

SECTION 02630

STORM SEWERS AND DRAINAGE STRUCTURES

PART 1 GENERAL

1.1 SUMMARY

The CONTRACTOR shall provide for all materials, equipment, tools, supplies, services, and labor necessary to install storm sewers and drainage structures as shown on the plans, project specifications, and contract documents and as may be further set out in any Special Provisions, Addenda, and Change Orders.

1.2 STANDARDS AND SPECIFICATIONS

1.2.1 SD1 Technical Specifications: Although this section has been developed to serve primarily as a stand-alone document, reference is made to other sections of the Sanitation District No. 1 (SD1) Technical Specifications. The ENGINEER or CONTRACTOR of a storm sewer project is responsible for obtaining a current edition of the SD1 Technical Specifications when designing or performing work that either involves SD1 funding or is to be accepted by SD1. Copies of the SD1 Technical Specifications may be obtained from:

Sanitation District No. 1
Capital Improvements Program
1045 Eaton Drive
Ft. Wright, KY 41017

and

<http://www.sd1.org/>

- 1.2.2 KTC Standard Specifications and Drawings: In this section, reference is made to the current Kentucky Transportation Cabinet (KTC) Standard Specifications for Road and Bridge Construction and the KTC Standard Drawings. In addition, construction requirements and material specifications not specifically covered in this section or in the referenced SD1 Technical Specifications shall conform to KTC Standards. The ENGINEER or CONTRACTOR of a storm sewer project is responsible for obtaining a current edition of the KTC Standard Specifications and the latest edition of the KTC Standard Drawings when designing or performing work that either involves SD1 funding or is to be accepted by SD1.

Copies may be obtained from:

Kentucky Transportation Cabinet
Manager, Policy and Procedures
Development Branch
112 State Office Building
Frankfort, Kentucky 40622

- 1.2.3 Latest Revisions: Wherever reference is made to any published standards, codes or standard specifications, it shall mean the latest standard code, specification or tentative specification of the technical society, organization or body to which reference is made. Where specified articles, sections, paragraphs or other subdivisions of the referenced publications are not stated, the referenced publication shall apply in full.

1.3 SUBMITTALS

- 1.3.1 For projects that are approved and funded, designed, or bid by SD1, submittals shall be required as follows:

A. Product Data: For the following:

- Pipe and fittings.
- Precast concrete manholes and drainage structures.
- Structure frames and grates.
- Any other items as requested by the ENGINEER or SD1.

B. Shop Drawings: For the following:

- Manholes: Include plans, elevations, sections, details, and frames and covers.
- Drainage Structures: Include plans, elevations, sections, details, and frames, covers, and grates.
- Cast-in-place and Precast Structures: Include plans, elevations, reinforcing, concrete mix design, and structural calculations stamped by a Professional Engineer, registered in the State of Kentucky, competent in structural design.
- Pipe material and layout for prefabricated sections
- Any other items as requested by the ENGINEER or SD1.

- C. Test Reports: The CONTRACTOR shall submit test reports for materials supplied to SD1 whenever SD1 has not received certified letters from suppliers that materials meet the applicable specifications called for, or there is visible evidence on the work site that the materials do not conform to the applicable specifications. These tests would include any concrete tests and soil tests performed for the project.

- D. The CONTRACTOR shall furnish one copy of the supplier's certification stating that pipe materials were manufactured, sampled, tested and inspected in accordance with the applicable standards and specifications.

- 1.3.2 For privately-funded storm sewer projects that include components to be dedicated to SD1 or another public entity, submittals shall be provided at the request of the ENGINEER or SD1. Submittals shall not normally be provided, except at the request of SD1 or the ENGINEER.

1.4 UNDERGROUND STRUCTURES AND UTILITIES (For SD1 Funded Projects)

- 1.4.1 The CONTRACTOR shall verify the locations of all underground structures and utilities prior to the start of construction. The CONTRACTOR shall avoid damaging existing utilities while verifying their locations. The CONTRACTOR shall notify the Kentucky Underground Utility Protection, Inc. at 1-800-752-6007, SD1, the local Water District (Northern Kentucky Water District for Campbell and Kenton Counties, Boone County Water District for Boone County) 48 hours in advance of any construction.
- 1.4.2 The CONTRACTOR shall be responsible for the protection of any structure or utility encountered on the site. The cost of repair, removal, replacement, relocation, etc. of such facilities arising because of carelessness or negligence on the part of the CONTRACTOR shall be the CONTRACTOR'S responsibility. The CONTRACTOR shall make every effort to protect private structures and utility service connections whether in right-of-way/easement or on private property, including sanitary and storm sewer facilities.
- 1.4.3 Should uncharted or incorrectly charted utilities be encountered, consult SD1 and the Utility Owner for directions. It shall be the sole responsibility of the CONTRACTOR to meet the requirements of the respective utility.

PART 2 STORM SEWER PIPE

2.1 MATERIALS

Storm sewer pipe shall be as specified on the approved design plans, unless otherwise approved by SD1. ENGINEER may select the following material types described in this section. Any pipe that is found defective, or otherwise not meeting the Specifications, shall be rejected and replaced by pipe meeting these Specifications at no cost to SD1.

- 2.1.1 Reinforced Concrete Pipe (RCP): Circular reinforced concrete pipe shall meet the requirements of ASTM C 76, Standard Specification for Reinforced Concrete Culvert, Storm Drain and Storm Pipe. Elliptical reinforced concrete pipe shall meet the requirements of ASTM C 507, Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe.

Rubber and plastic joints, or approved equal, shall be the jointing method for RCP and shall meet the requirements of AASHTO M 315 / ASTM C 443. Other methods of joining RCP will only be allowed upon explicit approval from SD1.

When RCP is used under pavement or driveways, a minimum of Class III RCP shall be

required.

- 2.1.2 Corrugated Metal Pipe (CMP): Corrugated steel pipe shall meet the requirements of AASHTO M36. Corrosion protection shall be provided through an aluminized coating conforming to AASHTO M274. Aluminum alloy spiral pipe shall meet the requirements of AASHTO M196. Coating materials shall be evaluated on a per project basis. Asphalt coatings shall not be permitted for corrugated metal pipe.

Joints for CMP shall be made using coupling bands and gaskets meeting the requirements of AASHTO M 36 and AASHTO M 274.

- 2.1.3 Ductile Iron Pipe (DIP): Ductile iron pipe shall conform to ANSI/AWWA C151/A21.51. Pressure class 350 shall be used for all piping, unless otherwise shown on the drawings or specified. Fittings shall conform to ANSI/AWWA C110/A21.10, or ANSI/AWWA C153/A21.53, with a minimum working pressure rating of 350 psi.

All gravity sewer piping shall be push-on joint or mechanical joint. Push-on joints and mechanical joints shall be in accordance with ANSI/AWWA C111/A21.11. All buried ductile iron pipe shall have cementitious lining inside, factory applied.

All buried ductile iron pipe shall be encased per the following requirements:

- (A) Polyethylene encasement shall be provided for all buried ductile iron pipe, including all straight pipe, bends, tees, wyes, adapters, closure pieces, field restraint devices, valves and other fittings or specials, in accordance with ANSI/AWWA C105/A21.5, Method A. Preparation of the pipe shall include, but not be limited to: removing lumps of clay, mud, cinders, etc., prior to installation.
- (B) Where ductile iron pipe is also embedded or encased in concrete or within a casing pipe, the polyethylene encasement shall be installed over the ductile iron pipe prior to concrete placement and in conjunction with installation in the casing pipe.
- (C) The pipe shall be wrapped with 8-mil thickness polyethylene tube wrap, using the recommended minimum flat tube widths for the specified pipe sizes. The polyethylene tube wrap shall be of virgin polyethylene as produced from DuPont Alathan resin or equal.
- (D) The polyethylene tube seams and overlaps shall be wrapped and held in place by means of 2-inch wide plastic backed adhesive tape. The tape shall be Polyken Number 900, Scotchrap Number 50, or equal. The tape shall be such that the adhesive shall bond securely to both metal surfaces and polyethylene film.
- (E) The polyethylene film supplied shall be clearly marked at a minimum of 2-ft along its length, containing the following information:
 - a. Manufacturer's name or trademark
 - b. Year of Manufacture
 - c. ANSI/AWWA C105/A21.5
 - d. Minimum film thickness and material type (LLDPE or HDCLPE)

- e. Applicable range of nominal pipe diameter size(s)
- f. Warning--Corrosion Protection--Repair any Damage

2.1.4 Polyvinyl Chloride (PVC) Pipe: The following PVC pipe types are permitted in storm sewer applications:

- (A) Smooth-Wall: PVC pipe meeting the requirements of ASTM D 3034, Standard Specification for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings. Unless shown otherwise on the Plans or in the Contract, SDR 35 pipe shall be required.
- (B) Large Diameter: PVC pipe meeting the requirements of ASTM F 679, Standard Specification for Polyvinyl Chloride (PVC) Large Diameter Plastic Gravity Sewer Pipe and Fittings. Unless shown otherwise on the Plans or in the Contract, SDR 35 shall be required.
- (C) Profile-Wall: PVC open or closed profile pipe meeting the requirements of ASTM F 794, Standard Specification for Polyvinyl Chloride (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter.
- (D) Corrugated: Corrugated PVC pipe meeting the requirements of ASTM F 949, Latest Revision, "Polyvinyl Chloride (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings".

Joints for PVC pipe shall be gasket, bell and spigot, push-on types which meet the requirements of ASTM D 3212, Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals. Gaskets shall meet the requirements of ASTM F 477, Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

For Solid Wall PVC SDR 35 pipe, the maximum cover depth shall be 20-ft.

2.1.5 High Density Polyethylene (HDPE) Corrugated Pipe: Corrugated polyethylene pipe with an integrally formed smooth interior shall meet the requirements of AASHTO M 294, Standard Specification for Corrugated Polyethylene Pipe, 12 to 36 inch diameter, for Type S pipe. SD1 will consider the use of large diameter HDPE on a case-by-case basis; approval shall be at SD1's discretion

HDPE pipe shall be joined using an inline bell (IB) & spigot joint or fitting meeting AASHTO M294 or ASTM F2306. The joint or fitting shall be soil-tight and gaskets shall meet the requirements of ASTM F477.

2.1.6 Installation of all flexible pipe, regardless of diameter, shall follow the requirements of ASTM D2321, Standard Practice for Underground Installation of Thermoplastic Pipe. For installations of all pipe 30" or greater in diameter, full time inspection will be required during the bedding and backfill operations.

2.2 DESIGN REQUIREMENTS

Pipe selected shall be designed for the cover and loading requirements for each project. Pipe selection and size shall be designed to follow SD1's Stormwater Rules and Regulations. Pipe materials selected for installation in the project shall be approved by SD1 prior to construction. Design calculations for pipe wall thickness and structural design shall be provided by the ENGINEER, during the plan review process as requested by SD1. Engineer shall consider depth of burial, soil modulus of in situ material, type of in situ material in which the pipe is installed, bedding material required, etc when submitting calculations.

A minimum vertical separation of 18 inches or concrete encasement of pipes shall be required between storm pipes, sanitary pipes and water pipes, unless specifically waived by SD1. Minimum cover for all pipe types shall be 3 feet unless specifically waived by SD1. For pipe installations in rear-yard areas, less than three feet of cover may be approved by SD1 on a case-by-case basis. Drainage structures shall be installed at distances not greater than 500 feet for pipes 30 inches and less and 600 feet for pipes larger than 30 inches in diameter, unless waived by SD1. No curved alignments of pipe shall be allowed unless specifically approved by SD1.

PART 3 DRAINAGE STRUCTURES

3.1 GENERAL

- 3.1.1 Concrete for all cast-in-place storm drainage structures (including channels and benches) shall conform to Section 03300 of the SD1 Technical Specifications. Per that specification, the concrete design mix shall have a minimum 28-day compressive strength of 4,000 psi, a maximum water to cement ratio of 0.44, a minimum cement content of 564 pounds per cubic yard, entrained air between four (4) percent and eight (8) percent, a minimum slump of 1 inch and a maximum slump of 6 inches.
- 3.1.2 Grout shall consist of a mixture of water and cement or cement with fly ash, one part cement or cement with fly ash to two parts mortar sand as defined in Section 601.03.03B of the KTC Standard Specifications, by volume.
- 3.1.3 Non-shrink grout shall be an approved non-shrink, non-staining grout consisting of either a mixture of hydraulic cement, water, fine aggregate, and an approved nonferrous expansive admixture, or a packaged commercial product and shall meet the requirements of Section 601.03.03B of the KTC Standard Specifications.

3.2 MANHOLES AND STRUCTURES (Reference shall be made to SD1's Standard Drawings for the terminology used in this section)

- 3.2.1 Precast storm drainage structures with knockout panels shall only be used for curb inlets (catch basins) and yard drains and can be no greater than 6-ft in depth, unless load calculations are supplied. For pre-cast rectangular structures (other than those with

knockout panels), at least 6 inches of wall (measured from the interior corner) is required on each side of the pipe beyond the precast opening for the pipe. This rule is not applicable for structures which have pipe installed in opposite walls or where one outlet reinforced concrete pipe is utilized. Less than 6 inches of wall may be approved by SD1 with the submittal of design calculations.

- 3.2.2 Steps shall be PS1-PF (Press Fit polypropylene plastic) as manufactured by MA Industries, or equal, and provided when structure is greater than 4-ft in depth and shall conform to ASTM C 478.. Manhole and catchbasin steps shall be cast, epoxy grouted, or attached by mechanical means into the walls of the manholes in such manner as to conform with ASTM C 478. No steps shall be aligned over the flow channel. Step spacing shall be 16". Omit steps for structures less than 4-ft deep unless otherwise shown on the plans.
- 3.2.3 Castings for storm sewer manholes and drainage structures shall be heavy duty ductile iron conforming to ASTM A 536, Grade 60-40-18. Manhole frames and covers shall be Neenah R-1642 with the words "Storm Sewer" cast into the lids, or an approved equal, unless shown otherwise on the project plans. Catch basins and other structure castings shall be as specified on the standard details or project plans.
- 3.2.4 Round precast structures shall conform to ASTM C 478; square and rectangular precast structures shall meet the requirements of ASTM C 913. Structural calculations shall be provided for all precast structures as requested by SD1. Benching is required in the bottom of all drainage structures (curb inlets, yard drains, standard inlets, manholes) per SD1 standard details.

All standard inlets shall conform to the appropriate Standard Drawings No. STM-08 through STM-11. Pre-cast manholes shall conform to SD1's Standard Specifications, Section 02606 and Standard Drawings No. STM-13 and STM-13.1. All cone and transition sections shall be concentric in shape unless that requirement is specifically waived by SD1.

Base and riser sections shall be custom-made with openings to meet indicated pipe alignment conditions. The minimum distance allowed between precast holes, measured from edge to edge, in a manhole or standard inlet section shall be 12 inches. The maximum inside diameter (or horizontal dimension) of pipe to be used with a given size of manhole shall be as specified on SD1 standard drawing STM-13.

- 3.2.5 Joints between precast manhole, yard drain, and standard inlet sections in the roadway or yard areas shall be sealed with one of the following:
- (A) ASTM C 443, a single, continuous rubber O-ring gasket and shall conform to AWWA C302.
 - (B) ASTM C-990, flexible butyl resin sealant such as Conseal CS-102, CS-202 as manufactured by Concrete Sealants, Inc.
 - (C) Hamilton-Kent "Kent-Seal No. 2"
 - (D) K.T. Snyder Co. "Rub'r-Nek"
 - (E) Press Seal Gasket "E-Z Stik".

Joints between riser sections for curb inlets (catch basins) are not required to have gaskets or butyl sealant between sections. These joints can be stacked dry as long as there are no holes or gaps in the joints. All holes or gaps shall be filled with non-shrink grout

- 3.2.6 For precast structures with openings cast into the unit, the minimum vertical distance from the pipe openings to the top of the structure or segment wall shall be 12 inches. If this distance is less than 12 inches, then additional reinforcing steel shall be furnished for this section. All pipe openings shall not be in joints between two precast sections unless specifically approved by SD1. The top slab must be designed for HS-20 loading in paved areas only.
- 3.2.7 Grade rings shall be used for all precast and masonry manholes to adjust height of manhole frame casting where required.
1. Grade rings shall be a maximum of ten (10) inches in height, constructed on the roof slab or cone section on which the manhole frame and cover shall be placed.
 2. The height of the grade ring shall be such as is necessary to bring the manhole frame to the proper grade.
 3. One piece precast concrete rings shall be used for grade adjustment greater than six (6) inches and up to ten (10) inches in height. The ring shall be set concentrically on top of the cone section or top slab if used.
 4. High density polyethylene (HDPE) rings shall be used for grade adjustment from two (2) inches to a maximum of six (6) inches in height. A maximum of three (3) HDPE grade rings is allowed to adjust the height of the manhole. Rings shall be set concentrically on top of the cone section or top slab if used.
 5. All grade rings shall be sealed using two rows of butyl rubber sealant.
 6. If structures are installed on slopes and a grade adjustment is needed to match the slope, cast-in-place concrete shall be placed and formed to construct the slope needed between the precast sections and the top slab. Bricks, blocks, etc. grouted in place to construct the slope will not be permitted.
- 3.2.8 Cast-in-place benches shall be of 4,000 psi concrete as described in 3.1.1 and shall conform to the shapes indicated on the Plans, SD1 Standard Drawings, or as otherwise directed. The invert channels shall be so constructed as to cause the least possible resistance to flow. The shapes of the invert channels shall conform uniformly to inlet and outlet pipes. Smooth and uniform finishes will be required. Inverts may also be precast into the structure.
- 3.2.9 PVC drainage structures and catch basins shall be approved on a case-by-case basis by SD1.

3.3 HEADWALLS AND OUTFALLS

- 3.3.1 Headwalls and outfalls shall be constructed of either cast-in-place or precast reinforced concrete that conforms to KTC Standard Specifications for Road and Bridge Construction.
- 3.3.2 Safety guards and railings: Safety guards and railings shall be provided along the top and sloped/winged sidewalls on all headwall inlet and outlet structures having a vertical drop of 4'-0" or greater. Such guards or railings shall be at least 42-inches in height measured vertically above the wall. Guards or railings shall not have an ornamental pattern that would provide a ladder effect. Vinyl coated chain link fencing and galvanized materials are an acceptable guard type.
- 3.3.3 Grates: Grates shall be provided on inlet headwalls for all pipes 24" and less. Grates shall be required for pipes greater than 24" as deemed necessary by SD1. Cases for pipes larger than 24" that would require a grated headwall include, but are not limited to, a propensity for debris to enter the sewer and become lodged, considerable length, drop structures or bends in the pipe run, etc.

3.4 CONNECTIONS

- 3.4.1 Flexible connections or hydrophilic sealant and Okum rope, or an approved non-bentonite equal, with the pipe grouted in place shall be used for all connections at manholes, yard drains, and standard inlets regardless of the pipe's diameter. Flexible connections at manholes shall be elastomeric gaskets or couplings, manufactured in accordance with ASTM C 1478, Standard Specification for Storm Drain Resilient Connectors Between Reinforced Concrete Structures, Pipes, and Laterals for pipes less than or equal to 48" in diameter.
- 3.4.2 For precast curb inlets (catch basins) (other than those with knockout panels), the opening around the pipe shall either be filled with non-shrink grout for the wall thickness of the structure or the pipe shall be encased with minimum 6 inch collar of concrete from the inside face of the wall to 1'-0" outside the outer face of the wall. The pipe shall be adequately supported to prevent settling while the grout or the concrete encasement is curing. The inside faces of the structure walls shall be finished with a trowel. The diameter of the opening shall be no more than 8 inches greater than the outside diameter of the pipe.
- 3.4.3 For precast yard drains and curb inlets (catch basins) with knockout panels, holes for the pipes shall not be cut into the structural members (i.e., top beams and corner columns) and non-shrink grout shall not be allowed to be placed around the pipes. The pipes shall be encased with a minimum 6 inch concrete collar all around the outside of pipe or a minimum of 3 inches beyond the hole knocked in the wall, whichever is greater. Also, the concrete encasement shall extend from the inside face of the wall to 1'- 0" outside the outer face of the wall.

3.5 STORM LATERAL CONNECTIONS

- 3.5.1 Roof downspouts, footing or foundation drains, and sump pumps shall discharge in accordance with the local governing subdivision regulations. All storm lateral connections (downspouts, footing or foundation drains, sump pumps, etc) to the storm sewer shall be prohibited unless explicitly approved by SD1 due to uncommon circumstances (i.e. inadequate discharge distances from foundations, narrow side yards, etc).

PART 4 EXCAVATION AND BACKFILL (Reference shall be made to section 02220 for additional requirements for excavation and backfill. This specification works in concert with the requirements in section 02220)

4.1 MATERIALS

- 4.1.1 Bedding: Pipe bedding shall be clean natural or washed sand and gravel, crushed gravel or crushed stone, free from cementitious substances and flat or flaky particles in an amount to cause caking, packing, yielding or uneven support for the pipe. All material shall be of such sizes that one-hundred percent (100%) passes the one and one half (1 ½) inch screen, 40% or less passes the No. 40 sieve, and ten (10) percent or less passes the No. 200 sieve. Bedding material shall not consist of any organic soil or stone larger than 1½-inch in any dimension.
- 4.1.2 Select Fill: Select fill shall be well graded sand and gravel, free from organic matter. Not more than 70 percent by weight shall pass through a No. 40 sieve; not more than 10 percent by weight shall pass through a No. 200 sieve; and 100 percent shall pass through a 3-inch square sieve. See SD1 technical specification 02220 for further requirements of Select Fill.
- 4.1.3 General Backfill: General backfill shall be soil materials that are free of rock thicker than 6 inches or larger than 24 inches maximum in any dimension, debris, waste, frozen materials, vegetation and other organic matter and other deleterious materials. Previously excavated materials meeting these requirements may be used for backfill. All rock shall be excluded from fill within 24 inches of the pipe. If the excavated trench material does not meet these requirements, this material shall be properly disposed and suitable imported material shall be used for backfill.
- 4.1.4 Rip Rap / Channel Lining: Cyclopean stone rip rap, channel lining, Class II and Class III, per the requirements of the "Slope Protection and Channel Lining" section contained in the KTC Standard Specifications for Road and Bridge Construction shall be used. Other channel lining materials, such as turf reinforcing mats and energy dissipators, may be considered on a case-by-case basis and may only be used with the explicit approval of SD1. Installation of riprap or other channel lining systems shall conform to the "Slope Protection and Channel Lining" section contained in the "Kentucky Transportation Cabinet, Standard Specifications for Road and Bridge Construction," current edition.

- 4.1.5 Control Density Fill (CDF): Control Density Fill shall be used where shown on the drawings or as directed by SD1. CDF materials shall conform to Section 02220 of the SD1 Technical Specifications. Per that specification, CDF shall achieve an initial traffic bearing strength within 4 hours of placement and an ultimate strength of between 50 and 100 psi.

4.2 EXCAVATION

- 4.2.1 The CONTRACTOR shall perform all excavation, necessary or required, for the construction of the storm sewers and drainage structures. The excavation shall include the removal of all materials of whatever nature encountered and disposal of unsuitable material, including water and all obstructions that would interfere with the proper construction and completion of the storm sewers and drainage structures.
- 4.2.2 Excavation shall include the removal and subsequent handling of all materials required and disposal of unsuitable material for the installation of the sewer. This includes, but is not limited to, earth, loose rock, gravel, shale, layered rock, monolithic rock, vegetation, debris, junk, brick, stone and other foreign matter encountered within the excavation, and soils of any moisture content as encountered. Excavation operations shall conform to all safety standards set by the Occupational Safety and Health Administration (OSHA). An experienced supervisor representing the CONTRACTOR shall be onsite during all excavation and trenching operations.
- 4.2.3 Any required blasting shall be performed in accordance with Section 02222 of the SD1 Technical Specifications.

4.3 TRENCHING

- 4.3.1 Trench construction shall be per SD1 pipe bedding and trench condition details (same as KTC requirements) and ASTM D2321 for thermoplastic pipe and ASTM C1479M for rigid pipe as follows:
- A. No more than 200 feet of trench may be opened in advance of pipe laying.
 - B. Trench width shall be minimized to greatest extent practical but shall conform to the following:
 - 1. Flexible Pipe: Sufficient to provide room for installing, jointing and inspecting piping, but a minimum of pipe barrel OD plus two feet for 36" and less diameter pipe. For pipe that is greater than 36" in diameter, the trench width shall be the OD of the pipe plus four feet. For pipes greater than 36" diameter, a narrower trench width may be allowed if the pipe manufacturer can provide calculations showing that a narrower trench will provide the same level of structural design. The revised trench width must be approved by SD1.

2. Rigid Pipe: Sufficient to provide room for installing, jointing and inspecting piping, but a minimum of pipe barrel OD plus two feet for 36" and less diameter pipe. For pipe that is greater than 36" in diameter, the trench width shall be :

$$OD + 2*(OD/6).$$
 3. Enlargements at pipe joints may be made if required and approved by SD1.
 4. Sufficient for shoring and bracing, or shielding and dewatering.
 5. Sufficient to allow thorough compaction of bedding material adjacent to bottom half of pipe.
 6. Do not use excavating or compaction equipment which requires the trench to be excavated to excessive widths.
 - C. Depth of trench shall be as shown on the plans. If required and approved by SD1, depths may be revised.
 - D. Where pipe is installed in a trench excavation, pipe bedding shall be carefully placed and compacted before the pipe is laid. If required by the pipe manufacturer, the middle third of the trench beneath the pipe shall be loosely placed to allow proper bedding and to avoid a point load at that location. Depth of pipe bedding below the pipe shall be at least 6 inches. After laying pipe, the balance of the backfill shall be placed as described herein.
 - E. Excavate for pipe bells in bedding carefully so as not to disturb the surrounding compacted material and lay pipe so that the bell bears uniformly on the compacted trench bedding material below the pipe.
 - F. Place all bedding in pipe trenches in horizontal layers not exceeding 6 inches in depth up to a point 12-inches or more above the top of the pipe and thoroughly compact each layer before the next layer is placed. Bedding material shall be sliced or worked-in along the length of the pipeline during each 6-inch layer lift and then compacted.
 - G. No pipe shall be brought into position until the preceding length has been bedded and secured in its final position.
- 4.3.2 If the CONTRACTOR undercuts the trench bottom as described above more than eight (8) inches, the undercuts shall be backfilled with compacted bedding material.

4.4 STRUCTURES

- 4.4.1 The excavation for storm sewer manholes and other structures shall be of the width necessary to provide a minimum clearance of twelve (12) inches from the outside of the structure to the sides of the excavation to provide proper working space and maintain natural stability of the sides of the excavation.
- 4.4.2 The excavation bottom for manholes and other structures shall extend to a point that undercuts the structure not less than six (6) inches, nor more than eight (8) inches, below the entire base section. The undercut shall be backfilled bank to bank with bedding material and leveled to evenly support the manhole in plumb with no settling.
- 4.4.3 Bottom slabs or foundation footings may be poured against vertical sides of the excavation, thereby eliminating the need for form work for these items, unless the sides of the excavation will not stand almost vertical, in which case a form shall be required.

4.4.4 If the CONTRACTOR undercuts the excavation below the bottom of manholes and other structures more than 8-inches, other than when directed by SD1, the CONTRACTOR shall refill the undercut with compacted bedding material or other suitable fill material as approved by SD1 and compact the suitable fill material per Section 4.6. Any costs incurred in refilling unauthorized undercuts shall be borne by the CONTRACTOR. The cost for this work shall be considered incidental to the unit price for structure installation.

4.4.5 CONTRACTOR shall be required to compact bedding material around the entire circumference of the manhole and manhole excavation area to at least 12-inches above the highest incoming or outgoing pipe. CONTRACTOR shall compact general backfill around the entire circumference of the manhole and manhole excavation area to the proper grade, as shown on the drawings.

4.5 UNSTABLE SOIL AND DEWATERING

4.5.1 If in the course of excavation, unstable soil is encountered at the point of the bottom of the required excavation, the CONTRACTOR shall be required to undercut sufficiently to remove all of the unstable soil to the limits specified by the Geotechnical Engineer and in conjunction with the approval of SD1.

4.5.2 The CONTRACTOR shall refill the undercuts with bedding material or other suitable fill material as approved by SD1 and consolidate same to the required density of the material per Section 4.6, unless other means of refill are approved by SD1. CONTRACTOR is to provide reports from a qualified Geotechnical Engineering Firm indicating compliance with the required compaction limits. For SD1 funded projects, any costs incurred in refilling authorized undercuts in unstable soil shall be reimbursable to the CONTRACTOR on the basis of extra work or as otherwise set forth in the contract.

4.5.3 Ground Water: Pipe trenches and structure excavations shall be kept free from water during trench bottom preparation, pipe laying and jointing, pipe embedment and manhole installation as approved by a SD1 inspector or an authorized agent of SD1.

4.5.4 Where the trench or excavation bottom is saturated or otherwise unstable because of ground water, or where the ground water elevation is above the bottom of the trench or excavation, the ground water shall be lowered by means acceptable to SD1 to the extent necessary to keep the trench or excavation free from water while construction is in progress. The discharge of ground water from the trench or excavation area shall be to natural drainage channels, gutters, drains, or storm sewers which will conduct the water away from the trench or excavation area. Sediment control shall be provided at the point of discharge. Surface water shall be diverted away from the trench or excavation area in a manner acceptable to SD1; surface water shall be prevented from entering the trench or excavation area.

4.6 BACKFILL AND COMPACTION

4.6.1 Backfill Placement: Backfill shall be placed in horizontal loose lifts not exceeding 8-12 inches in thickness and shall be mixed and spread in a manner assuring uniform lift thickness.

4.6.2 Compaction requirements are as follows:

A. Select Fill and Pipe Bedding: For fill and bedding within the influence zone of structures and foundations, compact granular materials that exhibit a well-defined moisture density curve to at least 98 percent of the standard proctor maximum dry density (ASTM D698). For all other fill and bedding, compact granular materials that exhibit a well-defined moisture-density curve to at least 95 percent (ASTM D698). Moisture-condition fill materials to within a range of two (2) percent below to three (3) percent above optimum moisture content (ASTM D698). Compact granular materials that do not exhibit a well-defined moisture-density curve to at least 85 percent relative density (ASTM D4253 and D4254) within the influence zone structures and foundations, and to at least 75 percent relative density (ASTM D4253 and D4254) for all other areas.

B. General Backfill: Compact materials that exhibit a well-defined moisture density curve to at least 98 percent of the standard proctor maximum dry density (ASTM D698) within the influence zone of structures, foundations and the top one (1) foot below pavements, and at least 95 percent (ASTM D698) in all other areas. Moisture-condition fill materials to within a range of two (2) percent below to three (3) percent above optimum moisture content (ASTM D698). Compact granular or rock materials that do not exhibit a well-defined moisture-density curve to at least 85 percent relative density (ASTM D4253 and D4254) within the influence zone of structures and foundations, and to at least 75 percent relative density (ASTM D4253 and D4254) for all other areas. All pipes under State roadways shall meet KTC requirements for backfill.

1. After the pipe sections have been embedded up to a point 12-inches or more above the top of the pipe, the pipe sections have been encased in concrete, or the structures or appurtenances have been constructed, as specified on the drawings, in non-ROW areas, the remainder of the trench or excavated area shall be back-filled using trench or structure excavated material if it meets the requirements set forth under *4.1.3 Excavation and Backfill: General Backfill*. If the material does not meet these requirements, the trench or structure excavated material shall be wasted and suitable imported material shall be used for backfill.

2. Backfill shall be placed in horizontal loose lifts not exceeding 8-12 inches in thickness and shall be mixed and spread in a manner assuring uniform lift thickness after placing. Backfill shall then be compacted as specified under *4.6.2 Compaction Requirements* up to existing ground level or finished grade level if same has been established.

4.6.3 Rock Backfill

- A. Where the trench is located in areas from which rock had to be excavated in a quantity other than isolated stones, the excavated rock may be used as part of the backfill above a point 2 feet or more above the top of the pipe, or above a point 1 foot above pipe encasement. For backfill under paved areas, refer to Section 4.6.4.
- B. The rock fragments used in the backfill shall not exceed rock thicker than 6 inches or larger than 24 inches maximum in any dimension, shall not be dropped into the trench directly over the pipe centerline and shall be used with sufficient smaller dimensioned material so that voids between larger fragments shall be filled. Compaction shall meet the requirements specified under Section 4.6, Backfill and Compaction, up to existing ground level or finished grade level if same has been established.
- C. (For SD1 Funded Projects) Rock shall not be used in the top 12-inches of the backfill in yard areas, except across creeks, gullies, ravines or areas designated by the ENGINEER, where the rock may be used to the existing ground level as specified on the drawings.

4.6.4 Backfill in ROW Areas

- A. For storm sewers and structures located within the public ROW, refer to local subdivision regulations for backfill material requirements.

4.6.5 If proper compactions are not achieved because of improper control of placement or compaction procedures, or because of inadequate or improperly functioning compaction equipment, or because of soil moisture content, the CONTRACTOR shall perform whatever work is required to provide the required densities. This work shall include complete removal of unacceptable bedding, backfill or fill areas, and replacement and recompaction until acceptable densities are provided.

4.6.6 Any methods of backfilling other than the above shall not be used unless special instructions have been issued by SD1 calling for other methods. Water flooding or jetting shall not be used in any instance. Water shall only be used in minor quantities to improve compaction qualities of backfill materials when so ordered by the Geotechnical Engineer and approved by SD1.

4.6.7 In all methods of backfilling that are used, no backfill material shall be dumped into the trench, or allowed to fall directly on the sewer centerline when the previously deposited cover is less than two (2) feet above the top of the pipe. All backfill material shall be slowly shoved or "rolled" into the trench.

PART 5 EXECUTION

5.1 CLEARING AND GRUBBING (FOR SD1 FUNDED PROJECTS)

- 5.1.1 The CONTRACTOR shall clear the area within the limits of the sewer easement that is necessary to construct the sewer, including but not limited to brush, hedges and trees (unless designated as not to be disturbed on the plans or by direction of SD1), stumps, logs and loose or projecting material so as to allow the construction work to be completed. The cleared debris shall be removed and legally disposed of off-site unless otherwise approved by SD1 in writing.
- 5.1.2 All existing fencing and retaining walls shall be temporarily removed where crossing the sewer easement, and shall be completely restored to the pre-construction condition after construction work has been completed. Materials used shall be equal to or better than the original materials in the existing fences or retaining walls. The cost for such restoration shall be considered incidental to pipe construction unless otherwise stated in the contract.
- 5.1.3 A surveyor licensed in the state of Kentucky must put any and all survey monumentation encountered and removed during the course of construction back in its original location at the completion of construction. Any dedication of said established monuments that are disturbed during construction shall be the sole responsibility of the CONTRACTOR.
- 5.1.4 Temporary closures shall be erected, maintained and removed at the completion of construction where livestock are in evidence or where directed by SD1. Trees designated as not to be disturbed shall be protected from harm by machinery, materials or the construction work.

5.2 PIPE INSTALLATION

- 5.2.1 Install piping, beginning at a downstream structure and consistent with the approved plans, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Placing pipe upstream to downstream will be allowed on a case-by-case basis, if approved by SD1. In these instances, bell ends shall still face upstream to avoid debris getting caught on the lip of the spigot. Care shall be taken to avoid getting bedding material into the bell when shoving the spigot home. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab or drag in line and pull past each joint as it is completed.
- 5.2.2 Install piping at constant slope between points and elevations indicated. The CONTRACTOR shall use laser beam alignment or other suitable methods and equipment to determine the exact position of each pipe section at the bottom of the trench. No pipe sections shall be disturbed in any manner after being laid and joints made. As the pipe sections are laid and joined, the interior of the pipe shall be cleaned of all dirt and foreign matter (water shall be excluded). Washing out is not permitted without controls to

intercept debris prior to discharge. Pipe laying shall not be performed in severe cold or wet weather.

- 5.2.3 At the end of any work or whenever pipe laying ceases, the end of the pipe shall be closed with a suitable close fitting stopper. All pipe ends, branch connections and leads not to be used immediately or connected to other facilities or structures shall be closed with a stopper or bulkhead and sealed in a manner similar to the pipe joints, unless otherwise called for.

5.3 STRUCTURE INSTALLATION

- 5.3.1 Manholes shall be neatly and accurately built in accordance with the Plans and SD1 Standard Drawings. When the manhole base slab will consist of cast-in-place concrete on an existing storm sewer line, the pipe and the lower precast barrel section shall be in place and supported by concrete blocks prior to placing concrete for the base. Inlets, catch basins, drains, junction structures, and other drainage structures shall be neatly and accurately built in accordance with the plans or SD1 Standard Drawings. The structure shall be either of cast-in-place concrete or precast concrete. Precast manhole or structure sections shall be installed in accordance with ASTM C 891.
- 5.3.2 All cast-in-place structures shall be built using 4,000 psi concrete as described in 3.1.1. The structures shall be built on prepared foundations and conform to the dimensions and shapes shown on the Plans and SD1 Standard Drawings. The construction shall conform to the methods, forms, placement, protection, and curing for concrete as specified in accordance with KTC and SD1 Standards. Any required reinforcement shall conform to the Plans and SD1's Standard Drawings. Installed concrete reinforcing shall be inspected and approved by SD1 before any concrete is placed.
- 5.3.3 Headwalls and outfalls shall be constructed of either cast-in-place or precast reinforced concrete in conformance with SD1's Standard Drawings and KTC Standard Specifications for Road and Bridge Construction. All headwalls and outfalls built into slopes shall be properly seated as to avoid disconnection from the adjoined pipe.
- 5.3.4 Connections for inlet and outlet pipes shall conform to the sizes, alignments, and elevations shown on the Plans. Inlet and outlet pipes shall be cut-off so as not to extend more than two (2) inches beyond the inside surfaces of the structure wall. Pipe bells shall not be allowed inside the structure wall. The pipes shall intersect at the structure so that the invert bench between the inlet and outlet pipes can be smoothly formed. No hammer modifications are allowed to precast or existing structures, not including those with knockout panels. Neat saw cuts or core drilling shall be utilized when modifying an existing structure.

5.4 PIPE / STRUCTURE ABANDONMENT

- 5.4.1 Pipe and structure abandonment under roadways shall consist of completely filling the designated pipes with controlled density fill (CDF), grout or other approved materials.

Appreciable deposits of debris shall be removed from other structures prior to placement of CDF, grout or other approved materials. Inlets / outlets shall be plugged by use of bulkheads containing small openings at the tops through which the fill may be pumped at a minimum pressure of 15 pounds per square inch. Bulkheads shall be 12-inch thick, brick masonry or concrete construction, threaded metal caps, plastic plugs, or other acceptable methods suitable for the size and type of material being closed. Do not use wood plugs. Pipes and structure under roadways shall be filled completely.

- 5.4.2 Structure abandonment shall be per SD1 standard drawings and consist of removing structure frames, covers, grates, and similar items. All connecting pipes shall be bulkheaded. The walls shall be lowered to 2 feet below final grade if in earth or to 12 inches below subgrade if in pavement. The remaining structure shall be filled with crushed stone or sand compacted to match all backfill requirements here-in or shall be filled with controlled density fill.

5.5 STORM SEWER PIPE TESTING

- 5.5.1 Pipe shall be fully backfilled and compacted at least 30 days prior to testing.

- 5.5.2 Deflection: Under normal circumstances, the CONTRACTOR shall test approximately 20% of all flexible storm sewer piping, as determined and directed by SD1, by use of a calibrated mandrel or other device/method approved by SD1, to ensure that no pipe deflection has occurred greater than five (5) percent of the inside diameter of the pipe. If, however, SD1 determines additional deflection testing is required based on the condition of the system, SD1 reserves the right to require such testing at no additional cost to SD1. The CONTRACTOR shall test the entire length of the sewer installed. Any pipe section exhibiting greater than 5 percent deflection shall be repaired in a manner approved and acceptable to SD1 and retested, at no additional cost to SD1. If the pipe fails a second deflection test, the pipe shall be replaced and retested at no additional cost to SD1.

- 5.5.3 Displacement: Storm sewer pipe sections may be checked by SD1 to determine if any displacement of the pipe sections from alignment and grade has occurred as each portion of the sewer is completed between structure locations. When the test is performed, it shall be as follows:

- A. Flashing a light beam by means of a strong flashlight or reflecting sunlight through the portion of the sewer between structure locations or by utilizing a laser beam.
- B. When viewed from the opposite end of the portion of the sewer from the light location, the light beam should be full throughout the sections, but not less than two-thirds full under any circumstances. There shall be no "dips" in the grade of the pipe invert.
- C. If the pipe sections show any misalignment, displacement or any other defects in the sections or joints, the CONTRACTOR shall remedy the defect, at the CONTRACTOR'S sole cost, to the satisfaction of SD1.

- 5.5.4 Within the one-year warranty period, beginning when SD1 accepts the appropriate storm systems, storm sewer pipes may be CCTV inspected by SD1, at the discretion and sole

cost of SD1, to determine if any pipe defects exist. The one-year warranty period shall start at the time of acceptance of the roadway by the local city/county. If defects are found within this warranty period, the CONTRACTOR shall remedy the defect, at the CONTRACTOR's sole cost, to the satisfaction of SD1. Once repairs are made, SD1 will re-inspect the sewer by means of CCTV, at the CONTRACTOR'S sole cost.

5.6 LANDSCAPING / RESTORATION (FOR SD1 FUNDED PROJECTS)

- 5.6.1 Landscaping / restoration shall be performed in accordance with Section 02900 of the SD1 Technical Specifications.

5.7 ENVIRONMENTAL AND EROSION/SEDIMENT CONTROLS (FOR SD1 FUNDED PROJECTS)

- 5.7.1 Environmental and erosion/sediment controls shall be performed in accordance with the Regional Stormwater Management Program and SD1 Technical Specifications.
- 5.7.2 All privately funded projects shall follow requirements of SD1 Grading Permits and Land Disturbance Permits for erosion and sediment control requirements.

5.8 ENVIRONMENTAL IMPACTS

- 5.8.1 For projects that include environmental impacts (stream crossings, clearing, etc), permits from agencies other than SD1 may be required before beginning construction. Additional permits may be required from, but not limited to:
- (a) US Army Corps of Engineers
 - (b) US Fish and Wildlife
 - (c) Kentucky Division of Water (KDOW)

++ END OF SECTION ++

PART 7

SPECIAL NOTES AND FORMS

SPECIAL NOTE

For Tree Removal

**Kenton County
LPA Project
Item No. 06-438**

NO CLEARING OF TREES 3 INCHES OR GREATER (DIAMETER BREAST
HEIGHT) FROM JUNE 1- JULY 31

If there are any questions regarding this note, please contact David Waldner,
Director, Division of Environmental Analysis, 200 Mero Street, Frankfort, KY
40601, Phone: (502) 564-7250, for District administered projects; or Mike Jones, (502) 564-
2060, for Office of Local Programming administered projects.

Special Note for Bridge Demolition, Renovation and Asbestos Abatement

If the project includes any bridge demolition or renovation, the successful bidder is required to notify Kentucky Division for Air Quality (KDAQ) via filing of form (DEP 7036) a minimum of 10 days prior to commencement of any bridge demolition or renovation work.

Any available information regarding possible asbestos containing materials (ACM) on or within bridges to be affected by the project has been included in the bid documents. These are to be included with the Contractor's notification filed with the KDAQ. If not included in the bid documents, the Department will provide that information to the successful bidder for inclusion in the KDAQ notice as soon as possible. If there are no documents stating otherwise, the bidders should assume there are no asbestos containing materials that will in any way affect the work.

Insert Right-Of-Way Form

<http://transportation.ky.gov/Organizational-Resources/Forms/TC 62-226.pdf>



KENTUCKY TRANSPORTATION CABINET
Department of Highways
DIVISION OF RIGHT OF WAY & UTILITIES

TC 62-226
Rev. 01/2016
Page 1 of 1

RIGHT OF WAY CERTIFICATION

<input type="checkbox"/> Original	<input type="checkbox"/> Re-Certification	RIGHT OF WAY CERTIFICATION	
ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
PROJECT DESCRIPTION			
<input type="checkbox"/> No Additional Right of Way Required Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.			
<input type="checkbox"/> Condition # 1 (Additional Right of Way Required and Cleared) All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.			
<input type="checkbox"/> Condition # 2 (Additional Right of Way Required with Exception) The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract			
<input type="checkbox"/> Condition # 3 (Additional Right of Way Required with Exception) The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.			
Total Number of Parcels on Project	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION	
Number of Parcels That Have Been Acquired			
Signed Deed			
Condemnation			
Signed ROE			
Notes/ Comments (Use Additional Sheet if necessary)			
LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	
Signature		Signature	
Date		Date	
Right of Way Director		FHWA	
Printed Name		Printed Name	
Signature		Signature	
Date		Date	

Insert Utility and Railroad Document

<http://transportation.ky.gov/Right-of-Way-and-Utilities/Guidance%20Documents/UR%209047%20Utilities%20and%20Rail%20Certification%20Note.docx>

[http://transportation.ky.gov/Right-of-Way-and-Utilities/Guidance%20Documents/HSIP%20and%20Maintenance%20Project%20Utilities%20and%20Rail%20Certification%20Note%20\(Revised%206-24-16\).docm](http://transportation.ky.gov/Right-of-Way-and-Utilities/Guidance%20Documents/HSIP%20and%20Maintenance%20Project%20Utilities%20and%20Rail%20Certification%20Note%20(Revised%206-24-16).docm)

UTILITIES AND RAIL CERTIFICATION NOTE

COUNTY, FEDERAL PROJECT # 06-438
UNIFIED PROJECT NUMBER (Fund Program, County #, eMARS #)
ROAD NAME (NUMBER)/PROJECT DESCRIPTION
SIX YEAR PLAN ITEM NUMBER (if applicable)

GENERAL PROJECT NOTE ON UTILITY PROTECTION

Insert general notes as below for projects where no utility impact is expected.
Utility coordination efforts determined that no significant utility relocation work is required to complete the project. Any work pertaining to these utility facilities is defined in the bid package and is to be carried out as instructed by the Kentucky Transportation Cabinet. The contractor will be responsible for any coordination or adjustments that are discussed or quantified in the proposal.

(List N/A or None when applicable)

NOTE: DO NOT DISTURB THE FOLLOWING UTILITIES LOCATED WITHIN THE PROJECT DISTURB LIMITS

Cable – Charter Communications
Electric – Duke Energy
Telephone – Cincinnati Bell

The Contractor is fully responsible for protection of all utilities listed above

THE FOLLOWING COMPANIES ARE RELOCATING/ADJUSTING THEIR UTILITIES WITHIN THE PROJECT LIMITS AND WILL BE COMPLETE PRIOR TO CONSTRUCTION

Gas – Duke Energy – 4" Main – Work Complete
Water – Northern Kentucky Water District – 8" / 12" Mains – Work Complete
Electric – Duke Energy – Complete 4/30/19
Cable – Charter Communications – Work Complete 4/30/19
Telephone – Cincinnati Bell – Work Complete 4/30/19

THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE COMPANY OR THE COMPANY'S SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT

N/A

UTILITIES AND RAIL CERTIFICATION NOTE

COUNTY, FEDERAL PROJECT # 06-438
UNIFIED PROJECT NUMBER (Fund Program, County #, eMARS #)
ROAD NAME (NUMBER)/PROJECT DESCRIPTION
SIX YEAR PLAN ITEM NUMBER (if applicable)

THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE ROAD CONTRACTOR AS INCLUDED IN THIS CONTRACT

Storm Sewer – SD1 – 12" – 24"

Sanitary Sewer – SD1 – Adjust manholes to grade

Water – Northern Kentucky Water District – Adjust meters and valves to grade

Gas – Duke Energy – Adjust valves to grade

THE FOLLOWING RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

☒ No Rail Involved ☐ Minimal Rail Involved (See Below) ☐ Rail Involved (See Below)

UTILITIES AND RAIL CERTIFICATION NOTE

COUNTY, FEDERAL PROJECT # 06-438
UNIFIED PROJECT NUMBER (Fund Program, County #, eMARS #)
ROAD NAME (NUMBER)/PROJECT DESCRIPTION
SIX YEAR PLAN ITEM NUMBER (if applicable)

UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation.

The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.

The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

Please Note: The information presented in this Utility Note is informational in nature and the information contained herein is not guaranteed.

UTILITIES AND RAIL CERTIFICATION NOTE

COUNTY, FEDERAL PROJECT # (Constr. Phase if applicable)
UNIFIED PROJECT NUMBER (Fund Program, County #, eMARS #)
ROAD NAME (NUMBER)/PROJECT DESCRIPTION
SIX YEAR PLAN ITEM NUMBER (if applicable)

AREA UTILITIES CONTACT LIST

<u>Utility Company/Agency</u>	<u>Contact Name</u>	<u>Contact Information</u>
Duke Energy – Gas	Gerry Helm	134 East 4 th Street Cincinnati, OH 45202
Duke Energy – Electric	Matt Coleman	2010 Dana Avenue Cincinnati, OH 45202
Northern Kentucky Water District	Kyle Ryan	P.O. Box 18640 Erlanger, KY 41018
Cincinnati Bell Telephone	Tim Seestedt	221 E. 4 th Street St. Cincinnati, OH 45201
Underground Dept.		
Cincinnati Bell Telephone	Dave Smiley	221 E. 4 th St. Cincinnati, OH 45201
Overhead Dept.		
Charter Communications	Chuck McCarty	10920 Kenwood Road Cincinnati, OH 45252

Change Order Form

<http://transportation.ky.gov/Local-Programs/Documents/DistrictAdministeredProjectChangeOrderForm.xlsx>

<http://transportation.ky.gov/Local-Programs/Documents/OfficeoLocaProgramsChangeOrderForm.xls>

Instructions for Completing the Office of Local Programs Change Order

Please note that change orders are required for any item that deviates from the original approved scope of your Office of Local Programs (OLP) project. This includes field orders and minor changes. The approved scope of the project can be found in Attachment A of your contract with the OLP for this project.

When a change order becomes necessary the project sponsor shall e-mail the OLP Project Manager, OLP Historic Preservation Coordinator, and the District LPA Coordinator at the same time. This e-mail should include all proposed changes. The OLP Project Manager will then notify the project sponsor as to whether or not the change order would be minor or major.

If the change order is minimal, (meaning it will have no adverse affect and requires no additional documentation)the OLP Project Manager may provide an e-mail approval so work on the project may continue without interruption. However, the Change Order must still be submitted and formally approved.

If a major change is required, work on that particular item must cease until the Change Order has been approved by the Transportation Cabinet.

When completing the Change Order form, please make sure to identify the purpose of the change order, and include detailed explanations for the changes, including time extensions. A cost analysis must be included when appropriate.

A copy of the signed LPA Change Order must be sent to the OLP Project Manager for approval by KYTC Central Office. It is the responsibility of the LPA to secure the signature of the project engineer, the LPA signature authority , and the district LPA Coordinator. A copy of the approved Change Order will be forwarded to the LPA.

Keep in mind that the OLP does not increase funding for a project after it has been awarded. Project sponsors will be responsible for all additional costs if this change order will result in a cost increase that exceeds the budget for this project.

When a reimbursement request is submitted to the OLP for costs associated with the change order the LPA must attach a copy of the approved Change Order with the reimbursement request and documentation.

If you have any questions regarding the Change Order process, please contact your OLP Project Manager.



Kentucky Transportation Cabinet
Office of Local Programs
LOCAL PUBLIC AGENCY CHANGE ORDER

TC 20-32
7/2010
Page 1 of 3

Page

Contract ID

PO2-628-

Project Sponsor

Change Order No

County

Contractor

Project Number

Contractor

Project Name

Address

Proposed Changes in Connection with Contract Items:

Item No.	Description	Quantity	Unit	Unit Price	Amount
Total for this Page					
Total for Continuation Page(s)					
Total Contract Items					

Proposed Items of Supplemental Agreement:

Ref. No.	Description	Quantity	Unit	Unit Price	Amount
Total for this Page					
Total for Continuation Page(s)					
Total Supplemental Agreement					

Time Extension/Explanation:

Total Amount

Reasons for Proposed Changes and Cost Analysis:

If approved by Transportation Cabinet, the undersigned contractor agrees to do the work outlined herein and to accept as payment in full the basis of payment as set forth herein.

Requested

Project Engineer

DATE

Recommended

District LPA Coordinator

DATE

Recommended

Commissioner of Rural & Municipal Aid

DATE

Approved

LPA Signature Authority

DATE

Title

DATE

Approved

Secretary of Transportation Cabinet

DATE

Contractor

By:

Date

[illegible]



Kentucky Transportation Cabinet
Office of Local Programs
LOCAL PUBLIC AGENCY CHANGE ORDER

TC 20-32
7/2010
Page 3 of 3

Page

Contract ID	PO2-628-	Project Sponsor
Change Order No		County
Contractor		Project Number
Contractor		Project Name
Address		

Reasons for Proposed Changes and Cost Analysis:

Code of Federal Regulations

Title 23 - Highways

Volume: 1

Date: 2013-04-01

Original Date: 2013-04-01 Title: Section 635.109 - Standardized changed condition clauses.

Context: Title 23 - Highways. CHAPTER I - FEDERAL HIGHWAY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION. SUBCHAPTER G - ENGINEERING AND TRAFFIC OPERATIONS. PART 635 - CONSTRUCTION AND MAINTENANCE. Subpart A - Contract Procedures.

§ 635.109 Standardized changed condition clauses.

(a) Except as provided in paragraph (b) of this section, the following changed conditions contract clauses shall be made part of, and incorporated in, each highway construction project approved under 23 U.S.C. 106:

(1) Differing site conditions.

(i) During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the site is disturbed and before the affected work is performed.

(ii) Upon written notification, the engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding anticipated profits, will be made and the contract modified in writing accordingly. The engineer will notify the contractor of the determination whether or not an adjustment of the contract is warranted.

(iii) No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice.

(iv) No contract adjustment will be allowed under this clause for any effects caused on unchanged work. (This provision may be omitted by the STD's at their option.)

(2) Suspensions of work ordered by the engineer.

(i) If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

(ii) Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The contractor will be notified of the engineer's determination whether or not an adjustment of the contract is warranted.

(iii) No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed.

(iv) No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

(3) Significant changes in the character of work.

(i) The engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.

(ii) If the alterations or changes in quantities significantly change the character of the work under the contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the engineer may determine to be fair and equitable.

(iii) If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided elsewhere in the contract.

(iv) The term "significant change" shall be construed to apply only to the following circumstances:

- (A) When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or
- (B) When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

(b) The provisions of this section shall be governed by the following:

(1) Where State statute does not permit one or more of the contract clauses included in paragraph (a) of this section, the State statute shall prevail and such clause or clauses need not be made applicable to Federal-aid highway contracts.

(2) Where the State transportation department has developed and implemented one or more of the contract clauses included in paragraph (a) of this section, such clause or clauses, as developed by the State transportation department may be included in Federal-aid highway contracts in lieu of the corresponding clause or clauses in paragraph (a) of this section. The State's action must be pursuant to a specific State statute requiring differing contract conditions clauses. Such State developed clause or clauses, however, must be in conformance with 23 U.S.C., 23 CFR and other applicable Federal statutes and regulations as appropriate and shall be subject to the Division Administrator's approval as part of the PS&E.

(c) In the case of a design-build project, STDs are strongly encouraged to use "suspensions of work ordered by the engineer" clauses, and may consider "differing site condition" clauses and "significant changes in the character of work" clauses which are appropriate for the risk and responsibilities that are shared with the design-builder.

[56 FR 37004, Aug. 2, 1991; 57 FR 10062, Mar. 23, 1992, as amended at 67 FR 75925, Dec. 10, 2002]

Code of Federal Regulations

Title 23 - Highways

Volume: 1

Date: 2013-04-01

Original Date: 2013-04-01 Title: Section 635.410 - Buy America requirements.

Context: Title 23 - Highways. CHAPTER I - FEDERAL HIGHWAY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION. SUBCHAPTER G - ENGINEERING AND TRAFFIC OPERATIONS. PART 635 - CONSTRUCTION AND MAINTENANCE. Subpart D - General Material Requirements.

§ 635.410 Buy America requirements.

(a) The provisions of this section shall prevail and be given precedence over any requirements of this subpart which are contrary to this section. However, nothing in this section shall be construed to be contrary to the requirements of § 635.409(a) of this subpart.

(b) No Federal-aid highway construction project is to be authorized for advertisement or otherwise authorized to proceed unless at least one of the following requirements is met:

(1) *The project either:*

(i) Includes no permanently incorporated steel or iron materials, or
(ii) if steel or iron materials are to be used, all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes which protect or enhance the value of the material to which the coating is applied.

(2) The State has standard contract provisions that require the use of domestic materials and products, including steel and iron materials, to the same or greater extent as the provisions set forth in this section.

(3) The State elects to include alternate bid provisions for foreign and domestic steel and iron materials which comply with the following requirements. Any procedure for obtaining alternate bids based on furnishing foreign steel and iron materials which is acceptable to the Division Administrator may be used. The contract provisions must (i) require all bidders to submit a bid based on furnishing domestic steel and iron materials, and (ii) clearly state that the contract will be awarded to the bidder who submits the lowest total bid based on furnishing domestic steel and iron materials unless such total bid exceeds the lowest total bid based on furnishing foreign steel and iron materials by more than 25 percent.

(4) When steel and iron materials are used in a project, the requirements of this section do not prevent a minimal use of foreign steel and iron materials, if the cost of such materials used does not exceed one-tenth of one percent (0.1 percent) of the total contract cost or \$2,500, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the steel and iron products as they are delivered to the project.

(c)(1) A State may request a waiver of the provisions of this section if;

(i) The application of those provisions would be inconsistent with the public interest; or
(ii) Steel and iron materials/products are not produced in the United States in sufficient and reasonably available quantities which are of a satisfactory quality.

(2) A request for waiver, accompanied by supporting information, must be submitted in writing to the Regional Federal Highway Administrator (RFHWA) through the FHWA Division Administrator. A request must be submitted sufficiently in advance of the need for the waiver in order to allow time for proper review and action on the request. The RFHWA will have approval authority on the request.

(3) Requests for waivers may be made for specific projects, or for certain materials or products in specific geographic areas, or for combinations of both, depending on the circumstances.

(4) The denial of the request by the RFHWA may be appealed by the State to the Federal Highway Administrator (Administrator), whose action on the request shall be considered administratively final.

(5) A request for a waiver which involves nationwide public interest or availability issues or more than one FHWA region may be submitted by the RFHWA to the Administrator for action.

(6) A request for waiver and an appeal from a denial of a request must include facts and justification to support the granting of the waiver. The FHWA response to a request or appeal will be in writing and made available to the public upon request. Any request for a nationwide waiver and FHWA's action on such a request may be published in the **Federal Register** for public comment.

(7) In determining whether the waivers described in paragraph (c)(1) of this section will be granted, the FHWA will consider all appropriate factors including, but not limited to, cost, administrative burden, and delay that would be imposed if the provision were not waived.

(d) Standard State and Federal-aid contract procedures may be used to assure compliance with the requirements of this section.

[48 FR 53104, Nov. 25, 1983, as amended at 49 FR 18821, May 3, 1984; 58 FR 38975, July 21, 1993]

Code of Federal Regulations

Title 23 - Highways

Volume: 1

Date: 2011-04-01

Original Date: 2011-04-01 Title: Section 635.411 - Material or product selection.

Context: Title 23 - Highways. CHAPTER I - FEDERAL HIGHWAY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION. SUBCHAPTER G - ENGINEERING AND TRAFFIC OPERATIONS. PART 635 - CONSTRUCTION AND MAINTENANCE. Subpart D - General Material Requirements.

§ 635.411 Material or product selection.

(a) Federal funds shall not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

(1) Such patented or proprietary item is purchased or obtained through competitive bidding with equally suitable unpatented items; or

(2) The State transportation department certifies either that such patented or proprietary item is essential for synchronization with existing highway facilities, or that no equally suitable alternate exists; or

(3) Such patented or proprietary item is used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes.

(b) When there is available for purchase more than one nonpatented, nonproprietary material, semifinished or finished article or product that will fulfill the requirements for an item of work of a project and these available materials or products are judged to be of satisfactory quality and equally acceptable on the basis of engineering analysis and the anticipated prices for the related item(s) of work are estimated to be approximately the same, the PS&E for the project shall either contain or include by reference the specifications for each such material or product that is considered acceptable for incorporation in the work. If the State transportation department wishes to substitute some other acceptable material or product for the material or product designated by the successful bidder or bid as the lowest alternate, and such substitution results in an increase in costs, there will not be Federal-aid participation in any increase in costs.

(c) A State transportation department may require a specific material or product when there are other acceptable materials and products, when such specific choice is approved by the Division Administrator as being in the public interest. When the Division Administrator's approval is not obtained, the item will be nonparticipating unless bidding procedures are used that establish the unit price of each acceptable alternative. In this case Federal-aid participation will be based on the lowest price so established.

(d) Reference in specifications and on plans to single trade name materials will not be approved on Federal-aid contracts.

(e) In the case of a design-build project, the following requirements apply: Federal funds shall not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the Request for Proposals document unless the conditions of paragraph (a) of this section are applicable.

[41 FR 36204, Aug. 27, 1976, as amended at 67 FR 75926, Dec. 10, 2002; 71 FR 66454, Nov. 15, 2006]

PART 8

INSURANCE

INSURANCE

The Contractor shall procure and maintain the following insurance in addition to the insurance required by law:

- 1) Commercial General Liability-Occurrence Form – not less than \$2,000,000 General aggregate, \$2,000,000 Products & Completed Aggregate, \$1,000,000 Personal & Advertising, \$1,000,000 each occurrence.
- 2) Automobile Liability – \$1,000,000 per accident
- 3) Employers Liability:
 - a) \$100,000 each accident bodily injury
 - b) \$500,000 policy limit bodily injury by disease
 - c) \$100,000 each employee bodily injury by disease
- 4) The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
 - a) "policy contains no deductible clauses."
 - b) "policy contains _____ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured"
- 5) KENTUCKY WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board. The cost of insurance is incidental to all contract items. All subcontractors must meet the same minimum insurance requirements.

PART 9

CERTIFICATIONS

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months of following termination of his office or employment, accept employment, compensation or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including, but not limited to, filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

CERTIFICATION REGARDING KRS 45A.485

Pursuant to 1994's Senate Bill 258, the bidder/offeree shall reveal to the Commonwealth, prior to the award of a contract, any final determination of a violation by the contractor within the previous five (5) year period of the provisions of KRS Chapter 136, 139, 141, 337, 338, 341 and 342.

For the purpose of complying with the provisions of Senate Bill 258, please list any final determination(s) of violations(s) of KRS Chapters 136, 139, 141, 337, 338, 341, and 342, which have been rendered against the bidder or offeror within the five (5) years preceding the award of this contract. Please include, the date of the determination the state agency issuing the determination. (Please use extra sheets if necessary.)

KRS VIOLATION

DATE

STATE AGENCY

The contractor is further notified that 1994's Senate Bill 258 requires that for the duration of this contract, the contractor shall be in continuous compliance with the provisions of KRS Chapters 136, 139, 141, 337, 338, 341 and 342, which apply to the contractor's operations. Senate Bill 258, further provides that the contractor's failure to reveal a final determination of a violation of KRS Chapters 136, 139, 141, 337, 338, 341 and 342, or failure to comply with the above-cited statutes for the duration of the contract, shall be grounds for the Commonwealth's cancellation of the contract, and the contractor's disqualification from eligibility to bid or submit proposals to the Commonwealth for a period of two (2) years.

NON-COLLUSION CERTIFICATION

COMMONWEALTH OF KENTUCKY

COUNTY: _____

PROJECT NO. _____

I, _____ under penalty of
(Printed Name of officer signing certification) (Title)
perjury under the laws of the United States, do hereby certify that

(Name of Individual, Co-Partnership, or Corporation submitting bid)
its agent, officers or employees have not directly or indirectly entered into any agreement, participated in any
collusion, or otherwise taken action in restraint of free competitive bidding in connection with this proposal.

(Signature) (Title) (Date)

NON-COLLUSION CERTIFICATION

COMMONWEALTH OF KENTUCKY

COUNTY: _____

PROJECT NO. _____

I, _____ under penalty of
(Printed Name of officer signing certification) (Title)
perjury under the laws of the United States, do hereby certify that

(Name of Individual, Co-Partnership, or Corporation submitting bid)
its agent, officers or employees have not directly or indirectly entered into any agreement, participated in any
collusion, or otherwise taken action in restraint of free competitive bidding in connection with this proposal.

(Signature) (Title) (Date)

CERTIFICATION OF ORGANIZATION(S)

COMMONWEALTH OF KENTUCKY

COUNTY: _____

PROJECT NO. _____

I, _____ under penalty of
(Printed Name of officer signing certification) (Title)
perjury under the laws of the United States, do hereby certify that, except as noted below,

(Name of Individual, Co-Partnership, or Corporation submitting bid)

any person associated therewith in the capacity of (owner, partner, director, officer, principal investigator, project director, manager, auditor, or any position involving the Administration of Federal Funds): is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency; has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past 3 years; does not have a proposed debarment pending; and has not been indicted, convicted or had a civil judgment rendered against (it) by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

Please list below any exceptions to the foregoing, to whom it applies, initiating agency and dates of action.

Exceptions:

(Signature)

(Title)

CERTIFICATION OF PERFORMANCE

Certification with regard to the Performance of Previous Contracts or Subcontracts subject to the Equal Opportunity Clause and the filing of Required Reports.

The _____, hereby certifies that it _____,
(Name of Individual, Co-Partnership, or Corporation submitting bid)

participated in previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that he, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the Former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

(Name of Individual, Co-Partnership, or Corporation submitting bid)

(Printed Name of officer signing certification)

(Title)

(Signature)

(Date)

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1)), and must be submitted by bidders and proposed subcontractors only in connection with the contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60- 1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.) Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders of their implementing regulation. Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

CERTIFICATION FOR FEDERAL-AID CONTRACT

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agent.
2. If any funds other than the Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The prospective participation also agrees by submitting his or her bid proposal that he or she shall require the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such subrecipients shall certify and disclose accordingly.

(Name of Individual, Co-Partnership, or Corporation submitting bid)

(Printed Name of officer signing certification)

(Title)

(Signature)

(Date)

CERTIFICATION OF BID PROPOSAL/ DBE

We (I) proposed to furnish all labor, equipment and materials necessary to construct and/or improve the subject project in accordance with the plans, the Transportation Cabinet's Standard Specifications for Road and Bridge Construction 2012 special provisions, notes applicable to the project as indicated herein and all addenda issued on this project subsequent to purchase of proposal.

We (I) attach a bid guaranty as provided in the special provisions in an amount not less than 3% of the total bid. We agree to execute a contract in accordance with this proposal within 15 calendar days after the receipt of the notice of award for the project.

We (I) have examined the site of proposed work, project plans, specifications, special provisions, and notes applicable to the project referred to herein. We understand that the quantities shown herein are estimated quantities subject to increase or decrease as provided in the specifications.

We (I) acknowledge receipt of all addendum(s) (if applicable) and have made necessary revisions to the bid proposal. We have considered all addendum(s) in calculation of the submitted bid and applied the updated bid items, which are included.

"The bidder certifies that it has secured participation by Disadvantaged Business Enterprises (DBE) in the amount of _____ percent of the total value of this contract and that the DBE participation is in compliance with the requirements of 49 CFR 26 and the policies of the Kentucky Transportation Cabinet pertaining to the DBE Program."

(Name of Individual, Co-Partnership, or Corporation submitting bid)

(Printed Name of Officer or Authorized Agent and Title)

(Signature of Officer or Authorized Agent) (Date)

When two or more organizations bid as a joint venture, enter names of each organization and an authorized agent for each organization must sign above.

Contract ID: _____

DBE SUB-CONTRACTOR BIDDER LIST

The Department of Transportation Federal Regulations require that the Kentucky Transportation Cabinet provide a bidder list to be maintained in the Office of Personnel Management, Small Business Development Branch (49 CFR 26:11) for each federally funded project awarded.

Project No. _____

List all quotes/bids received on this project.

DBE (Disadvantaged Business Enterprise) Contractors, Consultants, and Suppliers submitting quotes/bids for these projects:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

DBE (Disadvantaged Business Enterprise) Contractors, Consultants, and Suppliers contacted who did NOT submit quotes/bids for this project:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Non-DBE (Disadvantaged Business Enterprise) Contractors, Consultants, and Suppliers submitting quotes/bids for these projects:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

If you need additional space, please attach a separate page. If you need assistance regarding this form, please contact Melvin Byne at (502) 564-3601.

DBE Forms

<http://transportation.ky.gov/Organizational-Resources/Forms/TC2014-35.xlsx>

<http://transportation.ky.gov/Organizational-Resources/Forms/TC2014-35.pdf>

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF CONSTRUCTION PROCUREMENT
DBE Plan/SUBCONTRACT REQUEST

TC 14-35
Rev. 07/07/16

CONTRACT ID (CONTID)

Subcontract # :

TO :

Rachel Mills, Director

Division of Construction Procurement

FROM :

Prime Contractor

1st Tier Subcontractor:
(if applicable)

Page 1 of 3

SUBJECT :

I hereby request to utilize for DBE participation a portion of the subject project to:

of

DBE Employer Identification Numbers: Federal

DBE

The amount to be subcontracted by this request is

(original contract) or a subcontract amount of

KY

or

Contract

Worth

of the

I have previously requested approval for subcontracts or agreements with other DBE as follows:

Name of DBE firm

DBE Amount

DBE %

Contract "Worth"

Amount

Contract %

Totals based on original contract Amounts

This section applicable if DBE firm is also a Subcontractor of work on Project:

This subcontractor has been furnished a copy of Appendix B of 49 CFR Part 29 and advised to include the Certification in all lower tier covered transactions and in all solicitations for lower tier transactions (Federal Aid Contracts only).

Prime Contractor's Signature

Date

1st Tier Subcontractor's Signature(if applicable)

Date

DBE Participant Signature

Date

**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF CONSTRUCTION PROCUREMENT
DBE Plan/SUBCONTRACT REQUEST**

TC 14-35
Rev. 07/07/16

Page 2 of 3

Contract ID (ContID) _____ Prime _____ DBE Firm _____

(*) When description is limited by such as "Laying Only" "Erection Only" "Manipulation Only" etc. it should be so indicated and explained.

(**) When the quantity is not the entire amount of (Contract) or (Sub-Contract) estimate, limitations by stations must be shown or definitely designated in some suitable, positive manner.

Unit prices using Contract Unit Price should be for Bid Unit Price for work to be performed by Sub Contractor. DBE Unit price should be for the agreed upon price for item or portion of item of contract work.

DBE Participation Non-Pay Estimates Work Items

Description	Total Contract Quantity	Unit	DBE Unit Price	Dollar Amount based on DBE Price	Comments
-------------	-------------------------	------	----------------	----------------------------------	----------

(**) When the quantity is not the entire amount of (Contract) or (Sub-Contract) estimate, limitations by stations must be shown or definitely designated in some suitable, positive manner.

The Items to be subcontracted are as follows:

[illegible]

Comments:



KENTUCKY TRANSPORTATION CABINET
Office for Civil Rights and Small Business Development
DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM

TC 18-7
Rev. 01/2017
Page 1 of 1

AFFIDAVIT OF SUBCONTRACTOR PAYMENT

The Code of Federal Regulations 49 CFR 26.37(b) requires the Kentucky Transportation Cabinet (KYTC) to monitor and verify that work subcontracted to Disadvantaged Business Enterprise (DBE) firms is actually performed by the DBE. Additionally, KYTC is required to report the DBE participation on each project. Therefore, it is KYTC's responsibility to discern whether payments are made to DBE firms. The following affidavit is to be completed and signed by the contractor within 7 business days of being paid by the Cabinet. The affidavit seeks to verify actual payments made to DBE firms on the project. Each DBE firm must verify the actual payment amount.

By signing below, the noted firms agree that the payment amounts recorded below are true and accurate as of the payment time period noted above. Furthermore, by signing, the noted firms attest to the fact that the DBE listed below has performed a "commercially useful function" and abided by all other requirements of the DBE program as defined in Title 49 of the United States Code of Federal Regulations Part 26.

SECTION 1: CONTRACTOR AND PAYMENT INFORMATION

<input type="checkbox"/> INTERIM	<input type="checkbox"/> FINAL	Completion Date _____
PRIME CONTRACTOR		CONTRACT ID
DBE CONTRACTOR		PAY ESTIMATE # CHECK #
PAYMENT DATE		PAYMENT AMOUNT

NOTE: Use the section below to show multiple payments using the same check.

CONTRACT ID	AMOUNT	CONTRACT ID	AMOUNT

SECTION 2: SIGNATURE AUTHORIZATION AND NOTARIZATION

Prime's Signature and Title

NOTE: This affidavit must be notarized.

Sworn or affirmed and subscribed before me this _____ day of _____ 20 _____

Notary Signature _____

Subcontractor's/DBE's Signature and Title

NOTE: This affidavit must be notarized.

Sworn or affirmed and subscribed before me this _____ day of _____ 20 _____

Notary Signature _____

Please mail the original, signed and completed form and all copies of the checks for payments listed above to the Kentucky Transportation Cabinet, Office for Civil Rights, 200 Mero Street, 6th Floor West, Frankfort KY 40622.



Kentucky Transportation Cabinet
Division of Construction
SUBCONTRACT REQUEST

TC 63-35
05/2018
Page 1 of 2

CONT_ID _____
SUBCONTRACT NO: _____ Tier Y/N _____
TO: _____ Ryan Griffith, P.E.
Director, Division of Construction
FROM: _____ Prime Contractor _____ KYTC Vendor Number _____
SUBJECT: _____ County _____ Fed/State Project Number _____

I hereby request to subcontract a portion of the subject project to:

_____ KYTC Vendor Number _____
The amount to be subcontracted by this request is \$ _____ or _____ % of the
(Original contract amount or subcontract amount if Tier request)
I have previously subcontracted as follows:

NAME OF SUBCONTRACTOR	AMOUNT	PERCENT
-----------------------	--------	---------

The total amount to be subcontracted including this request is \$ _____ or _____ % of the
(original contract) or (subcontract) amount.

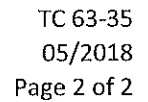
This subcontractor has been furnished a copy of Appendix B of 49 CFR Part 29 and advised to include the Certification in all lower tier covered transactions and in all solicitations for lower tier transactions (Federal Aid Contracts only).

The proposed subcontractor is on the Department's list of qualified contractors to perform work requested and a copy of current insurance coverage will be available at the prime contractor's office before the subcontractor begins work on project.

Prime Contractor

Date

CC District TEBM for Construction



ANNUAL AFFIDAVIT FOR BIDDERS, OFFERORS AND CONTRACTORS

Affidavit Effective Date: _____
Affidavit Expiration Date: _____
Maximum Length One-Year

REQUIRED AFFIDAVIT FOR BIDDERS, OFFERORS AND CONTRACTORS

PAGE 1 OF 2

FOR BIDS AND CONTRACTS IN GENERAL:

- I. Each bidder or offeror swears and affirms under penalty of perjury, that to the best of their knowledge:
 - a. In accordance with KRS 45A.110 and KRS 45A.115, neither the bidder or offeror as defined in KRS 45A.070(6), nor the entity which he/she represents, has knowingly violated any provisions of the campaign finance laws of the Commonwealth of Kentucky; and the award of a contract to the bidder or offeror or the entity which he/she represents will not violate any provisions of the campaign finance laws of the Commonwealth.
 - b. The bidder or offeror swears and affirms under penalty of perjury that, to the extent required by Kentucky law, the entity bidding, and all subcontractors therein, are aware of the requirements and penalties outlined in KRS 45A.485; have properly disclosed all information required by this statute; and will continue to comply with such requirements for the duration of any contract awarded.
 - c. The bidder or offeror swears and affirms under penalty of perjury that, to the extent required by Kentucky law, the entity bidding, and its affiliates, are duly registered with the Kentucky Department of Revenue to collect and remit the sales and use tax imposed by KRS Chapter 139, and will remain registered for the duration of any contract awarded.
 - d. The bidder or offeror swears and affirms under penalty of perjury that the entity bidding is not delinquent on any state taxes or fees owed to the Commonwealth of Kentucky and will remain in good standing for the duration of any contract awarded.
 - e. The bidder or offeror swears and affirms under penalty of perjury that the entity bidding, is not currently engaged in, and will not for the duration of the contract engage in, the boycott of a person or an entity based in or doing business with a jurisdiction with which Kentucky can enjoy open trade, as defined in Executive Order No. 2018-905.
 - f. The bidder or offeror swears and affirms that the entity bidding, and all subcontractors therein, have not violated any of the prohibitions set forth in KRS 11A.236 during the previous ten (10) years, and further pledge to abide by the restrictions set forth in such statute for the duration of the contract awarded.

FOR "NON-BID" CONTRACTS (I.E. SOLE-SOURCE; NOT-PRACTICAL OR FEASIBLE TO BID; OR EMERGENCY CONTRACTS, ETC):

- II. Each contractor further swears and affirms under penalty of perjury, that to the best of their knowledge:
 - a. In accordance with KRS 121.056, and if this is a non-bid contract, neither the contractor, nor any member of his/her immediate family having an interest of 10% or more in any business entity involved in the performance of any contract awarded, have contributed more than the amount specified in KRS 121.150 to the campaign of the gubernatorial slate elected in the election last preceding the date of contract award.

ANNUAL AFFIDAVIT FOR BIDDERS, OFFERORS AND CONTRACTORS

REQUIRED AFFIDAVIT FOR BIDDERS, OFFERORS AND CONTRACTORS

PAGE 2 OF 2

- b. In accordance with KRS 121.330(1) and (2), and if this is a non-bid contract, neither the contractor, nor officers or employees of the contractor or any entity affiliated with the contractor, nor the spouses of officers or employees of the contractor or any entity affiliated with the contractor, have knowingly contributed more than \$5,000 in aggregate to the campaign of a candidate elected in the election last preceding the date of contract award that has jurisdiction over this contract award.
- c. In accordance with KRS 121.330(3) and (4), and if this is a non-bid contract, to the best of his/her knowledge, neither the contractor, nor any member of his/her immediate family, his/her employer, or his/her employees, or any entity affiliated with any of these entities or individuals, have directly solicited contributions in excess of \$30,000 in the aggregate for the campaign of a candidate elected in the election last preceding the date of contract award that has jurisdiction over this contract.

As a duly authorized representative for the bidder, offeror, or contractor, I have fully informed myself regarding the accuracy of all statements made in this affidavit, and acknowledge that the Commonwealth is reasonably relying upon these statements, in making a decision for contract award and any failure to accurately disclose such information may result in contract termination, repayment of funds and other available remedies under law. If the bidder, offeror, or contractor becomes non-compliant with any statements during the affidavit effective period, I will notify the Finance and Administration Cabinet, Office of Procurement Services immediately. I understand that the Commonwealth retains the right to request an updated affidavit at any time.

Signature

Printed Name

Title

Date

Company Name _____

Address _____

Commonwealth of Kentucky Vendor Code (if known) _____

Subscribed and sworn to before me by _____

(Affiant)

(Title)

of _____ this _____ day of _____, 20____.
(Company Name)

Notary Public

[seal of notary]

My commission expires: _____

KYTC
DBE Payments

updated 2/28/08

Prime Contractor	Cont-ID
DBE Contractor	CHECK #
PAYMENT DATE	Amount of Payment

Use the section below to show multiple payments using the same check

Cont-ID	Amount	Cont-ID	Amount

Comments:

attach copy of check here

Mail to:
Office of Civil Rights and Small Business Development
200 Mero Street
6th Floor West TCOB
Frankfort, KY 40622

to be Submitted within 7 days of receipt of payment from KYTC