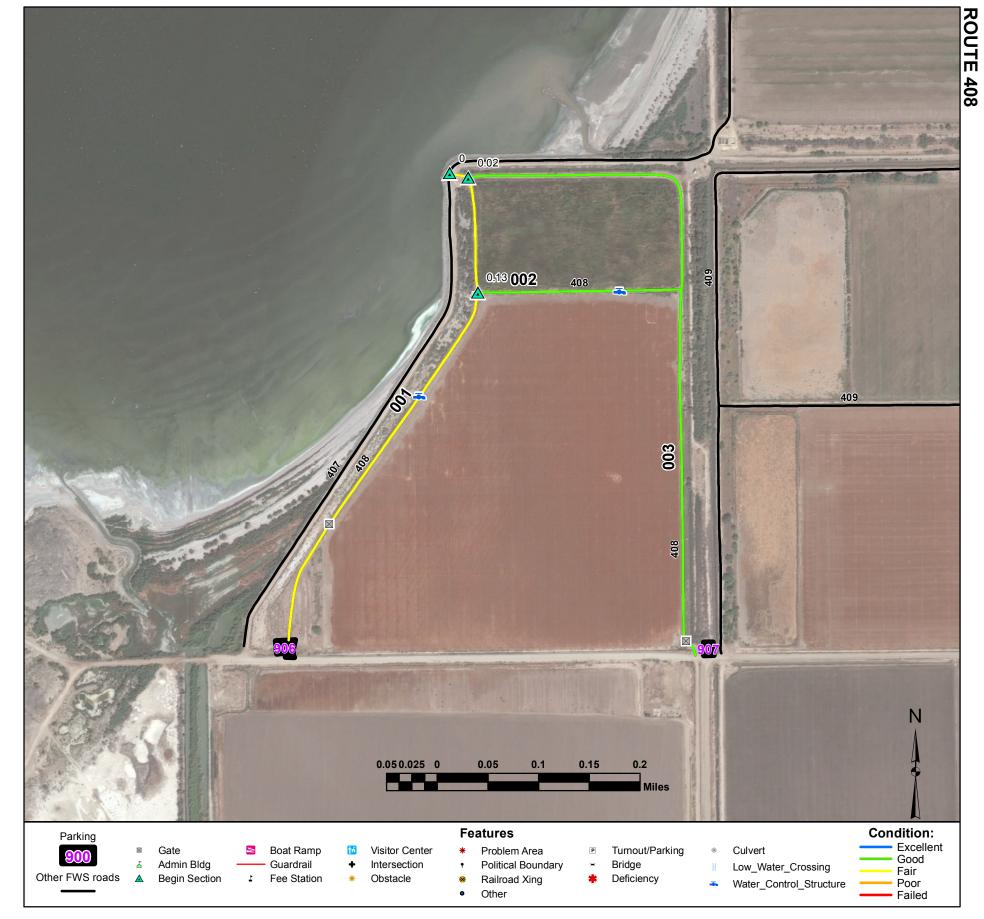
Sea Wall Road

From Headquarter Ponds B,C, and D Road (Route 406) to Mcnerney Road

Route Number: 407 Total Route Mileage: 1.25

Asset Number Section Number	10000641 001	10000641 002		
Section Length (miles)	0.47	0.78		
Inspection Date	12-07-2011	12-07-2011		
Surface Type	Gravel	Gravel		
Number of Lanes	1	1		
Roadway Width (feet)	12	12		
Condition	Good	Good		
Remaining Service Life (years)	5	7		
Estimated Cost to Repair	\$900	\$1,500		
Current Replacement Value	\$378,500	\$635,600		

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Other	001-0.0						
Intersection	001-0.02						
Intersection	001-0.2						
Gate	001-0.46						
Other	001-0.46						
Intersection	001-0.74						
Begin Section	002-0.47						
Other	002-0.47						
Gate	002-1.25						
Other	002-1.25						
5	00220						
					1		



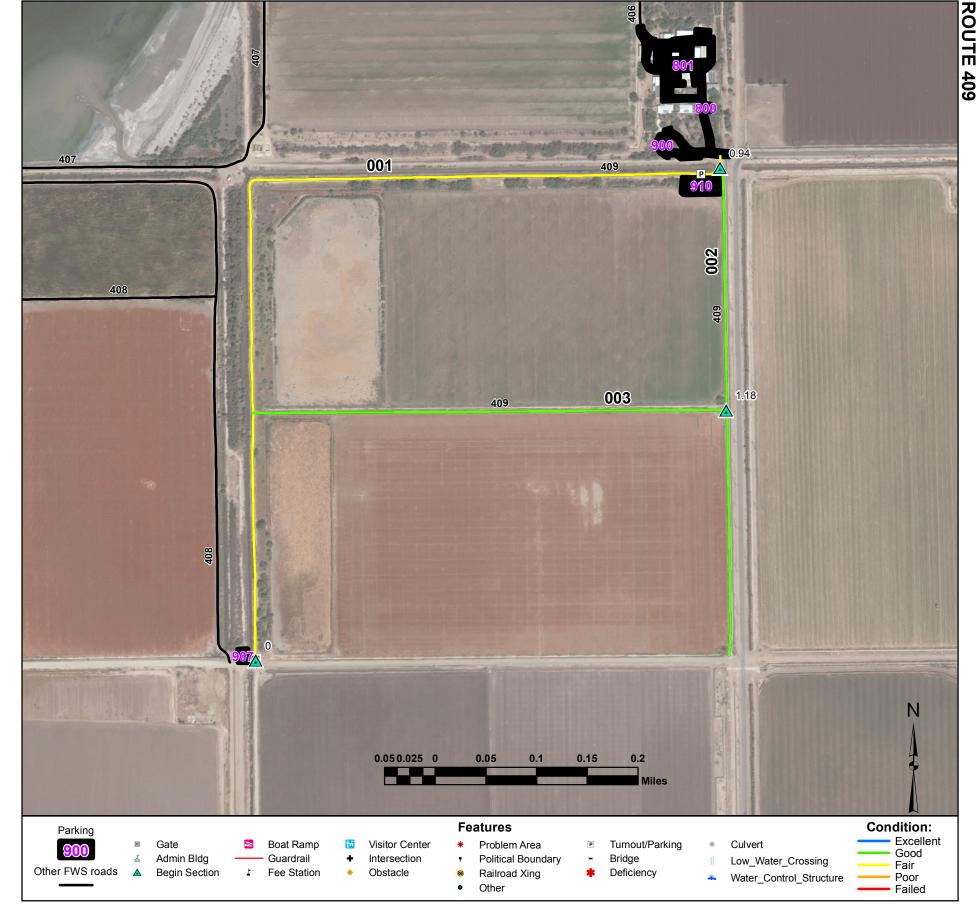
Dike Road that surround Union 461 and the Yuma Clapper Rail Pond

From U1 - U2 Parking (Route 906) to U3 - U4 Parking (Route 907)

Route Number: 408 Total Route Mileage: 1.41

Asset Number	10000695	10000695	10000695	
Section Number	001	002	003	
Section Length (miles)	0.53	0.20	0.68	
Inspection Date	12-07-2011	12-07-2011	12-07-2011	
Surface Type	Native	Native	Native	
Number of Lanes	1	1	1	
Roadway Width (feet)	12	12	12	
Condition	Fair	Good	Good	
Remaining Service Life (years)	4	5	5	
Estimated Cost to Repair	\$1,400	\$400	\$1,400	
Current Replacement Value	\$223,100	\$84,600	\$285,800	

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Water Control Structure	001-0.13						
Water Control Structure	001-0.25						
Gate	001-0.41						
Begin Section	002-0.13						
Water Control Structure	002-0.27						
Begin Section	003-0.02						
Gate	003-0.68						
				1	1		



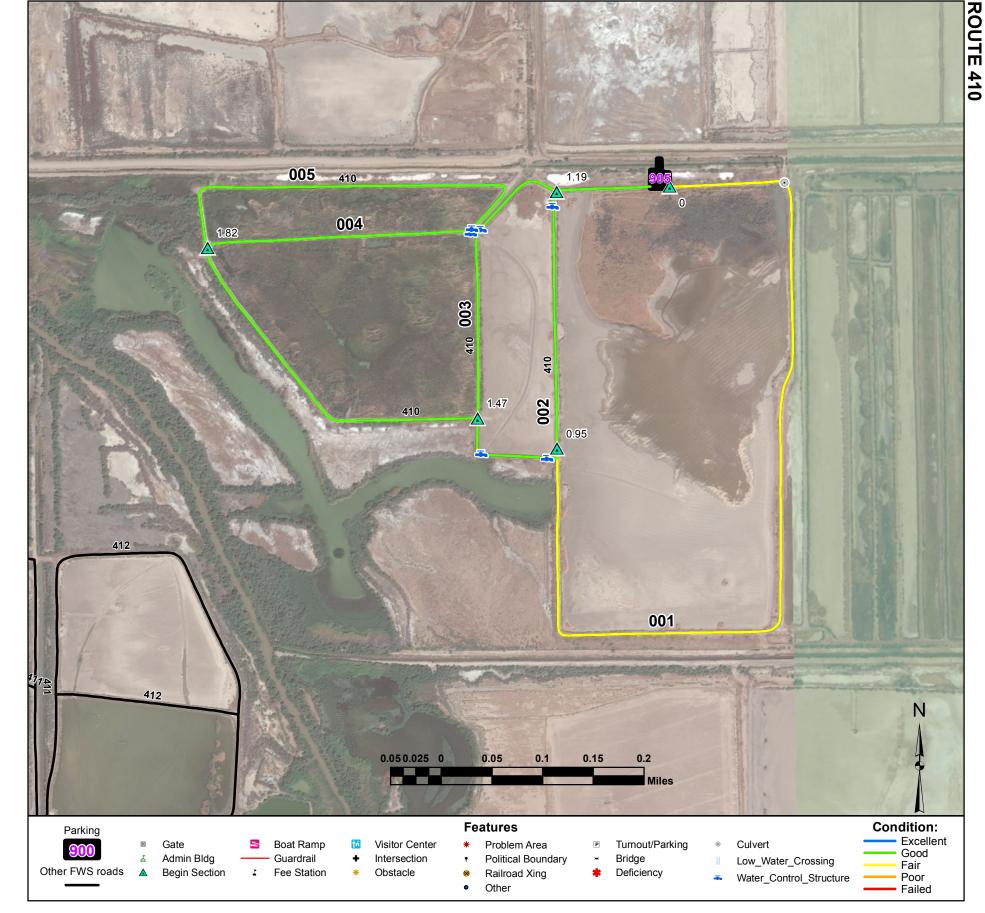
Dike Road surrounds 419 and 420

From Mcnerney Road to HQ/ VC RV Overflow Parking (Route 910)

Route Number: 409 Total Route Mileage: 1.90

Asset Number Section Number	10000658 001	10000658 002	10000658 003	
Section Length (miles)	0.95	0.48	0.47	
Inspection Date	12-07-2011	12-08-2011	12-08-2011	
Surface Type	Native	Native	Native	
Number of Lanes	1	1	1	
Roadway Width (feet)	12	12	12	
Condition	Fair	Good	Good	
Remaining Service Life (years)	3	7	7	
Estimated Cost to Repair	\$2,400	\$1,000	\$900	
Current Replacement Value	\$399,200	\$202,600	\$196,200	

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Gate	001-0.0						
Turnout/Parking	001-0.92						
Begin Section	002-0.94						
Begin Section	003-1.18						

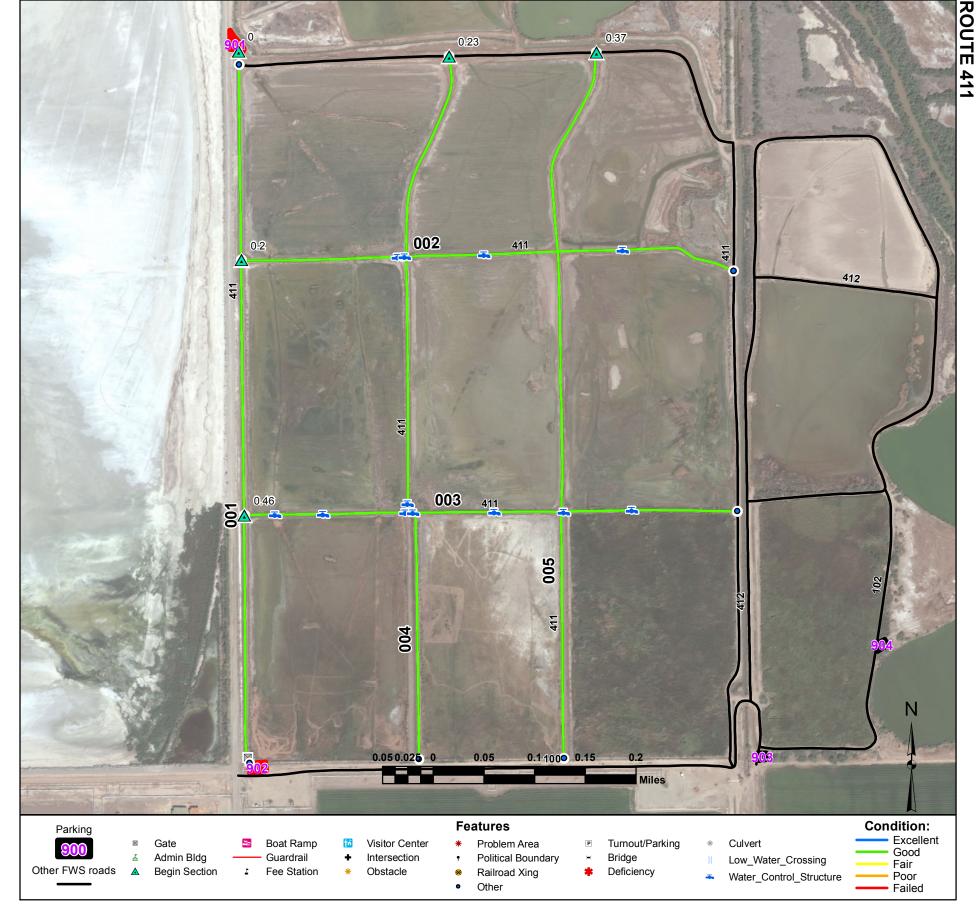


Dike Road that surrounds Hazard Ponds 10-11/12

To H10 - H13 Parking (Route 905) around Hazard Ponds 10-11/12

Route Number: 410			Total Route	Total Route Mileage: 2.74		
Asset Number	10000656	10000656	10000656	10000656	10000656	
Section Number	001	002	003	004	005	
Section Length (miles)	0.95	0.35	0.40	0.62	0.42	
Inspection Date	12-08-2011	12-08-2011	12-08-2011	12-08-2011	12-08-2011	
Surface Type	Native	Native	Native	Native	Native	
Number of Lanes	1	1	1	1	1	
Roadway Width (feet)	12	12	12	12	12	
Condition	Fair	Good	Good	Good	Good	
Remaining Service Life (years)	4	5	5	5	5	
Estimated Cost to Repair	\$2,400	\$700	\$800	\$1,300	\$800	
Current Replacement Value	\$401,000	\$145,800	\$166,600	\$262,400	\$175,100	

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Culvert	001-0.13						
Begin Section	002-0.95						
Water Control Structure	002-1.18						
Begin Section	003-1.19						
Water Control Structure	003-1.3						
Water Control Structure	003-1.51						
Water Control Structure	003-1.58						
Begin Section	004-1.47						
Water Control Structure	004-2.09						
Begin Section	005-1.82						
Water Control Structure	005-2.23						



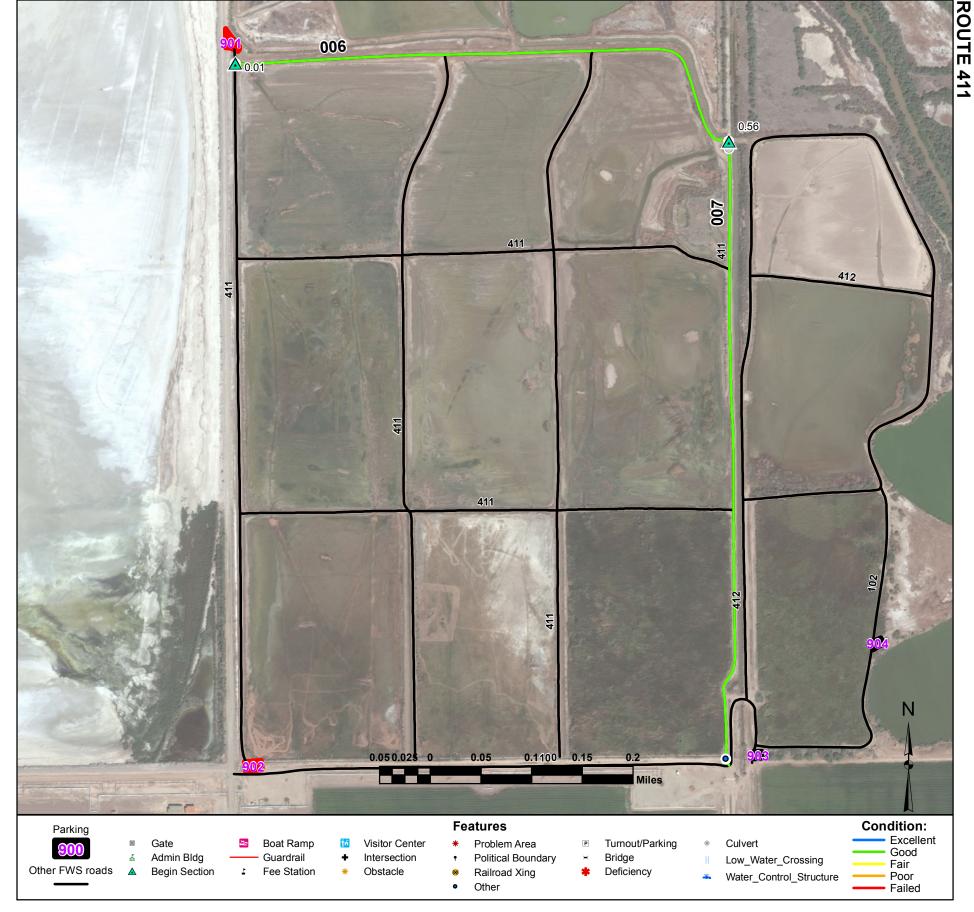
Dike Road that surrounds all ponds in Hazard 1-6, 1A-3A

From H1- H2a Parking (Route 901) to H3 - H6 Access Road (Route 100)

Route Number: 411 Total Route Mileage: 4.26

Asset Number Section Number Section Length (miles) Inspection Date	10000655	10000655	10000655	10000655	10000655
	001	002	003	004	005
	0.70	0.49	0.49	0.70	0.71
	12-08-2011	12-08-2011	12-08-2011	12-08-2011	12-08-2011
Surface Type Number of Lanes Roadway Width (feet)	Native	Native	Native	Native	Native
	1	1	1	1	1
	10	10	10	10	10
Condition Remaining Service Life (years) Estimated Cost to Repair Current Replacement Value	Good	Good	Good	Good	Good
	7	7	7	7	7
	\$1,400	\$1,000	\$1,000	\$1,400	\$1,400
	\$295,700	\$206,500	\$204,800	\$296,200	\$297,200

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0	Water Control Structure	003-0.61				
Other	001-0.01	Water Control Structure	003-0.62				
Gate	001-0.7	Water Control Structure	003-0.7				
Other	001-0.7	Water Control Structure	003-0.77				
Begin Section	002-0.2	Water Control Structure	003-0.84				
Other	002-0.2	Other	003-0.94				
Water Control Structure	002-0.36	Begin Section	004-0.23				
Water Control Structure	002-0.37	Other	004-0.23				
Water Control Structure	002-0.45	Water Control Structure	004-0.68				
Water Control Structure	002-0.58	Other	004-0.93				
Other	002-0.7	Begin Section	005-0.37				
Begin Section	003-0.46	Other	005-0.37				
Other	003-0.46	Other	005-1.08				
Water Control Structure	003-0.49						
Water Control Structure	003-0.53						



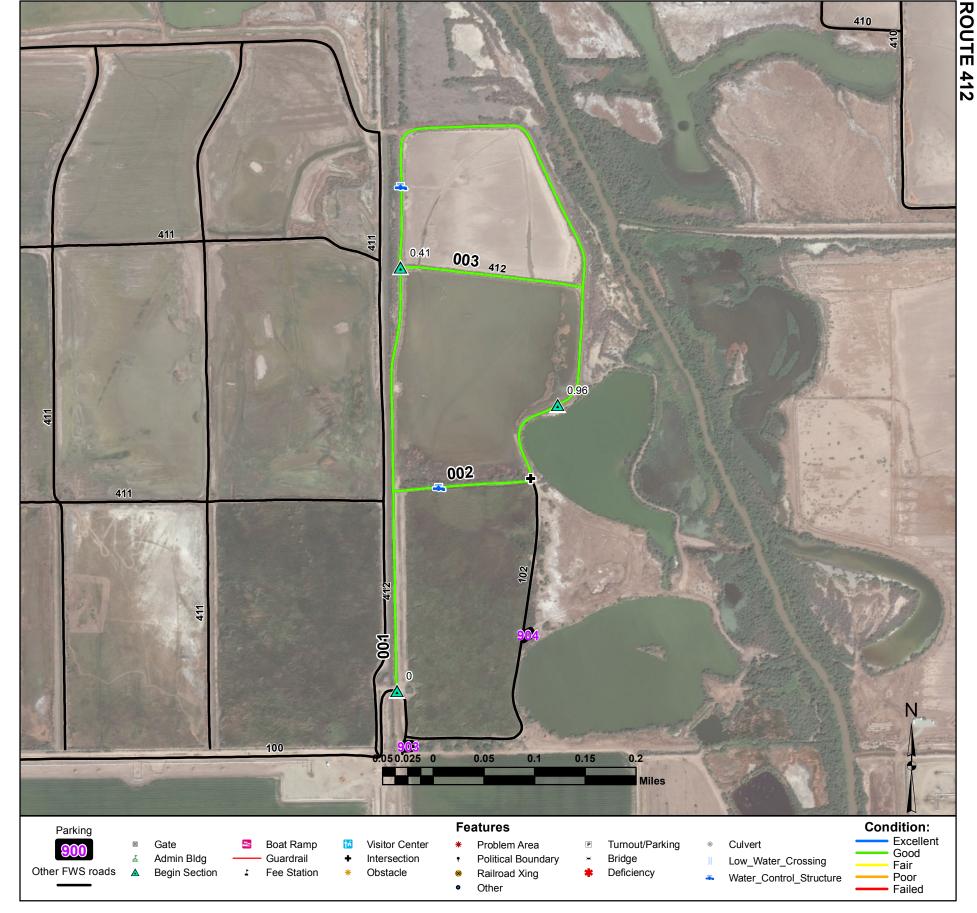
Dike Road that surrounds all ponds in Hazard 1-6, 1A-3A

From H1- H2a Parking (Route 901) to H3 - H6 Access Road (Route 100)

Route Number: 411 Total Route Mileage: 4.26

Asset Number Section Number Section Length (miles) Inspection Date	10000655 006 0.54 12-08-2011	10000655 007 0.62 12-08-2011		
Surface Type Number of Lanes Roadway Width (feet)	Gravel 1 12	Native 1 12		
Condition Remaining Service Life (years) Estimated Cost to Repair Current Replacement Value	Good 5 \$1,000 \$442,200	Good 5 \$1,300 \$260,500		

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	006-0.01						
Other	006-0.01						
Other	006-0.56						
Begin Section	007-0.56						
Culvert	007-0.56						
Other	007-0.56						
Other	007-1.17						



Dike Road that surrounds Hazard 7-9

From H3 - H6 Access Road (Route 100) to H7 Access Road (Route 102)

Route Number: 412 Total Route Mileage: 1.38

Asset Number Section Number Section Length (miles)	10000694 001 0.96	10000694 002 0.23	10000694 003 0.18	
Inspection Date	12-08-2011	12-08-2011	12-08-2011	
Surface Type Number of Lanes Roadway Width (feet)	Gravel 1 12	Native 1 12	Native 1 10	
Condition Remaining Service Life (years) Estimated Cost to Repair Current Replacement Value	Good 7 \$1,800 \$784,100	Good 7 \$500 \$98,200	Good 5 \$400 \$76,200	

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Water Control Structure	001-0.48						
Begin Section	002-0.96						
Intersection Water Control Structure	002-1.06 002-1.15						
Begin Section	002-1.13						
Dogin Ocollon	000 0.11						
				1			

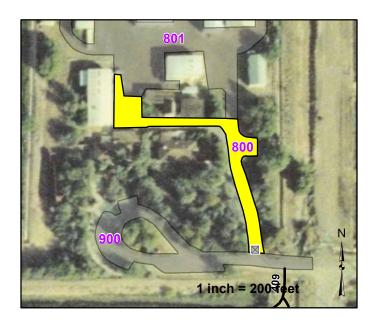
Route Number:800 Shop A Parking

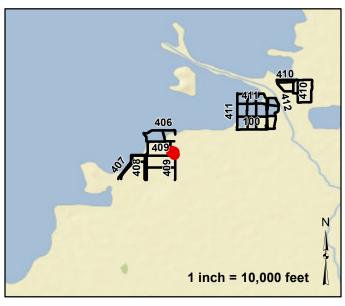
From HQ/ VC Parking (Route 900)

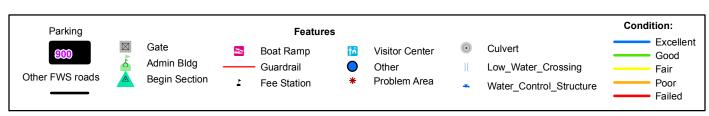
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
10000666	14118	Fair	Asphalt	\$14,200	12-07-2011	\$150,900











Route Number:801 Shop B Parking

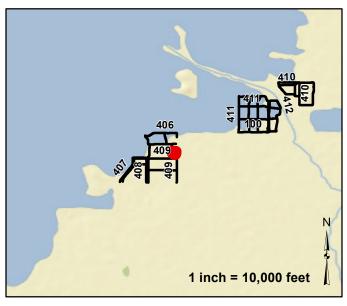
From Shop A Parking (Route 800)

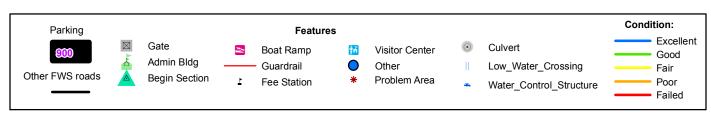
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
10000666	62230	Good	Gravel	\$11,000	12-08-2011	\$363,100











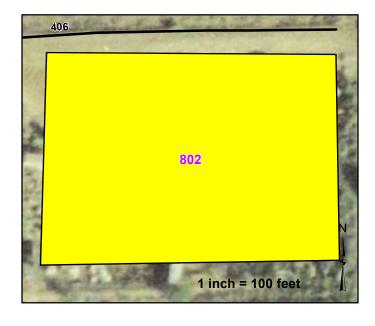
Route Number:802 Equipment Parking

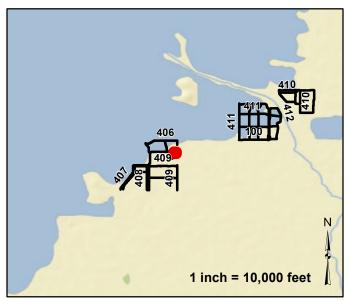
From Headquarter Ponds B,C, and D Road (Route 406)

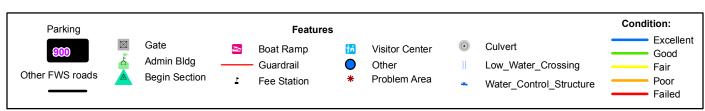
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
-	55711	Fair	Gravel	\$17,400	12-08-2011	\$325,000











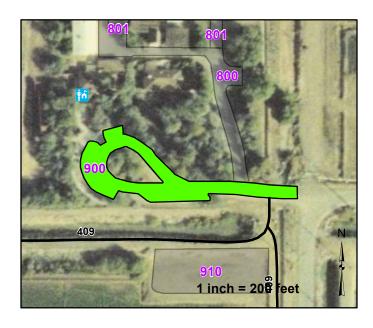
Route Number:900 HQ/ VC Parking

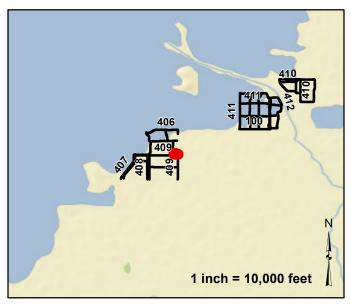
From Estelle Road

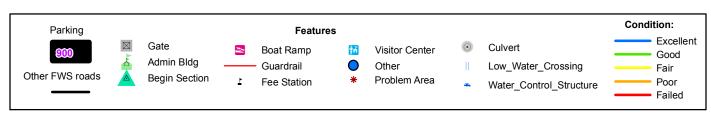
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
-	19499	Good	Asphalt	\$4,300	12-07-2011	\$208,500











Route Number:901

H1- H2a Parking

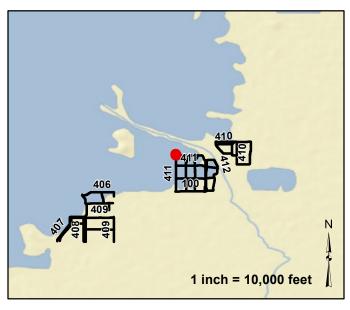
From Garst Road

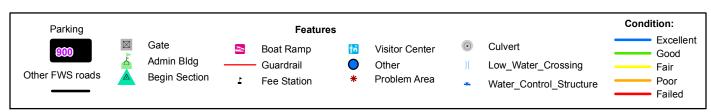
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value	
-	4048	Fair	Native	\$1,300	12-08-2011	\$10,200	











Route Number:902

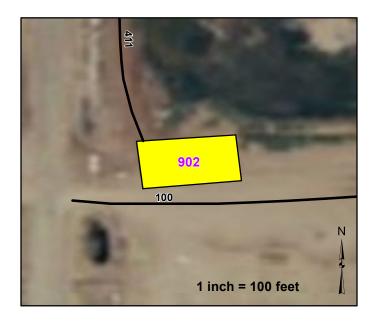
H3 - H6 Parking

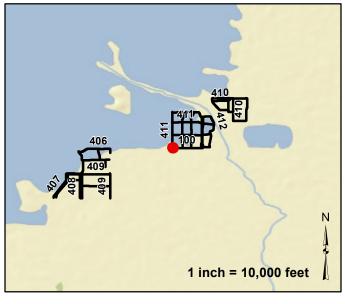
From H3 - H6 Access Road (Route 100)

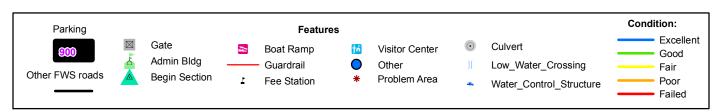
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
-	4218	Fair	Native	\$1,300	12-08-2011	\$10,600











Route Number:903 H9 Parking

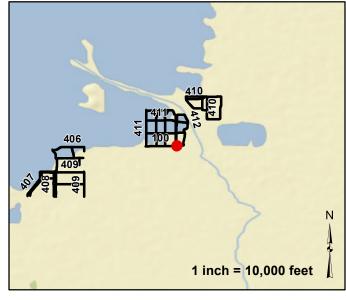
From H3 - H6 Access Road (Route 100)

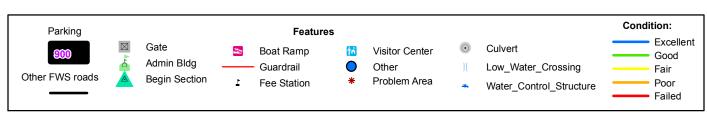
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
-	1379	Good	Gravel	\$200	12-08-2011	\$8,000











Route Number:904 H7 HC Parking

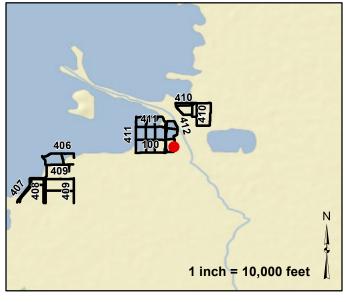
From H7 Access Road (Route 102)

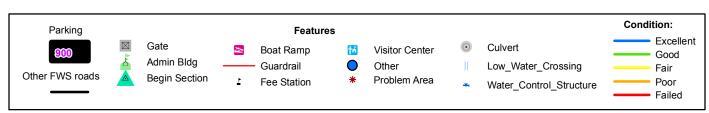
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value	
-	1556	Good	Gravel	\$300	12-08-2011	\$9,100	











Route Number:905 H10 - H13 Parking

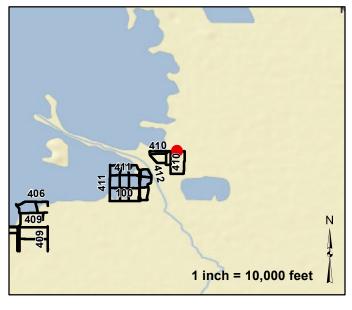
From Schrimpf Road

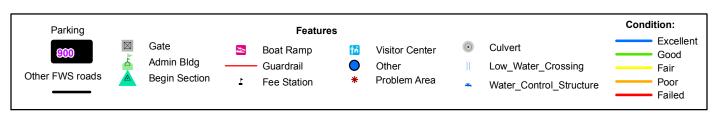
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
-	9904	Fair	Gravel	\$3,100	12-08-2011	\$57,800











Route Number:906

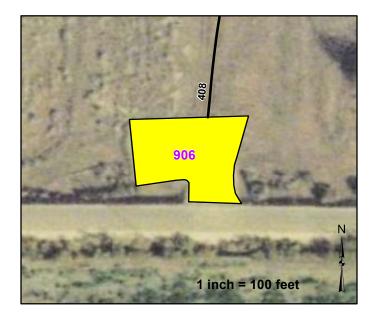
U1 - U2 Parking

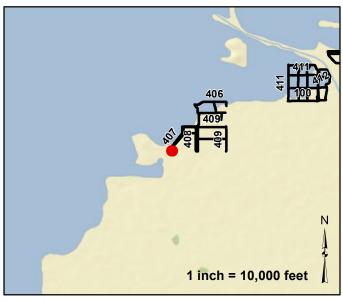
From Mcnerney Road

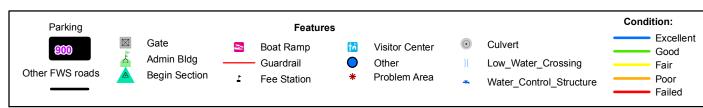
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value	
-	7132	Fair	Gravel	\$2,200	12-07-2011	\$41,600	











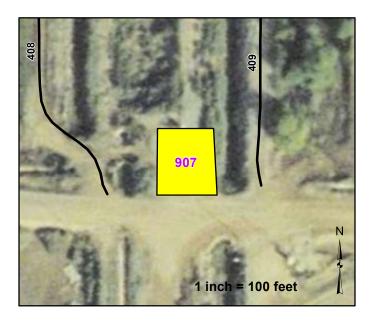
Route Number:907 U3 - U4 Parking

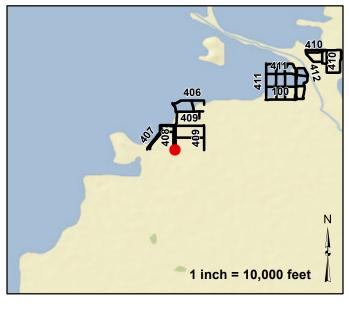
From Mcnerney Road

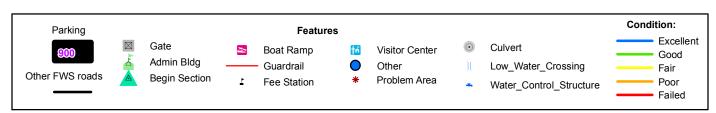
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
-	3504	Fair	Gravel	\$1,100	05-03-2004	\$20,400











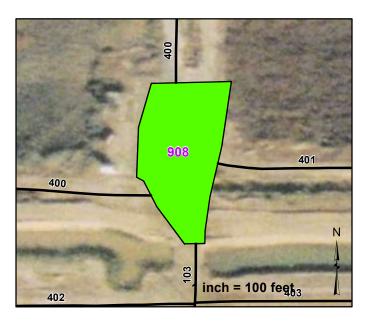
Route Number:908 Observation Tower Parking

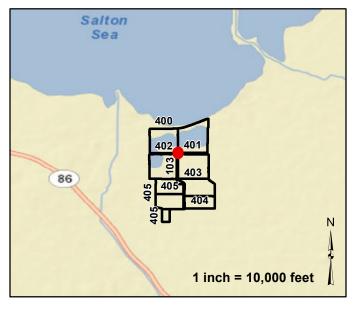
From Vendel Road (Route 103)

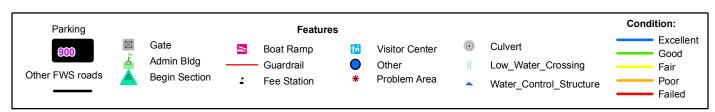
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
-	9989	Good	Gravel	\$1,800	12-07-2011	\$58,300











Route Number:910

HQ/ VC RV Overflow Parking

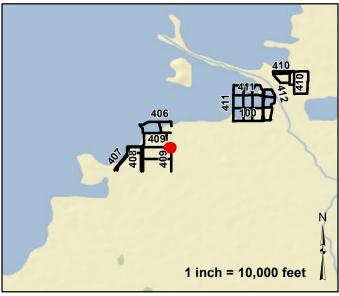
From Dike Road surrounds 419 and 420 (Route 409)

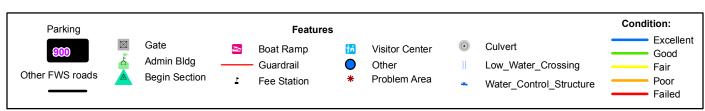
Asset Number	Area	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
-	18308	Good	Gravel	\$3,200	12-08-2011	\$106,800











Sonny Bono Salton Sea National Wildlife Refuge Bridge Inventory								
Rte #	Milepost	NBIS#	Sufficiency Rating	Functionally Obsolete	Structurally Deficient			
103	1.14	NA	NA	NA	NA			



Photo: SASE_C4_0302 Route: 100-001-0.0 Begin Section



Photo: SASE_C4_0307 Route: 102-001-0.0 Begin Section



Photo: SASE_C4_0311 Route: 102-001-0.36 Plastic WCS Flashboard Riser 40ft long 18in dia. 2ft deep Asset# NA



Photo: SASE_C4_0312 Route: 102-001-0.36 Plastic WCS Flashboard Riser 40ft long 18in dia. 2ft deep Asset# NA



Photo: SASE_C4_0035 Route: 103-001-0.0 Begin Section



Photo: SASE_C4_0036 Route: 103-001-1.14 Wood Bridge NBIS:NA Asset# NA



Photo: SASE_C4_0039 Route: 400-001-0.0 Begin Section



Photo: SASE_C4_0040 Route: 400-002-0.98 Begin Section



Photo: SASE_C4_0041 Route: 400-002-0.99 Plastic WCS Flashboard Riser 25ft long 12in dia. 3ft deep Asset# 10000670



Photo: SASE_C4_0042 Route: 400-002-0.99 Plastic WCS Flashboard Riser 25ft long 12in dia. 3ft deep Asset# 10000670



Photo: SASE_C4_0043 Route: 400-002-1.57 Metal WCS Flashboard Riser 20ft long 18in dia. 3ft deep Asset# 10000670



Photo: SASE_C4_0044 Route: 400-002-1.57 Metal WCS Flashboard Riser 20ft long 18in dia. 3ft deep Asset# 10000670 8-004

ROUTE: 400

Features Photographs



Photo: SASE_C4_0045 Route: 400-002-1.62 Plastic WCS Flashboard Riser 20ft long 18in dia. 3ft deep Asset# 10000670



Photo: SASE_C4_0046 Route: 400-002-1.62 Plastic WCS Flashboard Riser 20ft long 18in dia. 3ft deep Asset# 10000670



Photo: SASE_C4_0047 Route: 400-002-1.69 Plastic WCS Flashboard Riser 20ft long 18in dia. 2ft deep Asset# 10000670



Photo: SASE_C4_0048 Route: 400-002-1.69 Plastic WCS Flashboard Riser 20ft long 18in dia. 2ft deep Asset# 10000670



Photo: SASE_C4_0049 Route: 400-002-1.81 Plastic WCS Flashboard Riser 20ft long 18in dia. 2ft deep Asset# 10000670



Photo: SASE_C4_0050 Route: 400-002-1.81
Plastic WCS Flashboard Riser 20ft long 18in dia. 2ft deep Asset# 10000670 8-005



Photo: SASE_C4_0051 Route: 401-001-0.0 Begin Section



Photo: SASE_C4_0052 Route: 401-001-0.63 Plastic WCS Flashboard Riser 30ft long 18in dia. 1ft deep Asset# 10000671



Photo: SASE_C4_0053 Route: 401-001-0.63 Plastic WCS Flashboard Riser 30ft long 18in dia. 1ft deep Asset# 10000671



Photo: SASE_C4_0054 Route: 401-001-0.73 Plastic WCS Flashboard Riser 30ft long 12in dia. 1ft deep Asset# 10000671



Photo: SASE_C4_0055 Route: 401-001-0.73 Plastic WCS Flashboard Riser 30ft long 12in dia. 1ft deep Asset# 10000671



Photo: SASE_C4_0057 Route: 401-002-0.95 Begin Section



Photo: SASE_C4_0058 Route: 402-001-0.0 Begin Section



Photo: SASE_C4_0059 Route: 402-001-0.5 Plastic WCS Flashboard Riser 35ft long 18in dia. 2ft deep Asset# 10000660



Photo: SASE_C4_0060 Route: 402-001-0.5 Plastic WCS Flashboard Riser 35ft long 18in dia. 2ft deep Asset# 10000660



Photo: SASE_C4_0061 Route: 402-002-0.95 Begin Section



Photo: SASE_C4_0062 Route: 402-002-1.06 Concrete Culvert 15ft long 36in dia. 1ft deep Asset# 10000660



Photo: SASE_C4_0063 Route: 402-002-1.06 Concrete Culvert 15ft long 36in dia. 1ft deep Asset# 10000660



Photo: SASE_C4_0064 Route: 402-002-1.51 Concrete WCS Flashboard Riser 40ft long 12in dia. 1ft deep Concrete WCS Flashboard Riser 40ft long 12in dia. 1ft deep Asset# 10000660



Photo: SASE_C4_0065 Route: 402-002-1.51 Asset# 10000660



Photo: SASE_C4_0066 Route: 402-002-1.62 Plastic WCS Flashboard Riser 40ft long 18in dia. 2ft deep Asset# 10000660



Photo: SASE_C4_0067 Route: 402-002-1.62 Plastic WCS Flashboard Riser 40ft long 18in dia. 2ft deep Asset# 10000660



Photo: SASE_C4_0068 Route: 402-002-1.72 Plastic WCS Flashboard Riser 40ft long 18in dia. 1ft deep Asset# 10000660



Photo: SASE_C4_0069 Route: 402-002-1.72 Plastic WCS Flashboard Riser 40ft long 18in dia. 1ft deep Asset# 10000660



Photo: SASE_C4_0070 Route: 402-002-1.83
Plastic WCS Flashboard Riser 40ft long 18in dia. 1ft deep
Asset# 10000660



Photo: SASE_C4_0071 Route: 402-002-1.83 Plastic WCS Flashboard Riser 40ft long 18in dia. 1ft deep Asset# 10000660



Photo: SASE_C4_0072 Route: 403-001-0.0 Begin Section



Photo: SASE_C4_0073 Route: 403-001-0.0 Plastic WCS Flashboard Riser 40ft long 12in dia. 2ft deep Asset# 10000672



Photo: SASE_C4_0074 Route: 403-001-0.0 Plastic WCS Flashboard Riser 40ft long 12in dia. 2ft deep Asset# 10000672



Photo: SASE_C4_0076 Route: 403-001-0.99 Metal Culvert 50ft long 48in dia. 1ft deep Asset# 10000672



Photo: SASE_C4_0077 Route: 403-001-0.99 Metal Culvert 50ft long 48in dia. 1ft deep Asset# 10000672



Photo: SASE_C4_0078 Route: 403-002-0.99 Begin Section



Photo: SASE_C4_0079 Route: 404-001-0.0 Begin Section



Photo: SASE_C4_0080 Route: 404-001-0.37 Concrete Culvert 20ft long 36in dia. 1ft deep Asset# 10000644



Photo: SASE_C4_0081 Route: 404-001-0.37 Concrete Culvert 20ft long 36in dia. 1ft deep Asset# 10000644



Photo: SASE_C4_0082 Route: 404-001-0.4 Plastic WCS Flashboard Riser 60ft long 12in dia. 20ft deep Unable to locate inlet Asset# 10000644



Photo: SASE_C4_0084 Route: 404-001-0.4 Plastic WCS Flashboard Riser 60ft long 12in dia. 20ft deep Unable to locate inlet Asset# 10000644



Photo: SASE_C4_0085 Route: 404-001-0.59 Concrete Culvert 25ft long 36in dia. 1ft deep Asset# 10000644



Photo: SASE_C4_0086 Route: 404-001-0.59 Concrete Culvert 25ft long 36in dia. 1ft deep Asset# 10000644



Photo: SASE_C4_0089 Route: 404-002-0.38 Begin Section



Photo: SASE_C4_0087 Route: 404-002-0.87 Plastic Culvert 30ft long 12in dia. 2ft deep Asset# 10000644



Photo: SASE_C4_0088 Route: 404-002-0.87 Plastic Culvert 30ft long 12in dia. 2ft deep Asset# 10000644



Photo: SASE_C4_0090 Route: 405-001-0.0 Begin Section



Photo: SASE_C4_0091 Route: 405-001-0.5 Metal Open Rail Gate Asset# 10000665



Photo: SASE_C4_0092 Route: 405-001-0.64 Concrete WCS Flap Gate/Full-Round Riser 30ft long 36in dia. 2ft deep Asset# 10000665



Photo: SASE_C4_0093 Route: 405-001-0.64 Concrete WCS Flap Gate/Full-Round Riser 30ft long 36in dia. 2ft deep Asset# 10000665



Photo: SASE_C4_0094 Route: 405-001-0.78 Plastic WCS Flashboard Riser 60ft long 12in dia. 2ft deep Asset# 10000665



Photo: SASE_C4_0095 Route: 405-001-0.78
Plastic WCS Flashboard Riser 60ft long 12in dia. 2ft deep
Asset# 10000665 8-013



Photo: SASE_C4_0097 Route: 405-002-1.03 Begin Section



Photo: SASE_C4_0096 Route: 405-002-1.03 Metal Open Rail Gate Asset# 10000665



Photo: SASE_C4_0098 Route: 405-002-1.32 Plastic WCS Flashboard Riser 25ft long 12in dia. 2ft deep Asset# 10000665



Photo: SASE_C4_0099 Route: 405-002-1.32 Plastic WCS Flashboard Riser 25ft long 12in dia. 2ft deep Asset# 10000665



Photo: SASE_C4_0100 Route: 405-002-1.52 Metal Open Rail Gate Asset# 10000665



Photo: SASE_C4_0101 Route: 405-002-1.52 Plastic WCS Flashboard Riser 30ft long 12in dia. 3ft deep Asset# 10000665 8-014



Photo: SASE_C4_0102 Route: 405-002-1.52 Plastic WCS Flashboard Riser 30ft long 12in dia. 3ft deep Asset# 10000665



Photo: SASE_C4_0105 Route: 405-003-1.52 Begin Section



Photo: SASE_C4_0103 Route: 405-003-1.53 Plastic WCS Flashboard Riser 20ft long 12in dia. 2ft deep Asset# 10000665



Photo: SASE_C4_0104 Route: 405-003-1.53 Plastic WCS Flashboard Riser 20ft long 12in dia. 2ft deep Asset# 10000665



Photo: SASE_C4_0106 Route: 405-003-1.72 Plastic WCS Flashboard Riser 35ft long 12in dia. 2ft deep Asset# 10000665



Photo: SASE_C4_0107 Route: 405-003-1.72 Plastic WCS Flashboard Riser 35ft long 12in dia. 2ft deep Asset# 10000665 8-015



Photo: SASE_C4_0108 Route: 405-004-0.27 Begin Section



Photo: SASE_C4_0109 Route: 405-004-0.28 Concrete Culvert 25ft long 36in dia. 1ft deep Asset# 10000665



Photo: SASE_C4_0110 Route: 405-004-0.28 Concrete Culvert 25ft long 36in dia. 1ft deep Asset# 10000665



Photo: SASE_C4_0111 Route: 405-005-0.64 Begin Section



Photo: SASE_C4_0112 Route: 405-005-0.88 Concrete WCS Flap Gate/Full-Round Riser 20ft long 24in dia. 1ft deep Asset# 10000665



Photo: SASE_C4_0113 Route: 405-005-0.88 Concrete WCS Flap Gate/Full-Round Riser 20ft long 24in dia. 1ft deep Asset# 10000665



Photo: SASE_C4_0194 Route: 406-001-0.0 Begin Section



Photo: SASE_C4_0195 Route: 406-002-0.14 Begin Section



Photo: SASE_C4_0196 Route: 406-003-0.27 Begin Section



Photo: SASE_C4_0197 Route: 406-003-0.47 Metal WCS Flashboard Riser 40ft long 24in dia. 5ft deep New Asset# 10000653



Photo: SASE_C4_0198 Route: 406-003-0.47 Metal WCS Flashboard Riser 40ft long 24in dia. 5ft deep New Asset# 10000653



Photo: SASE_C4_0200 Route: 406-004-0.14 Begin Section



Photo: SASE_C4_0203 Route: 406-005-0.0 Begin Section



Photo: SASE_C4_0202 Route: 406-005-0.0 Metal Open Rail Gate Asset# 10000653



Photo: SASE_C4_0204 Route: 407-001-0.0 Begin Section



Photo: SASE_C4_0205 Route: 407-001-0.46 Metal Open Rail Gate Asset# 10000641



Photo: SASE_C4_0209 Route: 407-002-0.47 Begin Section



Photo: SASE_C4_0210 Route: 407-002-1.25 Metal Open Rail Gate Asset# 10000641



Photo: SASE_C4_0211 Route: 408-001-0.0 Begin Section



Photo: SASE_C4_0212 Route: 408-001-0.13 Plastic WCS Flashboard Riser 20ft long 12in dia. 6ft deep Asset# 10000695



Photo: SASE_C4_0213 Route: 408-001-0.13 Plastic WCS Flashboard Riser 20ft long 12in dia. 6ft deep Asset# 10000695



Photo: SASE_C4_0214 Route: 408-001-0.25 Metal WCS Flashboard Riser 20ft long 12in dia. 1ft deep Asset# 10000695



Photo: SASE_C4_0215 Route: 408-001-0.25 Metal WCS Flashboard Riser 20ft long 12in dia. 1ft deep Asset# 10000695



Photo: SASE_C4_0216 Route: 408-001-0.41 Metal Cable Gate Asset# 10000695



Photo: SASE_C4_0219 Route: 408-002-0.13 Begin Section



Photo: SASE_C4_0220 Route: 408-002-0.27 Plastic WCS Flashboard Riser 25ft long 12in dia. 1ft deep Asset# 10000695



Photo: SASE_C4_0221 Route: 408-002-0.27 Plastic WCS Flashboard Riser 25ft long 12in dia. 1ft deep Asset# 10000695



Photo: SASE_C4_0222 Route: 408-003-0.02 Begin Section



Photo: SASE_C4_0223 Route: 408-003-0.68 Metal Cable Gate Asset# 10000695



Photo: SASE_C4_0224 Route: 409-001-0.0 Begin Section



Photo: SASE_C4_0225 Route: 409-001-0.0 Metal Open Rail Gate Asset# 10000658



Photo: SASE_C4_0258 Route: 409-002-0.94 Begin Section



Photo: SASE_C4_0259 Route: 409-003-1.18 Begin Section

ROUTE: 410 Fea

Features Photographs



Photo: SASE_C4_0322 Route: 410-001-0.0 Begin Section



Photo: SASE_C4_0323 Route: 410-001-0.13 Plastic Culvert 25ft long 48in dia. 1ft deep Asset# 10000656



Photo: SASE_C4_0324 Route: 410-001-0.13 Plastic Culvert 25ft long 48in dia. 1ft deep Asset# 10000656



Photo: SASE_C4_0325 Route: 410-002-0.95 Begin Section



Photo: SASE_C4_0326 Route: 410-002-1.18 Plastic WCS Flashboard Riser 20ft long 18in dia. 1ft deep Asset# 10000656



Photo: SASE_C4_0327 Route: 410-002-1.18
Plastic WCS Flashboard Riser 20ft long 18in dia. 1ft deep
Asset# 10000656 8-023



Photo: SASE_C4_0328 Route: 410-003-1.19 Begin Section



Photo: SASE_C4_0329 Route: 410-003-1.3 Plastic WCS Flashboard Riser 20ft long 18in dia. 2ft deep Asset# 10000656



Photo: SASE_C4_0330 Route: 410-003-1.3 Plastic WCS Flashboard Riser 20ft long 18in dia. 2ft deep Asset# 10000656



Photo: SASE_C4_0331 Route: 410-003-1.51 Plastic WCS Flashboard Riser 25ft long 24in dia. 2ft deep Asset# 10000656



Photo: SASE_C4_0332 Route: 410-003-1.51 Plastic WCS Flashboard Riser 25ft long 24in dia. 2ft deep Asset# 10000656



Photo: SASE_C4_0334 Route: 410-003-1.58
Plastic WCS Flashboard Riser 20ft long 18in dia. 2ft deep
Asset# 10000656 8-024



Photo: SASE_C4_0335 Route: 410-003-1.58 Plastic WCS Flashboard Riser 20ft long 18in dia. 2ft deep Asset# 10000656



Photo: SASE_C4_0336 Route: 410-004-1.47 Begin Section



Photo: SASE_C4_0337 Route: 410-004-2.09 Plastic WCS Flashboard Riser 25ft long 18in dia. 3ft deep Asset# 10000656



Photo: SASE_C4_0338 Route: 410-004-2.09 Plastic WCS Flashboard Riser 25ft long 18in dia. 3ft deep Asset# 10000656



Photo: SASE_C4_0339 Route: 410-005-1.82 Begin Section



Photo: SASE_C4_0340 Route: 410-005-2.23
Plastic WCS Flashboard Riser 25ft long 18in dia. 3ft deep
Asset# 10000656 8-025



Photo: SASE_C4_0341 Route: 410-005-2.23 Plastic WCS Flashboard Riser 25ft long 18in dia. 3ft deep Asset# 10000656



Photo: SASE_C4_0264 Route: 411-001-0.0 Begin Section



Photo: SASE_C4_0265 Route: 411-001-0.7 Metal Open Rail Gate Asset# 10000655



Photo: SASE_C4_0283 Route: 411-002-0.2 Begin Section



Photo: SASE_C4_0286 Route: 411-002-0.36 Plastic WCS Flashboard Riser 50ft long 18in dia. 4ft deep Asset# 10000655



Photo: SASE_C4_0288 Route: 411-002-0.36 Plastic WCS Flashboard Riser 50ft long 18in dia. 4ft deep Asset# 10000655



Photo: SASE_C4_0287 Route: 411-002-0.37 Plastic WCS Flashboard Riser 60ft long 18in dia. 4ft deep Asset# 10000655 8-027



Photo: SASE_C4_0289 Route: 411-002-0.37 Plastic WCS Flashboard Riser 60ft long 18in dia. 4ft deep Asset# 10000655



Photo: SASE_C4_0290 Route: 411-002-0.45 Plastic WCS Flashboard Riser 25ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE_C4_0291 Route: 411-002-0.45 Plastic WCS Flashboard Riser 25ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE_C4_0292 Route: 411-002-0.58 Plastic WCS Flashboard Riser 40ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE_C4_0293 Route: 411-002-0.58 Plastic WCS Flashboard Riser 40ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE_C4_0266 Route: 411-003-0.46 Begin Section



Photo: SASE_C4_0267 Route: 411-003-0.49 Concrete WCS Flashboard Riser 25ft long 12in dia. 2ft deep Concrete WCS Flashboard Riser 25ft long 12in dia. 2ft deep Asset# 10000655



Photo: SASE_C4_0268 Route: 411-003-0.49 Asset# 10000655



Photo: SASE_C4_0269 Route: 411-003-0.53 Plastic WCS Flashboard Riser 25ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE C4 0270 Route: 411-003-0.53 Plastic WCS Flashboard Riser 25ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE_C4_0272 Route: 411-003-0.61 Plastic WCS Flashboard Riser 55ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE_C4_0273 Route: 411-003-0.61 Plastic WCS Flashboard Riser 55ft long 18in dia. 3ft deep 8-029 Asset# 10000655

ROUTE: 411 Features Photographs



Photo: SASE_C4_0274 Route: 411-003-0.62 Plastic WCS Flashboard Riser 45ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE_C4_0275 Route: 411-003-0.62 Plastic WCS Flashboard Riser 45ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE_C4_0276 Route: 411-003-0.7 Plastic WCS Flashboard Riser 25ft long 18in dia. 3ft deep Asset# 10000655

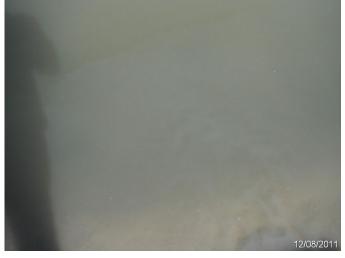


Photo: SASE_C4_0277 Route: 411-003-0.7 Plastic WCS Flashboard Riser 25ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE_C4_0278 Route: 411-003-0.77 Plastic WCS Flashboard Riser 25ft long 18in dia. 5ft deep Asset# 10000655



Photo: SASE_C4_0279 Route: 411-003-0.77 Plastic WCS Flashboard Riser 25ft long 18in dia. 5ft deep Asset# 10000655 8-030

ROUTE: 411 Features Photographs



Photo: SASE_C4_0280 Route: 411-003-0.84 Plastic WCS Flashboard Riser 30ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE_C4_0282 Route: 411-003-0.84 Plastic WCS Flashboard Riser 30ft long 18in dia. 3ft deep Asset# 10000655



Photo: SASE_C4_0295 Route: 411-004-0.23 Begin Section



Photo: SASE_C4_0296 Route: 411-004-0.68 Plastic WCS Flashboard Riser 25ft long 18in dia. 5ft deep Asset# 10000655



Photo: SASE_C4_0297 Route: 411-004-0.68 Plastic WCS Flashboard Riser 25ft long 18in dia. 5ft deep Asset# 10000655



Photo: SASE_C4_0294 Route: 411-005-0.37 Begin Section

ROUTE: 411 Features Photographs



Photo: SASE_C4_0298 Route: 411-006-0.01 Begin Section



Photo: SASE_C4_0300 Route: 411-007-0.56 Plastic Culvert 30ft long 18in dia. 4ft deep Asset# 10000655



Photo: SASE_C4_0301 Route: 411-007-0.56 Plastic Culvert 30ft long 18in dia. 4ft deep Asset# 10000655



Photo: SASE_C4_0299 Route: 411-007-0.56 Begin Section

ROUTE: 412 Features Photographs



Photo: SASE_C4_0313 Route: 412-001-0.0 Begin Section



Photo: SASE_C4_0314 Route: 412-001-0.48 Plastic WCS Flashboard Riser 25ft long 18in dia. 5ft deep Asset# 10000694



Photo: SASE_C4_0315 Route: 412-001-0.48 Plastic WCS Flashboard Riser 25ft long 18in dia. 5ft deep Asset# 10000694



Photo: SASE_C4_0316 Route: 412-002-0.96 Begin Section



Photo: SASE_C4_0317 Route: 412-002-1.15 Plastic WCS Flashboard Riser 50ft long 18in dia. 3ft deep Asset# 10000694



Photo: SASE_C4_0318 Route: 412-002-1.15
Plastic WCS Flashboard Riser 50ft long 18in dia. 3ft deep Asset# 10000694 8-033

ROUTE: 412 **Features Photographs**



Photo: SASE_C4_0319 Route: 412-003-0.41 Begin Section

ROUTE: 800 **Features Photographs**



Photo: SASE_C4_0189 Route: 800 Metal Open Rail Gate Asset# 10000666

Accident Summary

Number of Accidents Reported	Timespan of Accidents	Injuries	Fatalities	
0	No Accidents to Report	0	0	

APPENDIX

	FWS ROAD FUNCTIONAL CLASSIFICATION
Class I	Principal Refuge Road (Public Roads) - Routes that constitute the main access
	route, main auto tour route, or thoroughfare for refuge visitors. These routes are
	accessible by 2WD vehicles. Routes are numbered from 10 to 99.
Class II	Connector Refuge Road (Public Roads) - Routes that provide circulation within
	the refuge. These routes can also provide access to areas of scenic, scientific,
	recreational or cultural interest, such as overlooks, campgrounds, education
	centers, etc. These routes are accessible by 2WD vehicles. Routes are numbered
	from 100 to 199.
Class III	Special Purpose Refuge Road (Public Roads) - Roads that provide circulation
	within special use areas such as campgrounds or public concessionaire facilities
	or access to remote areas of the refuge. These routes may not be 2WD accessible.
	Routes are numbered from 200 to 299
Class IV	Administrative Access Road (Administrative Roads) - Routes intended for access
	to administrative developments or structures such as maintenance offices,
	employee quarters, or utility areas. These routes are accessible by 2WD vehicles.
	These routes may restrict access to the general public. Routes are numbered from
	300 to 399.
Class V	Restricted Road (Administrative Roads) - Routes normally closed to the public,
	such as maintenance roads, service roads, patrol roads, and fire breaks. These
	routes may be open to the public for a short period of time for a special use, such
	as hunting access. These routes may not be 2WD accessible. Routes are
	numbered from 400 to 499.

A refuge road system contains those routes within or giving access to a refuge or other unit of the FWS that are administered by the FWS, or by the Service in cooperation with other agencies. The assignment of a functional classification (FC) to a refuge road is not based on traffic volumes or design speed, but on the intended use or function of that route.

DESCRIPTION OF RATING SYSTEM

Rating Data is collected on five different surface types: Asphalt, Concrete, Gravel, Native Improved and Native Primitive. The Utah LTAP Center's Remaining Service Life (RSL) system is used for all surface types. The RSL system is based on the Strategic Highway Research Program's (SHRP) Distress Identification Manual.

Asphalt Rating System

Data is collected on the following distresses and conditions:

- **Fatigue Cracking** Interconnected cracks forming small irregular shapes.
- **Longitudinal Cracking** Cracks running parallel with the roadway, in the direction of traffic.
- **Transverse Cracking** Cracks perpendicular to the roadway, going across the lane or lanes.
- **Block Cracking** Interconnected cracks forming large blocks.
- **Edge Cracking** Cracks running along the edge of the pavement surface.
- **Patches** Original surface repaired with new asphalt patch material.
- **Potholes** Holes or depressions in the pavement.
- **Rutting** surface depressions in the wheel paths.
- **Roughness** Evenness of pavement for serviceability.
- **Drainage** Ability of the road surface to drain water based on proper slope.

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

Fatigue, longitudinal, transverse, block, and edge cracking, along with patching and potholes are rated on a 0 - 9 scale (0 = no distress, 9 = maximum distress). The rating given is based on the extent and the severity of the distress. Rutting, roughness, and drainage are rated on a 0 - 3 scale (0 = excellent, 3 = poor). Each distress type has a given Remaining Service Life (RSL) value (in years) based on the rating for that distress. The distress rating resulting in the lowest RSL value is considered to be the governing distress. That value is assigned as the RSL of the road segment.

Concrete Rating System

Data is collected on the following distresses and conditions:

- **Spalling of Joints** Chipping, breaking, or cracking of slab edges
- **Joint Seal Damage** Any damage or condition that enables materials or water to infiltrate into the joint from the surface.
- **Corner Breaks** A portion of the slab separated by a crack that intersects the adjacent transverse and longitudinal joints, forming approximately a 45° angle to the direction.
- **Broken Slabs** Faulting and/or cracking localized to individual slabs.
- **Faulting** Difference in elevation across a crack or joint.
- **Longitudinal Cracking** Cracks in the pavement running parallel to road.

- **Transverse Cracking** Cracks in the pavement running perpendicular to the direction of traffic.
- **Patch Deterioration** Faulting, settling, or cracking of previously placed patch
- **Map Cracking** A series of cracks that extend only into the upper surface of the Slab

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

The rating procedure for concrete pavement is the same as that for asphalt pavement described previously. Each of the distresses described above are rated on the same 0-9 scale. The governing distress is then determined and the RSL associated with that distress is assigned to the road segment.

Gravel and Native Improved Rating System

Data is collected on the following distresses and conditions:

- Cross Section (Gravel, Native Improved only) Roadway built so that the center is higher than the shoulder, to prevent water from pooling on roadway.
- Roadside Drainage (Gravel, Native Improved only) Roadside ditches and culverts to handle water flow and prevent pooling on the roadside.
- **Corrugations (Washboarding)** Small trenches or holes developing perpendicular to the roadway.
- **Potholes** Holes or depressions in the roadway.
- **Rutting** Depressions running parallel with the roadway, in the wheelpaths.
- Dust Amount of dust caused by traffic.
- **Loose Aggregate (Gravel Only)** Loose gravel, typically piled up on the roadway edges or centerline.

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

The rating procedure for unpaved roads is the same as that for asphalt and concrete pavements described previously. Of the distresses described above, corrugations, potholes, rutting, and loose aggregate are rated on the same 0-9 scale previously mentioned. Cross section, roadside drainage, and dust are rated on the same 0-3 scale described for asphalt pavement. The governing distress is then determined and the RSL associated with that distress is assigned to the road segment.

Condition Descriptions by Surface Type

The following definitions are used to describe pavement condition for the various surface types. These are general guidelines for condition indications.

Asphalt

Excellent – Recently constructed or overlaid road where construction or overlay was performed correctly- No maintenance required. RSL = 19-20 years.

 ${f Good}$ – Low extent longitudinal and transverse cracks. All cracks are 1/4" or less with little or no crack erosion. Patches are in good condition and applied correctly. Routine Maintenance recommended. RSL = 13-18 years.

Fair - Roads are in good structural condition with little or no fatigue cracking. Longitudinal, transverse, and edge cracking is at medium extent and severity. Block cracking is not extensive. Any patches are in good condition. Preventative maintenance recommended. RSL = 7-12 years.

Poor - Road beginning to show signs of structural distress. Fatigue cracking is medium to high extent and medium severity. Cracking will be severe. Surface may have severe block cracking and show. Patches are in fair to poor condition. There is moderate distortion or rutting and occasional potholes. Rehabilitation recommended. RSL = 1-6 years.

Failed - Road is severely deteriorated. Signs of structural failure appear along with severe and extensive fatigue cracking, distortion, potholes, or extensive patches in poor condition. Reconstruction recommended. RSL = 0 years.

Concrete

Excellent - New pavement. No maintenance required. RSL = 19-20 years

Good - First signs of transverse cracking, patch or repair, more extensive pop-outs, or scaling. Sealing or routine maintenance recommended. RSL = 13-18 years.

Fair – Pavement has join or crack spalling, and/or faulting, along with cracking at corners with broken pieces. Any Patches are in fair condition and faulting is at a minimum. Preventative maintenance recommended. RSL = 7-12 years.

Poor - Joints and cracks are open 1 inch, spalled, or patched. Faulting is more severe. Rehabilitation recommended. RSL = 1-6 years.

Failed - Most slabs have failed structurally, and faulting is severe. Reconstruction recommended. RSL = 0 years.11-9

The following table shows the relationship between RSL and condition.

S	SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE							
	(Asphalt and Concrete Pavements)							
	FAILED	PO	OR	FAIR		GOOD		EXCELLENT
RSL Years	0	1-3	4-6	7-9	10-12	13-15	16-18	19-20

Gravel and Native

Excellent - Newly constructed road that has been constructed properly with proper crown, drainage and gravel layer. Little or no distress. No maintenance recommended. RSL = 8-10 years.

Good - Crown, drainage provisions, and gravel layer are in good condition. Distress limited to traffic effects such as dust, loose aggregate, and low severity corrugations (wash boarding). RSL = 5-7 years.

Fair - Adequate drainage and crown through majority of roadway. Crown repair, ditch improvement may be necessary. Road has more severe corrugations and potholes. Preventative maintenance recommended. RSL = 3-4 years.

Poor - Travel at slow speeds is necessary. Additional gravel layer needed to carry traffic. Poor crown. Ditching is inadequate and rutting is extensive and severe. Rehabilitation recommended. RSL = 1-2 years.

Failed - Travel is difficult, and road may be closed at times. Rutting and Corrugations are very severe. Total Reconstruction of road is recommended. RSL = 0 years.

The following table shows the RSL values for gravel and native roads in terms of excellent, good, fair, poor, and failed condition.

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE						
		(Gravel an	d Native Sur	faces)		
	FAILED POOR FAIR GOOD EXCELLENT					
RSL Years						

NATIVE PRIMITIVE/IMPROVED RATING SHEET

	Cross Section (Crown)*						
	Condition		Description				
	No Defects 0		Crown 4-6" with no restriction of water flow from centerline to ditch.				
Severity	Minor Defects	1	Inadequate or inconsistent crown. Drainage to ditch may be restricted.				
Seve	Moderate Defects 2		Flat crown, drainage to ditch restricted.				
	Major Defects 3		Reverse crown, bowl-shaped road, drainage on roadway				

	<u>Rutting</u>							
l .	Extent (Length)							
	No Defects	Low <10%	Med 10-30%	High >30%				
_	Low < 6"	1	2	3				
Severity	Med 6-12"	4	5	6				
S	High > 12"	7	8	9				

	Roadside Drainage*						
	Condition		Description				
	No Defects 0		Wide, deep ditches (>4') with no restriction to water flow.				
Severity	Minor Defects 1		Adequate ditches (>2' deep), minor obstructions restrict water flow.				
Seve	Moderate Defects 2		Shallow, narrow and obstructed ditches. Minor erosion of road.				
	Major Defects 3		No ditch, drainage on roadway with moderate to severe erosion.				

	<u>Potholes</u>							
	Extent (Area)							
	No Defects	Low <10%	Med 10-30%	High >30%				
>	Low < 6"	1	2	3				
Severity	Med 6-12"	4	5	6				
S	High > 12"	7	8	9				

	<u>Dust</u>						
	Condition		Description				
	No Defects	0	No obstruction to sight distance.				
Severity	Minor Defects	1	Sight distance > 550'				
Seve	Moderate Defects 2		Sight distance 225'-550'				
	Major Defects	3	Sight distance < 225'				

	Corrugations							
	Extent (Length)							
	No Defects	Low <10%	Med 10-30%	High >30%				
>	Low < 3"	1	2	3				
Severity	Med 3-6"	4	5	6				
S	High > 6"	7	8	9				

^{*} Crown and Drainage are not rated for roads that have no constructed crown or drainage. This applies to Native and Gravel roads.

GRAVEL RATING SHEET

	Cross Section (Crown)						
	Condition		Description				
	No Defects 0		Crown 4-6" with no restriction of water flow from centerline to ditch.				
Severity	Minor Defects	1	Inadequate or inconsistent crown. Drainage to ditch may be restricted.				
Seve	Moderate Defects 2		Flat crown, drainage to ditch restricted.				
	Major Defects 3		Reverse crown, bowl-shaped road, drainage on roadway				

	<u>Rutting</u>						
	Extent (Length)						
	No Defects	Low <10%	Med 10-30%	High >30%			
	Low < 1"	1	2	3			
Severity	Med 1-3"	4	5	6			
S	High > 3"	7	8	9			

	Roadside Drainage			
	Condition		Description	
Severity	No Defects	0	Wide, deep ditches (>4') with no restriction to water flow.	
	Minor Defects	1	Adequate ditches (>2' deep), minor obstructions restrict water flow.	
	Moderate Defects	2	Shallow, narrow and obstructed ditches. Minor erosion of road.	
	Major Defects	3	No ditch, drainage on roadway with moderate to severe erosion.	

		Potho	oles	
		E	ctent (Are	ea)
	No Defects	Low <10%	Med 10-30%	High >30%
<u> </u>	Low < 1"	1	2	3
Severity	Med 1-3"	4	5	6
S	High > 3"	7	8	9

	<u>Dust</u>			
	Condition		Description	
	No Defects	0	No obstruction to sight distance.	
Severity	Minor Defects	1	Sight distance > 550'	
Sev	Moderate Defects	2	Sight distance 225'-550'	
	Major Defects	3	Sight distance < 225'	

	<u>Corrugations</u>			
_		Ext	ent (Len	gth)
	No Defects	Low <10%	Med 10-30%	High >30%
>	Low < 2"	1	2	3
Severity	Med 2-4"	4	5	6
S	High > 4"	7	8	9

^{*} Crown and Drainage are not rated for roads that have no constructed crown or drainage. This applies to Native and Gravel roads.

Loose Aggregate				
		Ex	ctent (Are	ea)
	No Defects	Low <10%	Med 10-30%	High >30%
Severity	Low < 1"	1	2	3
	Med 1-3"	4	5	6
S	High > 3"	7	8	9

ASPHALT RATING SHEET

	Fatigue Cracking			
	No Defects	Low 1 crack WP	Extent Med 2 cracks WP	High >30% lenath
_	Low-Cracks < 1/4"	1	2	3
Severity	Med-Cracks 1/4-3/4"	4	5	6
S	High-Cracks > 3/4"	7	8	9

	Edge Cracking			
		Ext	t ent (Leng	gth)
	No Defects	Low <10%	Med 10-30%	High >30%
_	0-6" from curb	1	2	3
Severity	6-18" from curb	4	5	6
S	> 18" from curb	7	8	9

	Longitudinal Cracking				
	Extent				
	No Defects	Low 1 crack full length	Med 2 cracks full length	High >2 cracks full length	
>	Low-Cracks < 1/4"	1	2	3	
Severity	Med-Cracks 1/4-3/4"	4	5	6	
S	High-Cracks > 3/4"	7	8	9	

	Block Cracking			
		Ext	t ent (Lenç	gth)
	No Defects	Low > 15x15' squares	Med 15-10' squares	High <10x10' squares
>	Low-Cracks < 1/4"	1	2	3
Severity	Med-Cracks 1/4-3/4"	4	5	6
S	High-Cracks > 3/4"	7	8	9

	Transverse Cracking			
		Extent (ft betweer	n cracks)
	No Defects	Low > 200'	Med 200-50'	High < 50'
>	Low-Cracks < 1/4"	1	2	3
Severity	Med-Cracks 1/4-3/4"	4	5	6
S	High-Cracks > 3/4"	7	8	9

	<u>Utility Cuts</u>			
		Ext	t ent (Lenç	gth)
	No Defects	Low <10%	Med 10-30%	High >30%
>	Low-Cracks < 1/4"	1	2	3
Severity	Med-Cracks 1/4-3/4"	4	5	6
S	High-Cracks > 3/4"	7	8	9

	<u>Drainage/Roughness/Rutting</u>			
	Condition		Description	
erity	No Defects	0	Wide, deep ditches with no obstructions, smooth ride, no rutting, no potholes.	
	Minor Defects	1	Drainage may be obstructed, < 1" rutting, minor roughness.	
Seve	Moderate Defects	2	Poor drainage, 1-2" rutting, noticeable roughness, potholes < 6" wide.	
	Major Defects	3	No drainage; > 2" rutting; potholes 6-12" wide create roughness requiring reduced speeds.	

CONCRETE RATING SHEET

Spalling of Joints

Extent (% joints)

	No Defects	Low <10%	Med 10-20%	High >20%
	Low Spalls < 3"	1	2	3
Severity	Med Spalls 3-6"	4	5	6
	High Spalls > 6"	7	8	9

Broken Slabs

Extent (% slabs)

	No Defects	Low <5%	Med 5-15%	High >15%
	Low-no more than 3 pieces, no spalling/faulting	1	2	3
Severity	Med-broken into >3 pieces, spalling/faulting <1/4"	4	5	6
	High-4 or more pieces, spalling/faulting >1/4"	7	8	9

Transverse Cracks

Extent (% slabs)

		Exterit (70 Slaus)				
	No Defects	Low <10%	Med 10-20%	High >20%		
	Low-Cracks < 1/8"; no spalling/faulting	1	2	3		
Severity	Med-Cracks 1/8- 1/2"; spall <3", fault >1/4"	4	5	6		
	High-Cracks > 1/2"; spall >3", fault >1/4"	7	8	9		

Joint Seal Damage

Extent (%joints)

	Exterit (70joints)				
No Defects	Low <10%	Med 10-20%	High >20%		
Low <10% joint length	1	2	3		
Med 10-50% joint length	4	5	6		
High >50% joint length	7	8	9		

<u>Faulting</u>

Extent (Length)

	No Defects	Low <10%	Med 10-30%	High >30%
	Low < 1/2"	1	2	3
Severity	Med 1/2-1"	4	5	6
	High > 1"	7	8	9

Patch Deterioration

Extent (Area)

		Exterit (Alea)				
	No Defects	Low <10%	Med 10-30%	High >30%		
	Low-no fault, no settle at perimeter	1	2	3		
Severity	Med-fault & settle <1/4" at perimeter	4	5	6		
	High-fault & settle >1/4" at perimeter, cracked patch	7	8	9		

Corner Breaks

Extent (% of slabs)

		Extorit (70 or olabo				
	No Defects	Low <10%	Med 10-20%	High >20%		
	Low-corner cracks, no spalling or faulting	1	2	3		
Severity	Med-crack slightly spalled & faulted <1/4"	4	5	6		
	High-crack highly spalled & faulted >1/4"	7	8	9		

Longitudinal Cracks

Extent (% slabs)

	No Defects	Low <10%	Med 10-20%	High >20%
٠	Low-Cracks < 1/8"; no spalling/faulting	1	2	3
Severity	Med-Cracks 1/8- 1/2"; spall <3", fault >1/2"	4	5	6
	High-Cracks > 1/2"; spall >3", fault >1/2"	7	8	9

Map Cracks

Extent (Area)

		Extent (Alea)				
	No Defects	cts				
	Low-small connected cracks, no spalling	1	2	3		
Severity	Med-connected cracks, no spalling	4	5	6		
	High-large connected cracks with surface spalling	7	8	9		

Deficiency Ratings With Associated Remaining Service Life

Asphalt Rating Sheet

Fatigue Cracking		Edge Cracking	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20
1	10	1	12
2	8	2	10
3	6	3	8
4	8	4	10
5	6	5	8
6	4	6	6
7	6	7	8
8	2	8	6
9	0	9	4

Transverse Cracking		Utilit	y Cuts
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20
1	14	1	14
2	12	2	12
3	10	3	10
4	12	4	12
5	10	5	10
6	8	6	8
7	10	7	10
8	6	8	6
9	2	9	2

Longitudinal Cracking		Block Cracking	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20
1	14	1	12
2	12	2	10
3	10	3	8
4	12	4	10
5	10	5	8
6	8	6	6
7	10	7	12
8	8	8	6
9	6	9	2

Drainage/Roughness/R utting			
Distress Rating	Remaining Service Life		
0	20		
1	16		
2	10		
3	4		

Concrete Rating Sheet

Spa	alling	Broke	Broken Slabs		se Cracks
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20	0	20
1	15	1	15	1	18
2	12	2	12	2	15
3	10	3	10	3	12
4	12	4	12	4	15
5	10	5	10	5	10
6	8	6	8	6	6
7	10	7	10	7	10
8	6	8	6	8	4
9	0	9	0	9	0

Joint Se	al Damage	Faulting		Patch De	terioration
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20	0	18
1	16	1	15	1	16
2	14	2	12	2	14
3	12	3	10	3	12
4	14	4	12	4	12
5	10	5	8	5	10
6	8	6	6	6	8
7	12	7	10	7	10
8	8	8	4	8	6
9	6	9	0	9	0

Corne	r Breaks	Longitudinal Cracks		Мар	Cracks
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	18	0	20	0	20
1	16	1	18	1	18
2	14	2	15	2	15
3	12	3	12	3	12
4	12	4	15	4	12
5	10	5	10	5	10
6	8	6	6	6	6
7	10	7	10	7	10
8	6	8	4	8	4
9	0	9	0	9	0

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE IN YEARS (Asphalt & Concrete Roads)

	FAILED	POOR	FAIR	GOOD	EXCELLENT
RSL	0	1 - 6	7 - 12	13 - 18	19 - 20

Deficiency Ratings With Associated Remaining Service Life

Native Primitive Improved Rating Sheet

4

Remaining

Service

Life

10

8

Dust

Distress

Rating

0

1

Cross	Section	Ru	ıtting
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	10	0	10
1	7	1	9
2	5	2	7
3	0	3	5
	•	4	7
		5	4
			_

Roadside Drainage				
Distress Rating	Remaining Service Life			
0	10			
1	8			
2	4			
3	0			

Potholes			
Distress Rating	Remaining Service Life		
0	10		
1	9		
2	7		
3	5		
4	7		
5	4		
6	3		
7	4		
8	2		
9	0		

	Corrugations				
	Distress Rating	Remaining Service Life			
1	0	10			
1	1	9			
1	2	7			
Ī	3	7			
	4	6			
	5	5			
	6	5			
	7	4			
	8	3			
	9	0			

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE IN YEARS (Gravel & Native Roads)

	FAILED	POOR	FAIR	GOOD	EXCELLENT
RSL	0	1 - 2	3 - 4	5 - 7	8 - 10

Gravel Rating Sheet Rutting

Cross		
Distress Rating	Remaining Service Life	Distre Ratin
0	10	0
1	7	1
3	5	2
3	0	3
		4
		5
		6
		7

···· 9 ···· <u>· · · · · · · · · · · · · ·</u>					
tting	Roadside	Drainage			
Remaining Service Life	Distress Rating	Remaining Service Life			
10	0	10			
9	1	8			
7	2	4			
5	3	0			
7					
4					

Potholes		
Distress Rating	Remaining Service Life	
0	10	
1	9	
2	7	
3	5	
4	7	
5	4	
6	3	
7	4 2	
8	2	
9	0	

Dust			Corrugations	
Distress Rating	Remaining Service Life		Distress Rating	Remaining Service Life
0	10	ſ	0	10
1	8	ĺ	1	9
2	6		2	7
3	2	I	3	7
		ĺ	4	6
			5	5
		I	6	5
		ĺ	7	4
		ĺ	8	3
		ſ	9	0

Loose Aggregate		
Distress Rating	Remaining Service Life	
0	10	
1	9	
2	8	
3	7	
4	8	
5	7	
6	6	
7	5	
8	3	
9	0	