Prefabrication has always been a part of the construction industry. However, a vertically integrated construction company that designs, manufactures, erects and constructs projects utilizing prefabricated panels is unique. Purcell Construction Corp. offers a full-service alternative for prefabrication of construction projects providing services to Architects, Engineers, Owners, and Contractors.

We design, manufacture, erect and construct a structural system comprised of light-gauge steel studs and composite decking and is best utilized for repetitive projects such as:

- Dormitories
- Apartments
- Adult Care Facilities
- Skilled Nursing Facilities
- Hotels
- Military Housing

We utilize the SigmaStud® framing system which is a product of The Steel Network, Inc.

**Advantages Over Wood**

- Fire Resistance: Metal does not burn, wood does.
- Convenience: Lighter weight construction.
- Stability: Metal is not prone to twisting and warping like wood; wood also absorbs moisture, which can lead to mold growth.
- Resistance to Insects: Termites and carpenter ants can damage wood construction.

**Sound Transmission Rating:**

- **IIC Rating (Floors):**
  - Composite deck with no finish: IIC 28
  - Composite deck with vinyl flooring finish: IIC 35 - 40
  - Composite deck with carpet and underlay: IIC 75 - 85
  - Composite deck with isolation hangers: IIC 60 - 65

**Fire Resistance Rating:**

- **Floors:** UL ratings for the dovetail composite deck system range from 1 hour to 3 hours per UL #9084. This UL design does not require deck protection or an additional fire-rated ceiling assembly.
- **Walls:** Metal studs, with a Type X gypsum wallboard, will provide 1 hour to 4 hour fire-resistance ratings.

**LEED v3.0 Credits**

- **MR Credit 2 - Construction Waste Management:** Steel is 100% recyclable material.
- **MR Credit 4 - Recycled Content:** Steel has a high pre-consumer and post-consumer recycled material value.
- **MR Credit 5 - Regional Materials:** Materials are harvested and manufactured within a 500 mile radius of project site.

**Sound Transmission Rating:**

- **IIC Rating (Floors):**
  - Composite deck with no finish: IIC 28
  - Composite deck with vinyl flooring finish: IIC 35 - 40
  - Composite deck with carpet and underlay: IIC 75 - 85
  - Composite deck with isolation hangers: IIC 60 - 65

- **Exterior Walls**
  - Pre-sheathed, galvanized cold form stud panels individually designed to meet local wind, seismic, and snow loads. Panelized construction assists in reducing construction time and material waste.
- **Shear Walls / Interior Walls**
  - Interior load-bearing walls may be panelized as well and sheathed with various finishes. Shear wall panels consist of pre-installed diagonal sheet steel sheathing straps specifically designed for local building code requirements.
- **Floor Assembly**
  - Using a dovetail composite deck system with concrete topping, greater floor spans can be achieved while assisting in IIC ratings. By staggering the deck, it eliminates the need for fire-stopping.
- **Wall/Slab Connection**
  - Various pour stops are designed and installed on-site to facilitate load transfer and expedite construction.
- **MEP Systems**
  - The metal studs have knockouts, which allow for MEP rough-ins and running of wires and piping within the wall.
- **Roof Connection**
  - Cold formed trusses are non-combustible, which allows for a Type IIIB building, reducing the need for additional fire resistance rated protection. In addition, a clean wall-to-roof connection is provided, allowing for a cold roof design to eliminate snow and ice build-up at the perimeter.