

OFFICE OF THE PHYSICAL PLANT
ENVIRONMENTAL REGULATORY COMPLIANCE CHECKLIST ADDENDUM

This Addendum is intended to provide basic explanatory information on each item in the Environmental Compliance checklist. It does **not** include every requirement for each topic.

1. Asbestos

All facilities constructed before 1990 contain asbestos, which must be considered during renovations, additions or demolitions. Note: partial removal of asbestos is no longer the preferred method of scoping work (e.g. if renovating half a mechanical room or office, count on removing all asbestos in the entire space.). Installing new flooring over old asbestos flooring is prohibited. Professionals and contractors must be notified of possible asbestos in design standards, bid specs, initial job meetings, etc. (regardless if abatement needed or not). PA DEP must be notified in writing, 10 working-days before start of most asbestos removal and all structural demolitions.

Survey must be done during programming and design phase and takes from 1-6 months, depending on the scope of work and the consultant. Asbestos abatement duration varies depending on the project scope from a few days to phasing over several years

Note: Asbestos removal in occupied buildings is conducted at night or over weekends or breaks, unless it is a secure renovation area. Set-up can occur during the day if it does not disturb occupants or block corridors.

2. Lead Paint

All facilities constructed before 1978 contain lead-based paint, which must be considered during renovations, additions or demolitions.

Proper handling of materials with lead-based paint is required during all renovations and demolitions. Lead “abatement” is only required when paint is to be stripped for complete removal or restorations.

See OPP / EHS “[Lead Paint and Other Heavy Metal Pigments - Exposure Control and Disposal Procedures](http://www.ehs.psu.edu/occhealth/lead_paint_sop.pdf)” at: http://www.ehs.psu.edu/occhealth/lead_paint_sop.pdf Professionals and contractors must be notified of possible lead paint in design standards, bid specs, initial job meetings, etc. (regardless if abatement needed or not).

3. Storage Tanks

Storage Tank Removal (Fuel/Oil/Hazardous Substances)

Storage tanks removal must be coordinated through EHS – this includes approval of contractors, disposition of the tanks, and any environmental investigation that must be undertaken. For underground storage tank removals, EHS retains a tank contractor or must approve any alternative. Some cities/townships require permits for the removal of tanks. This must be determined by project personnel. PADEP regulated storage tanks have a 30-day notification requirement for removal.

Storage Tank Installation (Fuel/Oil)

L&I permitting is required for tanks storing flammable and combustible materials through the L&I Flammable and Combustible Liquids Section. Exempted are tanks that are 3,000 gallons or less that are used to power emergency generators or provide heat. Variances are almost always required but are dependent on planned locations – these can take several months to process. Tanks cannot be installed prior to receiving the “Intent to Install” permit from L&I which takes at least a month to obtain. L&I must review the installation when complete prior to filling the tank; they usually provide a verbal ok and then send the permit.

EPA’s Spill Prevention, Control, and Countermeasures (SPCC) regulations apply to fuel/oil storage tank facilities that exceed 1,320 gallons of aboveground storage. Designers will need to show how tanks that exceed this volume or tanks at facilities which in total exceed this volume meet all of the requirements.

Storage Tank Installation (Fuel/Oil/Hazardous Substances)

PA DEP registration is required for certain storage tanks that contain hazardous materials or fuels/oils, depending on the size of the tank and the use. Generally for non-commercial fuel use in aboveground tanks they are regulated at 1,100 gallons; for other regulated substances it is greater than 250 gallons. For heating oil stored for consumptive use it is 30,000 gallons. Storage tanks cannot be filled until the registration is received from PADEP. If a tank will be regulated by PA DEP, a certified tank installer must place the tank (even if it is an attached belly tank for a generator). EHS would like to review the compliance history of the proposed installer through the DEP eFacts website prior to selection.

Storage tank facilities that exceed 21,000 gallons or highly hazardous storage tanks have permitting requirements which entail geotechnical investigation, an environmental assessment, and require professionals to complete. Assume at least six months for this process.

Storage tank annual registration fees are the responsibility of the tank “owners” but are coordinated through EHS.

If storage tanks hold “extremely hazardous substances” in quantities above the “threshold planning quantity” as defined by EPA’s Emergency Planning and Community Right-to know Act (EPCRA Section 302), they are subject to reporting within 5 days of the substance being on-site. They may also require the development of Off-Site Emergency Response Plans in coordination with the county local emergency planning committee (LEPC).

Propane

EHS must be notified of all propane tank installations/removals.

4. Waste Management

Fluorescent tubes and ballasts must be properly disposed of on any project, at any location, where they will be replaced during renovations, additions or demolitions. See PSU Safety Policies SY31 (Lamp Use and Disposal - <http://guru.psu.edu/policies/SY31.html>) and SY26 (Fluorescent Light Ballast / Capacitor Disposal), or OPP Design Standards, Division 02, Existing Conditions.

Smoke detectors may contain radioactive material and must be disposed of properly through EHS. Depending upon the type of detector and changing regulations, each detector may have minimal disposal costs or cost \$1,000s.

5. PCBs Caulks and Glazing Putties

All caulks and glazing putties in/on facilities constructed before 1978 are assumed to contain PCB’s, which must be considered during renovations, additions, demolitions, masonry restoration, as well as façade cleaning.

The PCB Management Program is currently under development. Contact EHS for more information.

6. Mercury

Fluorescent light tube disposal must be conducted as per PSU Safety Policy SY31 (Lamp Use and Disposal – <http://guru.psu.edu/policies/SY31.html>), or OPP Design Standards, Division 02, Existing Conditions.

Lab areas (current and previous) are assumed to contain Mercury. See EHS Mercury Identification and information sheet at: <http://www.ehs.psu.edu/occhealth/mercury.cfm>.

Note: Buildings that are now offices may have been labs previously. Mercury can be difficult or impossible to find before renovations so professionals and contractors must be notified of possible mercury in design standards, bid specs, initial job meetings, etc. Areas of concern must be checked while project is in design phase. Mercury remediation usually accompanies asbestos abatement, but also may be done independently. Typical time frame if done independently is a few hours to a few days depending on extent of spill and availability of clean up professionals.

7. Radioactive Materials

Prior to beginning work in an area that has had radioactive material in use, EHS must survey the area and ensure all radioactive material has been removed. This includes removing all stickers, labels, and signs that indicate radioactive had been in use. For new buildings where radioactive material use is likely, a pre-construction review is desired to minimize impacts. PSU has the necessary permits to use radioactive material within any building at University Park and can obtain permits for use at any Commonwealth Campus.

Whenever a room is being built specifically to house a radiation producing device, shielding may be required. If extra shielding is required to be installed after the walls have been closed, significant expense and extra re-work would be required. PA DEP registration is required for x-ray machines after the devices are installed.

8. Clean Fill

Fill must be managed in accordance with PADEP's Management of Fill (Document No. 258-2182-773). The policy provides procedures to determine if material is clean or regulated fill. Regulated fill is a waste and must be managed under a permit in accordance with municipal or residual waste. Clean fill can be used in an unrestricted manner.

The key to ensuring compliance with this policy is to determine whether fill is clean or regulated by performing environmental due diligence. First some definitions from the policy:

1. *Clean fill* - Uncontaminated, nonwater-soluble, nondecomposable inert solid material. The term includes soil, rock, stone, dredged material, used asphalt, and brick, block or concrete from construction and demolition activities that is separate from other waste and recognizable as such. (25 Pa. Code §§ 271.101 and 287.101) The term does not include materials placed in or on the waters of the Commonwealth unless otherwise authorized.
2. *Environmental due diligence* - Investigative techniques, including, but not limited to, visual property inspections, electronic data base searches, review of ownership and use

history of property, Sanborn maps, environmental questionnaires, transaction screens, analytical testing, environmental assessments or audits.

3. *Historic fill* - Material (excluding landfills, waste piles and impoundments) used to bring an area to grade prior to 1988 that is a conglomeration of soil and residuals, such as ashes from the residential burning of wood and coal, incinerator ash, coal ash, slag, dredged material and construction and demolition waste. The term does not include iron or steel slag that is separate from residuals if it meets the coproduct definition and the requirements of 25 Pa. Code § 287.8. The term does not include coal ash that is separate from residuals if it is beneficially used in accordance with 25 Pa. Code § 287.661 - 287.666.
4. *Regulated fill* - Soil, rock, stone, dredged material, used asphalt, historic fill, and brick, block or concrete from construction and demolition activities that is separate from other waste and recognizable as such that has been affected by a spill or release of a regulated substance and the concentrations of regulated substances exceed the values in Table FP-1a and b.
5. *Regulated substance* - The term shall include hazardous substances and contaminants regulated under the Hazardous Sites Cleanup Act, and substances covered by the Clean Streams Law, the Air Pollution Control Act, the Solid Waste Management Act, the Infectious and Chemotherapeutic Waste Law, and the Storage Tank and Spill Prevention Act.

If due diligence shows no evidence of a release of a regulated substance, the material may be managed as clean fill under this policy. If, however the due diligence shows evidence of a release or past contamination, the material must be tested to determine if it qualifies as clean fill. The policy has specific testing procedures to include testing for metals & organics along with allowable limits of those items tested. If testing reveals that the material contains concentrations of regulated substances that are below the specified limits the material must be managed as clean fill. If testing reveals that the material contains concentrations of regulated substances that exceed the specified the material must be managed as regulated fill. Fill may not be blended to reduce concentrations below the specified limits and materials that contain regulated substances that are intentionally released may not be managed under this policy.

Materials identified as regulated fill are waste and must be managed in accordance with the Department's municipal or residual waste regulations, (basically, proper disposal in a landfill) whichever is applicable, based on 25 Pa. Code §§ 287.2 or 271.2. Regulated fill may be beneficially used under General Permit WMGR096 if the materials and the proposed activities for the fill meet the conditions of that permit.

Portions of the environmental due diligence screening can be done well in advance of any earth moving activities. Laboratory testing generally requires a 10 day turn-around; expect at least an additional 10 days for a consultant to obtain samples and evaluate the results.

9. Dams

Dams are regulated structures under PA Code, Title 25, Chapter 105, Water Obstruction and Encroachment Permits. No dams are permitted to be constructed on University property unless at the direct request of Engineering Services. Dams require annual inspections, emergency action plans, and are a significant potential liability. Structures can be classified as dams due to impoundment, drainage area or height. New dams require a Chapter 105 permit. Currently the University owns 6 dams, five at University Park (Bathgate, 1A and 4A at the Airport, the Duck Pond, and Shaver's Creek) and one at Hershey Medical Center.

Work within the drainage basins to existing dams typically does not require permit changes for projects where the impervious addition does not exceed the dam's design criteria. Projects that change the drainage area will require a review by PA DEP's dam safety group, and if large enough, potentially a modification to the existing Chapter 105 permit.

New small dams, if required, can take up to two years to permit. Engineering Services tracks the imperviousness to three existing dams (Bathgate, 1A and 4A at the airport); therefore, all project designers must provide the final project change in imperviousness to Engineering Services for areas tributary to these three dams.

10. Earth disturbance

NPDES Permitting

Construction or other activity which disturbs the surface of the land such as clearing & grubbing, excavation, land development requires National Pollutant Discharge Elimination System (NPDES) permits for Stormwater Discharges Associated with Construction Activities. The level of permit/review is based on disturbed area of a project. (<1,000 ft² follow BMP's; > 1,000 to <5,000 ft² E&S Plan to be reviewed by Engineering Services; >5,000 ft², at a minimum E&S Plan to be submitted to local conservation district for approval; > 1.0 acre, NPDES permit). University Park currently holds four "Phased" NPDES Permits – North, East, Central and West; any earth disturbance activities >5,000 ft² within those permit boundaries requires the project be included in on the permit as a minor modification. In addition, Capital Campus and Hershey Medical Center each hold "phased" NPDES permits.

Engineering Services review of E&S Plan requires 10 days; E&S Plan Review by conservation district 30 to 45 days; General NPDES Permit 90 to 180 days; Individual NPDES permit 120 to 180 days.

See Design Standards Division 2 – Site Work, Section 2.1 PSU Earth Disturbance Management.

Underground Utility Line Protection

Design Professionals are required to request underground utility line location information through the PA One Call 10-90 days prior to completing design, and to indicate utility line ownership and One Call System contact information on the design documents.

Excavators are required to notify underground utility line owners 3-10 days prior to the start of excavation through the PA One Call System.

Natural Gas Pipelines

Any excavation in the vicinity of existing underground natural gas pipelines requires notification of the utility company. Observation of the excavation work by utility company personnel may be required.

Asbestos Materials

Abandoned or active utility lines may have asbestos-containing materials that require abatement. See item 1 above.

Hazardous Materials

Existing soils may contain hazardous materials above health and safety limits for exposure or use as clean fill. Contamination may be the result of known intentional chemical usage in the area, or accidental spill.

11. Sanitary Sewer Modification

When a sanitary sewer line extension is located outside the University's growth boundary at University Park, or any sewer line extension at other campuses a PA DEP Water Quality permit is required. PA DEP processing can take up to 120 days after a permit application is accepted as administratively complete.

Any time a new connection is made to PSU's sanitary sewer system, planning modules must be submitted to the local municipality and PA DEP through Engineering Services. A letter must be submitted to Engineering Services from the project consultant indicating the required sewer and water capacity. Engineering Services will send the planning module letter indicating the systems have adequate capacity to the municipality. The municipal processing time is usually less than 7 days.

All extensions and connections to a sewer system require a permit. A permit application is required to be submitted to the local sewer authority. All construction will be subject to the

local sewer authority's design and construction standards, and the completed construction will be inspected. The local sewer authority can process an application within 30 days of submission. The local sewer authority will collect a fee for connection to their system that is based on the type of facility being served and the expected flow. This can be substantial and is due before any construction can take place.

12. Stormwater

A review of the stormwater management requirements needs to be conducted for any project that proposes a land use or cover change of any size other than agricultural practices strictly related to crop production. Each municipality may have its own criteria for when stormwater management facilities or supporting computations are required.

A PA DEP Post Construction Stormwater Management (PCSM) Plan is also required for any project needing a NPDES PAG-2 or Individual NPDES permit for construction related activities. The Municipal and PA DEP requirements usually are different potentially requiring two separate stormwater management reports and sets of supporting computations. Municipal approval is required as part of the land development process.

Usually stormwater management facilities constructed as part of a NPDES permit that disturbs more than 1 acre, or approved as part of a municipal ordinance are required to be maintained for perpetuity as indicated on the recorded plan cover sheets. While there is no project specific PA DEP stormwater permit, the University may hold a small Municipal Separate Storm Sewer System (MS4) permit for the campus. Currently the University holds 11 MS4 permits. The MS4 permit requires all stormwater facilities to be maintained and inspected; and therefore, all final stormwater approved reports and as-built plans must be provided to Engineering Services.

PCSM plans and municipal ordinances have inspection and certification requirements that certain types of facilities were constructed and are functioning as designed and permitted.

How stormwater management will be managed at sites will be reviewed with Engineering Services prior to any submission to a Municipality, PA DEP, or Conservation District.

Typically, stormwater management reviews take 90 to 180 days. However, due to the new PA DEP criteria, some projects may take up to a year or more to go through the NPDES related stormwater review process.

13. Water Obstructions and Encroachments

A Chapter 105 Water Obstruction and Encroachment permit is needed for any structure or activity which changes, expands or diminishes the course, current or cross section of a watercourse, floodway or body of water. The floodway is typically considered to extend 50 feet landward from the top of each streambank when FEMA floodways are not delineated. Any project conducting work near a waterway, including intermittent and perennial streams or even what appears as dry storm ditch may trigger this permit. Types of projects that are included are dams, culverts, bridges, fills, levees, floodwalls, stream enhancement structures, storm drain point discharges, stream alterations, dredging, etc. A determination should be made with Engineering Services.

Depending on the site location, watershed type, or project scope, the permits can vary from the full Joint PA DEP Chapter 105/USACE Section 404 permit, to a Small Projects Permit, to a General Permit. Due to the complexity of permit triggers, a determination should be made with Engineering Services. It also may be recommended to contact PA DEP directly for an official letter of determination.

The time required to secure the permit can vary significantly depending on the type of permit required. Joint Permits can take several years to secure while General Permits can be approved by some Conservation Districts in 90 days. Many streams also have permit restrictions that limit when during the year work can be done.

14. Roadway Permits

All permit applications related to roadway work must be prepared by the Design Professional for review and signature by Engineering Services.

PennDOT highway occupancy permits (HOP)

PennDOT requires utility permits to install, repair, replace, connect, remove, or disconnect privately, publicly or cooperatively owned lines, facilities and systems which directly or indirectly serve the public or any part thereof. Driveway/Local Road Permits are required to install, alter, or remove a driveway, street or other means of passage of vehicles between the highway and abutting property. As an instrumentality of the commonwealth, PSU does not pay application fees for HOP's. Applications are prepared by the Design Professional for signature and submission to the Department. A minimum of 2 business days should be allocated for Engineering Services review prior to submission.

15. Water Supply

Any time a new connection is made to PSU's water system, planning modules must be submitted to the local municipality and PA DEP through Engineering Services. A letter must be

submitted to Engineering Services from the design professional indicating the required water capacity. Engineering Services will send the planning module letter indicating the systems have adequate capacity to the municipality. The municipal processing time is usually less than 7 days.

All extensions and connections to a water system require a permit. A permit application is required to be submitted to the local water authority. All construction will be subject to the local authority's design and construction standards, and the completed construction will be inspected. The local authority can process an application within 30 days of submission. The local authority may collect a fee for connection to their system that is based on the type of facility being served and the expected flow. This can be substantial and is due before any construction can take place.

16. Natural Gas Systems

Natural gas distribution systems are subject to the Federal Department of Transportation hazardous pipeline safety regulations (49 CFR 191 and 192) and related Pennsylvania laws. In many cases, compliance with the regulations and related record-keeping is the responsibility of PSU. Engineering Services will provide direction as to which parties have compliance responsibility and who the Design Professional should contact to coordinate record-keeping.

17. Spill Prevention

Oils, fuels, and hazardous substances in containers of 55-gallons or greater must be reported to EHS prior to being on-site and must have secondary containment.

Oil-filled equipment must have containment for likely releases. This varies by equipment and must be coordinated with EHS.

Oil-filled transformers that are located outside a building are not required to have secondary containment.

18. Air Quality

A review is required on any project at UP that includes fuel-burning equipment (boilers, generators, etc.) or possibly process emissions. In some cases, equipment with lower emissions per year may only require 30 day review. Most emitting equipment has a 180 day permit review. Permits cannot be submitted until project-specific equipment data (shop drawings) are available. No work directly associated with the installation of the emitting equipment is allowed until a permit to construct is received.

19. Refrigerants

PSU must maintain records of refrigerant use in order to comply with EPA regulations. Compliance documentation is the responsibility of PSU, and no submission or application to the EPA is required.