

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION BY SCS CARBON TRANSPORT LLC FOR  
A PERMIT TO CONSTRUCT A CARBON DIOXIDE TRANSMISSION PIPELINE**

**DOCKET NO. HP22-001**

**Direct Testimony of Herbert Pirela  
On Behalf of the Staff of the South Dakota Public Utilities Commission  
June 23, 2023**

1 **Q: Please state your name and business address.**  
2  
3 A: Herbert Pirela, 112 Great Lake Drive, Annapolis, Maryland 21403  
4  
5 **Q: Describe your educational background.**  
6  
7 A: I received my Bachelor and Master of Science degrees from the Colorado State  
8 University, and Doctorate from the Iowa State University with a focus on soil  
9 science and soil chemistry.  
10  
11 **Q: By whom are you now employed?**  
12  
13 A: I have been employed by Environmental Resource Management, Inc. since  
14 February of 2006.  
15  
16 **Q: What work experience have you had that is relevant to your involvement on  
17 this project?**  
18  
19 A: While working at ERM my responsibilities have included providing clients in the  
20 pipeline and transmission and mining industry with environmental permitting and  
21 environmental services. Specific tasks have included assisting in the preparation  
22 of Environmental Impact Statements and Environmental Assessments under the  
23 National Environmental Policy Act and with the review, survey, permitting, and  
24 mitigation projects and programs. This includes the review and drafting of  
25 construction mitigation and rehabilitation, soil erosion and sediment control, and  
26 revegetation plans.  
27  
28 **Q: What Professional Credentials do you hold?**  
29  
30 A: I am a Professional Soil Scientist.  
31  
32 **Q: What is the purpose of your testimony?**  
33  
34 A: To provide an assessment of the construction impact, mitigation and rehabilitation  
35 measures that are proposed in the application for construction of the Summit  
36 Carbon Solutions (SCS) Carbon Dioxide Transmission Pipeline System.  
37  
38 **Q: What methodology did you employ?**  
39  
40 A: I reviewed and provided an assessment of Sections 2.0 (Project Description), 5.0  
41 (Environmental Information and Impact on Physical Environment), 6.0 (Community  
42 Impact), and 7.0 (Other Information) of the application and October 13, 2022,  
43 Supplement of the Application and Data Requests to determine the completeness  
44 of the Environmental Construction Plan. This review and assessment was  
45 completed by comparing the impacts and mitigation measures and the

46 environmental construction guidance identified in the application and the  
47 consistency of the proposed measures with those from:

- 48 • other pipeline and transmission and mining projects on which I have worked,
- 49 • the Federal Energy Regulatory Commission’s (FERC) *Upland Erosion Control,*  
50 *Revegetation and Maintenance Plan* and *Wetland and Waterbody Construction*  
51 *and Mitigation Procedures* (see Exhibit\_HP-2), and
- 52 • my knowledge of the industry best management practices (BMPs), to which are  
53 the industry standards for buried pipeline projects.

54  
55 **Q: Did you review Summit’s Appendix 3: Environmental Construction Plan?**

56  
57 A: Yes. I reviewed Appendix 3 – Environmental Construction Plan (ECP) of the  
58 Summit application.

59  
60 **Q: Please summarize what information is in that document.**

61  
62 A: The ECP describes construction procedures and mitigation measures to minimize  
63 environmental impacts and ensures successful restoration and revegetation of the  
64 project workspace. The ECP describes procedures for standard upland  
65 construction, including construction procedures in agricultural areas, as well as  
66 construction within sensitive areas such as wetlands and waterbodies (e.g.,  
67 clearing and grading, trenching backfilling; waterbodies and wetlands a crossing;  
68 waste management; reclamation and revegetation; spill prevention, containment,  
69 and response; and waste management). The ECP also outlines procedures for  
70 environmental training, environmental inspection, and post-construction and  
71 monitoring and maintenance programs.

72  
73 **Q: Based on your experience, is the Environmental Construction Plan robust**  
74 **and complete? Please explain.**

75  
76 A: The ECP describes BMPs from identification of the workspace and avoidance  
77 areas to final restoration and monitoring that adhere to the industry standards. In  
78 addition to standard construction procedures and measures for temporary and  
79 permanent erosion and sedimentation control, the ECP includes measures for site-  
80 specific issues that may arise during construction, such as spill prevention and  
81 emergency response, and remediation and anticipated discovery of cultural  
82 resources. Based on my experience, the ECP upland restoration procedures are  
83 robust and complete and adheres to the industry standards for BMPs and FERC’s  
84 guidance and procedures. As noted below, measures supplemental to the ECP  
85 that are typically developed at a later time, such as the Erosion and Sedimentation  
86 Control Plan, Weed Control Plan, HDD Plan, and Agricultural Impact Mitigation  
87 Plan, should be developed by Summit and provided to the Commission.

88  
89 **Q: In your opinion, is the Environmental Construction Plan consistent with the**  
90 **pipeline industry’s best practices? Please explain.**

91

92 A: In my opinion, the ECP is consistent with the pipeline industry's BMPs, including  
93 FERC's *Upland Erosion Control, Revegetation and Maintenance Plan* and  
94 *Wetland and Waterbody Construction and Mitigation Procedures*, which are the  
95 industry standards for natural gas pipeline projects.

96  
97 **Q: Do you have any proposed changes or recommendations for the**  
98 **Environmental Construction Plan?**

99  
100 A: No. Based on my review, I would consider the ECP to be complete.

101  
102 **Q: Did you review Summit's plans for Soil Erosion and Sedimentation Control?**  
103

104 A: Yes, Summit proposed methods for mitigating erosion during construction and  
105 operation are described within Section 5.1.4.6 of the Application and in the ECP  
106 outlined in Appendix 3. Sections 2.8 and 2.9 of Appendix 3 describes the types of  
107 temporary erosion control devices (ECDs) to be implemented to the project area  
108 including mulch, sediment barriers, trench plugs, and slope breakers and the  
109 permanent types of ECDs to be used along the proposed route including trench  
110 breakers, mulch, and slope breakers. In my opinion, a more detailed plan  
111 formalizing those soil erosion and sediment control procedures should be  
112 developed by Summit.

113  
114 **Q: Did you review Summit's plans to control and prevent the spread of noxious**  
115 **weeds?**

116  
117 A: Yes, in Section 5.3.1.4 of the Application, brief plans are provided describing the  
118 procedures that will be implemented to prevent the spread of noxious weeds. In  
119 my opinion, a more detailed plan formalizing those weed control procedures should  
120 be developed by Summit that includes cultural (e.g., prompt seeding and  
121 revegetation of disturbed soils with certified weed-free seed; and use of certified  
122 weed-free mulch/straw for erosion control); physical (e.g., moving of weeds in  
123 newly revegetated areas during the first season of establishment, hand pulling,  
124 and digging); biological (e.g., application of select insects into an infestation, and  
125 grazing by livestock); and chemical control methods (e.g., use of selective and  
126 non-selective herbicides).

127  
128 **Q: Did you review Summit's plan to manage the inadvertent release of**  
129 **Horizontal Directional Drill (HDD) drilling mud?**

130  
131 A: Yes. An HDD Inadvertent Return Plan (referred to as a contingency plan in the  
132 Application) was provided. In my opinion, neither the Application (see Section  
133 2.7.7), the ECP (see Sections 4.3.5 and 9.4), nor the HDD inadvertent Return Plan  
134 address the inadvertent return to aquifers, glacial deposits or wetlands. The  
135 Application, ECP, and the HDD inadvertent return plan do not address factors that  
136 can increase the likelihood for inadvertent returns (e.g., presence of loose, sandy

137 soils; poorly compacted soil and anthropogenic fills; and the presence of features  
138 such as tree roots and previous boreholes).

139  
140 **Q: Landowners have raised concerns to the Commission regarding permanent**  
141 **crop yield loss along the pipeline right-of-way (ROW) as a result of**  
142 **disturbing the soil. In your opinion, should landowners expect to**  
143 **experience ongoing crop yield loss on the ROW? Please explain.**

144  
145 A: The ECP (Sections 2.7 and 2.8) and the Supplemental Application (Section 6.1.3)  
146 provides special construction procedures in agricultural areas (i.e., topsoil and  
147 subsoil segregation, salvage/storage, replacement of subsoil and topsoil  
148 separately to avoid mixing, and deep tillage following construction to alleviate any  
149 soil compaction, avoidance or repair of drain and irrigation facilities, and repairs of  
150 damage of other agricultural-related facilities disturbed during construction). In my  
151 opinion, these are industry BMPs that would minimize any ongoing crop yield loss  
152 along the pipeline ROW. In addition, the ECP and the Supplemental Application  
153 also discusses monitoring measures that will be implemented in agricultural areas  
154 that considers successful revegetation when crop yields are similar to adjacent  
155 undisturbed portions of the sample field. Consideration to potential impacts, if any,  
156 to site hydrology should be incorporated. Impacts to site hydrology, if any, are  
157 being addressed by another witness from ERM, Brian Sterner.

158  
159 **Q: Would an Agricultural Impact Mitigation Plan identify the measures to be**  
160 **taken to mitigate ongoing yield loss after restoration is completed?**

161  
162 A: Yes. An Agricultural Impact Mitigation Plan would identify the mitigation measures  
163 to address ongoing yield loss after restoration. This plan would provide additional  
164 special pipeline construction procedures and mitigation measures to be used in  
165 agricultural areas and other areas of concern (e.g., wetlands and waterbody  
166 crossings; shallow soils, steep terrain and in other erosion prone settings; and  
167 HDD areas) to control erosion and sedimentation.

168  
169 **Q: Did you review Summit's Agricultural Impact Mitigation Plan?**

170  
171 A: No, while the acronym list in the Supplemental Application identified the existence  
172 of this plan, it was not mentioned anywhere in the Supplemental Application and  
173 was not provided by Summit for review.

174  
175 **Q: In your opinion, should the Agricultural Impact Mitigation Plan be provided**  
176 **by the Applicant for Commission review prior to the Commission making**  
177 **its determination on the Project? Please explain why or why not.**

178  
179 A: Yes. An Agricultural Impact Mitigation Plan should be prepared for submission to  
180 the commission that describes in detail the proper mitigation measures that will be  
181 implemented during the construction of the Project to avoid and minimize any  
182 potential yield loss and provide ample measures to determine if successful crop

183 yields are impacted and obtained. The Agricultural Impact Mitigation Plan should  
184 be submitted to the commission to review prior to making a determination.

185  
186 **Q: Should the Agricultural Impact Mitigation Plan include a monitoring plan to**  
187 **measure crop yields to determine if there is measurable yield loss along**  
188 **the ROW? Please explain.**

189  
190 A: Yes. It should include this type of monitoring plan even though, in Section 7.1.3 of  
191 the application general post-construction monitoring and maintenance measures  
192 are provided. In my opinion, an Agricultural Impact Mitigation Plan should be  
193 prepared to include a detailed monitoring plan that describes measures that will be  
194 implemented to monitor crop yields, including maps depicting the locations and  
195 acreage impacted. The Plan, at a minimum, should specifically address if there is  
196 a measurable yield loss along the ROW and provide ample measures to determine  
197 if successful crop yields are obtained.

198  
199 **Q: In your experience, is it typical at this point in the process for the**  
200 **information you discussed above not to be available?**

201  
202 A: Yes. In my opinion, it is typical at this point in the process that the detailed HDD  
203 Plan and the Agricultural Impact Mitigation Plan are not available. The Applicant  
204 should commit to the development of these detailed plans and the Commission  
205 should require these plans be submitted for review and approval prior to  
206 construction. All plans would be required at a later stage of the Project  
207 development.

208  
209 **Q: The Commission has received comment that the pipeline will adversely**  
210 **impact soil temperatures along the ROW. Do you have similar concerns**  
211 **that the pipeline could adversely impact soil temperatures? Please explain.**

212  
213 A: No. In my opinion and based on previous experience with other large pipeline  
214 projects and the results of steady-state temperature profiles modeled for winter  
215 and summer operations for these projects, changes of soils temperature by  
216 pipelines along the ROW is not an issue of concern. The temperatures above the  
217 pipeline at various distances from it deviate minimally from the background  
218 temperature. Therefore, the overall effect on vegetation and crops associated with  
219 heat generated by operation pipelines is not significant.

220  
221 **Q: Does this conclude your testimony?**

222  
223 A: Yes.