

C-R-S:	PID:	Reviewer:	Date:
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If you do not have a Karst correction on the project, you do not have to fill out this checklist.

<b>Investigation</b>	
Y N X 1	Have aerial photographs and surface topography maps been reviewed to identify the occurrence of surface depressions in the general area?
Y N X 2	Have geophysical or drilling methods been employed to define the vertical and lateral extent of any karst features?  If a geophysical method was used, check the methods utilized:  <input type="checkbox"/> refractive seismic studies <input type="checkbox"/> microgravity <input type="checkbox"/> ground penetrating radar <input type="checkbox"/> resistivity <input type="checkbox"/> reflective seismic studies <input type="checkbox"/> electromagnetic studies
Y N X 3	Have joint sets and bedding of the formation(s) been defined?
Y N X 4	Has the investigation included a review of deranged (irregular) drainages, lack of drainage or unexpected surface water disappearance (piracy)?
Y N X 5	Have a site plan and cross sections been provided comparing ground surface conditions, before and after failure?
Y N X 6	Has a groundwater assessment been conducted to inventory and establish use of the groundwater resources within 1000 feet of the project limits?
Y N X 7	Has the history of the karst area been researched, including movement history, maintenance work, and past corrective measures?
<b>Analysis</b>	
Y N X 8	Has the analysis considered overburden thickness, bedrock surface, cavity and/or arch characteristics, and groundwater depth and use?
Y N X 9	Has groundwater flow been evaluated to assess the potential impacts of remedial actions?
Y N X 10	Has the presence of joints been presented in rose diagrams or by other graphical means?

**V.F. Karst Corrections Checklist**

<b>Design</b>	
Y N X 11	<p>Has a remediation method been determined?</p> <p>If yes, check the methods that were evaluated and circle the chosen correction:</p> <p><input type="checkbox"/> grouting                      <input type="checkbox"/> land bridge</p> <p><input type="checkbox"/> dig-out                              <input type="checkbox"/> implosion</p> <p><input type="checkbox"/> pillar grouting</p> <p><input type="checkbox"/> other                              List other items:</p>
Y N X 12	<p>Has a cost comparison been performed to evaluate a recommended solution compared to others?</p>
Y N X 13	<p>Has the design maintained groundwater flow through the area?</p>
<b>Plans and Contract Documents</b>	
Y N X 14	<p>Has the information obtained from the investigation and analysis been incorporated into the project design?</p>
Y N X 15	<p>Has the vertical and lateral extent of defined karst conditions been included on the Cross Sections and Plan and Profile sheets?</p>
Y N X 16	<p>Have all necessary notes, specifications, and plan details been developed?</p>
Y N X 17	<p>Have the need, location, plan notes, and reading schedule of instrumentation been determined?</p>
Y N X 18	<p>Have the effects of the correction solution on the construction schedule and maintenance of traffic been accounted for on the plans?</p>
Y N X 19	<p>Have the effects of the original failure and proposed correction on any structures (e.g., bridges, buildings, culverts, utilities) been evaluated and solutions to any issues incorporated into final design?</p>

Notes: