PART 1: GENERAL

1.01 CHEMICALS

Various chemicals are used in the research and teaching functions of the University. The policy of the University, as stated in Risk Management Bulletin 81-1, is “Under no circumstances should chemicals be disposed of by pouring into sinks or other drains leading to sanitary or storm sewers.” Cornell Environmental Health and Safety is responsible for collecting and disposing of chemical wastes. The Cornell University Chemical Hygiene Plan gives specific guidance for chemical disposal procedures.

1.02 STORM SEWER

A. Per New York State Uniform Fire Prevention and Building Code Part 903 “No sewage from a plumbing system shall be disposed of into the waters of New York, except if specially approved by the authority with jurisdiction, in accordance with article 17 of the Environmental Conservation Law.”

B. Title 6 New York Codes, Rules and Regulations Part 751 requires SPDES (State Pollutant Discharge Elimination System) permits for all discharges of water pollutants (including non-contact cooling water) with the following exceptions:
   1. Discharge to a municipal treatment plant.
   2. Groundwater discharges of less than 1,000 gallons per day of sewage effluent only, no admixture of other type wastes.

C. No sewage or waste shall be discharged to storm sewer.

D. Acceptable discharges to the storm sewer include stormwater, groundwater, roof runoff, or uncontaminated cooling water. Stormwater from construction activities is subject to stormwater pollution prevention plans.

E. Piping deeper than 8' (eight feet) requires the approval of the Utilities Department and 5' (five feet) diameter manholes.

1.03 SANITARY SEWER

A. Design and construction of projects shall be in accordance with the specifications of the municipality having jurisdiction. Sanitary sewers in the City of Ithaca, Town of Ithaca, and the Town of Dryden discharge to the IAWWTF (Ithaca Area Waste Water Treatment Facility); design and construction for projects in these localities shall comply with the 1984 Intermunicipal Sewer Use Law which is available from the Chief Waste Water Treatment Plant Operator, telephone 607-273-8381.
The IAWWTF has developed a revised sewer use ordinance and is seeking final local, state, and federal approvals in 1995. All design and construction projects must comply with the conditions of the 1995 revised ordinance.

Sanitary sewers in the Town of Lansing, Village of Lansing, and Village of Cayuga Heights discharge to the Cayuga Heights Waste Treatment Plant; design and construction of projects in these localities shall comply with the Village of Cayuga Heights Sewer Law which is available from the Village of Cayuga Heights Engineer, telephone 607-257-1238.

B. No stormwater, groundwater, roof runoff, subsurface drainage, or uncontaminated cooling water, shall be discharged to the sanitary sewer (this list is not comprehensive).

C. Piping deeper than 8’ (eight feet) requires the approval of the Utilities Department and 5’ (five feet) diameter manholes.

D. At the completion of all new buried piping, the contractor shall provide a video of the interior of all of the new piping to verify integrity of joints.

1.04 BURIED WATER DISTRIBUTION

A. There are two main water distribution systems on campus that operate at different pressures. The high pressure system is pressurized by an elevated tank at 1065 feet. This system is owned by the State of New York. The low pressure system is pressurized by two reservoirs at 984 feet. All water is supplied by the Cornell Water Filtration Plant except in emergencies. Both systems serve a dual role of domestic and fire water services.

B. All new “T’s” installed in the system shall have three valves, one on each line connecting to the “T.”

C. All piping is to be installed, tested, disinfected, and put into service per current AWWA, NYS Health Department and Cornell University Utilities’ standards/regulations.

1.05 ACCIDENTAL DISCHARGE PREVENTION

Systems shall be designed so as to prevent accidental discharges of prohibited or deleterious substances to sanitary or storm sewer. Where appropriate, curbs around sumps or floor drains shall be installed. Curbs shall be provided in all emergency generator oil storage rooms.
1.06 FLOOR DRAINS

A. Floor drains are required in mechanical equipment rooms, kitchen and dishwashing areas, garages, elevator pits, public toilet rooms, and similar areas.

B. Floor drains shall be connected to the sanitary sewer; a permit shall be obtained from the municipality having jurisdiction for this purpose.

C. No floor drains in buildings and plants shall be tied to the storm sewer system.

D. Floor drains shall not be drained into chemical waste systems.

1.07 ON-SITE WASTEWATER TREATMENT SYSTEMS

A. Septic systems and lagoons shall only be used as a last resort when a municipal sanitary sewer is not available.

B. Design shall be approved by jurisdiction with authority.

C. Permits shall be obtained as required from local, state, and federal agencies. County Health Departments must be consulted for all septic system construction and modifications. The NYSDEC permitting requirements under 6NYCRR, Part 750 must be met if applicable.

1.08 PIPE ROUTING VERIFICATION

A. All drainable fixtures must have verification of proper routing.

B. Verification must be performed on all new construction and when existing systems are modified.

C. Verification must include positive identification using tracer dyes. Cornell University Customer Service must be notified prior to using dyes.

D. Cornell University personnel or a designated representative must witness verification testing.

E. Documentation of the dye test verification must be presented to Cornell University Environmental Compliance Office (ECO). Forms are available from ECO upon request.
PART 2: PRODUCTS

2.01 WATER METER

A. Water meters are required on building entrance service. Meter to be Neptune or Metron-Farnier and shall read in cubic feet. Meters to be complete with plate or basket strainers, three valve bypasses and pressure gauge on bypass. Consult Facilities Engineering for remote readout requirements.

B. Refer to Detail 15400-1: Typical Water Meter.

2.02 BACKFLOW PREVENTOR

The water supply to a building must include two reduced pressure zone backflow preventors, Watt’s #909, with strainers, in parallel with ball or butterfly shut-off valves. Install pressure gauges on both sides of RPZ. On low hazard buildings Watts #709 may be acceptable—consult with Facilities Engineering. All RPZ relief drains shall be piped with full sized drain lines to the nearest sanitary drain. The sanitary drain shall be capable of handling a full discharge flow from the RPZ. Conbraco Model Series 40-200 is an acceptable alternate.

2.03 HOT WATER STORAGE TANKS

Hot water storage tanks above 150 gallon capacity shall be Pre-Krete lined in the field after setting. Below 150 gallon, tanks shall be glass lined.

2.04 SOIL AND WASTE PIPING SYSTEMS

A. Do not use stainless steel clamps below grade.

B. All cleanouts shall be full line size.

2.05 FLOOR DRAINS

A. Floor drains are required in mechanical equipment rooms, kitchen and dishwashing areas, garages, elevator pits, public toilet rooms and similar areas. Connect to sanitary sewer.

B. Floor drains shall not be drained into chemical waste systems or storm sewers.

2.06 GREASE INTERCEPTORS

A. Grease interceptors shall be connected to sanitary sewer. If a septic system is used, the grease interceptor shall be permitted and monitored.
B. Grease interceptors shall be selected and sized to meet applicable code (City of Ithaca). **Note:** Rockford is no longer the only manufacturer acceptable in the City of Ithaca.

C. Except for residential construction, kitchen fixtures, and floor drains shall have grease interceptors.

D. The use of interceptors on effluent to any leach field or sand filter shall be addressed on a case by case basis.

E. Install interceptors on grease lines prior to admixture with the sanitary sewer.

2.07 OIL AND WATER SEPARATORS

A. Provide oil and water separators for working garages. If the oil and water separator discharges to storm or groundwater, an industrial discharge permit will be required *from the NYS DEC*.

B. Oil and water separators shall be connected to sanitary sewer. If a septic system is used, the oil and water separator shall be permitted *by the NYS DEC* and monitored.

C. The use of separators on effluent to any leach field or sand filter shall be addressed on a case by case basis.

2.08 EMERGENCY SHOWERS

A. Water service to emergency showers and eyewashers shall have an accessible valve with removable handle near the fixture to provide shut-off capability to service the fixture.

END OF SECTION