



Executive Summary

This report is a description, analysis, and comparison of the existing and four alternative floor systems. The proposed floor system for Parkridge Center – Phase VI is a composite steel system. Using manufacturer design tables, the CRSI handbook, the AISC Manual of Steel Construction 13th Edition, RAM Structural system, and other design aids I have analyzed and found preliminary sizes for the following floor systems:

- Post-Tension 2-Way Flat Plate Slab
- Pre-Cast Hollow Core Plank
- Open Web Steel Joists with form deck
- Non-Composite Steel with form deck

Each system was compared against overall depth, weight, constructability, and impact on the existing foundation. From the initial analysis I found that the existing system is the most economical for the typical bay spans. Other viable options that would require more study are a Post-Tension and open web steel joist system. The post-tension systems may provide additional benefits in resisting the floor tension caused by the sloping columns on the south face. The open web steel joist system has the potential to significantly reduce the seismic base shear and impact on the shallow foundation system.
