For years the idea that synthetically engineered DNA sequences might be eligible for copyright protection has been debated, and in a recent article I argued that under current copyright law engineered DNA should be considered copyrightable subject matter, so long as it satisfies conventional requirements such as originality. Much of my argument was based on the growing convergence of computer programs (which are currently considered copyrightable, but only after years of uncertainty) and engineered DNA, particularly with recent advances in synthetic biology. In this follow-up paper, I consider the question of how best to apply copyright law to engineered DNA and synthetic biology. US copyright law distinguishes between different categories of copyrightable subject matter. For example, there is no general performance right for sound recordings, and there are a number of explicit limitations on the scope of copyright protection for computer programs. This paper address such questions as how the idea-expression dichotomy and merger doctrine should be applied engineered DNA, how fair use would be applied, to what extent non-literal infringement would apply to engineered DNA, and what sort of explicit statutory limitations on DNA copyright protection should be enacted.