

## DESIGNER EFFECTIVENESS GUIDELINES

*Adopted by the Pennsylvania One Call System, Inc. Board of Directors April 29, 2020*

### Disclaimer of Liability

This Guide has been prepared as an educational document for project owners, designers, architects, engineers, operators, surveyors, facility owners and excavators. For this document the term ‘Designer’ shall mean any architect, engineer or other person who or which prepares a drawing for a construction or other project which requires excavation or demolition work. It is intended as a reference tool for interacting with the Pennsylvania One Call System, (POCS). It is also intended to explain, in a general way, the requirements provided for in Pennsylvania's Underground Utility Line Protection Law (UULPL), Act 287 of 1974, as amended. It is strongly recommended that all individuals who regularly contact POCS review the UULPL and this Guide. Familiarity with its contents will be valuable, but the Guide is meant to clarify and explain the UULPL law according to POCS' understanding of how it affects interaction with POCS. **This Guide is not a substitute for the UULPL and it does not relieve anyone from discharging their responsibilities as set forth in the Act or as otherwise required by law.**

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### Designer Effectiveness Guidelines

The information contained within this document is from the UULPL and Common Ground Alliance (CGA) Best Practices, which are part of the UULPL. The following guidelines are not intended to replace any existing designer policies or procedures that have been established by the individual company or designer. The following Designer Effectiveness Guidelines are to be utilized as a guide by anyone who may wish to take advantage of the information contained within.

An effective Underground Project Design includes consideration of all existing underground facilities. The Designer should make a reasonable effort to prepare the construction drawings to avoid damage to and to minimize interference with a facility owner's facilities in the construction area by maintaining the clearance as provided for in the applicable easement shown on the plat or an eighteen-inch (18") clearance from the edge of the facility owner's facility if no easement restriction exists. This document will identify the various areas that should be addressed in your designing process, it will also identify the recommended guidelines that a designer should follow to complete an effective underground project design. The first stage of the design process that will be addressed is "knowing," the second stage consists of "appropriately designing" and the final stage of effective design is "effectively communicating the location of all underground facilities provided by facility owners to the excavator and in association with excavation activities."

## **1. Utility Coordination**

**Guideline:** Project Owners should see if there is an opportunity to contact and collaborate on your projects with other Project Owners, Designers, and Facility Owners during the conception phase of the project via Utility Coordinating Committees/Councils (UCC), CGA Regional Partnerships, engineering societies, and governmental agencies. This is done as a means of identifying underground facility owners/operators in an excavation area of your project that are possibly doing a project in the same area at or close to the same time as your project.

Utility coordination fosters an open exchange of information among private and public facilities, governmental agencies and construction related organizations. Utility coordination also promotes cooperation among said groups in the planning, design and construction of projects affecting the overall good of participating parties, their organizations and customers or constituents, and the general public.

Utility Coordinating Committees (UCCs, or Councils) or CGA Regional Partnerships, where existing, include private utilities, public agency utilities, engineering firms, contractor associations, and others with facilities or business interests in public rights-of-way. UCCs and CGA Regional Partnerships function in multiple counties in Pennsylvania to promote excavation project coordination. Typical items of discussion include facility excavations in existing and recently paved roadways, disruption of essential facility services, location of utility facilities, environmental impact of damages to utilities, permit procedures, right-of-way access controls and underground facility damage prevention. Plans of future roadway improvement and of future facility installations are also reviewed regularly.

To assist in the collaboration and coordination on complex projects, Project Owners should use POCS' Coordinate PA (CPA) application. CPA enables users to add and/or import existing projects, coordinate opportunities with others who want to collaborate, share project communications with designated contacts and notify facility owners at any stage of a project.

CPA also helps project owners coordinate their complex projects with other project owners, designers, excavators, and facility owners. A Complex Project means any excavation project that involves more than properly can be described in a single locate request; or any project designated as such by the excavator or facility owner as a consequence of its complexity; or

its potential to cause significant disruption to lines or facilities and the public, including excavations that require scheduling locates over an extended time frame.

CPA helps maximize the benefits of shared costs and much more. CPA also allows seamless transition of an underground complex project from the Project Owner to Designer for the design phase of the project; and from the Designer to the Excavator for the construction phase of the project. To ensure compliance with the UULPL, Project Owners, Designers, and Excavators must use CPA on all complex underground projects, and complex excavation notifications in Pennsylvania.

## **2. Plat Designation of Existing Underground Facility Easements**

**Guideline:** Plats involving development of real property should include the designation of underground facility easements. Various items are required on the plats filed prior to the development of lands. Where plats are filed, they should include the identification of the easements of underground facilities traversing the land described on the plat. Identification of easements of underground facilities on the plat increases notice to developers and the public about the existence of the underground facilities.

## **3. Gathering Information for Design Purposes**

**Guideline:** During the planning phase of the project, available information is gathered from facility owners/operators. This may include maps of existing, abandoned and out-of-service facilities, cathodic protection and grounding systems, as-builts of facilities in the area, proposed project designs, and schedules of other work in the area. This information is gathered for the purpose of route selection and preliminary neighborhood impacts, and as part of the process of impact analysis when evaluating different design possibilities.

In CPA, once a project is ready for the design phase, the Project Owner will give the Designer access to the Project. The Designer then does a Preliminary or Final Design notification in CPA to notify all the owners of underground facilities in the project area. This notification alerts underground facility owners/operators to establish communication between the Project Owner, Designers and the Facility Owners to facilitate a plan and design for the use of the land, which complements the underground facility.

In accordance with the UULPL, a Designer is required to request the line and facility information via POCS, not less than ten (10) nor more than ninety (90) business days before final design is to be completed. However, the Designer can request information more than ninety (90) days provided that the Designer states that their work is a preliminary design. Gathering information may also include a review of the site for above ground indications of underground facilities (i.e. permanent signs or markers, manholes, covers, vent pipes, pad mounted devices, riser poles, power and communication pedestals and valve covers). POCS provides a listing of operators directly to the designer, or to the subsurface utility engineer. This information is available in formats that are accessible to all users such as voice, fax, E-mail or web site. The Facility Owner will provide information to the designer by either marking up design drawings or providing facility records to the designer. This can be done on paper or electronically via Drawing Exchange in the Coordinate PA application. At the

Facility Owners sole discretion, the facility owner/operator may field locate their underground facilities or provide the physical locations of their underground facilities at the site on a POCS Design Notification.

The recommended method for gathering underground facility information in Pennsylvania is by using the POCS CPA application, but it may also include contacting the facility owners/operators directly, UCCs, CGA Regional Partnerships, other designers, engineering societies, and governmental agencies as a means of identifying underground facility owners/operators in an excavation area.

Coordinate PA is the next generation of utility coordination. Instead of a physical meeting to discuss plans, or copy maps, or create a spreadsheet of projects, utility companies, public works directors and others describe their projects on a map via the internet. Coordinate PA then shows the projects and the project timeframes for users and automatically identifies opportunities for collaboration between underground projects.

Maps display project scopes and phases to make it easy for stakeholders to identify opportunities to collaborate. When done far enough in advance, everyone may recognize cost savings and minimize disruption to the public through sharing and coordination

#### **4. Subsurface Utility Engineering (SUE)**

**Guideline:** The use of Subsurface Utility Engineering (SUE) techniques is also utilized in information gathering. On known Complex Projects having an estimated cost of \$400,000 or more, the use of a sufficient quality level of SUE is required in Pennsylvania. SUE includes up to four quality levels for gathering underground facility information. It is recommended that SUE Level A be used on complex projects having an estimated cost of \$400,000 or more. Please see the Federal Highway Administration publications and ASCE 38-02, standard guideline for the collection and depiction of existing subsurface utility data for additional details.

The use of Subsurface Utility Engineering (SUE) is applied during the design phase to locate, identify and characterize all existing utility infrastructure (and other relevant non-utility features) found within a given project/area. SUE is applied in a structured manner, in accordance with practices and Quality Levels found in ASCE 38-02 “*Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data.*” The project owner dictates the required Quality Levels, as well as the amount of effort expended by the SUE provider on each complex project. Although the Standard is more detailed and comprehensive, the following is a brief summary of the Quality Levels defined therein: *QL-D involves utility records research and interviews with knowledgeable utility personnel. QL-C involves surface survey, identifying and recording aboveground features of subsurface utilities, such as manholes, valves, and hydrants. QL-B involves application of “surface geophysical methods,” such as Electromagnetic-based locating instruments, Ground Penetrating Radar, Radar Tomography, metal detectors, and optical instruments, to gather and record approximate horizontal (and, in some cases, vertical) positional data. QL-A involves physical exposure via “soft-digging” (vacuum excavation or hand-digging) and provides precise horizontal and vertical positional data via traditional survey methods.* SUE results are then

integrated into the design process, where design engineers use the information to create construction plans that accommodate existing infrastructure, thereby reducing the overall risk of conflicts and/or damage.

## **5. Identifying Existing Facilities in Planning and Design**

**Guideline:** During the planning phase of the project, existing facilities are shown on the design plans. The planning documents include possible routes for the project together with known underground facility information. The various facility owners/operators may be given the opportunity to provide appropriate feedback.

During the design phase of a project, underground facility information from the planning phase is shown on the plans. The Designer shall make a reasonable effort to prepare the construction drawings to avoid damage to and minimize interference with a facility owner's facilities on the construction area by maintaining the clearance as provided for in the applicable easement condition or an eighteen-inch (18) clearance from the edge of the facility owners' facilities if no easement restriction exists. If information was gathered from field-located facilities, from underground facility surveys, or from subsurface utility engineering, this is noted on the plans. As a result, the designer and the excavator both know the quality of the information included on the plans. If an elevation was determined during the information gathering, it is shown on the plan. The facilities shown include active, known abandoned and out-of-service facilities, and proposed facilities. The Designer shall also show the toll-free number of POCS on the drawing near the POCS Design Notification Serial Number. The design plans should also include a summary drawing showing the proposed facility route or excavation including streets and a locally accepted coordinate system

Distribute plans to facility owners/operators to provide the opportunity to furnish additional information, clarify information, or identify conflicts.

## **6. Markers for Underground Facilities designed by the Facility Owner**

**Guideline:** If construction involves the installation of new facilities, and where practicable in the opinion of the Project Owner, the project owner shall install color-coded permanent markers to indicate the type and location of all laterals for future identification. The purpose of these color-coded above-ground markers is to identify underground facilities, not to locate for excavation or circumvent the one-call process. Designing underground facilities for future location reduces the risk of an incorrectly marked underground facility during an excavation project. Above ground markers are developed during the design process and include the company name, type of facility, emergency contact, and the one-call number. The locations and types of markers are specified in the construction plans. The design provides a marker system to include, but not limited to, stream crossings, public road crossings, other facilities' rights-of-way, railroad crossings, heavy construction areas, and any other location where it is necessary to identify the underground facility location. If non-detectable facilities are being installed, the design includes a means to accurately locate the underground facility from the surface. The facility markers shall be color-coded in accordance with the APWA guidelines to assist in identifying the particular facility.

## 7. Follow Applicable Codes, Statutes and Facility Owner/Operator Standards

**Guideline:** The designer of a facility project should consider all national, state, local, and industry codes, regulations and practices as well as facility owner standards. Regulations, codes, standards and other design documents generally specify depth of cover, and horizontal and vertical clearances between adjacent facilities. In addition, certain facility owner/operator codes may allow exceptions to the prescribed minimum clearances, contingent upon written approval between the affected facility owners/operators.

The designer shall also consider the protection and temporary support of adjacent facilities, and any interference to existing cathodic protection and grounding systems. Consequently, the designer shall provide procedures for emergency notification and repairs in the case of any damage to an adjacent facility.

Designers need to be aware of proposed and revised standards and codes that may affect the project.

## 8. Pre-Bid or Pre-Construction Design Conferences

**Guideline:** Project Owners shall not release a design project for bid or construction until after a Final Design notification is completed through POCS. Depending on the level of impact of proposed construction upon facilities in the excavation area, the project owner or designer may require potential excavators to attend a pre-bid or pre-construction *design* conference, which may include underground facility owners/operators. This pre-bid or pre-construction *design* conference is exercised to discuss, among other things, the particular facilities in the area and the requirements to properly protect, support, and safely maintain the facilities during excavation. Official minutes shall be taken, recorded and disseminated as written to all attendees.

The designer's continuing involvement during the pre-bid/bid phase with the potential excavators(s) allows for more effective communications between all parties. The designer can assess whether the interested bidders have the expertise needed and the correct understanding of the intended design. (This applies if the designer has a contract with the Project Owner for assisting with bidding services.)

Once the project has been awarded to an excavator via the bidding or other selection process, the Designer can assign the project to the excavator via CPA for the construction phase of the project.

## 9. Use of Qualified Excavators

**Guideline:** Excavators that excavate on and near underground facilities should possess the qualifications necessary to conduct such activities in a manner that is skillful, safe and reliable. These qualifications should include detailed knowledge of the UULPL, CGA Best Practices and if applicable Horizontal Directional Drilling (HDD) Good Practices. The requisite qualification of the excavator serves to protect the public and integrity of underground facilities in the vicinity of the excavation. Using qualified excavators ensures all who bid and

work on a project employ safe work habits and are capable of performing the requested work.

When working with excavators, the project owner should be familiar with the excavator's work experiences and financial abilities and should not ask the excavators to bid beyond their capabilities. Allowing a competitive bidding process from qualified and competent excavators, as determined and approved by the project owner, helps assure the best quality and pricing available, while reducing the potential for damages to underground facilities and workplace injuries.

**10. Continuous Interface between the Project Owner, Designer, Excavators and Facility Owners before the Construction Phase**

**Guideline:** At the beginning of the construction phase of the project, the excavator should determine if the project is a Complex Project, i.e. *“greater than 1000’ or intersection to intersection, whichever is greater, along the same street, within the same political subdivision.”* If the project is determined to be Complex Project, the excavator shall generate a POCS Complex Project notification from CPA for their specific project.

With a Complex Project notification, the excavator should have a pre-construction meeting. The excavator will set the date, time and the location of the meeting. The meeting must be held within ten (10) business days before the start of the excavation. All invitees, i.e., Designer who have a construction administration contractual role with the Project Owner and Facility Owners, must attend the meeting. At the meeting the excavator will explain the job and the parties will collaborate to reach a consensus on how the excavation area will be located to avoid damages to underground facilities. This may include breaking the project up into multiple phases and involve multiple dig notifications. Results of the meeting are documented in CPA so all parties have access to agreements, commitments, and decisions.

If the excavator determines that a pre-construction meeting is not needed, and all Facility Owners agree through POCS's KARL System, then the excavator shall proceed to place standard dig notifications using CPA. However, if a Facility Owner feels a meeting is required, that Facility Owner must post the proper response via POCS's KARL system and contact the excavator to make arrangements to meet and discuss the project before the lawful start date on the original dig notification.

**11. Continuous Interface between the Project Owner, Designer and the Excavator during the Construction Phase**

**Guideline:** This practice allows the designer, who has a construction administration contractual role with the Project Owner, to be available for pre-construction conferences, and construction conferences for unforeseen conditions, design changes, and post-construction conferences if applicable. (This applies if the designer has a contract for construction phase services.) When information required from the Facility Owner under the UULPL cannot be ascertained or has not been provided and it is reasonably necessary for the excavator to ascertain the precise location of any line, or abandoned line, or unclaimed lines by using prudent techniques, which may include hand-dug test holes, vacuum excavation or similar devices, the excavator shall promptly notify the Project Owner or the Project Owner's

representative, either orally or in writing. If the oral notification is given, the notice shall be reduced to writing within a reasonable time by the project owners or excavator. After given notice, the excavator shall be entitled to compensation from the Project Owner for the additional work as provided in the latest edition of the Pennsylvania Department of Transportation Form 408 specifications for extra work performed on a force account basis.

Provisions in any contract, public or private, which attempt to limit the rights of excavator under the Section 5 Clause (15) of the Act shall not be valid for any reason, and an attempted waiver of Section 5 Clause (15) of the Act shall be void and unenforceable as against public policy and any such attempted waiver shall be reported to the Public Utility Commission (PUC) with an Alleged Violation Report (AVR)

## **12. As-Built Drawings**

**Guideline:** Installation should be made in accordance with the approved construction plans. Any deviation to the plans shall be documented and such changes indicated on the Excavator's as-built drawings. As-built information shall be recorded, retained and made available for subsequent excavation. (This applies if the designer has a contract for prepared record drawings.)

## **13. Supply Line Separation**

**Guideline:** When installing new direct buried supply facilities in a common trench, a minimum of eighteen (18) inch radial separation should be maintained between supply facilities such as steam lines, plastic gas lines, other fuel lines, and direct buried electrical supply lines. If eighteen (18) inches of separation cannot be feasibly attained at the time of installation, then mitigating measures should be taken to protect lines against damage that might result from proximity to other structures. Examples may include the use of insulators, casing, concrete encasement, shields or spacers. If there is a conflict among any of the applicable regulations or standards regarding minimum separation, the most stringent should be applied.

## **14. Trenchless Excavation**

**Guideline:** The project owner and designer shall take prudent measures to make the determination whether to use trenchless excavation installation. The project owner and designer shall coordinate with facility owners to design projects that maintain minimum radial clearances between the new facility and existing facilities. Minimum clearances are equal to or greater than applicable standards. The project owner and designer shall establish line and grade of the proposed excavation to maintain the established minimum clearances.

Any excavator using HDD in Pennsylvania must, at a minimum, utilize the best practices published by the HDD Consortium. Minimum standards include calling 8-1-1 in advance of your excavation; identify every facility near or across the proposed excavation path and adjust the plan as necessary; use a spotter during the trenchless excavation; and uncover and inspect existing underground facilities that are in or crossing the path of excavation prior to or during the bore.



## 15. Reporting Violations of the Act

**Guidelines:** The Act authorized the Pennsylvania Public Utility Commission (PUC) to be the enforcement agency responsible to enforce all provisions of the UULPL. The PUC may issue a warning and order requiring compliance with the Act and may levy an administrative penalty up to \$2,500 for a violation of the Act. Designers shall submit an Alleged Violation Report (AVR) to the PUC through POCS not more than 30 Business Days from the time the Designer becomes aware that a violation of the Act may have been committed in association with excavation or demolition work. The AVR shall be in a form and manner required by the PUC. Failure of the Designer to submit an AVR for a known violation of the Act is in itself a violation which could result in an AVR, and possible penalties, against the Designer.

### Reference Material

We strongly recommend you read and review POCS:

- Responsibilities of a Designer, Section 4
- Responsibilities of a Project Owner, Section 6.1
- Design Coordination Checklist (In this document)
- Complex Project Policy
- POCS Design Notifications
- Coordinate PA Users Guide

[www.paonecall.org](http://www.paonecall.org)

The Common Ground Alliance (CGA) is a member driven association formed in 2000 after the Common Ground study commissioned by the Congress to work on damage prevention and best practices. [www.commongroundalliance.com/best-practices-guide](http://www.commongroundalliance.com/best-practices-guide)

Federal Highway Administration publications and ASCE 38-02, standard guideline for the collection and depiction of existing subsurface utility data for additional details.  
<https://www.fhwa.dot.gov/programadmin/asce.cfm>

Pennsylvania Department of Transportation Publication 408 Specifications  
[http://www.dot.state.pa.us/public/PubsForms/Publications/Pub\\_408/PUB%20408.pdf](http://www.dot.state.pa.us/public/PubsForms/Publications/Pub_408/PUB%20408.pdf)

NASTT's Horizontal Directional Drilling (HDD) Good Practices Guidelines – 4th Edition  
<https://member.nastt.org/products/product/HDD4thEdition>

You can learn more about Alleged Violations by visiting the Pennsylvania Utility Commission's website: <http://www.puc.pa.gov> Click on UTILITY & INDUSTRY Click on PA ONE CALL ENFORCEMENT

## **Design Coordination Checklist**

This checklist summarizes tasks that project owners and designers should use for utility coordination. This checklist supports early and frequent communication with facility owners and excavators. Subsurface Utility Engineering should be considered for complex projects with major utility impacts.

### **Utility Research and Identification – obtaining utility contact information**

- ☐ Review old plans (road, bridge, plat, etc.)
- ☐ Project Owners put project in Coordinate PA
- ☐ Utilize the POCS Design Ticket Notification
- ☐ Review other information sources (permit/facility owner databases, GIS websites, etc.)
- ☐ Conduct field review to identify underground utility structures and markers

### **Project Notification and Early Communication – verifying utility involvement**

- ☐ Contact facility owners' collaboration opportunities via Coordinate PA and POCS Preliminary Design Notification.
- ☐ Project description, location and job number
- ☐ Vicinity map
- ☐ Request utility location information
- ☐ Construction start date
- ☐ Contact non-responsive utilities
- ☐ Plot received utility location information on the plans
- ☐ Consider modifying design to minimize utility impacts and/or relocations
- ☐ File an alleged violation report (AVR) through the POCS website for any alleged violation to the UULPL

### **Design Coordination Meeting - information sharing and conflict resolution**

- ☐ Discuss project scope and schedule
- ☐ Discuss potential utility conflicts
- ☐ Discuss possible utility conflict resolutions including the following:
  - ☐ Design adjustments to avoid or minimize conflict
  - ☐ Working in close proximity to utilities (temporary shut-down, utility support, safety concerns, etc.)
  - ☐ Discuss work utilities may want to complete during construction (upgrades, new installations, etc.)
  - ☐ Discuss required utility relocation work
  - ☐ Timeframe
  - ☐ Location of new facility
  - ☐ Constraints (easements, material, available Right-of-Way, etc.)
  - ☐ Identify reimbursable utility relocations (utility has property interest such as an easement, street lighting, etc.)
  - ☐ Discuss permitting requirements for utility work (relocations, upgrades, etc.)
  - ☐ Verify utility construction contact information shown on construction plans

- ☐ Determine if additional utility coordination meetings are needed
- ☐ Complete and distribute meeting minutes to all invitees and participants
- ☐ Utility Coordination Follow-up - continue to coordinate utility conflict resolutions
- ☐ Follow-up with non-participants
- ☐ Provide additional design information to utilities (cross sections, etc.)
- ☐ Request field verification where additional information is needed
- ☐ Vertical location (depth)
- ☐ Horizontal locations (from known reference)
- ☐ Coordinate additional meetings with individual utilities as needed
- ☐ Review possible design modifications
- ☐ Request utility relocation plans and permit applications
- ☐ Review utility relocation plan and ensure permits have been issued
- ☐ Ensure utilities have been provided with notification to relocate and that documentation includes the following:
  - ☐ Project description
  - ☐ Summary of specific utility conflicts
  - ☐ Relocation deadlines
  - ☐ Potential for utility to incur costs due to construction delay if not relocated by the deadline
  - ☐ File an alleged violation report for any alleged violation to the UULPL

### **Final Design Stage of Utility Coordination**

- ☐ Notify project owner of potential project risks of bidding without utility relocations completed prior to construction
- ☐ Create Final Design Notification via Coordinate PA to Bidders including the following:
  - ☐ Timeframe
  - ☐ Location of new facility
  - ☐ Constraints (easements, material, available Right-of-Way, etc.)
  - ☐ Identify reimbursable utility relocations (utility has property interest such as an easement, street lighting, etc.)
  - ☐ Discuss permitting requirements for utility work (relocations, upgrades, etc.)
  - ☐ Follow-up with non-participants
  - ☐ Provide additional design information to utilities (cross sections, etc.)
  - ☐ Request field verification where additional information is needed
  - ☐ Vertical location (depth)
  - ☐ Horizontal location (from known reference)
  - ☐ Coordinate additional meetings with individual utilities as needed
  - ☐ Review possible design modifications
  - ☐ Request utility relocation plans and permit applications
  - ☐ Review utility relocation plan and ensure permits have been issued
  - ☐ Project description
  - ☐ Summary of specific utility conflicts
  - ☐ Relocation deadlines
  - ☐ Verify utility construction contact information shown on construction plans
  - ☐ Utilities to be relocated in advance of project

- ☐ Utilities to be relocated concurrently with construction
- ☐ File an alleged violation report for any alleged violation to the UULPL

### **Construction Stage of Utility Coordination**

- ☐ Excavator hold a pre-construction meeting for a Complex Project via Coordinate PA
- ☐ Invite affected facility owners via a Complex Ticket Notification
- ☐ Review facility owner responses
- ☐ Use the complex project email reminder system to invite non-project contacts to the meeting
- ☐ Review construction coordination requirements for locates
- ☐ Discuss project scope and schedule
- ☐ Discuss potential utility conflicts
- ☐ Discuss possible utility conflict resolutions including the following:
  - ☐ Design adjustments to avoid conflict
  - ☐ Working in close proximity to utilities (temporary shut-down, utility support, safety concerns, etc.)
  - ☐ Relocate utilities in advance of project
  - ☐ Relocate utilities concurrently with construction
  - ☐ Verify facility owner construction contacts
  - ☐ Record and upload meeting attendee list and minutes in CPA
  - ☐ Follow-up with non-participating facility owners, if actions are required
  - ☐ Add new Complex Project meetings in CPA, if applicable
  - ☐ File an alleged violation report for any alleged violation to the UULPL

## Drawings

To forward a copy of the project plans to each facility owner who requests a copy. If a designer is unable to provide a copy because of security of the project or proprietary concerns regarding the design or the project, the designer shall negotiate in a timely manner with the facility owner the means of obtaining the necessary data.

To show upon the drawing the position and type of each facility owner's line, derived pursuant to the request made, the name of the facility owner as shown on the list from the one call system, the serial number of one call notice and the toll free number of the one call system.

To make a reasonable effort to prepare the construction drawings to avoid damage to and minimize interference with a facility owner's facilities in the construction area by maintaining the clearance as provided for in the applicable easement condition or an eighteen-inch clearance of the facility owner's facilities, where practical, if no easement restriction exists, or other clearance permitted or agreed upon.

## Facility Owner Responses

- Clear. No facilities.
- Design Conflict, Send Plans.
- Engineering Completed – a PDF file or marked up plans were sent to the requestor.

## Facility Owner Options

Send plans to the Designer, or; mark the plans provided by the designer by field location or by another method agreed to by the designer, excavator and facility owner, or their agent, or;

Use the Drawing Exchange Portal, or;  
Mark the field, or;  
Clear if there is no conflict with the notification.

## Project Owner

The Project owner is any person who or which engages an excavator for construction or any other project which requires excavation or demolition work.

The Project owner responsibilities under the Act during design stage are as follows:

- To utilize sufficient quality levels of Subsurface Utility Engineering or other similar techniques whenever practicable to properly determine the existence and positions of underground facilities when designing known complex projects having an estimated cost of four hundred thousand dollars (\$400,000) or more.
- "Subsurface utility engineering" or "(SUE)" means those techniques set forth in the American Society of Civil Engineers (ASCE) standard CI/ASCE 38-02, or its successor document.
- To not release to bid or construction any project until after final design is completed;
- To participate in design and preconstruction meetings either directly or through a representative. The designer is required to attend preconstruction meetings on complex projects.

**POCS DOES NOT MARK FACILITIES.**  
**POCS takes the information from an excavator or a designer and relays it to its member underground facility owners. These facility owners are responsible for responding to the request and ensuring their facilities are properly marked.**

# Pennsylvania One Call System



## Design Notifications

PA Act 287 of 1974  
as amended by  
PA Act 160 of 2016

January 2017

[www.paonecall.org](http://www.paonecall.org)

**Pennsylvania One Call: The Keystone of  
Damage Prevention**

## Designer Responsibilities

The Design Notice is meant to allow the designer to plan the new work around existing facilities as PA Act 287 as amended prescribes. Notifying POCS is only the first step and there are several other responsibilities, which need to be considered. Once the responses are received it is acceptable to send enhanced .pdf plans of the site.

### Who Should Call?

Each designer preparing a drawing requiring excavation or demolition work within the Commonwealth; the Act states that the person preparing the drawing shall make the call.

### Designer Definition

Any architect, engineer or other person who or which prepares a drawing for construction or other project which requires excavation or demolition work as defined by the Act.

### When to Call?

Plan the design work to avoid damage to or minimize interference with a facility owner's facilities in a proposed construction area. Those planning work that disturbs the earth are required to notify POCS not less than 10, nor more than 90 business days in advance of the final design. Designers can obtain such information more than 90 days before final design is to be completed, however, they shall state in their requirements that such work is preliminary.

POCS can be notified over the phone or via the web for those who qualify.

### Business Day Definition

Means any day except a Saturday, Sunday or legal holiday prescribed by statute. A business day begins at 12:00:00 a.m. and ends at 11:59:59 p.m.

## Design Request

To request the line and facility information from POCS, the information provided should cover the entire scope of the plan or development with enough detail to allow the facility owners to provide the location of their lines in the proposed work area. Give as much descriptive information as you can to help the facility owner identify the proposed construction area. Please be as specific as you can with the location information. It is very important to describe the site in detail.

### Drawing Exchange Portal for Design Notifications

The Drawing Exchange Portal offers an online tool to improve Design stage One Call communications between Designers and Facility Owners.

The application allows Designers to upload their plans in an electronic format, making the plans available for Facility Owners, who then may download the file, annotate with their facilities, save, and upload the electronic plan for the Designer to view.

- Designers add files to the Drawing Exchange Portal when qualified to create tickets via Web Ticket Entry.
- Facility Owners who have the link for Facility Owner Member Web Access will automatically have access to the Drawing Exchange Portal to annotate these files.
- Designers with Excavator Designer Web Access will automatically have access to the Drawing Exchange Portal to view the facility annotated files.

## Guidelines for Preparing a Design Request

1. Verify Information
2. Telephone Number - becomes your account number
3. County - the name of the county in which the work will be performed
4. Municipality - the name of the municipality in which the work will be performed
5. Street Name - use exact address numbers and the street suffix, i.e. ST, RD, WY, DR, LN, AVE
6. Nearest Intersection - the nearest intersecting street or route (within a reasonable distance)
7. Location Information - describe the work site in detail and give the distance from the street, structure, property line, fence or other landmarks. If specific work site information cannot be given, outline the work site in white.

Serial Number - the number assigned to the notification. Please write your serial number down for your records.

Design Stage notification can be placed over the phone by calling 1-800-242-1776 or 8-1-1 or through Web Ticket Entry for those who qualify.

## References

ASCE 38-02, Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data  
Common Ground Alliance Best Practices – [www.CommonGroundAlliance.com](http://www.CommonGroundAlliance.com)  
[www.FHWA.dot.gov](http://www.FHWA.dot.gov)



# Pennsylvania One Call System, Inc.

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## Complex Project Process Policy

- I. Terms used in this document are as defined in the Underground Utilities Protection Act (UULPA).
- II. Notifications will be handled through the Pennsylvania One Call System (POCS) Coordinate PA (CPA) Web Portal.
  - A. Designers:
    1. The designer creates a project within the CPA web portal.
      - a. Includes Project Description and proposed timeline.
      - b. Uploads drawings.
    2. Through permissions, the designer assigns access rights (View Only or Modify) to the project owner.
    3. Depending on the timeline of the project, the designer creates at least one Preliminary Design or Final Design notification ticket via the portal, from within the CPA project.
      - a. If multiple excavators will be working on the same project, the designer segments the project into phases based on bid requirements.
      - b. The designer creates at least one Final design ticket for each phase of the project.
    4. When the project moves to construction phase, the project owner or designer assigns access rights (Modify) to the excavator for the phases of the project in which they are involved.
  - B. Excavators:
    1. When a project exists in Coordinate PA:
      - a. The excavator creates a complex project notification ticket via the portal, **from within the CPA project**, and indicates if a preconstruction meeting is requested. The excavator follows Option 1 or Option 2 below.
    2. When a project does not exist in Coordinate PA:
      - a. The excavator creates a project within CPA.
      - b. The excavator creates a complex project notification ticket via the portal, **from within the CPA project**, and indicates if a preconstruction meeting is requested. The excavator follows Option 1 or Option 2 below.

Option 1: When a preconstruction meeting is requested, the excavator establishes the date, time and place of meeting in close proximity to the project work location. Electronic meetings are also acceptable. Meetings are strongly encouraged in the case of complex projects.

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- c. It is strongly recommended that in the case of a complex project that extends over a large geographic area, the party should consider scheduling multiple meetings throughout the site to accommodate travel needs.
- d. The excavator is responsible for notifying the project owner and the designer of the meeting. Note: The designer is the one that prepared the drawing, not necessarily the one that is managing the project.

Option 2: If the excavator determines that a pre-construction meeting is not necessary, the notice shall indicate. If an individual facility owner nonetheless wishes to have a meeting, a meeting shall take place between that facility owner and the excavator. Other facility owners need not attend. [Sec 5(3) of Act.] In the notice, the excavator shall state the reason for determining that a pre-construction meeting is not necessary.

- a. A facility owner requests a meeting by sending response code 092 (Requests Meeting) through POCS. This notice must be made prior to the third business day from the complex project notification.
- b. The facility owner then contacts the excavator to establish the date, time, and place of meeting in close proximity to the project work location. The meeting must be held prior to the seventh business day from the complex project notification. Electronic meetings are also acceptable.

### **III. Meeting Protocol**

1. At the meeting the parties shall agree upon their individual obligations consistent with the project. These obligations may vary from project to project based upon the specifics of the project and it is not the intent of this process to provide a specific set of standards for all complex projects. Rather it is intended that the parties shall have the flexibility to make decisions consistent with the project's parameters.
  - a. Involved parties (facility owner, excavator, designer, project owners) are required to attend the meeting.
  - b. The entire scope of the project must be defined at the meeting. Detail on phases should be defined as much as possible.
  - c. Agreement on the scope of ticket will be left to the parties attending the preconstruction meeting.
  - d. If a facility owner cannot agree to the proposed locate schedule, everyone must work to find a schedule that the one facility owner can agree to.
  - e. If no agreement can be reached, the excavator must create single routine excavation notifications, from within the project, for the areas where the dissenting facility owner owns/operates lines.



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- f. If an involved party fails to attend the meeting, the excavator may proceed according to the agreement reached at the meeting.
2. Meeting notes shall be taken by the excavator calling the meeting using the POCS approved template and the minutes shall set forth the agreements made by the parties. Meeting notes shall be uploaded to the POCS web portal as soon as practicable. In the absence of minutes or a meeting the parties shall be bound by the provisions contained in the POCS Users Guide for non-complex excavation notifications.
3. Within 90 days of the pre-construction meeting the excavator shall provide the routine excavation notification required by Sec. 5 of the Act. The notification shall be consistent with the agreements reached at the pre-construction meeting, if such a meeting is called.
4. A complex project requires 10 business days' notice. The excavator shall not enter a routine excavation notification prior to the pre-construction meeting.
5. If the **project start** is delayed AFTER the complex project preconstruction meeting has been conducted and the mark out schedule agreed to, the following will apply:
  - a. If the **start date** that was agreed to is delayed more than 90 days:
    - i. A new Complex Project ticket and meeting will be required, from within the same CPA project.
6. If the scope of the project changes, a new complex project notification and meeting will be required, from within the same CPA project.

### **Additional Guidance:**

1. In the case where an excavator creates multiple routine excavations tickets:
  - a. The facility owner may respond 092 (Requests meeting), via the KARL system and reach out to the excavator to work out a locate schedule.
  - b. The one call system may reach out to the excavator to educate them on complex projects.
2. In the event an impacted facility owner fails to attend the pre-construction meeting, it is highly encouraged the facility owner contact the excavator and schedule a one on one meeting, a minimum of at least 3 business days prior to the first lawful start date of the first routine excavation ticket.
3. If a party disagrees with the posted minutes, they communicate back to the excavator through the communication tool within the CPA portal.
4. Announcements will be sent to all parties for communication related activity in CPA.