

ENGINEERING RESTRICTIONS

The following list represents common Sunoco Pipeline L.P. ("SPLP") engineering requirements for projects that affect SPLP's facilities. It is meant to serve as a guideline for the design of proposed projects. All projects are subject to review by SPLP's Engineering and Right-of-Way Departments prior to final project approval, and depending on the scope of the project, additional Engineering Requirements may apply.

Detailed plans for proposed construction must be submitted to SPLP's Engineering Department for review to determine to what extent, if any, the pipeline or right-of-way will be affected by proposed construction and/or development.

1. General Information:

- A. The pipeline shall be labeled on the Plans and Drawings appropriately as "Sunoco Pipeline L.P. (diameter)" High Pressure Petroleum Products Pipeline" or "Crude Oil Pipeline" The pipe diameter must be shown where specified (diameter)".
- B. The pipeline right-of-way width shall be clearly depicted and labeled as fifty feet (50') in width, the centerline of which is the existing pipeline (unless otherwise determined by SPLP's Right-of-Way Department).
- C. In order to maintain immediate and unimpeded access to the pipeline, no trees, shrubs, permanent structures (i.e. buildings, decks, sheds, swimming pools, inlets, drainage structures, hydrants, poles, etc.) or bodies of water shall be placed within the pipeline right-of-way.
- D. The SPLP "GENERAL RESTRICTIONS" list shall be incorporated on the project plans.
- E. Two (2) sets of project plans shall be forwarded to SPLP for review and approval.

2. Pipeline Depth Verification and Location Information:

- A. As required by law, the developer shall contact the appropriate State One Call Center to arrange for field staking and pipeline depth verification by a SPLP inspector.
- B. SPLP's inspector will verify the depth of the pipeline at any proposed utility crossing, both sides of a proposed road crossing, locations of proposed grade cuts and fills and any other critical location. The location of the pipeline, test pits and related pipeline depths shall be surveyed and accurately depicted on the project plans.
- C. Upon field staking by a SPLP inspector, the developer shall arrange for a survey to accurately depict the pipeline location on the project plans.

3. Cover and Grading:

- A. The earth cover over the pipelines shall be maintained and never changed in any manner without the express written consent of SPLP.
- B. In areas where the pipeline currently has less than three feet (3') of cover, no grade cuts will be allowed. Cover over the pipeline shall be increased to a minimum of three (3) feet if there are proposed "improvements" over the pipeline or within the pipeline right-of-way. Proposed road crossings have additional requirements.



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- C. In areas where buildings are proposed within fifty feet (50') of the pipeline facility, vertical cover over the pipeline should be increased to a minimum of four (4) feet (a maximum of 7 feet).
- D. Proposed grading which will place the pipeline at depths greater than seven feet (7') shall require a SPLP Engineering Department written approval.
- E. The creation of steep slopes within the pipeline right-of-way that will hinder our access and maintenance shall be avoided.
- F. The creation of "improvements" which would make the pipeline right-of-way more susceptible to erosion shall be avoided.

4. Proposed Road/Driveway Crossings:

- A. Proposed road crossings and commercial driveways shall be designed to provide a minimum of four feet (4') (maximum of 7 feet) of vertical clearance between the outer diameter ("O.D.") of the pipeline and the finished surface. Exceptions must be approved by SPLP's Engineering Department.
- B. Proposed residential driveway crossings shall be designed to provide a minimum of three feet (3') (maximum of 7 feet) of vertical clearance between the O.D. of the pipeline and the finished surface. Exceptions must be approved by SPLP's Engineering Department.
- C. Proposed crossings should be designed to be as perpendicular to the pipeline as possible. Proposed crossings of angles less than 30 degrees will not be accepted.
- D. Proposed road ditches shall be designed to provide a minimum of three feet (3') (maximum of 7 feet) of vertical cover between the O.D. of the pipeline and the bottom of the ditch.
- E. Road under-drains shall maintain a two-foot (2') or greater minimum vertical clearance from the O.D. of the pipeline.
- F. Proposed parking areas placed over the pipeline must be approved by SPLP's Engineering and Right-of Way Departments. The parking areas shall be subject to an amended right-of-way agreement, entered into by subject parties prior to construction of the same.

5. Utility Crossings & Underground Structures:

- A. Proposed crossings by utilities or underground structures shall be designed to pass UNDER the pipeline unless otherwise approved by SPLP's Engineering Department.
- B. Proposed utilities shall cross as perpendicular to the pipeline as possible.
- C. All underground facilities or structures crossing the pipeline shall maintain a two-foot (2') minimum vertical clearance between the O.D. of the pipeline and the proposed utility/structure. Power cable and Fiber optic line installations have additional crossing requirements.
- D. Utility crossings of the pipeline shall be shown on profile with field verified pipeline depths and proposed clearances clearly labeled.



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- E. Structures such as guide rails, concrete paving, sidewalks, curbing, etc., shall be designed in a manner that would facilitate their removal in the event of pipeline maintenance or an emergency repair.
- F. Drainage swales shall maintain a minimum of three feet (3') of vertical clearance between the O.D. of the pipeline and the bottom of the swale. Additional protection may be required in order to minimize erosion susceptibility over the existing pipeline and across its associated right-of-way.
- G. Proposed gabions and rip-rap structures must adhere to the two-foot (2') vertical clearance requirement. Geotextile protection may also be required.

6. Cathodic Protection:

- A. If any proposed utility is of a metallic material, special precautions must be taken so that our cathodic protection does not have any adverse affect on a proposed utility or underground structure. Two (2) options can be utilized:
 - For one 150 feet (150') on each side of the pipeline, the utility should be coated with a recognized non-conductive coating.
 - Or, 100 feet (100') on each side of the pipeline, the utility line should be made of PVC or a similar non-conductive material.
- B. Installation of magnesium anodes is also beneficial.
- C. Concrete encasement of metal lines WILL NOT prevent interference with our cathodic protection system.

7. Power Cable Installations:

- A. Secondary Crossings (less than 440 Volts):
Must be installed UNDER the pipeline, (unless otherwise approved by SPLP's Engineering Department), provided the two-foot (2') minimum vertical clearance is maintained between the bottom of the pipeline and the top of the conduit. The cable must be placed in conduit for the width of the right-of-way and a drive post with an electric company marker shall be placed on each side of the pipeline right-of-way.
- B. Primary Crossings (greater than 440 volts):
Must be installed UNDER the pipeline, (unless otherwise approved by SPLP's Engineering Department), with a minimum two-foot six-inch (2'6") vertical clearance between the pipeline O.D. and the top of the conduit. The cable shall be placed in conduit for the width of the pipeline right-of-way. The conduit shall be protected by pouring of 2000psi concrete, dyed red, into the ditch for a minimum distance of five feet (5') on both sides of the pipeline. The concrete must span the width of the ditch. A minimum two-foot (2') vertical clearance must be maintained between the O.D. of the pipeline and the top of the concrete.
- C. For all electrical crossings, a drive post with an electric company marker shall be placed and maintained on each side of the pipeline right-of-way.

8. Fiber Optic Cable Installations:

- A. Requires a License Agreement to cross prior to installation.



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- B. The cable must be installed UNDER the pipeline with a minimum two-foot six –inch (2'6") vertical clearance between the pipeline O.D. and the top of the fiber optic cable.
- C. Fiber optic cables must be encased in six inches (6") of concrete, dyed orange, for a minimum distance of five feet (5') on both sides of the pipeline. The concrete must span the width of the ditch.
- D. Fiber optic company markers must be installed and maintained at the crossing location on both sides of the pipeline right-of-way.

9. Construction Restrictions:

- A. **A SPLP inspector must be on site during any work within the pipeline right-of-way.**
- B. If vehicles or heavy equipment are to cross the pipeline for any reason, it will be necessary for the owner/developer to provide and maintain a ramp of sufficient material to protect the pipeline for the duration of the proposed crossing activities. Said ramps must be approved by SPLP's Engineering Department.
- C. No materials or equipment are to be stored within the existing pipeline right-of-way without SPLP's prior written consent.
- D. Construction items such as temporary drainage swales, silt fencing, gates, signs, etc., are still required to meet SPLP's clearance requirements.
- E. Trenching activities shall be designed as to avoid adversely affecting the integrity of the pipeline and the stability of the pipeline trench.

10. Blasting Restrictions:

- A. Blasting operations proposed within 300 feet (300') of the pipeline require the submission of a blasting plan in accordance with SPLP's "Blasting Requirements - Blasting by Outside Parties", which can be obtained upon request.
- B. No blasting activities are permitted within 300 feet (300') of the pipeline without SPLP's Engineering Department approval.

11. Required Contacts:

- A. State law requires you to contact your State One Call Center, at least two or three days in advance, as required by your state, prior to any construction activity. The nationwide telephone number for your State One Call Center is "811".
- B. Any engineering related questions can be directed to the Sunoco Logistics Engineering Department. Attention:

Walter H. Skorupsky, Manager - Relocations, Design & One Call
Corporate Building
525 Fritztown Rd.
Sinking Spring, PA, 19608
E-mail: whskorupsky@sunocologistics.com



Sunoco Logistics



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Note: CONTACTING SPLP DIRECTLY DOES NOT EXONERATE YOU OF THE LEGAL OBLIGATION TO NOTIFY YOUR STATE ONE CALL CENTER.

All approvals required under the above restrictions, and any work within SPLP's right-of-way or in the vicinity of SPLP's pipelines requires the written approval of SPLP's Engineering and Right-of-Way Departments.