

Chapter 9 – Design Guides

9.11 CIVIL AND SITE GUIDE

A. GENERAL

1. The purpose of the Civil and Site Guide is to describe OGS standards for the design and implementation of site, civil, and environmental engineering projects.
2. The Project Manager (PM) or Consultant/Designer shall obtain and become familiar with the clients' project request and the project scope of work. Identify all required trade assists.
3. The scope of work shall be verified and clarified as needed with an initial site visit with the client and project team, as required.
4. Comply with all applicable NYS and industry codes and standards. Identify codes and standards early in the design process.

B. REFERENCES

1. Water and Wastewater Treatment and Conveyance Systems: Any improvements made to existing water treatment facilities and conveyance systems including any new facilities shall comply with the latest version of the following standards:
 - a. Drinking Water Treatment and Distribution:
 - i) Subpart 5-1 New York State Department of Health (NYSDOH) Public Water Systems
 - ii) Ten State Standards - Recommended Standards for Water Works
 - iii) National Sanitation Foundation (NSF) Standards
 - iv) American Water Works Association (AWWA) Standards
 - v) Local DOH and Municipality Standards
 - b. Wastewater Treatment and Conveyance:
 - i) NYS DOH - Individual Residential Wastewater Treatment Systems Design Handbook.
 - ii) New York State Department of Environmental Conservation (NYSDEC) - Standards for Waste Treatment Works.
 - iii) Ten State Standards - Standards for Wastewater Treatment Facilities.
 - v) Local DOH and Municipality Standards
2. Hazardous Waste: Environmental cleanups are regulated by Federal, State and in some cases local jurisdictions. All environmental cleanups managed by OGS are expected to comply with all applicable environmental regulations including those related to OSHA and worker safety.
3. Hazardous Materials: Identify suspect hazardous materials within the project site and/or building to be demolished. See Chapter 9.8 Hazardous Material Guide for

information on abatement processes for various hazardous materials. For building demolition projects also see Chapter 9.13 Demolition of Structures Guide.

4. **Accessibility and Transportation Related Items:** All site work shall provide ample and appropriate access in accordance with ADA Guidelines, NYS Existing Building Code and NYS Building Code. Coordinate with NYSDOT or local municipality for curb cut permits, NYCDOT for sidewalk permits, etc. Provide required pavement markings and road signage as recommended by the Manual of Uniform Traffic Control Devices (MUTCD). See Chapter 9.9 Code Compliance information.
5. **Fire Apparatus Access:** For new buildings, campuses or site alterations to existing roads/buildings, ensure compliance with the NYS Fire Code for fire apparatus access. The PM and Consultant/Designer shall contact local fire department having jurisdiction of the project site to notify the department of the project scope and determine the current emergency operating procedures and available apparatus. The project design shall comply with current emergency operating procedures and ensure access to all buildings as per code.
6. **Agency Specific Standards and Requirements:** State agencies have developed their own standards for infrastructure within their facilities. Project Managers and Consultant/Designers need to familiarize themselves with those standards and produce work that adhere and conform to those standards. See Chapter 9.7 Agency Specific Standards and Requirements for the following agencies: DOCCS, DOH, DOT, DMNA, OCFS, OGS, OMH, SED, and SUNY.
7. **Storm Water Pollution Prevention Plans (SWPPP):** SWPPPs are to be prepared as required by the latest NYSDEC Storm Water General Permit for Construction Activity. See Chapter 9.11.2 for information.
8. **Topographic Surveys:** OGS will provide the latest record information on file. The PM or Consultant/Designer shall determine if additional or more current information is required. If survey is required, see Chapter 9.11.3 for standards.
9. **Wetland Delineations:** All wetland research and delineations shall be conducted in accordance with applicable NYSDEC and Federal USACE guidelines.
10. **Environmental Assessments/SEQRA:** All project require an environmental assessment and SEQRA determination. The OGS Project Manager shall contact the Environmental Permitting Unit (EPU) early in the design process to discuss the project scope. The EPU will determine the required environmental assessments and permits. The EPU and PM will determine if the work is to be completed by the consultant or in-house and update DCNet Environmental Permits information accordingly. See Chapter 9.12 Environmental Assessment and Permitting Guide for information.
11. **Building Demolition:** The PM or Consultant/Designer shall check for record information and request a building demolition survey early in the design process.

The bid documents shall clearly identify the work including abatement, utility work, removals including the foundation and site restoration. See Chapter 9.13 Demolition of Structures Guide.

12. Geotechnical Data: The PM or Consultant/Designer shall check with OGS Geotechnical Engineer for record geotechnical information. See Chapter 9.15 Geotechnical Guide.

C. RECORD INFORMATION

1. Paper and Electronic Survey Information: OGS maintains a significant library of survey information for numerous state agencies. OGS Project Managers and consultants are strongly encouraged to search these inventories before they order new surveys. Record survey information includes: maps with property lines, easements, pertinent political, geographic, regulatory boundaries, topographic data, subsurface and overhead utilities, and pertinent natural and manmade features that either lend to or inhibit site access. The record information can be found at V:\DesignAndConstr\Common\FacilityInfo and V:\DesignAndConstr\Common\PlanFile. PMs shall save updated information to the appropriate facility info folder.
2. As-built Drawings:
 - a. As-built drawings may exist for a specific facility, building, or system within a building. Project Managers and consultants should try to obtain any as-built drawings related to scope during the design development phase of a project.
 - b. As a project is constructed – contract documents are to require contractors to prepare and turn over as-built drawings to OGS. These documents can become an invaluable resource as it can be very difficult to locate buried or hidden infrastructure after construction is completed.
3. Investigation of Existing Conditions:
 - a. Existing conditions can be assessed and investigated using many different techniques. The most common means of infrastructure assessment involves:
 - i) Site Surveys
 - ii) Dye Tests
 - iii) Smoke Tests
 - iv) Still and Video Pictures of Underground Lines/CCTV
 - v) Underground Utility Location
 - vi) Hydrant Flow Tests and Hydrant Line Flushing
 - b. When investigations have the potential of disrupting any programs of a client agency, all work will be pre-approved by the OGS Project Manager, the Division of Construction Engineer-In-Charge, and the Client Agency Representative.

D. BUILDING CODE - APPLIED TO SITE AND ENVIRONMENTAL PROJECTS



1. While it may be obvious that the New York State Building Code regulates all construction as it applies to buildings, it is less obvious when construction permits are required for site and environmental projects. The intent of the following is to help the reader better understand which types of site and environmental projects are code regulated and therefore require a construction permit.

Types of Project		Construction Permit Required	When Required	Discussion
Paving	Parking Lots	Possibly	A Construction Permit is required if the project involved lighting or other infrastructure that affected a Building system.	
	New Pavement around buildings	Possibly	If you are replacing an entire "system" the Building Code has specific language that regulates those specific type projects.	<ul style="list-style-type: none"> • Paving Projects should take into account Building Accessibility. • Paving Projects should consider fire access to and around buildings.
	Roads	No	NA	<ul style="list-style-type: none"> • Only code regulated if work is related to a fire access road.
Sanitary Sewer Work		In Some Cases.	A Construction Permit would be required if the project affected a nearby or adjacent Building.	<ul style="list-style-type: none"> • Work will be code regulated if scope includes sewer laterals that tie directly into a Buildings Plumbing System. • Scope that includes Oil Water Separators and Greece Traps typically require construction permits.
Drinking Water Distribution System Work		Possibly (Projects evaluated on a case by case basis).	A Construction Permit would be required if the project affected a nearby or adjacent Building.	<ul style="list-style-type: none"> • New Work typically requires a construction permit. • Repair work does not typically require a construction permit. • The requirement for whether or not a project requires a construction permit often depends on the proximity of the work to a building or buildings, whether the work affects the buildings fire systems. • NYSDOH review and approval of drawings and specifications are required.



Types of Project		Construction Permit Required	When Required	Discussion
Water Tanks	New Tank Construction	Yes	As the design and construction of new water tanks typically impact fire and building systems – these projects require Construction Permits.	
	Tank Rehabilitations	Possibly	As tank renovations do not typically affect building systems these projects have traditionally not required a Construction Permit.	<p>Many circumstances may exist during Tank rehabilitation projects that would reinforce the need for a construction permit:</p> <ul style="list-style-type: none"> • If the structural steel required significant alterations; • If interior work was required; • If by doing the work, water pressure and / or flow was impaired thus inhibiting existing fire safety systems.
Retaining Walls		Possibly	Construction Permits for these types of project would only be required if the retaining wall is greater than 4' high.	<ul style="list-style-type: none"> • Retaining walls qualify as utility structures. Whether a retaining wall project should have a construction permit shall be made on a case by case basis.
Fence systems		Rarely	In some cases – Fence systems may require a Construction Permit as they may effect Building Egress and Fire Access.	
Demolition Work		Yes	All demolition work Requires Construction Permits.	
New Utility Structures		Maybe	Depends on type.	<ul style="list-style-type: none"> • Work involves typically unoccupied structures. Similarly – staff, the public, or workers rarely have to enter these structures.
Open Structures [Gazebos, Pavilions, Carports, and Gas Station Canopies]		Yes		



Revision History:

<i>Rev</i>	<i>Date</i>	<i>Description</i>	<i>Reviewed by:</i>	<i>Approved by:</i>
0	10/28/15	New document	D. Miller	C. Parnett