A formal engineering design review process requires that the Engineer of Record (EOR)1 demonstrates that the basis of design (BOD)2 meets the standard of engineering practice3.

* Specifically, the technical advisory panel (TAP) in its scope of work was requested to “evaluate the technical viability, performance, safety, maintainability and operability of light-weight cellular concrete (LCC) and the integrated improvements, as specifically proposed for the Mission Rock Project.”
* The TAP was required to make “recommendations to the City on whether the proposed design is reasonable, equivalent to alternative designs, and safe given the site conditions.” In terms of the BOD,
  + “reasonable” design is one that meets the standard of engineering practice.
  + Likewise, an “equivalent” design is one that provides equivalent or similar performance when compared to other alternatives.
  + Lastly, “safe” design is one that demonstrates that the BOD meets the required factors of safety or performance goals as embodied in the standard of engineering practice.

In summary, the TAP must determine that EOR (Langan) has adequately demonstrated and supported the BOD by its evaluations, calculations, and field and laboratory test programs. Further, the BOD must be found to be sufficiently communicated via design and construction documents to the TAP. Only after these findings are made, will the TAP provide an opinion as to the LCC alternative being reasonable, equivalent, and a safe alternative for use as engineered fill, backfill and pavement subgrade material for the Mission Rock Project. Further opinion will be made as to the LCC being functionally and safely integrated with the planned improvements, which are primarily subsurface public utilities planned for the project.

1 [**Engineer of Record**](https://www.lawinsider.com/dictionary/engineer-of-record) means a professional engineer who seals drawings, reports, or documents for a project. The seal shall acknowledge that the professional engineer prepared, coordinated, or had subordinates prepare under the direct supervision of the professional engineer, drawings, reports, or documents for a project. <https://www.lawinsider.com/dictionary/engineer-of-record>

2 **Basis of Design** constitutes the performance goals, design criteria, and other requirements, considerations, components, features, and primary assumptions evaluated by the Engineer of Record to implement the design and construction of the engineered feature or work. The basis of design must be communicated and documented, and its requirements presented in construction documents via calculations, typical drawings, and details, specifications, special provisions, etc.

3 **Standard of practice** in terms of code enforcement means that the engineer of record designs or makes calculations and specifications according to acceptable engineering practice, standards or methods and does so with the stamp of a registered design professional as required by the law of the particular jurisdiction.