

**Appendix F**  
**Environmental Data for Alternative Route Evaluation**

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### Environmental Data by Alternative Route

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**ENVIRONMENTAL DATA BY ALTERNATIVE ROUTE  
COOKS POINT 138-kV TRANSMISSION LINE PROJECT**

	ROUTE 1	ROUTE 2	ROUTE 3	ROUTE 4	ROUTE 5	ROUTE 6	ROUTE 7	ROUTE 8	ROUTE 9	ROUTE 10	ROUTE 11	ROUTE 12	ROUTE 13	ROUTE 14	ROUTE 15
1. Length of alternative route	18.8	18.5	20.5	20.5	21.5	20.1	17.8	20.7	20.0	23.4	19.6	18.3	18.8	18.9	18.1
2. Length of alternative route parallel and adjacent to existing transmission lines	0.3	0.3	3.3	0.3	1.7	0.3	0.3	0.3	0.3	0.1	6.2	6.2	10.5	1.7	4.3
3. Length of alternative route parallel and adjacent to existing public roads/highways	13.0	12.7	5.7	6.1	9.4	9.8	12.0	9.8	11.0	1.8	7.0	1.5	2.6	4.7	0.5
4. Length of alternative route parallel and adjacent to railroads	0.0	0.0	5.7	0.0	4.4	0.0	0.0	0.0	0.0	1.0	0.5	5.3	2.0	8.4	10.7
5. Length of alternative route parallel to apparent property boundaries	2.9	3.4	3.5	10.7	2.7	7.5	2.8	6.4	5.9	16.7	3.5	3.6	2.5	3.5	1.7
6. Total length of alternative route parallel to existing corridors (including apparent property boundaries)	16.2	16.4	18.2	17.1	18.3	17.6	15.1	16.5	17.3	19.6	17.2	16.5	17.7	18.3	17.2
7. Percent of route parallel to existing corridors (including apparent property boundaries)	86	89	89	83	85	88	85	80	86	84	87	90	94	97	95
8. Number of habitable structures within 300 ft of the alternative route <sup>1</sup>	47	43	49	26	63	41	42	31	43	21	45	28	20	30	19
9. Length of alternative route across parks/recreational areas <sup>2</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10. Number of additional parks or recreational areas within 1,000 ft of the route centerline	2	2	2	0	1	1	1	1	1	0	0	0	0	1	0
11. Number of pipelines crossed by the alternative route <sup>3</sup>	4	7	7	3	3	1	3	4	2	2	4	4	17	12	10
12. Length of alternative route parallel and adjacent to existing pipelines <sup>3</sup>	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1
13. Number of oil/gas wells within 150 ft of the alternative route	1	1	1	1	0	4	0	4	0	0	0	0	2	3	0
14. Length of alternative route through commercial/industrial areas	0.4	0.4	0.1	0.1	0.3	0.3	0.4	0.2	0.4	0.0	0.3	0.0	0.2	0.1	0.2
15. Length of alternative route across agricultural pastureland <sup>4</sup>	11.6	11.8	10.4	8.3	11.3	10.1	11.2	11.6	12.1	9.2	12.3	9.7	11.2	11.9	9.9
16. Length of alternative route across agricultural cropland and orchards <sup>4</sup>	3.1	2.4	2.3	2.1	3.4	0.9	2.4	2.5	1.2	0.5	3.5	2.4	2.2	0.3	1.9
17. Length of alternative route across agricultural land with mobile irrigation systems	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18. Length of alternative route across upland forest <sup>5</sup>	1.4	1.6	4.2	5.4	3.4	7.2	1.8	4.3	4.0	9.2	1.1	4.2	3.3	3.1	3.6
19. Length of alternative route across riparian woodland <sup>6</sup>	0.6	0.6	0.6	0.5	0.8	0.4	0.5	0.6	0.5	0.3	0.9	0.3	0.5	0.7	0.5
20. Length of alternative route across emergent wetlands <sup>6</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
21. Length of alternative route across forested scrub/shrub wetlands <sup>6</sup>	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.3	0.4
22. Length of alternative route across 100-year floodplains	2.0	1.9	3.1	1.5	2.7	1.8	1.8	2.0	2.0	2.4	1.8	1.8	3.9	2.2	2.6
23. Number of streams crossed by the alternative route	27	25	41	20	35	27	24	27	36	30	34	30	29	31	25
24. Length of alternative route parallel to rivers, creeks, and streams (within 100 ft)	0.9	0.9	1.5	0.8	1.5	0.8	0.9	1.1	1.1	0.5	0.8	0.7	0.9	0.9	0.7
25. Number of known rare/unique plant locations within the ROW	2	2	0	0	0	2	2	1	2	0	2	0	0	0	0
26. Length of alternative route through potential endangered or threatened species habitat <sup>7</sup>	0.4	0.4	0.5	3.0	0.5	3.2	0.4	3.0	1.2	5.3	0.2	0.3	0.7	0.8	1.0
27. Number of recorded cultural resource sites crossed by the alternative route	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28. Number of additional recorded cultural resource sites within 1,000 ft of the alternative route centerline	11	10	9	1	2	2	2	2	2	2	3	2	3	10	3
29. Length of alternative route across areas of low prehistoric and historic archaeological site potential	0.6	1.4	2.5	7.2	3.0	2.4	1.9	3.5	1.3	8.1	2.2	2.9	4.0	2.6	3.8
30. Length of alternative route across areas of moderate prehistoric and historic archaeological site potential	4.1	5.5	13.4	10.7	12.8	8.3	6.7	9.9	9.4	13.5	8.2	14.2	11.1	11.8	11.7
31. Length of alternative route across areas of high prehistoric and historic archaeological site potential	14.1	11.6	4.6	2.6	5.7	9.4	9.3	7.3	9.4	1.7	9.3	1.2	3.7	4.5	2.6
32. Number of FAA-registered public/military airstrips with at least one runway greater than 3,200 ft located within 20,000 ft of the alternative route centerline	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
33. Number of FAA-registered public/military airstrips having no runway greater than 3,200 ft in length located within 10,000 ft of the alternative route centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34. Number of private airstrips located within 10,000 ft of the alternative route centerline	2	2	1	2	2	2	2	2	2	2	2	1	1	1	1
35. Number of heliports within 5,000 ft of the alternative route centerline	1	1	1	0	1	1	1	0	1	0	1	0	0	0	0
36. Length of alternative route across open water (lakes, ponds) <sup>8</sup>	0.3	0.4	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.0	0.0	0.1	0.1
37. Number of commercial AM radio transmitters within 10,000 ft of alternative route centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38. Number of FM radio transmitters, microwave relay stations, and other electronic installations w/in 2,000 ft	6	5	2	2	3	6	6	3	5	1	9	4	1	0	1
39. Number of U.S. or State Highways crossed by the alternative route	6	4	2	2	2	4	4	4	4	2	5	1	2	2	2
40. Number of FM roads, county roads, or other street crossed by the alternative route	11	14	19	13	18	12	13	14	15	9	18	18	8	9	7
41. Length of alternative route within foreground visual zone of park/recreational areas (1/2 mile unobstructed) (no double count)	3.1	2.4	3.5	0.0	1.5	0.9	1.3	0.9	1.3	0.0	2.2	3.1	2.2	1.7	2.2
42. Length of alternative route within foreground visual zone of State and U.S. Highways (1/2 mile unobstructed) (no double count)	16.1	14.9	12.8	7.3	11.9	12.7	12.4	11.3	15.1	7.6	15.7	11.1	6.8	7.5	5.7

Note: Unless otherwise indicated, all length measurements in miles. All linear measurements were obtained from aerial photography flown in October 2017.

<sup>1</sup> Due to potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 305 feet have been identified.

<sup>2</sup> Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.

<sup>3</sup> Only pipelines six inches and greater carrying petrochemicals were quantified in the pipeline crossings and parallels

<sup>4</sup> Delineated from evaluation of EMST data, aerial photography, and site reconnaissance observations.

<sup>5</sup> Delineated from canopy cover analysis and inspection of aerial photography.

<sup>6</sup> Riparian woodlands were delineated from evaluation of EMST data; forested/shrub wetlands were delineated based on NWI mapping of Palustrine Forested or Scrub/Shrub; and emergent wetlands were delineated based on NWI mapping of Palustrine Emergent. The jurisdictional status of these wetland systems (in reference to Section 404 of the Clean Water Act) is not known as the study area was not delineated in accordance with USACE's 1987 Wetland Delineation Manual.

<sup>7</sup> Delineated for USFWS federally-endangered Houston Toad.

<sup>8</sup> Open water was determined based on areas mapped as open water by the NHD.

**ENVIRONMENTAL DATA BY ALTERNATIVE ROUTE  
COOKS POINT 138-kV TRANSMISSION LINE PROJECT**

	ROUTE 16	ROUTE 17	ROUTE 18	ROUTE 19	ROUTE 20	ROUTE 21	ROUTE 22	ROUTE 23	ROUTE 24	ROUTE 25	ROUTE 26
1. Length of alternative route	19.6	21.8	20.6	18.5	17.1	19.3	17.6	17.8	19.3	18.8	19.4
2. Length of alternative route parallel and adjacent to existing transmission lines	9.2	11.9	0.8	0.1	0.1	14.1	2.1	4.3	10.1	0.5	0.6
3. Length of alternative route parallel and adjacent to existing public roads/highways	2.3	4.6	5.3	4.6	5.3	0.3	5.4	0.3	3.7	12.7	12.3
4. Length of alternative route parallel and adjacent to railroads	4.2	0.0	8.4	4.5	6.6	0.5	6.6	10.7	1.9	0.0	0.0
5. Length of alternative route parallel to apparent property boundaries	2.7	2.6	4.7	7.0	3.4	3.0	2.0	1.7	3.0	2.9	3.2
6. Total length of alternative route parallel to existing corridors (including apparent property boundaries)	18.4	19.1	19.2	16.1	15.4	17.9	16.1	16.9	18.7	16.1	16.2
7. Percent of route parallel to existing corridors (including apparent property boundaries)	94	87	93	87	90	93	92	95	97	86	84
8. Number of habitable structures within 300 ft of the alternative route <sup>1</sup>	21	47	27	24	29	25	27	19	26	54	51
9. Length of alternative route across parks/recreational areas <sup>2</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10. Number of additional parks or recreational areas within 1,000 ft of the route centerline	1	1	1	0	0	0	0	0	0	2	2
11. Number of pipelines crossed by the alternative route <sup>3</sup>	19	19	20	24	13	20	16	10	17	4	4
12. Length of alternative route parallel and adjacent to existing pipelines <sup>3</sup>	0.2	0.0	0.5	0.3	0.1	0.0	0.1	0.1	0.1	0.1	0.1
13. Number of oil/gas wells within 150 ft of the alternative route	3	3	2	10	5	3	2	0	4	1	1
14. Length of alternative route through commercial/industrial areas	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.5	0.4
15. Length of alternative route across agricultural pastureland <sup>4</sup>	12.5	12.6	12.1	10.9	9.5	11.8	8.9	9.7	11.5	11.4	11.9
16. Length of alternative route across agricultural cropland and orchards <sup>4</sup>	1.6	2.9	1.1	0.5	1.0	2.8	2.4	2.0	2.0	3.1	3.1
17. Length of alternative route across agricultural land with mobile irrigation systems	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18. Length of alternative route across upland forest <sup>5</sup>	2.7	3.6	3.9	5.6	4.6	2.8	3.8	3.5	2.5	1.5	1.5
19. Length of alternative route across riparian woodland <sup>6</sup>	0.7	0.6	1.0	0.2	0.1	0.4	0.3	0.4	0.7	0.6	0.6
20. Length of alternative route across emergent wetlands <sup>6</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21. Length of alternative route across forested scrub/shrub wetlands <sup>6</sup>	0.1	0.1	0.3	0.3	0.3	0.1	0.3	0.4	0.0	0.1	0.1
22. Length of alternative route across 100-year floodplains	3.6	5.1	2.0	1.4	1.1	3.8	1.3	2.6	2.8	2.1	2.1
23. Number of streams crossed by the alternative route	36	45	36	27	18	35	21	24	35	27	27
24. Length of alternative route parallel to rivers, creeks, and streams (within 100 ft)	1.1	1.4	1.2	0.6	0.2	0.6	0.2	0.6	1.1	0.9	1.0
25. Number of known rare/unique plant locations within the ROW	0	0	0	0	0	0	0	0	0	2	2
26. Length of alternative route through potential endangered or threatened species habitat <sup>7</sup>	0.8	0.5	1.1	1.4	0.8	0.3	0.7	1.0	0.7	0.4	0.4
27. Number of recorded cultural resource sites crossed by the alternative route	0	0	0	0	0	0	0	0	0	0	0
28. Number of additional recorded cultural resource sites within 1,000 ft of the alternative route centerline	10	2	10	2	2	3	3	3	2	11	11
29. Length of alternative route across areas of low prehistoric and historic archaeological site potential	4.3	4.0	3.2	4.2	3.1	3.9	2.8	3.8	3.3	0.4	0.4
30. Length of alternative route across areas of moderate prehistoric and historic archaeological site potential	10.9	13.4	13.5	12.1	12.3	12.1	13.3	11.8	13.9	3.9	3.9
31. Length of alternative route across areas of high prehistoric and historic archaeological site potential	4.5	4.5	3.8	2.2	1.7	3.3	1.5	2.2	2.1	14.5	15.0
32. Number of FAA-registered public/military airstrips with at least one runway greater than 3,200 ft located within 20,000 ft of the alternative route centerline	1	1	1	0	0	1	0	1	1	1	1
33. Number of FAA-registered public/military airstrips having no runway greater than 3,200 ft in length located within 10,000 ft of the alternative route centerline	0	0	0	0	0	0	0	0	0	0	0
34. Number of private airstrips located within 10,000 ft of the alternative route centerline	1	1	1	1	1	1	1	1	1	2	2
35. Number of heliports within 5,000 ft of the alternative route centerline	0	1	0	0	0	0	0	0	0	1	1
36. Length of alternative route across open water (lakes, ponds) <sup>8</sup>	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.3	0.3
37. Number of commercial AM radio transmitters within 10,000 ft of alternative route centerline	0	0	0	0	0	0	0	0	0	0	0
38. Number of FM radio transmitters, microwave relay stations, and other electronic installations w/in 2,000 ft	0	2	1	1	2	3	2	1	1	6	6
39. Number of U.S. or State Highways crossed by the alternative route	2	4	2	1	1	3	1	1	1	6	8
40. Number of FM roads, county roads, or other street crossed by the alternative route	9	12	14	11	11	9	13	7	12	11	11
41. Length of alternative route within foreground visual zone of park/recreational areas (1/2 mile unobstructed) (no double count)	2.9	1.5	1.5	0.0	0.0	2.2	0.7	2.2	1.3	3.3	3.3
42. Length of alternative route within foreground visual zone of State and U.S. Highways (1/2 mile unobstructed) (no double count)	7.1	10.4	8.5	7.3	4.3	10.5	5.8	5.4	7.1	16.2	16.8

Note: Unless otherwise indicated, all length measurements in miles. All linear measurements were obtained from aerial photography flown in October 2017.

<sup>1</sup> Due to potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 305 feet have been identified.

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