

5.2 Site Condition Summary

5.2.1 Lip Connector Road, Section DHF014S01, Left Lane

- The collected distress data shows that several types of distresses were observed like Alligator Cracking, Longitudinal and Transversal Cracking, Potholes, and Rutting.
- According to the proposed ARAMCO Road Maintenance Decision Tree, Table 66 show the proposed maintenance based on distresses severity and density. The recommended maintenance is localized maintenance for actual distress area for distresses D1, D10, D13, D15 with medium and high severity. The maintenance recommendations are:
 - ✓ Deep Patching for D1 infected area with medium and high severity.
 - ✓ Surface Patching for D13, D15 infected area with medium severity.
 - ✓ Crack Sealing for D10 infected area with medium severity.
- Roughness (IRI) is in poor condition and the PCI value is Very Poor, also the percent of infected area is 44.47%, and according to tables 59 & 60. The maintenance recommendations are:
 - ✓ Deep Patching for D1 infected area + Mill and Overlay for the section.

Table 66: Maintenance Recommendations for Lip Connector Road, Section DHF014S01, Left Lane

Distress Code	Low Severity			Medium Severity			High Severity		
	Area	% of Area	M&R Type	Area	% of Area	M&R Type	Area	% of Area	M&R Type
D1	144.245	3.94%	1	14.014	0.38%	6	51.035	1.39%	6
D2	52.5	1.43%	1						
D6	0.6	0.02%	1						
D10	206.38	5.63%	1	118.76	3.24%	3			
D11	54.4	1.49%	1						
D13	2	0.05%	1	2	0.05%	5			
D15	427.9	11.68%	1	3	0.08%	5			
D17	0.8	0.02%	1						
D19	551.2	15.05%	1						

Section Area = 3663 m²

Maintenance Type: 1: Do Nothing 3: Crack Sealing 5: Surface Patching 6: Deep Patching

5.2.2 Lip Connector Road Section DHF014S02, Left Lane

- The collected distress data shows that several types of distresses were observed like Alligator Cracking, Longitudinal and Transverse Cracking, Potholes, Shoving, and Rutting.
- According to proposed ARAMCO Road Maintenance Decision Tree, Table 67 show the proposed maintenance based on distresses severity and density. The recommended maintenance is localized maintenance for actual distress area for distresses D1, D10, D13, D15 with medium and high severity. The maintenance recommendations are:
 - ✓ Deep Patching for D1, D15 infected area with medium and high severity.
 - ✓ Surface Patching for D13, D15, D16 infected area with medium severity.
 - ✓ Crack Sealing for D10 infected area with medium and high severity.
- Roughness (IRI) is in poor condition and the PCI value is Poor, also the percent of infected area is 50.39% and according to tables 59 & 60. The maintenance recommendations are:
 - ✓ Deep Patching for D1, D15 infected area + Mill and Overlay for the section.

Table 67: Maintenance Recommendations for Lip Connector Road, Section DHF014S02, Left Lane

Distress Code	Low Severity			Medium Severity			High Severity		
	Area	% of Area	M&R Type	Area	% of Area	M&R Type	Area	% of Area	M&R Type
D1	8.473	0.24%	1	2.168	0.06%	6	4.259	0.12%	6
D2	19	0.55%	1						
D10	366.94	10.59%	1	143.73	4.15%	3	3	0.09%	3
D11	146.5	4.23%	1						
D13	2	0.06%	1	1	0.03%	5			
D15	592.697	17.11%	1	85.279	2.46%	5	4.29	0.12%	6
D16	1.244	0.04%	1	0.685	0.02%	5			
D19	364.7	10.53%	1						

Section Area = 3465 m²

Maintenance Type: 1: Do Nothing 3: Crack Sealing 5: Surface Patching 6: Deep Patching



5.3 Recommendations

Based on the analysis for the studied roads, it is recommended to:

1. **Deep Patching for D1, D15 infected area + Mill and Overlay** for both Lip Connector Road-Section DHF014S01 - Left Lane and Lip Connector Road Section DHF014S02 - Left Lane