



The key to cost-effective development for a renewable power generating facility is to maximize outputs while minimizing impacts to the location. RMT provides full civil infrastructure design services to optimize your site development.

Complete Approach

We combine our civil engineering capabilities with our vast electrical, environmental, and construction experience to offer a complete approach to your infrastructure development needs. This allows us to fashion our design not only to the site's physical conditions and permitting requirements, but also to the way our construction team actually works. Our designers are available throughout construction to rapidly respond and seamlessly manage any field changes or requests that may occur.

One of our roles as civil designer is to also manage the many contracts and people involved in the development of your infrastructure project. Rather than spending your time acting as the go-between for multiple parties, you have just one contract to manage—RMT does all the interfacing and creates greater efficiencies for you.

Our coordinated approach to civil infrastructure design creates:

- Optimized site conditions
- Positive regulatory agency interaction and cooperation
- Construction-related permitting initiation well before construction activities
- Fewer surprises and change orders
- Smoother transition from project start to finish, with fewer project breaks and downtime for handoffs between parties
- Significantly faster delivery, bringing your project online faster
- Reduced overall transactional costs

Civil Engineering Services

We specialize in integrating the many civil engineering disciplines required to complete your project. Our civil engineering services include the following:

Geotechnical Investigations

We evaluate soil engineering properties and unique subsurface features that may impact the design, construction, and viability of your project. We focus on determining the best foundation and other structural component designs for your project—designs that can handle the static and dynamic loading of the equipment for the site-specific subsurface conditions—to reduce your construction costs.

Thermal Resistivity for Cable Trench Backfill

Beyond testing traditional index and engineering properties of the soil, we conduct field and laboratory soil thermal resistivity testing to aid in the design and placement of underground electrical transmission cables associated with renewable energy collection systems. Depending on the type of soil, we may recommend and develop engineered fill material to improve thermal properties and minimize the potential for collector system failures.

Construction Permitting

Construction permits vary by the extent of work being performed and the project location. We work closely with municipalities, local governments, and regulatory agencies to secure the appropriate permits prior to starting construction.



Hydrologic Studies, Storm Water, Erosion Control, and Grading Plans

If not properly managed, large construction projects can result in unacceptable runoff or retention conditions impacting water supply, quality, and critical downstream habitats. RMT supports permitting and facilitates site approval by providing:

- Hydrologic and drainage design modeling
- Grading and erosion control plans
- Storm Water Pollution Prevention Plans (SWPPP) detailing construction plans and physical containment recommendations
- Spill Prevention, Control, and Countermeasures (SPCC) Plans to satisfy 40 CFR 112

Access Roads, Crane Paths, and Laydown/Assembly Areas

Most utility-scale wind and solar facilities require improved roads to handle transport vehicles, heavy loads of equipment, and high volumes of construction traffic. Additionally, these facilities may require improved areas for the staging and pre-assembly of equipment. We provide the following:

- Develop access road, crane path, and crane pad designs
- Interface with equipment manufacturers and transport companies
- Negotiate with regulatory and local government agencies to obtain permits and construction requirements
- Develop dust control plans, obtain fugitive dust control permits, and design access roads and related work areas to minimize fugitive dust

Foundations

RMT designs foundations to meet the loading and geotechnical conditions of each location to assure adequate structural stability. We consider key structural aspects, such as allowable subsoil bearing capacity, earth pressures, foundation moment, and shear requirements, in all of our designs. We design solar energy foundations for fixed-tilt, single-axis tracking, or dual-axis tracking systems. For wind energy facilities, our team has designed thousands of wind turbine foundations to accommodate turbines ranging in size from 1.25 to 3.0 MW.

Substation and Interconnection Structure Supports

Substation and interconnection support structures are an important consideration. We determine loads of dead-end structures, the main power transformer, switchgear, control buildings, and geotechnical conditions to prepare an adequate foundation system. Performance and installation cost optimization is paramount in our designs.

Construction Quality

RMT incorporates quality testing in the field to ensure that construction complies with infrastructure design. We have a full staff of field engineers and environmental monitors whose primary function is to monitor all construction activities. They maintain a direct link to design engineers for any required clarifications, alternate requests, and requested quick-turn field designs. These individuals:

- Test for road compaction and concrete strength
- Manage the foundation construction process
- Ensure conformance with design drawings and specifications and permitting requirements

RMT has a full staff of field engineers and environmental monitors whose primary function is to monitor all construction activities to ensure conformance with design drawings and specifications and permitting requirements. They maintain a direct link to design engineers for any required clarifications, alternate requests, and requested quick-turn field designs. Direct field input helps us capture lessons learned and consider them in future designs.

Engineering services may be provided by one of RMT, Inc.'s subsidiaries or affiliates: RMT, Inc., Michigan or RMT North Carolina, Inc.