

ORDINANCE NO. 305

STREET EXCAVATION ORDINANCE CONYNGHAM BOROUGH, LUZERNE COUNTY, PENNSYLVANIA

BE IT ORDAINED AND ENACTED by Conyngham Borough Council, Luzerne County, Pennsylvania, as follows:

§101. Title. This Ordinance shall be known and may be cited as the "Conyngham Borough Street Excavation Ordinance."

§102. Purpose. Conyngham Borough Council finds that it is in the best interest of the Borough and its residents to protect its streets by regulating anyone working with those streets so as to guarantee and promote safe and convenient passage by the traveling public.

§103. Applicability. This Ordinance shall apply to any work being performed within any Borough Street by any person for whatever reason.

§104. Definitions. The following words, when used in this Ordinance shall have the meanings ascribed to them in this section, except where the context clearly indicates otherwise.

(a) "Applicant"- means the person applying for and issued a permit under this Ordinance allowing for Work to be performed within a Borough Street.

(b) "Borough"- means Conyngham Borough, Luzerne County, Pennsylvania.

(c) "Cartway"- means that portion of a Street which is improved by surfacing with permanent or semi-permanent material intended for vehicular traffic.

(d) "Code Enforcement Officer"- means the person responsible for the administration and enforcement of this Ordinance. The Code Enforcement Officer is the person appointed by the Borough to administer and enforce the ordinances of the Borough.

(e) "Council"- means Conyngham Borough Council.

(f) "Person" – means any natural person, individual, partnership, firm, association, corporation, political subdivision, municipal authority, the Commonwealth and its agencies and instrumentalities, or any other entity.

(g) "Public Right-of-Way"- means improved or unimproved public property dedicated, deeded, or maintained by the Borough for the purpose of providing vehicular, pedestrian, or public use.

(h) "Street" – means any public right-of-way, road, avenue, square, alley, highway, cartway or other public place located in the Borough and established for the use of vehicles, but shall not include State highways, County roads, or private roads not being offered for dedication.

(i) "Work"- includes any activity within, on or under a Borough Street, which involves excavating, opening, demolishing, cutting, breaking or disturbing the surface of the street. The term also includes anchoring, auguring, backfilling, blasting, boring, digging, ditching, drilling, driving-in, grading, plowing-in, pulling-in, ripping, scraping, trenching and tunneling within, on, or under a Street.

§105. Permit Required. It shall be unlawful for any person to Work within any Street without first obtaining a permit from the Borough Code Enforcement Officer for each separate undertaking.

§106. Permit Applications. All applications for a permit under this Ordinance shall be on a form provided by the Borough. Permit Applications shall request and an Applicant shall provide the following information:

- (a) Owner and Contractor Contact Information;
- (b) A description of the Nature of the Work;
- (c) A location Map;
- (d) Construction Plans;
- (e) Traffic Control Plans;
- (f) Insurance Information (Comprehensive General Liability and Worker's Compensation-in lieu of worker's compensation, when a contractor does not have any employees, the contractor must file an affidavit of such with the Code Enforcement Officer); and
- (g) Any other information necessary for the Code Enforcement Officer to administer this Ordinance.

§107. Expiration of Permits. All permits shall be issued for a period not to exceed one hundred and twenty (120) days and any application to renew an expired permit shall be treated as a new application including the payment of a new permit fee.

§108. Emergency Exception. Any Person maintaining facilities within a road may proceed with an opening without a permit when emergency circumstances demand the work to be done immediately, provided the permit could not reasonably and practically have been obtained beforehand. The person shall thereafter apply for a permit on the first regular business day on which the Borough Code Enforcement Office is open for business, and the permit, when issued, shall be retroactive to the date when the emergency work started.

§109. Work to be Performed Prior to Reconstructing or Resurfacing of a Street by the Borough.

(a) When the Borough constructs, surfaces, reconstructs, or resurfaces any Street, the Borough may first serve written notice by registered mail of such improvements to all persons owning property abutting the Street about to be improved, and to all utility companies operating within the Borough. Within ninety (90) days from the mailing of such notice all notified persons shall complete or cause to be completed all necessary repairs and replacements of utility mains, service connections, or laterals existing in or under the Street. A person that has been notified shall complete or cause to be completed any new installations under the Street required for use within a two-year period thereafter. All repairs, replacements, and new installations of utility mains, services connections, or laterals shall be in such condition that they cannot reasonably be expected to require repairs or replacement within a period of at least two years from the date the Borough has completed the construction, surfacing, reconstruction or resurfacing the Street. A permit shall be denied to any person making an application within two years from the date the Borough has completed construction, surfacing, reconstruction or resurfacing of any Street when such notice has first been given by the Borough under this Section.

(b) Upon failure of any notified person to comply with the notice from the Borough to repair, replace or install utilities (mains, service connections or laterals) as provided in Section 109(a) above, the Borough may cause existing utility mains, service connections, or laterals to be placed, or removed, if not used or necessary for the public convenience, whereupon the Borough shall be entitled to collect the cost of such work from the responsible person, either by invoicing the person, or by filing municipal liens against either: (1) the property owner benefited by such connection; or (2) the owner of the utility when the property owner has not requested the connection or upgrade.

(c) This section shall not prevent the installation of new pipes, conduits or other services or structures, or the repair, replacement or removal of those already existing, in, on, or under the portions of the Street improved by the Borough, by tunneling or boring beneath the pavement of the Street during the two-year period provided the bore or tunnel could be made without interfering with the structure integrity of the Street.

§110. Fees. All applicants shall pay a fee for a permit under this Ordinance. The fee established at the time of this Ordinance is \$150.00 per excavation, core bore, opening, or cut plus reimbursement of professional engineering costs. This fee may be changed from time to time by resolution of Conyngham Borough Council.

§111. Permit Approval or Denial. A permit may be issued to an applicant after all the requirements of this Ordinance have been met. If an application is denied, written notice of the denial together with reasons for disapproval shall be given to the Applicant.

§112. Responsibility to Contact Utilities. The work authorized by the permit is subject to all the provisions of the Underground Utility Line Protection Act of December 10, 1974, P.L. 852, No. 287, 1 et seq. (73 P.S. § 176 et. seq.) as amended or supplemented from time to time. It shall be the applicant's responsibility to contact the utilities that have recorded their facilities in compliance with the Act.

§113. Restoration of Street After Completion of Work. Upon completion of Work in, on, or under a Street, the applicant shall restore the Street in compliance with the following specifications and procedures:

(a) Improved Street Construction. All improved road pavement restoration shall comply with the following:

- (1) All materials, construction procedures and other specifications shall be in conformance with the latest edition of the Penn DOT Publication 408.
- (2) Traffic Control shall be maintained in accordance with Penn Dot Publication 213 (Temporary Traffic Control Guidelines).
- (3) All trenches shall be backfilled per the trench restoration detail on Exhibit "A" attached hereto and incorporated herein.
- (4) Any core boring or vacuum excavation shall be performed and restored in accordance with the PennDOT Core Bore/Vacuum/Flowable Fill Process.
- (5) All improved street open cuts shall be made by saw cutting. All Paving joints shall be sealed with PG-64-22 Sealant
- (5) Any open cut trench not restored with flowable fill shall be restored with temporary paving for a minimum of 90 days unless the applicant provides certified compaction testing acceptable to the

Borough Engineer for the trench backfill. The Temporary Pavement Restoration Detail for Asphalt Streets attached hereto and incorporated herein as Exhibit "B".

- (6) Permanent restoration shall consist of the following:
 - (i) A six-inch minimum compacted depth stable subbase shall be provided, using Penn DOT Type 2A aggregate. The subgrade shall be installed per Publication 408 . Materials that are unsuitable, wet soils and soils subject to frost-heave shall be removed and replaced, drained or otherwise stabilized to handle anticipated loads. The Borough may require field, laboratory and compaction testing.
 - (ii) A minimum depth of five inches of compacted depth 25.0 m, PG 64-22 superpave Hot Mix or equivalent WMA (Warm Mix Asphalt) bituminous concrete base course shall be provided.
 - (iii) A minimum depth of two-and-one-half inches of compacted depth 19.0 mm, PG 64-22 superpave Hot Mix or equivalent WMA (Warm Mix Asphalt) bituminous concrete binder course shall be provided.
 - (iv) A one-and-one-half-inch compacted minimum depth 9.5 mm superpave PG 64-22, SRL M Hot Mix or equivalent WMA (Warm Mix Asphalt) bituminous concrete wearing course shall be provided.
 - (v) The Permanent Pavement Restoration Details for Asphalt Streets are attached hereto and incorporated herein as Exhibit "C".

(b) Unimproved Street Construction. All unimproved street restoration shall comply with the following:

- (1) All materials, construction procedures and other specifications shall be in conformance with the latest edition of the Penn DOT Publication 408.
- (2) Traffic Control shall be maintained in accordance with Penn Dot Publication 213 (Temporary Traffic Control Guidelines).
- (3) All trenches shall be backfilled per the trench restoration detail is attached hereto and incorporated herein as Exhibit "A".

- (4) Six to eight inches of DSA Aggregate material (DSA) meeting the current PA State Conservation Commission Driving Surface Aggregate Standard and Specification shall be placed in the backfilled trench and mechanically compacted to match the surrounding cartway elevation. A copy of the DSA specifications are attached hereto and incorporated herein as Exhibit "E".
- (4) The Open Cut Detail for Aggregate/Dirt Street attached hereto and incorporated herein as Exhibit "D".

(c) Change of Specifications and Procedures. Council may change the procedures and specifications set forth in this Section from time to time by resolution.

§114. Responsibility of Applicant or Borough to Do Work. All Work in connection with a Street shall be done by the applicant at the applicant's own cost. If the Borough determines that the applicant has failed to do the work, restoration or maintenance, or is not doing the work, restoration or maintenance in accordance with the Ordinance, then the Borough has the option of doing the work, restoration or maintenance, or contracting with a third party to do the work, restoration or maintenance at the applicant's cost.

§115. Right of the Borough to Inspect, Supervise and Perform Work at Applicant's Cost. The Borough shall have the right to inspect and supervise the Work of the applicant to make certain the Work complies with this Ordinance. If the Borough employs the services of a professional engineer to inspect or supervise the Work of the applicant, then the applicant shall be required to reimburse the Borough the costs of the services of the professional engineer. When the Borough deems it necessary for compliance with this Ordinance, it may require the Work to be performed by the Borough with the applicant paying the Borough the costs of performing the Work.

§116. Applicant's Responsibilities for Future Relocation of Work. If at any time in the future a Street is widened, reconstructed or the alignment or grades are changed, the applicant agrees to change or relocate all or any part of the structures covered by the permit issued under this Ordinance which is found by the Borough to interfere with the improvement of the Street at the applicant's cost.

§117. Payment for Work Done by the Borough. Payment for all work done or services contracted by the Borough under this Ordinance shall be made by the applicant within thirty (30) days after an invoice is issued by the Borough to the applicant. Upon the applicant's failure to pay the invoice within thirty (30) days, the Borough may proceed by filing a civil action for the collection of unpaid invoice, and the Code Enforcement Office may also proceed with an enforcement action under this Ordinance as the non-payment of the invoice shall constitute a violation of this Ordinance.

§118. Limitations of Permits. Permits are not transferable from one person to another and the Work shall not be made in any location other than the location specifically designated in the permit.

§119. Revocation of Permits. Any permit may be revoked by the Code Enforcement Officer after written notice to the applicant for a:

- (a) Violation of any condition of the permit or of any provisions of this Ordinance.
- (b) Violation of any provision of any other applicable ordinance or law relating to the Work.
- (c) Existence of any condition or the doing of any act constituting or creating a nuisance or endangering life or property.

§120. Notice of Violation/Service; Corrective Measures.

(a) Notice of Violation; Service. The Code Enforcement Officer shall have authority to give notice, by personal service, posting of the property, or by regular United States mail, postage prepaid, to any person violating this Ordinance. The notice shall direct compliance with this Ordinance within five (5) calendar days following service of the notice. Any notice issued for a violation of this Ordinance shall be sufficient to constitute notice of any subsequent violation provided that the violation occurs within the same calendar year.

(2) Corrective Measures. When notice of any such violation shall be served upon a person that person shall immediately take the necessary corrective measures before proceeding further with any work for which the permit was originally granted. When, in the opinion of the Code Enforcement Officer, a person has failed to take the necessary corrective measures and a condition or act constituting or creating a nuisance or endangering life or property exists, the Borough may order the work to be performed by the Borough or a person contracted by the Borough and the cost therefore incurred by the Borough shall be recovered from the financial security the applicant has filed with the Borough. In the event that no financial security has been posted or is inadequate, the amount may be recovered by the Borough invoicing the applicant. Upon failure of the applicant to pay the invoice within thirty (30) days, the Borough may file a civil action against the applicant to recover the costs of the work, and the Code Enforcement Officer may also file a citation under this Ordinance seeking penalties for a nonpayment violation.

§121. Adoption of Specifications. The Borough does hereby adopt the specifications contained in Exhibit "A" and "B" attached hereto and expressly made a part hereof. The specifications and procedures set forth therein are made applicable to

all applicants under this Ordinance, and the application for a permit under this Ordinance shall constitute acceptance of all of the terms of the specifications. Borough Council may by Resolution change the specifications from time to time.

§122. Performance and Maintenance Guarantees.

(a) Performance Guarantee. Applicants for permits shall submit, together with the application, financial security by way of certified funds or cashier's check, an irrevocable letter of credit, or performance bond in the amount of \$1,000.00 for each permit for opening of a Street of one hundred (100) square feet or less. For openings in excess of one hundred (100) square feet, or borings, the amount of financial guarantee to be posted for the completion of the Work shall be equal to one hundred and ten percent (110%) of the cost of completion of the Work estimated as of ninety (90) calendar days following the date scheduled for completion of the Work by the applicant. The amount of financial guarantee required shall be based upon an estimate of the cost of completion of the Work, prepared by the applicant's engineer licensed as such in Pennsylvania and certified in writing by such engineer to be a fair and reasonable estimate of such cost. Borough Council may, upon recommendation of the Borough Engineer, refuse to accept such estimate for good cause shown. If the applicant and Council are unable to agree upon an estimate, then the estimate shall be recalculated and certified by another professional engineer licensed as such in Pennsylvania and chosen mutually by Council and the applicant, or as appointed by the Court of Common Pleas upon petition of either Council or the applicant when Council and the applicant cannot agree. The estimate certified by the third engineer shall be presumed fair and reasonable and shall be the final estimate. In the event that a third engineer is so chosen, fees for the services of the engineer shall be paid by the applicant. After completion of the Work in good condition as certified by the Borough Engineer, Council shall release the performance guarantee to the applicant or person posting it.

(b) Maintenance Guarantees. Upon completion of the Work, the applicant shall post maintenance security for a period of eighteen months by way of certified funds or cashier's check, an irrevocable letter of credit, or a maintenance bond in the amount of \$500.00 for each permit for opening of a Street up to one hundred (100) square feet. For openings of a Street in excess of one hundred (100) square feet, or borings, the amount of the maintenance guarantee shall be in an amount determined by Council but not more than fifteen (15%) percent of the cost of the Work performed as estimated by the applicant's engineer and approved by the Borough. Such maintenance guarantee shall guarantee that the applicant shall maintain the Work in good condition during the 24 months after the completion of the Work. If the applicant is negligent or fails to maintain the Work in good condition during the twenty-four (24) month period, Council may enforce the maintenance guarantee, bond or other surety by appropriate and equitable remedies. If proceeds of such bond or other sureties are insufficient to pay the cost of maintaining the Work during the twenty-four (24) month

period, Council, at its option, may institute appropriate legal or equitable action to recover the monies necessary for maintaining of the Work in good condition under the specifications of this Ordinance. After the expiration of the twenty-four (24) months from the date of the completion of the Work in good condition as certified by the Borough Engineer, Council shall release the maintenance guarantee to the applicant or person posting it.

(c) The performance and maintenance guarantees shall be posted in addition to the permit application fee and the reimbursement of inspection fees of any professional engineer retained by the Borough to perform supervision or inspections.

§123. Insurance Requirements. Prior to the issuance of a permit under this Ordinance, the applicant shall be required to furnish certificates of insurance, including workman's compensation insurance on all employees. The certificate of insurance required of the applicant shall indicate that the applicant and the person performing the work is insured against claims for damages for personal injury as well as against claims for property damages which may arise from or out of the performance of the work, whether such performance be by the applicant, the applicant's subcontractor or anyone directly or indirectly employed by the applicant to perform the work. Such insurance shall include protection against liability arising from completed operations. Such insurance shall provide complete third-party coverage for the Borough. The liability insurance for bodily injury in effect shall be in an amount not less than three hundred thousand dollars (\$300,000.00) for each person and one million dollars (\$1,000,000.00) for each accident and for property damage in an amount of not less than two hundred fifty thousand dollars (\$250,000.00). Failure of applicant to file such certificate shall be grounds for denying a permit. Public utilities and authorities may submit annually such evidence of insurance coverage in lieu of individual submissions for each permit.

§124. Penalty for Violation. Any person who violates or permits the violation of this Ordinance shall be guilty of a summary offense, and, upon conviction, shall be sentenced to pay a fine of not more than One Thousand (\$1,000.00) plus the costs of prosecution, and, in default of payment of fine and costs, to imprisonment for a term of not more than thirty (30) days; OR a civil penalty of not more than six hundred (\$600.00) Dollars together with court costs and reasonable attorney fees. A violation of this Ordinance shall arise for each day of violation; and each applicable section of the ordinance. The fine or penalty imposed under this section may be in addition to any costs and additional amounts collectible under other sections of this Ordinance.

§125. Severability. If any section, subsection, sentence, clause, phrase, or portion of this Ordinance is for any reason held invalid or unconstitutional by any Court of competent jurisdiction, such portion shall be deemed a separate and distinct and independent provision, and such holding shall not affect the validity of the remaining portions hereof.

§126. Repealer. All ordinances or parts thereof which are inconsistent with this Ordinance are hereby repealed to the extent of their inconsistencies.

§127. Effective Date. This Ordinance shall become effective immediately following its adoption.


ADOPTED THIS 15th **DAY OF** August, **2017**, by Conyngham Borough Council.

ATTEST:

CONYNGHAM BOROUGH COUNCIL:



Lynn Falatko, Secretary



Gary Gregory, President

APPROVED BY:

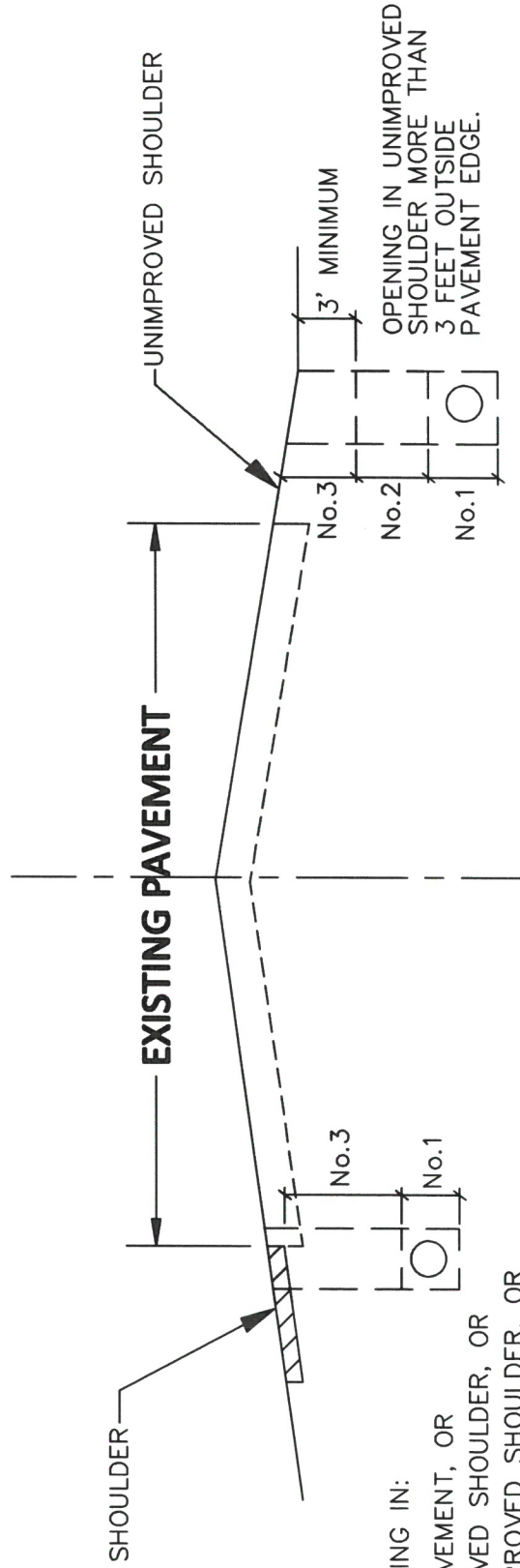
Mayor

Exhibit A

TYPICAL BACKFILL SECTION

FIGURE 7-7

NOT TO SCALE



OPENING IN:

- PAVED SHOULDER, OR
- IMPROVED SHOULDER, OR
- UNIMPROVED SHOULDER WITHIN 3 FEET OF PAVEMENT EDGE.

No.1 PLACE FINE AGGREGATE OR GRANULAR MATERIAL UP TO 1 FOOT OVER TOP OF THE FACILITY, AND COMPACT IN 4" LOOSE LIFTS.

No.2 PERMIT MAY AUTHORIZE RETAINED SUITABLE MATERIAL, IN LIEU OF #3 BELOW, AND COMPACT IN ACCORDANCE WITH DEPARTMENT REGULATIONS 459.8(g).

No.3 PLACE SELECT GRANULAR MATERIAL (2RC) UNLESS COARSE AGGREGATE MATERIAL IS SPECIFIED IN PERMIT, AND COMPACT (IN 4" LOOSE LIFTS WITH MECHANICAL TAMPER OR 8" LOOSE LIFTS IF VIBRATORY COMPACTION EQUIPMENT IS USED) TO 100% OF THE DETERMINED DRY WEIGHT DENSITY.

NOTE: For openings behind curb or outside shoulder, suitable material will normally be authorized full depth.

Exhibit B

TEMPORARY PAVEMENT RESTORATION

FIGURE 7-6

NOT TO SCALE

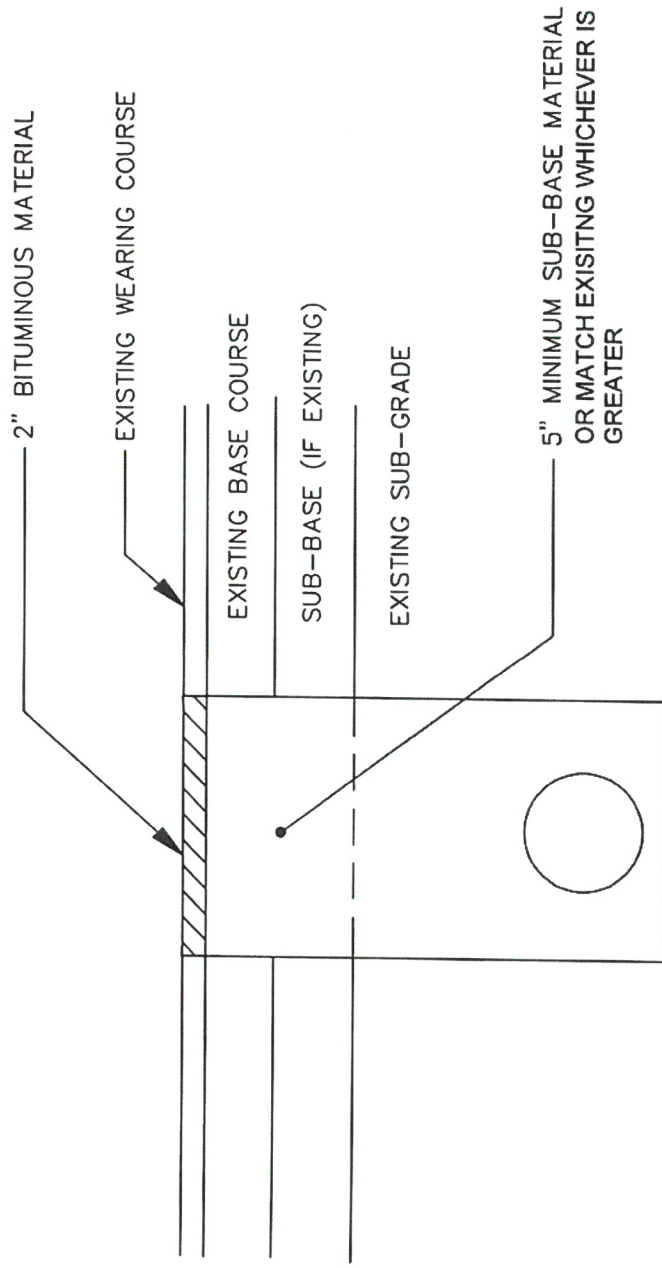
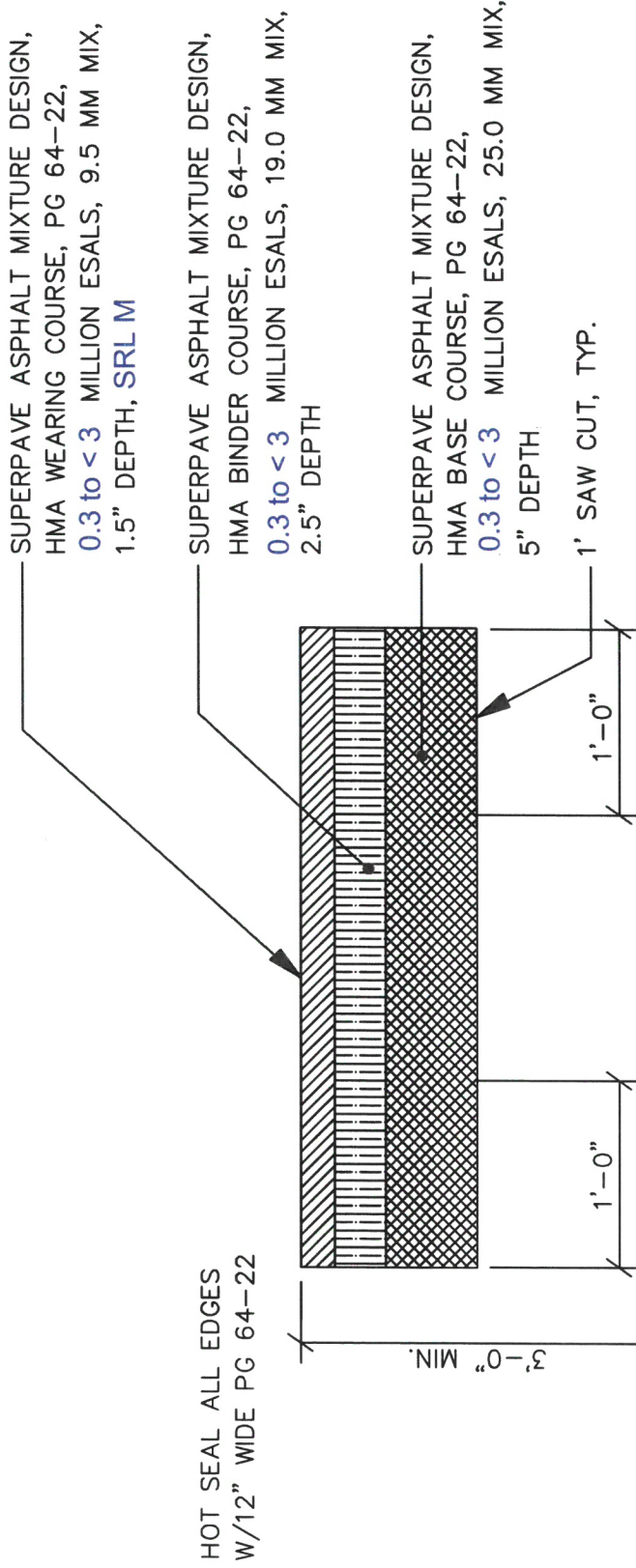


Exhibit C

FLEXIBLE PAVEMENT RESTORATION

FIGURE 7-3

NOT TO SCALE



COMMENTS

1. EXPOSED VERTICAL AND HORIZONTAL SURFACES SHALL BE PREPARED AS PER PUB 408, SECT. 409.3(g)
 2. MINIMUM 1' PAVEMENT CUTBACK, EXCAVATE OLD AND TEMPORARY MATERIAL. RECOMPACT SUB-GRADE, TACK COAT ALL VERTICAL EDGES. INSTALL ONLY BASE COURSE AND BINDER COURSE IN ONE DAY.
 3. PERMANENT RESTORATION TO BE MINIMUM 90 DAYS UNLESS FLOWABLE FILL IS USED.
- NOTE: MATCH EXISTING DEPTHS IF GREATER.
- REFER TO EXHIBIT A FOR BACKFILL REQUIREMENTS

Exhibit C

RIGID PAVEMENT RESTORATION

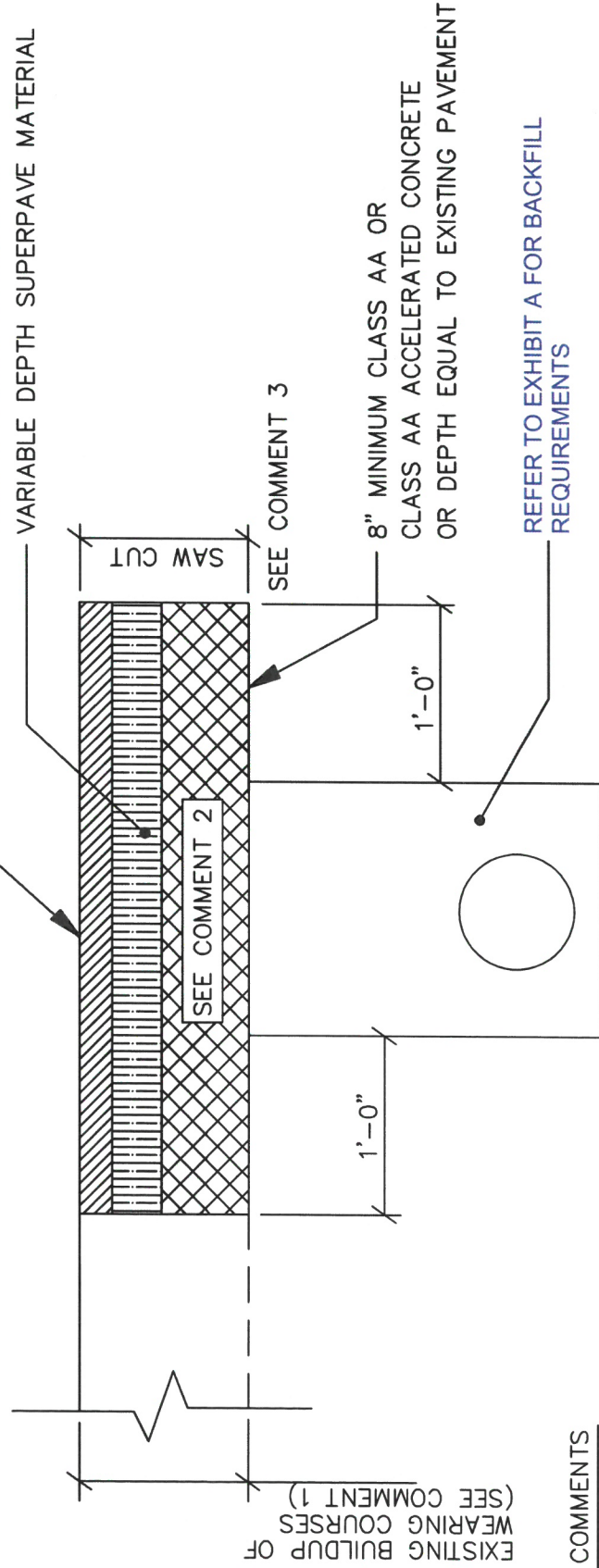
FIGURE 7-5

(BITUMINOUS OVERLAY OR PLAIN CEMENT BASE COURSE)

NOT TO SCALE

HMA WEARING COURSE, PG 64-22,
0.3 to < 3 MILLION ESALS, 9.5 MM MIX,
1.5" DEPTH, SRL M

1.5" MINIMUM TO 2" MAXIMUM
SUPERPAVE WEARING COURSE
9.5mm MIX, PG 64-22,
0.3 to <3 MILLION ESALS, SRL M
VARIABLE DEPTH SUPERPAVE MATERIAL



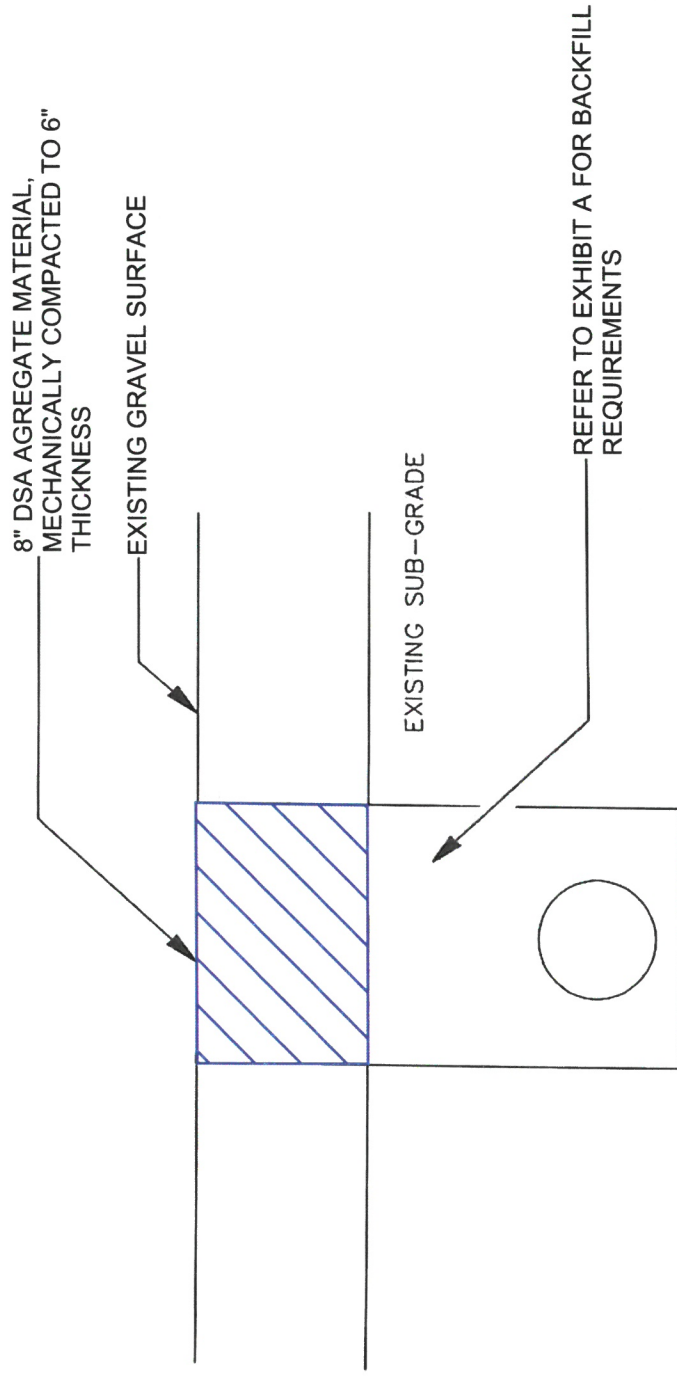
COMMENTS

1. SURFACE OF REPLACEMENT CONCRETE TO BE AT SAME ELEVATION AS EXISTING SLAB.
2. FOR LIMITS OF CONCRETE REPLACEMENTS, SEE DEPT. REG. 459.8(i)(4)
3. CUT BACK IS NOT REQUIRED BEYOND A TRANSVERSE OR LONGITUDINAL JOINT OR CURB.

Exhibit D

UNIMPROVED PAVEMENT RESTORATION

NOT TO SCALE



PA State Conservation Commission

Driving Surface Aggregate Standard and Specification

- I. **Definition** - This document is for the purchase and placement of Driving Surface Aggregate (DSA) for the Pennsylvania State Conservation Commission’s Dirt, Gravel, and Low-Volume Road Maintenance Program (DGLVRMP). DSA is an aggregate mixture of crushed stone designed specifically as a surface-wearing course for unpaved roads. DSA provides a durable road surface with longer maintenance cycles than conventional road surface aggregates.

- II. **Use** - For the purposes of funding under the DGLVRMP, DSA must be used in areas where it will have an environmental benefit (reduced erosion, reduced runoff). DSA shall only be placed after drainage and subgrade issues have been addressed by utilizing practices that promote Environmentally Sensitive Maintenance. DSA was originally designed to reduce erosion and runoff on road segments close to streams where drainage improvements were limited. Surface aggregate is not required on every project.

- III. **Material** - DSA to be used on DGLVRMP projects shall be tested prior to delivery by an independent lab that has no affiliation with the source quarry. Samples shall be obtained by Conservation District (CD) staff, Center for Dirt and Gravel Road Studies (CDGRS) staff, or otherwise approved by the SCC. Material must meet the following requirements:

- A. **Gradation:** The required sieve sizes and allowed ranges, determined by weight, for DSA components are shown in Table 1.

Sieve Size	Percent Passing
1.5”	100
0.75”	65 – 95
#4	30 – 65
#16	15 – 30
#200	10 – 15

Table 1 – DSA Gradations

- B. **Abrasion Resistance:** The loss of mass (LA Abrasion) shall be less than 40%. Determine the resistance to abrasion using the Los Angeles Abrasion test, ASTM C131.

- C. **pH:** Aggregate shall be in the range of pH 6 to pH 12.45 as measured by ASTM D4972.

- D. **Moisture:** Upon delivery to the site, material shall be well mixed and placed at optimum moisture content or up to 2% below that value as determined for that particular source. The optimum percentage moisture is to be determined using Proctor Test ASTM D698, Procedure C, Standard. Aggregate provider is encouraged to perform moisture testing prior to loading material for delivery.

- E. **Plasticity:** Material shall not exceed a Plasticity Index (PI) of 6. The laboratory test required for these results is ASTM D4318 – Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

- F. **Soundness:** Determine the percentage of mass (weight) loss of each fraction of the coarse aggregate

Effective 5/10/2016

after five cycles of immersion and drying using a sodium sulfate solution according to PTM No. 510. The maximum weighted percent loss allowed is 20%. The Conservation District may accept aggregate failing the soundness test if it can be demonstrated that the material has a satisfactory service record.

- G. **Aggregate:** All DSA shall be derived from natural rock formations that meet program specification for abrasion resistance, pH and freedom from contaminants.
- H. **Fines:** If fines need to be added to the aggregate to meet DSA gradation requirements, the added material passing the #200 sieve must be derived from rock material that conforms to program specifications. No mineral clay or silt soil may be added. The amount of particles passing the #200 sieve shall be determined using the washing procedures specified in PTM No. 100.
- I. **Mixing:** DSA shall be properly mixed and at the proper moisture content before it is loaded onto the transport vehicles.

IV. Delivery and Placement

- A. **Preparation of Subgrade:** Unsatisfactory drainage and subgrade conditions shall be corrected prior to placement by scarifying, reshaping, and re-compacting, or by replacing or importing subgrade/sub-base. The subgrade/subbase shall be crowned or sidesloped to $\frac{1}{2}$ to $\frac{3}{4}$ inch per foot (4%-6% slope). Beginning and ending of DSA placements shall include a paving notch across the width of the subgrade. The paving notch shall have a minimum depth equal to the compacted DSA placement, and a sufficient length to facilitate transition into existing road surface.
- B. **Transport:** Tarps shall be used to cover 100% of the load's exposed surface from the time of loading until immediately before placement.
- C. **Certification:** A properly executed SCC DSA Certification Form shall be provided at the time of initial delivery and subsequent certification forms shall be provided if quarry conditions change. This Certification Form is to apply to the specific stockpile of DSA material being delivered from the source. The form certifies that the DSA material meets all of the specifications and requirements.
- D. **Placement:** The use of a motorized paver is highly recommended for all DSA placements. For projects and/or contracts including over 1,000 tons of DSA, a motorized paver is required. A track mounted paver is preferred. DSA placements should be placed in a single pass. The crown or cross slope must range from $\frac{1}{2}$ to $\frac{3}{4}$ inch per foot (4-6%). Material shall be placed in a single 6-8 inch loose lift. This lift is to be compacted with a vibratory roller as specified in Section V Compaction. If freezing temperatures or precipitation are forecast that may cause the material to freeze, or prevent the material from drying out, placement shall be postponed at the discretion of the road owner, Conservation District, or aggregate supplier.

V. Compaction

- A. **Vibratory Roller:** After placement, the material shall be compacted using a minimum ten-ton vibratory roller. DSA shall be compacted to a minimum of 95% of the dry-mass (dry-weight) density according to ASTM D698, Procedure C, Standard as determined by pre-sampling (refer to Materials, Section III.D). The road owner, or its designated representative, reserves the right to determine the in-place moisture and density according to ASTM D6938.

VI. **Maintenance** - Properly placed and compacted DSA provides a durable road surface with longer maintenance cycles than traditional aggregates, but it is not maintenance free. Refer to the Center for Dirt and Gravel Roads "Driving Surface Aggregate Handbook" for additional guidance on DSA maintenance.

VII. **References:**

- A. State Conservation Commission Driving Surface Aggregate Certification Form.
http://www.dirtandgravel.psu.edu/sites/default/files/General%20Resources/DSA/SCC_DSA_Spec_2014.pdf
- B. Penn State Center for Dirt and Gravel Road Studies "Driving Surface Aggregate Handbook"
<http://www.dirtandgravel.psu.edu/general-resources/driving-surface-aggregate-dsa>
- C. ASTM C131 [AASHTO T96] - Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
<http://www.astm.org/Standards/C131>
- D. ASTM D4972 - Standard Test Method for pH of Soils. <http://www.astm.org/Standards/D4972>
- E. ASTM D698, Procedure C, Standard [AASHTO T99] – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
<http://www.astm.org/Standards/D698>
- F. ASTM D4318 [AASHTO T89/90] – Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
<http://www.astm.org/Standards/D4318>
- G. Pennsylvania Test Method No. 100. - Method of Test for amount of material finer than 75 µm (no. 200) sieve in aggregate.
http://www.dot.state.pa.us/public/pdf/BOCM_MTD_LAB/PUBLICATIONS/PUB_19/PTM-100.pdf
- H. Pennsylvania Test Method No. 510 – Method of Test for soundness of aggregate by use of sodium sulfate. http://www.dot.state.pa.us/public/pdf/BOCM_MTD_LAB/PUBLICATIONS/PUB_19/PTM-510.pdf
- I. ASTM D6938 [AASHTO T310] – Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
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