

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ELECTRONIC INVESTIGATION INTO)
MILBURN WATER DISTRICT TO)
DETERMINE THE FEASIBILITY OF)
MERGER WITH A PROXIMATE UTILITY) CASE NO. 2021-00341
PURSUANT TO KRS 74.361 OR)
ABANDONMENT PURSUANT TO KRS)
278.020(6), KRS 278.021)

JOINT MOTION FOR A STAY OF PROCEEDINGS
THROUGH JUNE 30, 2027

Pursuant to 807 KAR 5:001, Section 5(1), Graves County Water District (“Graves District”) and Milburn Water District (“Milburn District”) (collectively “the Districts”), by counsel, jointly move these proceedings be stayed through June 30, 2027 to allow the Carlisle County Fiscal Court (“Fiscal Court”) and Milburn District to proceed with their plan for expanding and consolidating water service within Carlisle County. In support of this motion, the Districts state:

1. On March 31, 2022, the Public Service Commission (“Commission”) initiated this proceeding to investigate the feasibility of merging Milburn District with “a proximate utility.”¹
2. On August 30, 2022, the Commission identified Graves District as a potential candidate for such merger and ordered that Graves District be made a party to this proceeding to allow the Commission “to more thoroughly investigate the possibility of merging the two districts.”² It further noted its need for “studies, investigations, facts, historical data, and projects

¹ Order of March 31, 2022 at 1.
² Order of August 30, 2022 at 2.

as may be required for the Commission to make an informed and proper decision regarding such merger.”³

3. While the Commission has provided notice of this proceeding to Fiscal Court and further found that Fiscal Court had a significant interest in this proceeding,⁴ Fiscal Court is not a party to this proceeding.

4. On April 27, 2024, Senate Bill 91 became law. This bill contained an appropriation of \$5,000,000 to Fiscal Court “to support the Carlisle County Water District [sic] in providing water treatment and water lines to schools in the county.”⁵ Shortly thereafter, Carlisle County officials publicly expressed their intent to use these funds to support the construction of a water treatment facility and water lines to serve Carlisle County’s schools and, if possible, to eventually serve Milburn District, the City of Arlington, and Cunningham Water District.

5. On May 31, 2024, Commission Staff issued its merger feasibility report in which it recommended that “the Commission initiate the necessary actions to effect a merger of Milburn District into [sic] Graves District.”⁶ The merger feasibility report did not mention or address Senate Bill 91 nor does it discuss the possible use of these funds to develop a county-wide water system.

6. Specifically noting Fiscal Court’s public announcements regarding the use of the appropriated funds, the Districts on June 12, 2024 jointly moved for extension of time until August 13, 2024 to respond to the merger feasibility report’s findings and recommendations.

7. On August 7, 2024, the Districts moved to stay this proceeding for 180 days to allow Fiscal Court time to develop a comprehensive plan for water service to Carlisle County.

³ *Id.*

⁴ Order of March 31, 2022 at 2.

⁵ 2024 Ky. Acts Ch. 223, § 62.

⁶ Report at 2.

8. On August 15, 2024, the Commission granted the Districts’ motion, stayed this proceeding for 180 days, and postponed the time for the Districts’ response to the merger feasibility study until further order of the Commission.

9. On January 27, 2025, the Districts moved to continue the stay of proceedings until November 30, 2025, to permit Fiscal Court adequate time to develop and implement its plan for the expansion of water service within Carlisle County. In support of their motion, the Districts submitted an affidavit from Carlisle County Judge Executive Greg Terry, describing the Fiscal Court’s proposed plan and the timeline for its implementation.⁷ County Judge Executive Terry emphasized that the proposed plan “a work in progress and . . . subject to revision.

10. The proposed plan as presented in January 2025 involved the following:

a. Fiscal Court would construct a water line along Highway 1371 from Milburn District’s existing water line to the Carlisle County School District’s (“School District”) campus and a water storage facility near the School District’s campus. Initially, Milburn District would continue to purchase water from Graves District to meet its needs, including the needs of the School District’s campus.

b. After completion of the proposed water line, Milburn District would undertake efforts to fund and construct water wells to provide an additional source of water for the District and potentially Carlisle County’s other water suppliers.

c. Once additional funding is obtained, the water distribution systems of Cunningham District and the city of Arlington would be connected to the water wells. These connections would ensure a redundant water supply for those water providers and enable the

⁷ See Joint Motion to Continue The Stay of Proceedings, Exhibit A .

extension of water service to unserved areas of Carlisle County. It would also interconnect all of Carlisle County's public water systems.

d. Upon the interconnection of these three water systems, consolidation of these systems would be explored.

e. The \$5,000,000 of appropriated funds would be used to finance the construction of the initial water line and storage facility.

f. Milburn District would own and operate the proposed water line and storage facility and request the enlargement of its existing territory to include the School District's campus and other unserved areas of Carlisle County.

g. The construction of the proposed water line to the School District's facilities was expected to begin in late 2025.

11. On March 6, 2025, the Commission granted the Districts' motion and ordered that the stay of proceedings should be continued until November 30, 2025.

12. The stay having expired, the Commission on January 21, 2026 ordered the Districts to respond to the Commission Staff's merger feasibility report no later than April 23, 2026.

13. Since March 6, 2025, the following have occurred:⁸

a. Bacon, Farmer, Workman Engineering and Testing, Inc. ("Engineer") designed a two-phase infrastructure improvement project ("the Project") to be financed with appropriated funds. The Project's first phase involves construction of approximately seven miles of new six-inch potable water main. The second phase involves the construction of a 75,000-gallon capacity elevated water storage tank near the School District's campus.

⁸ Attached as Exhibit F to this Motion is the affidavit of Carlisle County Judge Executive Greg Terry verifying the events that have occurred since March 6, 2025 and that are expected to occur in the next eighteen months.

b. The proposed plans for the Project's first phase include the construction of approximately 35,843 linear feet of six-inch polyvinyl chloride ("PVC") water line, 4,511 linear feet of eight-inch high density polyethylene ("HDPE") water line, 116 linear feet of 4-inch PVC water line, 217 linear feet of 3-inch PVC water line, an automatic control valve assembly, a new pressure reducing valve assembly, and new meters and service connections to 87 existing customers and one new customer (the School District). It also includes forty-one new fire hydrant assemblies, replacing ten existing fire hydrants.

c. The plans provide for the replacement of an existing six-inch water main, constructed in approximately 1970 and running from the Graves District's existing master meter along Kentucky Highway 80 and Kentucky Highway 1371 for approximately 3.73 miles. From the existing water main's terminus, an additional 3.3 miles of water main will be constructed, running west and then north along Kentucky Highway 1371 and then west along Kentucky Highway 1377 to the School District's campus. A map of the proposed route of the replacement water main is attached to this Motion as **Exhibit A**.

d. The Kentucky Division of Water ("KDOW") has reviewed and approved the plans and specifications for the first phase. A copy of the first phase's plans and technical specifications are attached to this Motion as **Exhibit B** and **Exhibit C**, respectively. A copy of KDOW's approval letter and permit is attached as **Exhibit D**.⁹

e. The Engineer anticipates that an advertisement for bids for a contract to construct the project's first phase will be published no later than January 29, 2026 and expects to conduct a bid opening on February 19, 2026. A contract for construction of the Project's first phase

⁹ As Milburn District will be the public water system that will own and operate the proposed water line once it is completed, the Engineer applied for approval of the proposed plans on Milburn District's behalf.

is expected to be awarded no later than February 28, 2026. Construction of the Project's first phase is expected to begin in March 2026 and be completed in July 2027. Total estimated cost for the project's first phase is \$3.25 million.

f. Fiscal Court has acquired most easements necessary for the proposed water main's route. Only a small number of easements remain to be acquired.

g. Fiscal Court will be the contracting entity for the construction contracts for the Project's first and second phases and will provide the funding for those contracts. It has previously contracted for the Engineer's services. While the Fiscal Court will provide the funding for the construction contracts and engineering services, it is working closely with Milburn District on the Project.

h. The Engineer expects to prepare and submit to KDOW plans for the proposed 75,000-gallon capacity elevated water storage tank by March 2026. Construction on this facility is expected to begin in Summer 2026 and be completed in late 2027. Total estimated cost for construction of the elevated water storage tank is \$1.0 million.

i. Fiscal Court has reached agreement for the purchase of a property situated approximately 1.89 miles to the southeast of the School District campus to serve as the site for the proposed 75,000-gallon capacity elevated water storage tank. The formal closing on the purchase of this property has not yet occurred.

j. Proceedings to enlarge Milburn District's territory have begun. On January 16, 2026, Milburn District petitioned the Carlisle County Judge Executive pursuant to KRS 74.110 to enlarge its territory to include the School District's campus and other unincorporated areas of Carlisle County. A hearing and decision on Milburn District's petition are expected by February 28, 2026. A copy of the petition is attached to this Motion as **Exhibit E**.

14. The Commission should stay these proceedings until June 30, 2027 to allow Fiscal Court and Milburn District to proceed with the Project without distraction. By then, the Project's first phase will be completed, and the Commission can better assess the likelihood of the Fiscal Court successfully implementing its plans to rebuild and improve Milburn District's facilities, extend much-needed water service to the School District, and lay the foundations for a county-wide water distribution system.

15. While the stay is in effect, Fiscal Court agrees to submit to the Commission quarterly reports on the Project's status to provide the Commission with adequate information to enable its monitoring of the project's progress. As part of an order granting the requested stay, the Commission should identify any information that these status reports should contain.

16. The requested stay will not prejudice any party and will not adversely affect the interests of either District's customers. In its earlier orders in this proceeding, the Commission has suggested that a merger of the Districts is necessary to ensure the provision of adequate service to Milburn District's customers. Currently, Milburn District is providing adequate service to its customers. Milburn District continues to employ a system operator and is continuing to perform normal business functions. Staying these proceedings will not adversely affect Milburn District's operations or result in a decline in the current quality of water service. However, should a decline in the quality of Milburn District's service occur during the stay, the Commission retains the authority to take appropriate action to address such decline.

17. A stay of the present proceedings is necessary to allow Commission Staff adequate time to observe and evaluate the ongoing efforts in Carlisle County to determine if the merger feasibility study's findings and conclusions remain valid. Circumstances have significantly changed since the issuance of Commission Staff's merger feasibility study more than twenty

months ago. The merger feasibility study does not consider these circumstances. Before the Districts submit any response to Commission Staff's merger feasibility study, a review and reassessment of the study's findings and conclusions by Commission Staff is appropriate and necessary to ensure the resources of the Commission and the parties are not needlessly expended.

18. The Districts' request for a stay of proceedings is made in good faith, not for purposes of delay.

WHEREFORE, Graves District and Milburn District request that these proceedings be stayed until June 30, 2027.

Dated: January 28, 2026

Respectfully submitted,

/s/ Michael W. Hogancamp

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Counsel for Graves County Water District

CERTIFICATE OF SERVICE

In accordance with 807 KAR 5:001, Section 8, I certify that this document was submitted electronically to the Public Service Commission on January 28, 2026 and that there are currently no parties that the Public Service Commission has excused from participation by electronic means in this proceeding.

/s/ Glenn D. Denton
Counsel for Graves County Water District

EXHIBIT A

The Exhibit has been filed separately due to its size.

EXHIBIT B

The Exhibit has been filed separately due to its size.

EXHIBIT C



PROJECT SPECIFICATIONS

for

Carlisle County Water System Improvements Carlisle County, Kentucky

Ownership being transferred to:

Milburn Water District

KY 0200284
7731 State Route 80 E
Arlington, KY 42021

October 31, 2025

Prepared By:



10/31/2025



BFW Project No. 24478

Carlisle County Water System Improvements Carlisle County, Kentucky

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SECTION 31 20 00 EARTHWORK

1. GENERAL

1.1 SUMMARY

This section includes clearing and grubbing, general excavation, trench excavation and backfill for the purpose of installing linear utilities and appurtenances. The contractor shall furnish all labor, materials, equipment, tools, transportation, services and incidental items necessary to perform the work, all in accordance with the drawings and various sections of these specifications.

1.2 SUBMITTALS

- A. Describe the sheeting, shoring and bracing materials and installation that will be used to protect excavations and adjacent property and structures.
- B. Describe the materials, equipment and installation that will be used to de-water excavations and keep excavations suitable for utility installation.

1.3 EROSION CONTROL AND POLLUTION PREVENTION

- A. Contractor must follow the approved Storm Water Pollution Prevention Plan (SWPPP) for the project and the approved Notice of Coverage issued by the Kentucky Division of Water.
- B. Conduct construction activities in accordance with the applicable requirements of Best Management Practices (BMPs) for Controlling Erosion, Sediment and Pollutant Runoff from Construction Sites, latest edition.

1.4 CALL BEFORE YOU DIG LAW

The contractor shall comply with the requirements of the Underground Facility Damage Prevention Act of 1994 (aka Kentucky 811) in accordance with KRS 367.49.

1.5 COMPLIANCE WITH ALL GOVERNMENT LAWS

The contractor shall comply with all Federal, State, County and City laws, by-laws, ordinances, and regulations, which control the work, actions, and operations of those engaged or employed in the work or which affect materials used.

1.6 CLEARING AND GRUBBING

- A. Obtain the permission of the private property owner prior to entering areas outside of easements and right of ways. A Right of Entry Agreement Form may be obtained at the Paducah McCracken Joint Sewer Agency's office.
- B. Remove small trees, weeds, grass, logs, stumps and other obstructions along the proposed alignment and within the designated easement or right of way of the proposed installation as directed by the Agency and as necessary for the proper performance of the required construction work. Removal of trees with a trunk diameter of six (6) inches or greater, shrubbery, fences, poles, surface structures, livestock or ornamental fencelines and other personal property improvements will require the approval of the Agency prior to removal. Materials removed during clearing and grubbing operations shall be disposed of in a manner satisfactory to the Agency and/or Owner.

1.7 PROTECTION OF PROPERTY AND SURFACE STRUCTURES

- A. Protect trees, shrubbery, fences, poles, surface structures, livestock or ornamental fencelines and personal property improvements from damage unless their removal is shown on the Drawings or is authorized by the Agency.
- B. Restore to original condition and/or replace in-kind damaged structures and other personal property improvements following the completion of work at no extra cost to the Agency.

2. MATERIALS

2.1 EXCAVATION-CLASSIFICATION

- A. All excavation shall be unclassified. Excavation shall proceed through all material of any nature encountered regardless of the type, character or composition thereof to the required depth.
- B. Any reference to rock, earth, or any other material on the plans whether in number, words, letters or lines is for information only and is not to be taken as an indication of classified excavation or the quantity of either rock, earth or any other material involved.
- C. Excavation may be performed by any recognized method of safe practice to complete the job in the most expeditious manner, however, the Contractor shall satisfy himself as to the type of soil to be encountered.
- D. Unauthorized excavation shall be backfilled at the Contractors expense with compacted earth, gravel, or other material as approved and directed by the Agency. Any unsuitable material encountered shall be disposed of in an approved manner.

2.2 SOIL

Provide inorganic soils free from wood, garbage, cinders and other miscellaneous debris from an Agency approved source for use where shown on the drawings and/or as required by the Agency. Place in even horizontal layers not exceeding eight inches (8") in depth at $\pm 2\%$ of optimum moisture content as determined by ASTM D698. Compact each lift to a density of at least 95% of the maximum dry density as determined by ASTM D698.

2.3 CRUSHED LIMESTONE

- A. Dense Graded Aggregate (DGA) - Provide crushed limestone meeting the gradation requirements corresponding to DGA as specified in Section 805 of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction for use where shown on the drawings and/or as required by the Agency. Place DGA horizontal layers not exceeding six inches (6") in depth and compacted with a vibratory roller or other approved compaction equipment to a density equivalent to 84% solid volume. The solid volume density shall be determined by the materials bulk specific gravity weight (ASTM C127).
- B. Size No. 9-M - Provide crushed limestone meeting the gradation requirements corresponding to DGA as specified in Section 805 of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction for use where shown on the drawings and/or as required by the Agency.

2.4 FLOWABLE FILL

Place flowable fill concrete at locations specified on the Drawings. The design compressive strength shall be 80 psi at 28 days. The design mix shall consist of an Agency approved proportion of Type 1 Portland Cement (ASTM C-150), Fly Ash (ASTM C-618-85), Sand (ASTM C-33), Air Entrainment Admixture (ASTM C-260) and water.

3. EXECUTION

3.1 EXCAVATION-GENERAL

- A. Excavate to the depth and width required for the proper execution of the work involved. Excavation will be open cut unless otherwise indicated. Short sections may be drilled or tunneled if, in the opinion of the Agency, the pipe can be safely and properly installed and backfilled.
- B. Store topsoil removed from the excavation limits in a manner approved by the Agency for use in restoration of the work area.

3.2 TRENCH EXCAVATION

- A. Excavate trenches to sufficient depth and width at the indicated grade to meet the requirements of the approved plans.
- B. MAINTENANCE OF SYSTEMS - Conduct trenching operations in a manner which will not interfere with the proper operation of roadways, sewers, drainage, utilities etc. Avoid damaging roadways, sewers, drainage structures, utilities and other infrastructure facilities. Roadways, sewers, drainage structures, utilities and other infrastructure facilities damaged as a result of construction shall be restored as soon as possible to a condition equal to or better than the original condition at no added expense to the Agency and/or Owner. Provide suitable bridges and flagmen where required to maintain traffic over open trenches.
- C. OBSTRUCTIONS - Where obstructions not shown on the plans are encountered during the progress of the work, and interferes to such an extent that an alteration in the plans is required, the Agency shall have the authority to change the plans and order deviations from the line and grade, or to arrange with the Owners of the structures for the removal, relocation or reconstruction of the obstructions.
- D. LENGTH - Do not extend trench excavation more than one-hundred (100) feet ahead of the pipe installation work, except in those areas which require a trench to drain saturated soils.
- E. EXCAVATED MATERIAL - Excavated materials to be used as backfill shall be stored and retained in a neat pile at least 2 feet or more from the edge of the trench excavation. Remove surplus material or material deemed unacceptable for backfill from the area within 24 hours of excavation. Remove surplus excavated material not required for backfill operations from paved roads and streets immediately following placement of backfill. Store excavated topsoil separately for use in restoration of disturbed areas following completion of construction.
- F. MAXIMUM LENGTH OF OPEN TRENCH: The maximum length of open trenches allowed including sections partially backfilled is 200 feet.
- G. PROTECTION - Comply with OSHA Construction Standards Subpart P Sections 1926.650-1926.653 when performing trench excavation. Slope, shore, sheet or otherwise support trench walls to prevent caving and to protect existing roadways, utilities, and/or structures.
- H. DEWATERING - Keep trenches and other excavations dewatered throughout the progression of construction. Direct discharge from dewatering equipment into adjacent ditches, storm drains, or other natural drainage ways.

- I. **PIPE BEARING SURFACE** - Excavate trench of sufficient width conforming to typical details included in the approved plans to the required depth regardless of the material encountered. For gravity sewers, excavate trench a minimum of 5 inches below grade. Undercut and provide a minimum 6 inch compacted earth cushion to support sewer force mains when rock is encountered at the required trench grade. Undercut unstable trench areas incapable of providing a sufficient foundation for the pipe as approved and/or directed by the Agency. Backfill unstable undercut areas to subgrade with standard bedding material or other approved select fill. Granular bedding material shall be size 9m crushed limestone in accordance with the Kentucky Department of Highways "Standard Specifications for Road and Bridge Construction, Section 612" or approved equal.

3.3 STRUCTURAL EXCAVATION

- A. **GENERAL** - Excavate to elevations and dimensions indicated on approved plans as necessary to provide space for construction operation and inspection. Fill unauthorized excess cuts at no extra cost to the Agency and/or Owner with an approved material as directed by the Agency.
- B. **PROTECTION** - Comply with OSHA Construction Standards Subpart P Sections 1926.650-1926.653 for shoring and sloping walls of excavations. The design of shoring systems shall be provided by the Contractor at no extra expense to the Agency and/or Owner.
- C. **SUBGRADE** - Delay excavation of the final 6 inches of soil above the required subgrade elevation until just prior to the placement of the base material. Upon removal of soil to subgrade elevation, utilize hand tools to trim the excavation to final grade leaving a solid base to receive base material. Compact and consolidate any loose soil remaining at the bottom of the excavation. The bottom of the excavation shall be free of mud and muck and shall be stable enough to remain firm and intact under the feet of workmen before deposition of the base material. If suitable bearing is not encountered at the depth indicated on the Drawings, the Contractor should immediately notify the Agency and secure written instructions prior to proceeding.
- D. **DEWATERING** - Keep excavations free from water. Discharge accumulated water into ditches, storm drains or other natural drainage ways.
- E. **WASTE** - Dispose excess or unsuitable material at an Agency approved off-site location.

3.4 BLASTING

In general, blasting will not be allowed on the project.

3.5 BACKFILL

- A. **PIPE BEDDING**
 1. Beneath Improved Surfaces is required immediately after excavation of trench, beneath the pipe. Place pipe bedding in one layer approximately 6-inches thick utilizing hand methods or approved mechanical methods. Pipe bedding material shall crushed limestone Size No. 9-M.
 2. Beneath unimproved surfaces, pipe may bear on natural ground provided that the natural ground is free of organics and free of rocks larger than 2" in diameter. If organics or rocks larger than 2" are present, excavate and provide pipe bedding as it is required beneath improved surfaces.

- B. INITIAL BACKFILL - Required for backfilling pipe trenches within improved or unimproved surfaces. Place initial backfill carefully around pipe haunches and in one layer to a point approximately 6-inches above the top of embedded pipe utilizing hand methods or approved mechanical methods. Initial backfill material shall crushed limestone Size No. 9-M.
- C. FINAL BACKFILL - Place final backfill following the placement of initial backfill. Final backfill material shall contain sufficient fines necessary to provide a dense mass, free of voids and capable of the specified compaction. Stones larger than 6 inches in any dimension shall not be placed within 3 feet of the top of the pipe. Large stones may be placed in the remainder of the backfill if approved by the Agency and if well separated and so arranged that no backfill settlement will result. Masses of stiff clay or other consolidated material greater than one cubic foot in volume shall not be allowed to fall more than 5 feet into the trench unless the pipe is cushioned by a minimum 3 feet of cover. Other special backfill requirements are as follows:
1. GRASS AREA - Provide excess backfill to compensate for anticipated settlement. Place backfill in a neat rounded manner covering the limits of the trench.
 2. RIGHT-OF-WAY - Compact backfill in maximum 6 inch layers within right-of-way and at other locations indicated on the drawings to at least 85% maximum dry density.
 3. IMPROVED GRAVEL SURFACES - Place select backfill conforming to the material requirements included in Section 2.10 of these specifications. Compact select backfill in maximum 6 inch lifts to a minimum density of 95 % standard proctor density at + 2% of optimum moisture content as determined by ASTM D698. Obtain the services of a qualified soil-testing laboratory to provide the necessary lab and field testing to prove compliance with the requirements specified herein. Provide one standard proctor moisture-density curve complying with ASTM D 698 for each class of select fill material. Perform field density tests utilizing a nuclear density meter or other authorized equipment/procedure as directed by the Agency. A minimum of one test at a location determined by the Agency will be required for each improved surface crossing. Additional field density tests shall be performed as directed by the Agency.
 4. IMPROVED PAVED or CONCRETE SURFACES - Place flowable fill concrete up to the bottom of paved or concrete surface.
- D. EXTRA OR EXCESS BACKFILL MATERIAL - Maintain trench and excavated areas which have settled or have been excessively backfilled throughout construction for a period of one year following the substantial completion date at no additional cost to the Agency and/or Owner. Provide additional suitable material as required to fill up depressions caused by settlement. Refill trenches as often as necessary to bring them back to original grade. Maintain roadway and driveway trenches in a manner that is acceptable for the proper maintenance of traffic. Remove from the construction site any excess material remaining following backfilling operations due to the installation of the pipe and bedding or the use of select or other backfill materials.

3.6 FINAL GRADING

Grade areas disturbed by construction to the elevations shown on the drawings or as necessary to match the grade of the adjacent area and to maintain drainage without any

ridges or depressions. Remove all wood, clods, rocks and other debris that would interfere with surface restoration activities.

3.7 CLEANING UP

- A. Remove surplus pipeline material, equipment, tools, forms, temporary structures from staging and work areas.
- B. Remove excess earth, stones, rubble, etc. from the work area and dispose in a manner complying with pertinent governmental laws and regulations. Dispose of rubbish, lumber, trash, etc. in an approved landfill facility.

3.8 MAINTENANCE OF SURFACES

Maintain the surfaces of unpaved trenches, roadways, drainage channels/pipes/structures, adjacent curb and gutters, sidewalks, shrubbery, fences and other disturbed surfaces and structures for a period of one (1) year following the certification of project completion by the Engineer. Perform maintenance work at intervals required by the Engineer to maintain compliance with the requirements set forth herein and pertinent governmental rules and regulations.

SECTION 32 92 00 LANDSCAPING AND SEEDING**1. GENERAL****1.1 SUMMARY**

After work is finished and all backfilling and embankments are complete and settled, all previously disturbed areas should be graded to the specified elevation and slopes. All swales shall be trimmed and dressed by hand, other surfaces shall be so graded that effective drainage shall be secured and in accordance with the plans. All grading work and surfacing shall be completed to the satisfaction of the engineer and water district. This section includes requirements for furnishing all labor, materials and equipment necessary to complete ground restoration in grass areas (i.e. landscaping and seeding) and other miscellaneous work not otherwise covered. Application of materials should comply with Kentucky Department of Highway's Standard Specifications for Road and Bridge Construction.

2. MATERIALS

2.1 LIME

Four (4) tons of agricultural limestone per acre shall be uniformly applied during the seedbed preparation.

2.2 FERTILIZER

Premium fertilizer having an analysis of 20-10-10 shall be applied at the rate of 2,000 pounds per acre.

2.3 SEED

Kentucky 31 Fescue shall be seeded at the rate (10) pounds per 1000 square feet with a drill or broadcast uniformly over the freshly prepared seedbed and firmed into the soil with a cultipacker. Kentucky 31 Fescue seed certified by the Kentucky seed Improvements Association shall be used. No seed shall be planted having a test date of more than 120 days prior to the date of seeding.

2.4 MULCH

Mulch shall consist of wheat and rye straw applied at the rate of two (2) tons per acre.

3. EXECUTION

3.1 PREPARATION OF SEEDBED

Where the area to be seeded is not sufficiently pulverized to provide good seedbed, the seedbed shall be prepared by pulverizing the soil to a minimum depth of two inches (2") with a disk harrow, drag harrow, spike tooth or similar tool, immediately prior to seeding. All clods, rocks and undesirable material that would interfere with seeding operations shall be removed. Incorporate lime and fertilizer into the seedbed at rates specified in the MATERIALS section.

3.2 SEEDING

- A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph.
 1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 2. Do not use wet seed or seed that is moldy or otherwise damaged.
 3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
- B. Sow seed at a total rate of 10 lbs/1000 sq. ft.
- C. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.
- D. Protect seeded areas with slopes exceeding 1:4 with erosion-control blankets and 1:6 with erosion-control fiber mesh installed and stapled according to manufacturer's written instructions.
- E. Protect seeded areas with slopes not exceeding 1:6 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment. Anchor straw mulch by crimping into soil with suitable mechanical equipment.

3.3 TURF MAINTENANCE

- A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and re-mulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
 3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
2. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.

C. MAINTENANCE SERVICE

1. Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in "Turf Maintenance" Article. Begin maintenance immediately after each area is planted and continue until acceptable turf is established, but for not less than the following periods:
2. Seeded Turf: 60 days from date of planting completion.
3. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season.

SECTION 33 11 13 PUBLIC WATER DISTRIBUTION SYSTEM

1. GENERAL

1.1 SUMMARY

The purpose of this document is to provide guidance to Contractors regarding the construction of water infrastructure that will connect to and become a part of a public water distribution system. This section includes all piping, fittings and miscellaneous appurtenances that are part of the public water distribution system.

1.2 AUTHORITY

Milburn Water District owns and operates a public water system No. KY0200284 as defined in 401 KAR 8:010 and is therefore required to uphold the requirements thereof under regulatory authority of the Kentucky Energy and Environment Cabinet, Division of Water. All information contained herein shall, in all respects, be consistent with the water district and/or municipalities approved policies and must follow the KY Division of Water guidelines for construction and installation of a public water distribution system.

1.3 DEFINITIONS

- A. **Developer:** An individual, partnership, corporation, or other legal entity or agent thereof, which undertakes the activities of constructing improvements to one or more parcels of land.
- B. **Engineer:** A Professional Engineer currently registered in the Commonwealth of Kentucky in accordance with KRS 322.040-45.
- C. **Contractor:** A person, business or entity responsible for performing the installation of water mains and appurtenances.
- D. **Construction Permit:** Written approval issued by the Kentucky Division of Water that indicates the design and permitting process is complete and approves the initiation of construction of a water main project.
- E. **Public Water Distribution System:** A network of elevated tank(s), pipe, fittings, valves, hydrants, meters, and all other miscellaneous appurtenances through which water is conveyed throughout the system for potable water supply with the intended use of human consumption and fire protection. The distribution system and appurtenances are owned, operated, and maintained by the water district.
- F. **Water Services:** The portion of the water distribution system after the water meter that connects the public water distribution system to residences, businesses, industries, public institutions, etc.
- G. **Engineering Resident Inspector/Observer:** An individual retained by the owner of the water distribution system who is onsite during the construction with sufficient frequency to attest that a new water project has been constructed in accordance with the approved Construction Permit and all Standard Specifications.
- H. **Project Documents:** The combined set of documents pertaining to this project required processes, procedures, materials, etc. which include Specifications and Drawings:

1.4 APPLICABLE REGULATORY AGENCIES AND STANDARDS

All portions of the water distribution system including water services shall comply with the following applicable agency standards. All references to documents associated with the following entities/agencies shall be the latest edition.

- A. Safe Drinking Water Act (SDWA)
- B. American Water Works Association (AWWA)
- C. American Society for Testing and Materials (ASTM)
- D. American National Standards Institute (ANSI)
- E. National Sanitation Foundation (NSF)
- F. Reduction of Lead in Drinking Water Act (RLDWA)
- G. National Fire Protection Association (NFPA)
- H. Underwriters Laboratories (UL)
- I. Factory Mutual (FM)
- J. Recommended Standards for Water Works, 2012 Edition, A Report of the Water Supply Committee of the Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers, 2012, current edition (a.k.a. 10-States' Standards)
- K. Kentucky State Plumbing Law

1.5 MISCELLANEOUS GUIDANCE DOCUMENTS

- A. Ductile Iron Pipe Research Association (DIPRA) Installation Guide for Ductile Iron Pipe
- B. PVC Pipe Association Installation Guide for Gasketed-Joint PVC Pressure Pipe
- C. The Performance Pipe Field Handbook Bulletin PP-901
- D. Plastics Pipe Institute (PPI)
- E. Kentucky Transportation Cabinet's Standard Specifications for Road and Bridge Construction (KYTC Standards)
- F. American Association of State Highway and Transportation Officials (AASHTO)
- G. Manual on Uniform Traffic Control Devices (MUTCD)

1.6 SUBMITTALS

- A. Prior to ordering materials, the approved contractor (via material supplier) shall submit to the engineer for review. The contractor shall submit one (1) complete set of manufacturer's shop drawing submittals for each item to be provided by the contractor as part of this project.
- B. Submittals should be sent via email directly to the Engineering Project Manager in PDF format, with information such as manufacturer, size, type, pertinent industry standard, origin of manufacture etc. clearly noted for all component parts.
- C. The Engineering Project Manager will review each material submittal for conformance to the water district's requirements.

- D. One electronic copy of the reviewed submittals will be returned to the Contractor via email in pdf format.
- E. If the material submittal is incomplete, the Engineering Manager will indicate items that must be included prior to approval.
- F. Material that is ordered prior to obtaining approval by the Engineering Manager is subject to rejection and replacement at the Contractor's expense.
- G. The Engineering Resident Inspector and/or Field Observer will review the materials once delivered to the project site. Any items that are not in conformance with the approved submittals shall be removed and replaced at the contractor's expense.

1.7 RECORD DRAWINGS

- A. The Contractor will be required to maintain the most current edition of the project plan drawings and will be responsible to obtain field measurements, depths, photos, etc. of the installed water main throughout construction.
- B. Upon completion of construction, this information will be provided to the Engineer. The Engineer will incorporate this information into the approved drawings with the addition of dimensioning, notes, and details submitted to the water district and/or municipality.

1.8 QUALITY ASSURANCE

- A. Regulatory Requirements for the water distribution system including piping and appurtenance materials, installation, testing and disinfection:
 - 1. Comply with requirements of utility company that owns and operates the public water distribution system.
 - 2. Comply with standards of all regulatory agencies listed in Section 1.4
- B. Piping materials, Valves, Hydrants and other appurtenances shall bear clear markings of the following:
 - 1. Material Designation
 - 2. Diameter and/or size
 - 3. Pipe rating, schedule and/or wall thickness
 - 4. Pipe pressure rating
 - 5. Agency Compliance Standards: AWWA, ASTM, ANSI, NSF, etc.
 - 6. Manufacturer Information

1.9 DELIVERY STORAGE AND HANDLING

- A. The contractor shall handle, transport, and install all materials in accordance with manufacturer's recommendations and industry guidelines. If material is damaged by the Contractor during transport, unloading, or installation, the damaged item shall be replaced and installed by the Contractor at his/her expense.
- B. Stockpiled pipe, appurtenances and materials shall be blocked and/or secured to prevent moving.
- C. Store polyethylene and PVC materials out of sunlight.

- D. Store all materials in approved and/or authorized areas only. Do not store on unauthorized private property or in areas obstructing pedestrian or vehicle traffic.

1.10 EXISTING CONDITIONS

- A. Prior to installation, the Contractor shall verify and field locate all property lines, rights-of-way and field conditions.
- B. Prior to installation, the Contractor shall locate all underground utilities including pipelines, conduits, and other structures by calling KY811, contacting owners of underground utilities, prospecting, hydro-excavating, hand digging, or by whatever other means are necessary. All incidental damage to existing utilities shall be repaired at the contractor's expense, with no additional cost to the owner.

1.11 COORDINATION WITH THE WATER UTILITY

- A. Coordinate work with the owner/operator of the water distribution system prior to any connections. Notify the resident engineer and water utility a minimum of two days prior to any planned connections.
- B. Coordinate all interruptions of the existing water distribution system with the water utility. Water outages shall be kept to a minimum. Do not interrupt water service to any part of the system without prior coordination and approval by the resident engineer and water utility.

1.12 TRAFFIC CONTROL

- A. When working within or adjacent to public roadway right-of-way, the Contractor shall provide adequate signs, barricades, caution lights, and flagmen and take all necessary precautions for the protection of the work and the safety of the public, including signing for any specific detours.
- B. Provide and implement traffic control in accordance with Kentucky Transportation Cabinet standards.
- C. Provide and implement traffic control in accordance with the Manual on Uniform Traffic Control Devices for Highway Construction and Maintenance, (MUTCD).

1.13 EROSION CONTROL AND POLLUTION PREVENTION

- A. Contractor must follow the approved Storm Water Pollution Prevention Plan (SWPPP) for the project and the approved Notice of Coverage issued by the Kentucky Division of Water.
- B. Conduct construction activities in accordance with the applicable requirements of Best Management Practices (BMPs) for Controlling Erosion, Sediment and Pollutant Runoff from Construction Sites, latest edition.

1.14 CALL BEFORE YOU DIG LAW

The contractor shall comply with the requirements of the Underground Facility Damage Prevention Act of 1994 (aka Kentucky 811) in accordance with KRS 367.49.

1.15 COMPLIANCE WITH ALL GOVERNMENT LAWS

The contractor shall comply with all Federal, State, County and City laws, by-laws, ordinances, and regulations, which control the work, actions, and operations of those engaged or employed in the work or which affect materials used.

1.16 WARRANTY PERIOD

- A. The one (1) year warranty period will begin on the date that the water main is placed into service. During this period, the Contractor is responsible for all leaks, defects of other work required to maintain this water main, and appurtenances associated with the project.
- B. The Contractor shall repair and/or replace all defective workmanship and materials, and correct all deficiencies noted in the system(s) in a method approved by the Engineer. All such efforts to correct any defective Work, including but not limited to removal and replacement of surface construction activity Work necessary due to rectification of defective utility construction activity Work, shall be accomplished at no cost to the county or water district.
- C. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this section, the correction period hereunder with respect to such Work will be extended for an additional period of one (1) year after such correction or removal and replacement has been satisfactorily completed. The guarantee described above shall apply for all other related or referenced specification sections affected by work.

2. PRODUCTS

2.1 GENERAL

- A. All materials shall be manufactured in the United States of America unless otherwise approved by the engineer and water utility.
- B. Materials shall be in new condition, free from corrosion, rust, discoloration, and UV damage.
- C. All restraint devices, fittings, etc. shall be provided with accessory kits unless otherwise noted.
- D. All materials that come in contact with potable water shall conform with the "Reduction of Lead in Drinking Water Act", meeting NSF standard compliance.

2.2 PIPE AND FITTINGS

A. POLYVINYLY CHLORIDE (PVC) PIPE

- 1. Pipe shall be iron pipe size (I.P.S.) SDR 21 (pressure class 200 psi) and meet all requirements of ASTM D2241. Pipe shall be made from high quality PVC resin compounded to provide physical and mechanical properties that meet or exceed cell class 12454 as defined in ASTM D1784.
- 2. Pipe Color shall be "blue".
- 3. Provide twenty (20) foot joint lengths unless otherwise specified
- 4. Joints shall be flexible elastomeric gasketed bell end per ASTM D3139 and F477
- 5. Fittings shall be I.P.S. ductile iron mechanical joint according to AWWA C110 and gaskets according to AWWA C111.
- 6. Dissimilar Materials Piping Joints: Use adapters compatible with both piping materials, with OD, and with system working pressure.

B. POLYVINYLY CHLORIDE (PVC) PIPE – RESTRAINED JOINT TYPE

- 1. Pipe shall be iron pipe size (I.P.S.) SDR 21 (pressure class 200 psi) and meet all requirements of ASTM D2241. Pipe shall be made from high quality PVC resin compounded to provide physical and mechanical properties that meet or exceed cell class 12454 as defined in ASTM D1784.
- 2. Pipe shall have integral bells with a non-corrosive joint restraint mechanism that is specifically designed and constructed to restrain the bell/spigot pipe joint when subjected to either tensile or compressive forces.
- 3. Restrained-joint pipe shall be designed and manufactured specifically for use by horizontal directional drilling (HDD) installation method.
- 4. Provide twenty (20) foot joint lengths unless otherwise specified.
- 5. Provide Certa-LOK® Yelomine ASTM D2241 RJIB pipe with Fluid Tite® gasket as manufactured by NAPCO Pipe and Fittings or approved equal.
- 6. Dissimilar Materials Piping Joints: Use adapters compatible with both piping materials, with OD, and with system working pressure.

C. HIGH DENSITY POLYETHYLENE (HPDE) PIPE > 2-INCH DIAMETER

1. Pipe shall be Iron Pipe Size (IPS) with a Standard Dimension Ratio (SDR) of 11 in accordance with AWWA C906 unless otherwise noted by the Project Engineering Manager.
2. Material designation shall be PE4710.
3. Resin shall meet the requirements of ASTM D 3350 with a minimum cell classification of 445474 C or higher.
4. The color shall be black with a "Blue" stripe.
5. The pipe shall contain no recycled compounds except those generated in the manufacture's own plant from resin of the same specification from the same raw material.
6. The length of pipe shall be nominal forty (40) foot segments unless otherwise specified.
7. Pipe shall be butt fused according to ASTM F2620.
8. Fittings shall be butt fused according to ASTM D3261 or electrofused according to ASTM F1055.
9. Provide DriscoPlex 4000 as manufactured by Performance Pipe or approved equal.
10. Dissimilar Materials Piping Joints: Use adapters compatible with both piping materials, with OD, and with system working pressure.

2.3 UNDERGROUND LOCATION TRACER WIRE AND CAUTION TAPE

- A. All piping installed shall have the ability to be located aboveground. Tracer Wire and Location Safety Tape (both) are required use during installation of the new water supply main and service lines.
- B. Install the tracer wire along the pipe above or to the side of the pipe, the wire shall be taped at a minimum of ten (10) feet along the pipe. With the tracer wire installed as a single continuous wire, splicing of wire, if necessary, shall be done in such a way to produce an electrical and mechanical sound connection. The tracer wire must be properly grounded at all dead ends and stubs. Tracer wire access points shall be located at the beginning and end of project, at each fire hydrant assembly and meter setting.

C. TRACER WIRE OPEN TRENCH INSTALLATION

1. Tracer wire shall be twelve (12) AWG solid copper in accordance with ASTM B3.
2. Insulation shall be a minimum of thirty (30) mil, blue, HDPE Insulation in accordance with ASTM D1248.
3. The conductor must be a least thirty (30) volts for locating purpose with a minimum break load of one hundred and ninety-eight (198) lbs.
4. Wire shall be suitable for direct bury and shall be designed and constructed specifically for the use as a tracer wire for underground pipe systems.
5. Steel-clad copper tracer wire will not be allowed for trench installation.

6. Provide CU HDPE thirty (30) mil tracer wire as manufactured by Pro-Line Safety Products of approved equal.

D. TRACER WIRE DIRECTIONAL BORING INSTALLATION

1. Tracer wire shall be ten (10) AWG "extra-high- strength" clad steel conductor
2. Insulation shall be a minimum of forty-five (45) mil, blue, HDPE insulation in accordance with ASTM D1248.
3. The conductor must be a least 21% conductivity for locating purpose with a minimum break load of two thousand and thirty-two (2,032) lbs.
4. Tracer wire shall be suitable for direct bury and shall be designed and constructed specifically for use as tracer wire for installation with underground pipe systems using trenchless installation methods (i.e., horizontal directional drill).
5. Provide SoloShot EHS-CCS HDPE forty-five (45) mil tracer wire manufactured by Copperhead Industries, LLC or approved equal.

E. TRACER WIRE CONNECTORS

1. Tracer wire shall be connected using thermoplastic wire connectors filled with 100% silicone and designed and constructed specifically for direct bury applications.
2. The connector shall be lockable connectors specifically designed for direct burial, dielectric silicone gel filled, designed to prevent uninsulated wire exposure.
3. The connectors should be suitable for the wire size being installed.
4. The connectors shall be lockable connectors specifically designed Provide Under Ground Wire Nuts as manufactured by IDEAL industries or approved equal.

F. UNDERGROUND CAUTION MARKING TAPE

1. In addition to locating tracer wire, in order to keep personnel aware and prevent personal injury, damages and service interruption. Warning tape shall be installed along the piping. Underground marking tape shall have a two (2) inch minimum width with a minimum five-point-zero (5.0) mil overall thickness.
2. Tape shall be manufactured using a five (5) mil tape that includes aluminum backing, allowing detection using a non-ferrous locator.
3. Tape shall be printed using the APWA Color-Code standard for identification of buried utilities.
4. The tape shall read "CAUTION BURIED WATER LINE BELOW" The approved color shall be blue with black ink.
5. Detectable marking tape shall be Pro-Line Safety Products or approved equal and made in the USA.
6. Install the underground caution marking tape directly over and along the center line of the pipe. The depth shall be at a minimum depth of eight-teen (18) inches below the existing earthen surface grade line and no more than a maximum of twenty-four (24) inches below the existing surface grade line.

2.4 WATER SERVICE ASSEMBLIES

This section consists of the installation of services assemblies which include the service tapping saddle, corporation cock, service pipe, setter type, meter, and meter box as specified by the Water District and/or Water Municipality.

A. SERVICE SADDLE - All components shall conform with AWWA C800. Tapping saddles shall be used for tapping of all PVC pipe.

1. SERVICE SADDLES – C900 PVC

- a. The upper body of the saddle shall be brass alloy per ASTM B62 with female threads to accept a corporation stop as follows:
- b. Three-quarters (3/4) inch and one (1) inch AWWA tapered thread
- c. One and a half (1.5) inch and two (2) inch Iron Pipe Thread
- d. The saddle body shall include an EPDM gasket permanently attached to the saddle. All welds shall be fully supported.
- e. Service saddles shall be manufactured by the Ford Meter Box Company, Inc. and models shall be as follows:
- f. Three-quarter (3/4) inch and one (1) inch Model 101BS
- g. One and a half (1.5) inch and two (2) inch Model 202B

2. SERVICE SADDLES – IRON PIPE SIZE (IPS) PVC PIPE

- a. Service saddles used to connect a service line to an existing IPS PVC main shall be comprised of two brass halves that are permanently connected by a hinge with bronze pin. The two halves are secured by a bronze bolt that is secured in the upper half with a retainer to prevent loss during shipment. The bottom half shall be tapped to receive the bolt without requiring the use of a nut and two wrenches during tightening.
- b. The saddle shall be properly shaped and sized to fit snugly over the main to obtain a water-tight seal without the ability to apply a crushing force to the pipe.
- c. The outlet shall have female threads to accept a corporation stop as follows:
- d. Three-quarters (3/4) inch and one (1) inch AWWA tapered thread
- e. One and a half (1.5) inch and two (2) inch Iron Pipe Thread
- f. The saddle body shall include an EPDM gasket permanently attached to the saddle. Service saddles shall be Model S70 as manufactured by the Ford Meter Box Company, Inc.

B. CORPORATION COCK

1. The corporation cock shall be made of solid brass that comes in contact with potable water and conforms to AWWA Standard C800 (ASTM B584, UNS C89833).
2. Product has the letters “NL” cast into the main body for lead-free identification.
3. Meets one hundred (100) PSI working pressure requirement of AWWA Standard C800.

4. Corporation stop shall be constructed of brass alloy per ASTM B62 with inlet male threads as follows:
 - a. Three-quarters (3/4) inch and one (1) inch AWWA tapered thread
 - b. One and a half (1.5) inch and two (2) inch Iron Pipe Thread Outlet shall be Grip Joint connection for copper tubing (CTS).
 - c. Corporation stops will have an internal quarter-turn ball valve designed for working pressures to three hundred (300) psi.
 - d. Corporation shall be compatible with all current tapping machine manufacturers.
 - e. Corporation stops shall be Model FB1000 -3-NL, Ballcorp as manufactured by the Ford Meter Box Company, Inc.
- C. SERVICE PIPE & TUBING
1. Polyethylene Pipe and Tubing shall be used for all service line connections between the service tap at supply main to the meter setting inlet connection point.
 2. The Pipe and Tubing shall conform to the following applicable standards
 - a. NSF Listed under Standard 14 & 16 for Potable Water
 - b. ASTM D3350 Cell Classification 445574A
 - c. ASTM D2337 Meets PE 4710 requirements
 - d. AWWA C901 conforms as 250 & 200 PSI
 - e. BOCA conforms as 250 & 200 PSI
 - f. Chlorine Resistance CC3 & CC2
 3. The Pipe and Tubing shall be CTS O.D. Controlled.
 4. Blue Water Tubing.
 5. Standard outside dimension ration (SODR) = 9 (250 PSI).
 6. All service tubing requires the use of a twelve (12) gauge direct bury copper blue tracer wire. The tracer wire shall be accessible at the meter box and connected to the main line tracer wire at the corporation stop for continuity of signal.
- D. METER SETTER (5/8-INCH & 1-INCH)
1. All copper meter setters shall be the Ford 70 Series Coppersettors. No substitution will be considered.
 2. To be designed to be a complete, ready-made meter setting assembled with lead free solder.
 3. The Coppersetter shall have a compression flared, threaded and double purpose coupling for copper, iron, polyethylene and PVC on both the inlet and outlet side of tubing connection.
 4. The Coppersetter shall have an angle ball, compression on the inlet side of setter.
 5. The Coppersetter shall have a single check valve on the outlet side of setter.

E. METER BOX AND LID (5/8-INCH & 1-INCH SETTINGS)

1. All five-eighths (5/8) inch and one (1) inch water meter box shall meet or exceed the performance specification as required by the Municipality or Water District.
2. Boxes and Lids shall be designed and tested to meet ASTM C857 load rating standards and have labeling to indicate loading requirements.
3. Box and Lid shall be made of High-Density Polyethylene material with a CI Flip Reader.
4. Box shall be black in color.
5. Acceptable in incidental traffic and not-traffic applications.

F. WATER METER

1. All water meters shall be replaced with the Zenner multi-jet magnetic drive cold water meters. No substitution will be considered.
2. Meters are to be five-eighths (5/8) x three-quarters (3/4) US Gallons with a poly top, bottom, and serial number.

2.5 VALVES, VALVE BOX, VALVE VAULT**A. GATE VALVE**

1. Gate valves shall be Series C509 MJ, Fusion Bond Epoxy Coated, Wedge Gate Valve as manufactured by M&H valve company. No substitutes will be considered.
2. AWWA C509 250 PSI, UL/FM Approved 200 PSI NSF 61 Certified.
3. All bolts securing the bonnet shall be 304 stainless steel.
4. The valve shall have a non-rising bronze stem with a two (2) inch square operating nut.
5. The valve shall turn left (counterclockwise) to open.
6. All end connections shall be MJ x MJ unless otherwise noted.

B. VALVE BOX

1. Valve boxes shall be constructed of ASTM A48 cast iron in two-piece sections with heavy-duty lids.
2. Valve boxes shall be of the screw type, adjustable, and with a five and one-quarter (5 1/4) inch shaft.
3. Each section shall be coated with a minimum one and a half (1.5) mil asphaltic bituminous coating.
4. The lengths of the boxes shall be as specified.
5. All distribution valve boxes shall be provided with traffic-rated lids marked "WATER".
6. Extensions shall be screw-type and of the same material and overall construction quality as the valve box.
7. Provide cast iron valve boxes manufactured by Bingham & Taylor or approved equal.

C. VALVE BOX CENTERING DISK

1. Valve box centering disks shall be constructed from corrosion-proof material.
2. Disks shall be compatible with all AWWA gate valves and five and one-quarter (5.25) inch valve boxes.
3. Either one or two-piece construction is allowable.
4. Provide BoxLok® Valve Box Alignment device manufactured by Trumbull Industries, Inc. or approved equal.

D. BUTTERFLY VALVES

1. Valves shall be bubble-tight at rated pressures for bi-directional flow conditions.
2. Valves shall be short body 150 psi pressure class in conformance with AWWA C504.
3. Body shall be constructed of ductile iron in accordance with ASTM A536 Grade 65-45-12 with integrally-cast Class 125 flanged ends in accordance with ASME B16.1
4. Disc shall be constructed of ductile iron with 316 stainless steel edge and rotate 90 degrees from full open position to the tight shut position.
5. Seats shall be constructed of NBR and shall be recessed in the body of the valve.
6. Shafts shall be constructed of solid 316 stainless steel.
7. Shaft seals shall be of the self-adjusting type.
8. Valves shall be delivered with a bare stem for mounting of an electric actuator, but have a manual override. The valve body shall accept the actuator mounting bracket (by others) and the bracket shall be removable without affecting the seals/packing of the valve while under system pressure.
9. Manufacturer shall perform a hydrostatic shell and seat leak test in both directions.
10. Provide BAW AWWA Butterfly valves manufactured by DeZurik or approved equal.
11. Electric Actuator shall have suitable voltage and torque, and all other design features for proper valve operation. Actuator shall be of the type of construction suitable for installation in a below grade valve vault. Actuator shall have visible readouts for valve position.
12. Electric Actuator shall be connected to a control panel that is capable of communication for remote operation through cell phone service.
13. Contractor shall coordinate with the local electric utility and provide a dedicated power connection to the control panel and actuator.

E. PRESSURE REDUCING VALVE

1. The pressure reducing valve shall be designed for use in potable water systems and comply with NSF/ANSI 61 and NSF/ANSI 372 standards.
2. Mechanical Joint (MJ) per AWWA C111/A21.11.
3. Pressure Rating:
 - a. Minimum inlet pressure: 150 psi.

- b. Outlet pressure range: Adjustable from 20 to 80 psi.
4. Materials:
 - a. Body: Ductile iron conforming to ASTM A536.
 - b. Internals: Bronze or stainless steel.
 - c. Seat: Resilient material suitable for potable water.
5. Interior and exterior surfaces shall be coated with fusion-bonded epoxy in accordance with AWWA C550.
6. Operation:
 - a. Valve shall maintain a constant downstream pressure regardless of fluctuations in upstream pressure.
 - b. Equipped with pilot system for pressure control.
7. Accessories: Include isolation valves, strainers, and pressure gauges as required.
8. Testing and Certification:
 - a. Factory tested and certified for performance.
 - b. Must meet AWWA C800 and applicable local standards.
9. Manufacturer: Valve shall be manufactured by a recognized company with proven experience in waterworks valves.

F. PRE-CAST CONCRETE VALVE VAULTS

1. General Requirements

Precast concrete water meter vaults shall be manufactured in accordance with industry standards and designed to withstand site-specific loads including soil pressure and traffic loads (e.g., HS-20 or AASHTO H-20).

All vaults shall be designed and stamped by a licensed Professional Engineer.

2. Materials

- a. Concrete:
 - i. Minimum compressive strength: 4,000 psi at 28 days;
 - ii. Cement: ASTM C150 – Standard Specification for Portland Cement;
 - iii. Aggregates: ASTM C33 – Standard Specification for Concrete Aggregates;
 - iv. Mixing Water: ASTM C1602 – Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete;
 - v. Air-entrainment: ASTM C260 – Air-Entraining Admixtures for Concrete.
- b. Reinforcement:
 - i. Reinforcing steel shall comply with applicable ASTM standards and be designed to meet structural loading conditions.

3. Precast Structure Standards
 - a. ASTM C478 – Precast Reinforced Concrete Manhole Sections.
 - b. ASTM C913 – Precast Concrete Water and Wastewater Structures. [\[astm.org\]](http://astm.org)
 - c. ASTM C857 – Minimum Structural Design Loading for Underground Precast Concrete Utility Structures.
 - d. ASTM C858 – Specification for Underground Precast Concrete Utility Structures.
4. Joints and Seals
 - a. ASTM C443 – Rubber Gasket Joints for Concrete Pipe and Manholes.
 - b. ASTM C990 – Butyl Rubber Sealant for Concrete Pipe Joints.
5. Aluminum Hatches
 - a. Materials:
 - i. Hatch cover and frame shall be fabricated from aluminum alloy sheet and plate conforming to ASTM B209.
 - ii. Extruded components shall comply with ASTM B221 for aluminum extrusions
 - b. Coatings and Finishes:
 - i. Anodized finishes shall meet AAMA 611 standards.
 - ii. Painted finishes shall comply with AAMA 2603, 2604, or 2605, depending on performance requirements.
 - c. Structural Performance:
 - i. Hatches shall be designed and tested in accordance with ASTM C1802 – Standard Specification for Fabricated Metal Access Hatches for Utility, Water, and Wastewater Structures.
 - ii. Load ratings (e.g., pedestrian, light vehicular, H-20/HS-20 traffic) must be clearly specified per project requirements.

2.6 FIRE HYDRANTS

- A. Fire hydrants shall be manufactured by M&H valve company, as specified by the Municipality or Water District. The preferred model will be 5-1/4-inch MOVO 129 3-Way Model, no substitutes will be considered.
- B. Fire Hydrants shall be of the compression type, with the main valve opening against the pressure and closing with the pressure.
- C. The main valve opening shall be five and one quarter (5-1/4) inch in diameter.
- D. Fire Hydrant shall be of a dry barrel, dry top design.
- E. The nozzle sections shall consist of two (2) hose nozzles and one (1) pumper nozzle or other as specified.
- F. Fire Hydrants shall be rated at two hundred and fifty (250) psi water working pressure, tested at five hundred (500) pounds hydrostatic for structural soundness in accordance with AWWA C-502 and UL & FM requirements.
- G. Fire Hydrants shall have all nozzles fitted with National Standard Thread.
- H. Hydrant color shall be bright red.

- I. Only parts and materials manufactured by M&H Valve Company specifically for make and model of the fire hydrant shall be used for vertical adjustment.

2.7 YARD HYDRANTS

- A. Description: Freestanding, automatic drain hydrant with a 1" galvanized stand pipe, 3/8" operating rod, 3/4" NPT Inlet, 3/4" hose thread outlet adapter, self-lubricating plunger, bury depth 3-feet, with 3/4" hose thread vacuum breaker.
 1. Standards: Sanitary Yard Hydrant ASSE 1057, Vacuum Breaker ASSE 1011
 2. Certified No Lead Meeting NSF Standards and all requirements of the USEPA Safe Drinking Water Act.
- A. Model: Merrill Manufacturing CNL7503, No Lead CNL-1000 Frost Proof Hydrant or approved equivalent.

2.8 RESTRAINT DEVICES

A. JOINT RESTRAINT GASKETS

1. Gaskets shall be designed to incorporate stainless steel grippers manufactured into the rubber gasket that will lock onto the spigot of pipe upon bellng without damage to the pipe and will prevent separation of the joint.
2. Gaskets shall comply with AWWA C111 or C900 as applicable.
3. Gaskets shall be manufactured of SBR unless otherwise noted.
4. Gaskets shall be rated for the working pressure of the pipe upon which they will be utilized with a minimum of 2:1 safety factor without joint separation.
5. Gaskets for ductile iron pipe should be designed and manufactured by the same manufacturer as the pipe.

B. THRUST RESTRAINTS

1. Thrust restraints shall be constructed of a high-strength ductile iron body as per ASTM A536 with bolt pattern and hardware that is compatible with all mechanical joints conforming to AWWA C111.
2. The wedge action restrainer shall be manufactured of ductile iron in accordance with ASTM A536 with heat-treated wedges that are contoured to properly fit the pipe.
3. The heads of the wedge actuating screws shall twist off at the recommended torque, assuring correct installation without risk of over tightening.
4. The body of the restraint shall be color coded to denote its application for either ductile iron or PVC pipe and shall be stamped with the model number for easy identification.
5. All ductile iron components shall be coated with an epoxy coating in accordance with AWWA C116.
6. Thrust restraints shall be rated at a water working pressure equal to the working pressure rating of the pipe with a 2:1 safety factor against separation in a dead-end situation.

7. The restraint and back-up ring may be capable of being split to allow installation on existing pipe provided that the design for components is equal in performance to one-piece gland and back-up ring.
8. Thrust restraints for ductile iron pipe shall be Uni-Flange® Series 1400 and for PVC pipe shall be Uni-Flange® Series 1500 as manufactured by Ford Meter Box Company, Inc. or approved equal.

C. BOLT-THROUGH RESTRAINTS

1. Provide restraint devices that allow the direct connection of mechanical joint fittings and valves with a positive-restraint, bolted mechanism that does not exceed twelve (12) inches in length and without attachment to pipe.
2. Provide Foster Adaptor as manufactured by Infact Corporation or approved equal.

D. BELL JOINT RESTRAINTS

1. Restraints for push-on bell pipe joints shall consist of a wedge action thrust restraint installed on the pipe spigot, connected to a ductile iron backup ring installed behind the pipe bell.
2. Bell joint restraints for ductile iron pipe shall be MEGALUG® Series 1700 and for PVC pipe shall be MEGALUG® Series 2000 bell joint restraints as manufactured by EBBA Iron, Inc. or approved equal.

2.9 STEEL CASING PIPE

A. Steel Casing Pipe

1. Material: Steel casing shall be new, solid-wall, hot-rolled steel and shall either be Grade B steel in accordance with ASTM A139 or Grade 2 steel in accordance with ASTM A-252.
2. Yield Strength: Minimum 35,000 psi.
3. Wall Thickness: Minimum Schedule 20 Steel Pipe thicknesses.
4. Diameter: Sized to provide 4" clearance between the outside wall of carrier pipe and inside wall of casing pipe, including bell diameters.
5. The exterior shall be fully coated with coal tar epoxy or bitumastic coating.
6. Delivery lengths shall be 20 foot unless specifically requested otherwise.
7. Installation Method: Jacking and boring with welded joints per AWWA C206.
8. Depth of Cover: Minimum 42" below roadway surface.
9. Regulatory Compliance: KYTC Specifications for Road and Bridge Construction.

B. CASING SKIDS

1. Casing skids shall be constructed of 8 inch wide stainless steel band (14 gauge) with 2 inch wide glass-reinforced polymer runners that are chamfered at each end.
2. All hardware shall be stainless steel.
3. Casing skids shall be designed for installation in the centered/restrained condition within the encasement.

4. Casing skirts shall be Model S8G2 as manufactured by PSI-Pipeline Seal and Insulator, Inc. or approved equal.

C. END SEALS

1. End seals shall be a wrap-around type seal manufactured from EPDM rubber.
2. The end seal shall have locating ribs on the outside for banding clamps and ribs on the inside to prevent leakage of soil and water over the depth of bury.
3. Two stainless steel bands shall be provided for each seal.
4. End seals shall be PSI Model "W" Wrap-Around as manufactured by PSI-Pipeline Seal and Insulator, Inc. or approved equal.
5. The screw-type bands that are included with the end seal from the manufacturer are not approved. In place of the manufacturer's bands, secure end seals using 1/2 inch wide, 304 or 316 stainless steel strapping with minimum thickness of 0.020 inches. Stainless steel strapping shall be ULINE® Model S-14376 or approved equal.

2.10 MISCELLANEOUS

A. CONCRETE

1. All materials and method of installation shall conform with Section 601 of the **Kentucky Standard Specifications for Road and Bridge Construction**, latest edition unless otherwise noted.

2. THRUST BLOCKING

- a. Concrete utilized for blocking fittings and appurtenances shall have a minimum compressive strength of two thousand and five hundred (2,500) psi concrete.
- b. Bagged concrete mix (e.g., Quickrete®) is allowed provided that it is prepared and placed in accordance with the manufacturer's instructions.

3. IMPROVED SURFACE RESTORATION

- a. Concrete used to create new or restore existing concrete improved surfaces (i.e., roadway cuts, curbs, sidewalks, pads, etc.) shall be Class A, three thousand and five hundred (3,500) psi.
- b. High Early Strength – Provide Class M1, four thousand (4,000) psi concrete.

4. FLOWABLE FILL: Provide "Flowable Fill for Pipe Backfill" (eighty (80) psi).

B. AGGREGATE - Aggregate shall conform with Section 805.15 of the **Kentucky Standard Specifications for Road and Bridge Construction**, latest edition.

C. ASPHALT PAVEMENT

1. All work, equipment and materials shall conform with Division 400 of the Kentucky Transportation Cabinet Department of Highways Standard Specifications for Road and Bridge Construction, Latest Edition.
2. Asphalt Base, provide Class 2 Asphalt Base 0.75D PG 64-22.
3. Asphalt Surface, provide Class 2 Asphalt Surface 0.38B PG 64-22.

4. Tack Coat, provide KYTC SS-1 or SS-1h tack coat at a rate to achieve an undiluted residue of not less than zero-point-eighty-one (0.81) pounds (0.1 gallons) per square yard.
- D. MARKER POST
1. Any areas that require a utility Marker Post shall be three and tree-quarter (3.75) inches wide across with supportive rib and two (2) decal guides. Each post must be pointed at the end with an overall length determined by specific application.
 2. Marker post shall be UV stable and capable of withstanding direct sunlight for at least ten (10) years without cracking or significant fading.
 3. Marker post shall be driven to a minimum depth of eight-teen (18) inches and withstand impacts at speeds up to sixty (60) mph and return to standing position.
 4. Post Marker should be installed using manufactured approved post drivers and should be driven to a depth of at least eight-teen (18) inches.
 5. The color shall be "Blue" with decals placed on both sides of the marker.
 6. The decal to read "Caution Water Pipeline" call 811 before you dig.
- E. PRECAST VALVE BOX GRADE RING
1. Precast concrete Grade Ring aka valve pads may be used instead of onsite forming and pouring a pad.
 2. Install the valve grad ring center of the valve box.
 3. Recess the precast grade ring at a minimum depth of four (4) inches below the finished earthen grade line for round type ring the diameter shall be twenty-four (24) inches. For a square collar, the length and width shall be twenty-four (24) inches.
 4. The precast pad shall be set flush with the top section of the cast-iron valve box.
 5. The void between the grade ring and cast-iron valve box top section shall be filled with a non-shrink grout.
- F. PROTECTION BOLLARD
1. When above ground appurtenances (i.e. fire hydrant, meters, etc.) are required to be protected from vehicle, farming, or construction machinery damage, a protective post shall be installed for damage prevention. The protective post should be at least 4-inch diameter steel pipe and to be filled with concrete.
 2. Post shall be set not less than 36-inches deep below grade and in a concrete footing of not less than 15-inch diameter.
 3. Post shall extend above ground to a minimum height of 3-feet above finished grade of the protection location.
 4. The number of post shall be sufficient to encircle the exposed portion of the appurtenances to be protected. Post shall be spaced not more than 4 feet apart from center to center, and at a minimum of 34-inches from center of appurtenances to center of post.

3. EXECUTION

3.1 EXCAVATION AND BACKFILL

Refer to Section 31 20 00 EARTHWORK for excavating, trenching and backfilling.

3.2 INSTALLATION OF WATER MAIN AND APPURTENANCES

- A. Install PVC water main according to AWWA C605. Also refer to the *PVC Pipe Association Installation Guide for Gasketed-Joint PVC Pressure Pipe*.
- B. Handle piping with care following all manufacturers' recommendations.
- C. Begin and end water main installation approximately ten (10) feet from the points of connection to the active distribution system by constructing a blow-off assembly. Beginning a new water main installation by laying out of a tapping valve is prohibited unless specifically approved by the engineer and/or the water districts representative.
- D. The water main piping shall be installed with the use of a No. 12 gauge copper tracer wire located along and parallel to the pipe.
- E. Install a temporary plug at the open end of pipe at the end of each day. The nature of the plug shall be sufficient to prevent intrusion of silt and debris.
- F. Limit joint deflection to 50% of the maximum deflection recommended by the manufacturer and/or the installation guidance manual.
- G. Longitudinal field bending of PVC pipe is prohibited.
- H. High Points
 - 1. Install pipe with no high points
 - 2. If field conditions arise that necessitate high points, provide air release valves as directed by the Engineer.
- I. Install access fittings to permit disinfection of water system.

3.3 VALVE, FIRE HYDRANT AND FITTING INSTALLATION

- A. All valves, hydrants, and fittings manufacturing type and model shall be as specified by the water districts preference.
- B. Install all valves, hydrants, and fittings in accordance with AWWA C600 Section 4.3.6 and the engineers detail drawings section.
- C. Connections for valves, fittings, and hydrants shall be mechanical joint (MJ) ductile iron with thrust restraints. Standard MJ glands are not allowed.
- D. Provide concrete thrust blocking between the fitting and undisturbed earth in a quantity and dimension sufficient to prevent movement over the entire range of testing and working pressures of the water main. Poly wrap shall be used to cover the fittings prior to installation of all concrete thrust blocking shall be in a manner that maintains the ability to remove and replace all bolts and nuts associated with each fitting.
- E. Before installation, field check all bolts/nuts on valves and hydrants that are not self-adjusting for proper tightness.
- F. Install each valve with a cast iron valve box that is adjusted to finished grade.

- G. Valves located in un-paved areas shall be installed with a concrete valve box pad with a ground rod and adjusted flush with finished/existing grade.
- H. Rotate the pumper nozzle on hydrants as necessary to face the adjacent roadway unless otherwise approved.
- I. Restrain vertical fittings as necessary to prevent movement and separation of the adjacent pipe joints. Such restraint may include one or more methods including restrained-joint pipe, rodding between fittings, and/or concrete dead-man anchors.
- J. Field gauge ductile iron pipe larger than twelve (12) inches in accordance with AWWA C600 Section 3.4.5.4 prior to cutting. However, contrary to Section 4.3.4.5.4, a mechanical-joint gland or other physical go/no-go template should be utilized. It is important to note that factory gauging relates to measured outside diameter of the pipe and does not relate to ovality.

3.4 WATER MAIN TAPS

A. LARGE MAIN TAP

1. Unless otherwise approved by Water District and the Engineer the contractor shall connect new water mains to existing distribution system "hot" without the need to interrupt service of the distribution water main.
2. All "Wet Taps" be performed by the contractor.
3. The Contractor is responsible for determining the desired location of the tap, preparing a safe excavation, cleaning the main for connecting the tapping sleeve and valve.
4. The Contractor will be required to air test the tapping sleeve and valve once it has been installed prior to tapping of main.
5. The Contractor will be required of backfilling, installing the valve box and restoration of the work area.
6. The Contractor will be responsible for coordinating all main taps with the Water District and the Engineering Observer, one week in advance of the desired date.

B. DOMESTIC SERVICE TAPS

1. All service taps less than or equal to two (≤ 2) inch shall be coordinated with the water district and the customer for proper notification. All service taps shall be completed once the new main has been installed, and ALL testing has been completed in accordance with the KY Division of Water Standards.
2. All "Wet Taps" be performed by the contractor.
3. The Contractor is responsible for determining the desired location of the tap, preparing a safe excavation, cleaning the main for connecting the tapping saddle and corporation stop.
4. The Contractor will be required to install the meter setting assembly, placement of water meter, meter box and lid.
5. The Contractor will be required to backfill and restoration of the work area.
6. The contractor shall be responsible for reconnection to the existing service line, inspection of leaks and flushing of house service line.

3.5 DIRECTIONAL BORING AND BORE & JACK ENCASUREMENT

A. WATERMAIN INSTALLATION BY DIRECTIONAL BORING

1. The Engineer shall approve the Directional Boring Contractor, and may request proof of adequate experience with similar bores and sufficient capabilities prior to initiation of construction.
2. Provide either restrained-joint (R/J) PVC or butt-fused HDPE in accordance with the Material Specifications and as directed by the Engineer. No other material/products may be utilized for HDD water main installation without prior approval by the Engineer.
3. Transition from HDPE to PVC or DIP water main utilizing a mechanical joint adaptor kit and DIP mechanical reducer. Refer to Standard Detail Drawings for additional information regarding this transition.
4. Expose utilities crossing the bore path utilizing vacuum excavation or other non-destructive means of positive identification.
5. Provide vacuum-excavated holes at both sides of improved drives/roadways and above sanitary sewer laterals along the bore path as necessary to minimize fluid pressures and the potential for damage due to soil expansion during back-reaming.
6. Pull tracer wire for trenchless applications per PW's Material Specifications along with the water main pipe and leave adequate length at each end for connection. PW may require additional tracer wire and/or require larger gauge (higher tensile strength) wire on a case-by-case basis.
7. Manage drilling fluids proactively to prevent migration into ditches, storm inlets, and other undisturbed areas. In the event of a drilling fluid release (i.e., frac out) promptly initiate work to contain the drilling fluid and prevent its migration.
8. Restrain water main adjacent to each end of HDPE as appropriate to resist axial forces following installation and prior to testing. The minimum restraint requirement shall be no less than three (3) joints either side of the HDPE mechanical joint adapter.

B. UNENCASED BORES

1. Unencased or "slick" bore is a trenchless water main installation method that avoids damage to surface improvements by boring a horizontal hole below the surface improvement (e.g., drives, trees, landscaping, etc.) utilizing a horizontal directional drill, auger boring machine, or pneumatic hammer. A short section of water main is then pushed or pulled into place through the bored hole without encasement.
2. Install pipe by either pushing or pulling into place with both ends temporarily plugged/capped. When pushing pipe, utilize a substantial wooden block between the end of the pipe and excavator bucket.
3. Utilize bell and spigot pipe with a maximum of two (2) pipe lengths (40 feet). Utilize pipe designed for HDD installation for unencased bores longer than forty (40) feet in length.

4. Pipe should advance with very little effort. If pipe encounters resistance, remove the pipe and ream the bore as necessary to remove obstruction prior to resuming installation.
5. Limit the diameter of the bore hole to 1.5 times the outside diameter of the main water pipe.
6. Install tracer wire (for trench installation) along with the water main pipe and leave sufficient length at each end for connection to adjacent tracer wire.
7. When a bore is performed in advance of trench installation, temporarily plug each end of the water main pipe and mark its location and depth with a stake or other functional equivalent.

C. STEEL ENCASED BORES

1. Install water mains crossing KYTC roadways and railroad right-of-way within steel encasement unless otherwise approved by PW and the respective owning agency.
2. Install steel encasement in accordance with the requirements of the agency owning jurisdiction and PW Standard Specifications.
3. Prior to initiation of construction, provide field staking as necessary to clearly delineate the ends of the encasement and elevation to the bottom of the encasement at each end.
4. Install steel encasement to a tolerance of 1.5% of the length of the bore for both horizontal and vertical accuracy. (For example, a 100-foot-long bore with target elevation of 350 would have an acceptable elevation of $350 \pm 1.5'$.) However, nothing in this tolerance range shall relieve the Contractor from maintaining minimum cover or otherwise remaining within permissible horizontal alignment (i.e., easement).
5. The Resident Inspector reserves the right to reject the bore if the installed tolerances exceed those stated above. In the event a bore is rejected, the Contractor will be required to either remove or re-bore the encasement. If accepted a bore that exceeds the tolerances above, the Contractor will be required to adjust for the bore (e.g., fittings, backfill, restraint glands, thrust blocking) and return the water main to design line/grade.
6. If a previously unknown obstruction is observed in the field that requires the elevation of the bore to be modified from the approved design drawings, the Engineer, Contractor, and PW Engineering Technician must approve the modification and elevation prior to initiating construction.
7. Install polyethylene-wrapped ductile iron water main with joint restraint gaskets within steel encasement and not less than ten (10) feet beyond each end.
8. Restrain fittings within twenty (20) feet of the end of steel encasement to the encasement using two, three-quarters ($\frac{3}{4}$) inch diameter all-thread rods and lugs welded to the encasement.
9. The number of casing spacers shall be in accordance with the manufacturer's recommendations and spacing shall not exceed eight (8) feet.
10. Butt-weld steel encasement 360° around the circumference with a full-penetration weld without voids.

11. Install #67 stone bedding to the spring line (3 to 9 clock position) of the water main as directed by PW's Engineering Technician from each end of the steel encasement to the point at which the water main rests uniformly on the trench bottom.

3.6 CREEK CROSSINGS

A. Minor Stream Crossing

1. The minimum cover for water mains crossing small creeks and ditches shall be sixty (60) inches below the flowline grade.
2. The Project Engineer shall determine the material and method of joint restraints to be used at each crossing based on the size and nature of the creek. In each case, the ease/difficulty of installation as well as the long-term implication for maintenance and operation will be considered.

B. Major Stream Crossing

1. Creek crossings having a bottom width greater than twelve (12) feet:
2. The minimum cover for major stream crossings shall be sixty (60) inches below the flowline grade.
3. Provided either fused HDPE or restrained-joint water main pipe as determined by the Project Engineer.
4. Provide valves at both ends of the crossing so that the section can be isolated for testing or repair. The valves should be easily accessible and not subject to flooding.
5. The valves shall be marked with a metal "T" post identified with a water valve plaque and bollards for visual location and protection.

C. When an open-cut creek crossing is required, perform the work in accordance with the following guidelines (current edition):

1. USACE Nationwide Permit 12 – Utility Line Activities
2. Kentucky Division of Water General Conditions for Water Quality Certification and General Certification of Nationwide Permit 12 – Utility Line Backfill and Bedding.

3.7 TESTING AND DISINFECTION

A. PRESSURE TESTING

1. Initiate pressure testing after the water main has been installed and backfilled, but before performing disinfection, flushing and connection to active system.
2. Pressure test system according to AWWA C600.
3. Test installed water mains to one hundred and fifty (150) psi for a period of two (2) hours.
4. Newly installed water main shall exhibit zero leakage for not less than two (2) consecutive hours at the test pressure before the test is accepted by the Engineer.
5. Test hydrants in the closed position, with hydrant valves in the open position.
6. Conduct testing on a water main that is filled with water. Pressure testing with air is prohibited.

7. Utilize either multiple or new-in-box pressure gauges.
8. The Contractor is responsible for providing all labor, materials, and equipment necessary for pressurizing the water main.
9. The Resident Inspector / Observer shall witness the pressure test.
10. Coordinate all pressure testing with Engineer and water district not less than twenty-four (24) hours in advance.
11. Conducting a pressure test against a closed line valve is discouraged, and is subject to prior approval.
12. If a water main fails a pressure test, the Contractor is responsible for investigating the source of the failure, remedying the source of leakage as applicable and repeating the test until a successful test has been performed.
13. Note that HDPE pipe will relax when subjected to internal stress which may resemble the presence of trapped air or a leak during a pressure test. As a result, HDPE will pressure test differently than PVC or DIP. It is recommended that Contractors conduct pressure testing of HDPE water main over a longer period time with smaller, incremental pressure/sequences until the test pressure is achieved.

B. DISINFECTION, FLUSHING AND SAMPLING

1. Initiate disinfection after the water main passes the required pressure test.
2. Disinfecting the new water main in accordance with AWWA C651 except that liquid chlorine (gas) is prohibited.
3. Provide a temporary hose to connect the new water main to the supply distribution system utilizing the blow-off assembly, adequate lengths of hose and backflow assembly and hydrant meter. The minimum hose size should be one and a half (1.5") inches to adequately fill and flush from this connection. Coordinate with the water district representative for a source of water if a hydrant is not in the vicinity of the project.
4. Flush the new water main to remove foreign objects and other deleterious materials.
5. Open hydrant valves so all new hydrants and valves are disinfected along with the new water main.
6. Chlorinate as necessary to obtain an initial free chlorine concentration of between fifty (50) ppm and one hundred (100) ppm. After twenty-four (24) hours, the residual must remain at twenty-five (25) ppm or greater. If, after twenty-four (24) hours the residual is less than twenty-five (25) ppm, reintroduce chlorine and repeat the process until a residual greater than twenty-five (25) ppm is obtained after twenty-four (24) hours.
7. Once a residual of twenty-five (25) ppm has been obtained, flush the new water main to reduce the chlorine concentration to two (2) ppm or less. The contractor will coordinate the collection of bacteriological samples with the water districts representative and forward to a certified lab for the analysis.
8. If the bacteriological test does not pass and there is a presence of coliform the Contractor will be required to repeat the process of flushing, chlorination and

- bacteriological sampling until a zero (0) coliform test has been achieved and approved.
9. Once all bacteriological samples have passed, the new water main may be tied into water districts distribution system.
 10. Following connection to the distribution system, at the discretion of the water district it is recommended that the contractor flush the new water main to achieve a minimum scour velocity of three (3) feet per second unless the Municipality or Water District determines that the conditions do not permit the required flow.
 11. Refer to **Table 3.7.B.1** for approximate flow velocity necessary for the scouring flush after the tie-in(s) has been completed.
 12. The Contractor is responsible for the dechlorination and disposal of highly chlorinated water in a manner that does not violate 401 KAR 10:030.

Table 3.7.B.1 – Flushing Velocities

Pipe Diameter (in)	Approximate Flow Required to Produce 3 ft/sec (gpm)
3	66
4	120
6	260
8	470
10	734
12	1,057
14	1438
16	1,880

3.8 CLEANUP AND RESTORATION

- A. The Contractor shall maintain a neat and orderly jobsite by picking up trash and debris at the end of each workday.
- B. Following initial trench backfill, perform rough grading that leaves the work area approximately at finish grade.
- C. At the completion of the project, clean up the site and remove rocks, concrete, debris, roots, and other deleterious material from the site and restore the disturbed areas to final grade.
- D. Install seed, straw mulch, and erosion control best management practices as necessary to stabilize the site in a manner that is consistent with the development plan for the project.

EXHIBIT D



Andy Beshear
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

300 Sower Boulevard
Frankfort, Kentucky 40601
Phone: (502) 564-2150
Fax: 502-564-4245

Rebecca W. Goodman
SECRETARY

Anthony R. Hatton
COMMISSIONER

December 19, 2025

Eric Young
Milburn Water District
7731 State Route 80 E
Arlington (Carlisle), KY 42021

RE: Carlisle Co Water System Improvements
Carlisle County, KY
Milburn Water District
AI #: 33848, APE20250001
PWSID #: 0200284-25-001

Dear Mr. Young:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of approximately 34,614 linear feet of 6-inch PVC water line, 3,699 linear feet of 8-inch HDPE, 217 linear feet of 3-inch PVC water line, and a new pressure reducing valve. This is to advise that plans and specifications for the above referenced project are APPROVED with respect to sanitary features of design, as of this date with the requirements contained in the attached construction permit.

If you have any questions concerning this project, please contact Brett Thompson at 502-782-4143.

Sincerely,

Terry Humphries, P.E.
Supervisor, Drinking Water Engineering Section
Water Infrastructure Branch
Division of Water

TH:BT

Enclosures

c: Bacon Farmer Workman (BFW) Engineering & Testing Inc
Carlisle County Health Department
Division of Plumbing

Distribution-Major Construction

Milburn Water District

Facility Requirements

Activity ID No.:APE20250001

Page 1 of 5

PORT000000001 (Carlisle Co Water System Improvements) 34,614 linear feet of 6-inch PVC water line, 3,699 linear feet of 8-inch HDPE, and 217 linear feet of 3-inch PVC water line:

Narrative Requirements:

Condition No.	Condition
T-1	Construction of this project shall not result in the water system's inability to supply consistent water service in compliance with 401 KAR 8:010 through 8:600. [401 KAR 8:100 Section 5]
T-2	The public water system shall not implement a change to the approved plans without the prior written approval of the cabinet. [401 KAR 8:100 Section 4(3)]
T-3	A proposed change to the approved plans affecting sanitary features of design shall be submitted to the cabinet for approval in accordance with Section 2 of this administrative regulation. [401 KAR 8:100 Section 4(2)]
T-4	During construction, a set of approved plans and specifications shall be available at the job site. Construction shall be performed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 3(1)]
T-5	Unless construction begins within two (2) years from the date of approval of the final plans and specifications, the approval shall expire. [401 KAR 8:100 Section 3(3)]
T-6	Upon completion of construction, a professional engineer shall certify in writing that the project has been completed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 4(1)]
T-7	The system shall be designed to maintain a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow. [Recommended Standards for Water Works 8.2.1, Drinking Water General Design Criteria IV.1.a]
T-8	Water lines should be hydraulically capable of a flow velocity of 2.5 ft/s while maintaining a pressure of at least 20 psi. [Drinking Water General Design Criteria IV.1.b]
T-9	The normal working pressure in the distribution system at the service connection shall not be less than 30 psi under peak demand flow conditions. Peak demand is defined as the maximum customer water usage rate, expressed in gallons per minute (gpm), in the pressure zone of interest during a 24 hour (diurnal) time period. [Drinking Water General Design Criteria IV.1.d]
T-10	When static pressure exceeds 150 psi, pressure reducing devices shall be provided on mains or as part of the meter setting on individual service lines in the distribution system. [Drinking Water General Design Criteria IV.1.c]
T-11	The minimum size of water main in the distribution system where fire protection is not to be provided should be a minimum of three (3) inch diameter. Any departure from minimum requirements shall be justified by hydraulic analysis and future water use, and can be considered only in special circumstances. [Recommended Standards for Water Works 8.2.2, Drinking Water General Design Criteria IV.2.b]

Distribution-Major Construction

Milburn Water District

Facility Requirements

Activity ID No.:APE20250001

Page 2 of 5

PORT000000001 (Carlisle Co Water System Improvements) 34,614 linear feet of 6-inch PVC water line, 3,699 linear feet of 8-inch HDPE, and 217 linear feet of 3-inch PVC water line:

Narrative Requirements:

Condition No.	Condition
T-12	Water mains not designed to carry fire-flows shall not have fire hydrants connected to them. [Recommended Standards for Water Works 8.4.1.b]
T-13	Flushing devices should be sized to provide flows which will give a velocity of at least 2.5 feet per second in the water main being flushed. [Recommended Standards for Water Works 8.2.4.b, Recommended Standards for Water Works 8.4.1.b]
T-14	No flushing device shall be directly connected to any sewer. [Recommended Standards for Water Works 8.2.4.b, Recommended Standards for Water Works 8.4.1.b]
T-15	Pipe shall be constructed to a depth providing a minimum cover of 30 inches to top of pipe. [Drinking Water General Design Criteria IV.3.a]
T-16	Water mains shall be covered with sufficient earth or other insulation to prevent freezing. [Recommended Standards for Water Works 8.7]
T-17	A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a depth of at least six inches below the bottom of the pipe. [Recommended Standards for Water Works 8.7]
T-18	Water line installation shall incorporate the provisions of the AWWA standards and/or manufacturer's recommended installation procedures. [Recommended Standards for Water Works 8.7]
T-19	All materials used for the rehabilitation of water mains shall meet ANSI/NSF standards. [Recommended Standards for Water Works 8.1]
T-20	Packing and jointing materials used in the joints of pipe shall meet the standards of AWWA and the reviewing authority. [Recommended Standards for Water Works 8.1]
T-21	All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement. [Recommended Standards for Water Works 8.7]
T-22	All materials including pipe, fittings, valves and fire hydrants shall conform to the latest standards issued by the ASTM, AWWA and ANSI/NSF, where such standards exist, and be acceptable to the Division of Water. [Recommended Standards for Water Works 8.1]
T-23	Water mains which have been used previously for conveying potable water may be reused provided they meet the above standards and have been restored practically to their original condition. [Recommended Standards for Water Works 8.1]

Distribution-Major Construction

Milburn Water District

Facility Requirements

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PORT000000001 (Carlisle Co Water System Improvements) 34,614 linear feet of 6-inch PVC water line, 3,699 linear feet of 8-inch HDPE, and 217 linear feet of 3-inch PVC water line:

Narrative Requirements:

Condition No.	Condition
T-24	Manufacturer approved transition joints shall be used between dissimilar piping materials. [Recommended Standards for Water Works 8.1]
T-25	The minimum size of water main which provides for fire protection and serving fire hydrants shall be six-inch diameter. [Recommended Standards for Water Works 8.2, Drinking Water General Design Criteria IV.2.a]
T-26	Pipes and pipe fittings containing more than 8% lead shall not be used. All products shall comply with ANSI/NSF standards. [Recommended Standards for Water Works 8.1]
T-27	Gaskets containing lead shall not be used. Repairs to lead-joint pipe shall be made using alternative methods. [Recommended Standards for Water Works 8.1]
T-28	Pipe materials shall be selected to protect against both internal and external pipe corrosion. [Recommended Standards for Water Works 8.1]
T-29	Dead end mains shall be equipped with a means to provide adequate flushing. [Recommended Standards for Water Works 8.2]
T-30	The hydrant lead shall be a minimum of six inches in diameter. Auxiliary valves shall be installed on all hydrant leads. [Recommended Standards for Water Works 8.4.3]
T-31	A sufficient number of valves shall be provided on water mains to minimize inconvenience and sanitary hazards during repairs. [Recommended Standards for Water Works 8.3]
T-32	Wherever possible, chambers, pits or manholes containing valves, blow-offs, meters, or other such appurtenances to a distribution system, shall not be located in areas subject to flooding or in areas of high groundwater. Such chambers or pits should drain to the ground surface, or to absorption pits underground. The chambers, pits and manholes shall not connect directly to any storm drain or sanitary sewer. Blow-offs shall not connect directly to any storm drain or sanitary sewer. [Recommended Standards for Water Works 8.6]
T-33	At high points in water mains where air can accumulate provisions shall be made to remove the air by means of air relief valves. [Recommended Standards for Water Works 8.5.1]
T-34	Automatic air relief valves shall not be used in situations where flooding of the manhole or chamber may occur. [Recommended Standards for Water Works 8.5.1]

Distribution-Major Construction

Milburn Water District

Facility Requirements

Activity ID No.:APE20250001

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PORT000000001 (Carlisle Co Water System Improvements) 34,614 linear feet of 6-inch PVC water line, 3,699 linear feet of 8-inch HDPE, and 217 linear feet of 3-inch PVC water line:

Narrative Requirements:

Condition No.	Condition
T-35	The open end of an air relief pipe from automatic valves shall be extended to at least one foot above grade and provided with a screened, downward-facing elbow. [Recommended Standards for Water Works 8.5.2.c]
T-36	Discharge piping from air relief valves shall not connect directly to any storm drain, storm sewer, or sanitary sewer. [Recommended Standards for Water Works 8.5.2.d]
T-37	Water pipe shall be constructed with a lateral separation of 10 feet or more from any gravity sanitary or combined sewer measured edge to edge where practical. If not practical a variance may be requested to allow the water pipe to be installed closer to the gravity sanitary or combined sewer provided the water pipe is laid in a separate trench or undisturbed shelf located on one side of the sewer with the bottom of the pipe at least 18 inches above the top of the gravity sanitary or combined sewer pipe. [Drinking Water General Design Criteria IV.3.b]
T-38	Water lines crossing sanitary, combined or storm sewers shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sanitary, combined or storm sewer with preference to the water main located above the sanitary, combined or storm sewer. [Drinking Water General Design Criteria IV.3.c]
T-39	At crossings, one full length of water pipe shall be located so both joints will be as far from the sewer as possible. [Recommended Standards for Water Works 8.8.3.b]
T-40	There shall be no connection between the distribution system and any pipes, pumps, hydrants, or tanks whereby unsafe water or other contaminating materials may be discharged or drawn into the system. [Recommended Standards for Water Works 8.10.1]
T-41	Water utilities shall have a cross connection program conforming to 401 KAR 8. [Recommended Standards for Water Works 8.10.1]
T-42	Installed pipe shall be pressure tested and leakage tested in accordance with the appropriate AWWA Standards. [Recommended Standards for Water Works 8.7.6]
T-43	New, cleaned and repaired water mains shall be disinfected in accordance with AWWA Standard C651. The specifications shall include detailed procedures for the adequate flushing, disinfection, and microbiological testing of all water mains. In an emergency or unusual situation, the disinfection procedure shall be discussed with the Division of Water. [Recommended Standards for Water Works 8.7.7]
T-44	A minimum cover of five feet shall be provided over pipe crossing underwater. [Recommended Standards for Water Works 8.9.2]

Distribution-Major Construction

Milburn Water District

Facility Requirements

Activity ID No.:APE20250001

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PORT0000000001 (Carlisle Co Water System Improvements) 34,614 linear feet of 6-inch PVC water line, 3,699 linear feet of 8-inch HDPE, and 217 linear feet of 3-inch PVC water line:

Narrative Requirements:

Condition No.	Condition
T-45	Valves shall be provided at both ends of water crossings so that the section can be isolated for testing or repair; the valves shall be easily accessible, and not subject to flooding for pipes crossing underwater. [Recommended Standards for Water Works 8.9.2.b]
T-46	Permanent taps or other provisions to allow insertion of a small meter to determine leakage and obtain water samples on each side of the valve closest to the supply source for pipes crossing. [Recommended Standards for Water Works 8.9.2.c]

EXHIBIT E

RESOLUTION
OF THE BOARD OF COMMISSIONERS OF THE MILBURN WATER DISTRICT
TO AUTHORIZING PETITION TO ENLARGE TERRITORY

WHEREAS, Milburn Water District is a water district organized pursuant to KRS Chapter 74;

WHEREAS, KRS § 74.110 provides that the territorial limits of a water district may be enlarged by petitioning the County Judge Executive to annex additional territory;

WHEREAS, portions of Carlisle County, more specifically described in Exhibit A to this resolution, are adjacent to the Milburn Water District and lack a water utility to provide potable water service to its residents;

WHEREAS, Milburn Water District has the ability, upon obtaining adequate sources of funding, to provide adequate and reasonable water services to those unserved areas;

WHEREAS, Milburn Water District's provision of water to the residents of this currently unserved area would improve and enhance the public health, safety and general welfare of the inhabitants of this territory;

WHEREAS, the additional customers from the currently unserved area would allow Milburn Water District to achieve greater economies of scale; and

WHEREAS, the annexation would provide water services to the Carlisle County School System which remains one of the few public school systems which remains one of the few public school systems in the Commonwealth not serviced by a water district; and

WHEREAS, annexation of and subsequent provision water to this unserved area is consistent with the declared policy of the Commonwealth of Kentucky to extend water to unserved areas of the Commonwealth;

NOW, THEREFORE, IT IS HEREBY RESOLVED BY THE BOARD OF COMMISSIONERS OF THE MILBURN WATER DISTRICT AS FOLLOWS:

1. The facts, recitals, and statements contained in the foregoing preamble of this resolution are true and correct and are hereby affirmed and incorporated as a part of this resolution.
2. The chairman is authorized and directed to take any and all actions reasonably necessary to prepare and submit a Petition to the Carlisle County Judge Executive for authority to annex the area described in Exhibit A to this Resolution.

ADOPTED BY THE BOARD OF COMMISSIONERS OF MILBURN WATER DISTRICT AT A MEETING HELD ON January 16, 2026, SIGNED BY THE CHAIRMAN AND ATTESTED BY THE SECRETARY.

ATTEST:


SECRETARY


CHAIRMAN

PETITION FOR ENLARGEMENT OF TERRITORY

IN THE MATTER OF:

Request for Enlargement of Territory of Milburn Water District

Pursuant to KRS Chapter 74, Petitioner, Milburn Water District (hereinafter "the District"), by and through its Board of Directors, petitions for enlargement of its territorial boundaries pursuant to KRS Chapter 74 and in support thereof states as follows:

1. **Parties and Authority**
 - a. The District is a Water District fully created in existing under KRS Chapter 74 with its principle office located at 7731 State Route 80 E., Arlington, KY 42021.
 - b. The Petition is authorized by action of the District's Board of Directors, dually taken at properly Noticed meeting held on January 16, 2026 as reflected in the Board's official minutes.
 - c. This Petition is submitted to the Carlisle County Judge Executive which has jurisdiction over the territory proposed to be added to the District.

2. **Existing District Boundaries**
 - a. The current boundaries of the District are established pursuant to prior Order entered under KRS Chapter 74 and encompass territory located in the town of Milburn in Carlisle County, Kentucky.

3. **Territory Proposed to be Added**
 - a. The District seeks to enlarge its territorial boundaries to include certain additional territory located in Carlisle County, Kentucky near the town of Milburn (hereinafter "the Proposed Territory").
 - b. The Proposed Territory is contiguous to the existing boundaries of the District.
 - c. The District seeks to enlarge and/or annex the following territory, more particularly described as follows:

Beginning at County Road 1126 and heading in the Westerly direction on Kentucky Hwy 1371 to Kentucky Hwy 1377 and continuing on to the campus of the Carlisle County Schools.

4. **Necessity and Public Purpose**
 - a. The enlargement of the District to include the proposed territory is necessary and desirable for the public health, convenience and welfare of the residents and property owners within the proposed territory and for the Carlisle County School System.
 - b. The District is capable of providing water services to the proposed territory in an efficient, economical and feasible manner.

- c. Inclusion of the enclosed territory within the District will promote orderly growth, provide a clean, safe and reliable source of drinking water to residents in the area and is in the public's interest.
- d.
- 5. Compliance with Statutory Requirements
 - a. The District has complied with all applicable requirements of Chapter 74.

WHEREFORE, the Petitioner respectfully requests that the Carlisle County Judge Executive act as follows:

- A. Enter an Order enlarging the territorial boundaries of the Milburn Water District to include the proposed territory described herein;
- B. Direct that the enlargement be effective as provided by law; and
- C. Grant all other relief to which the District may be entitled under KRS Chapter 74 or in equity.

Keith Crider

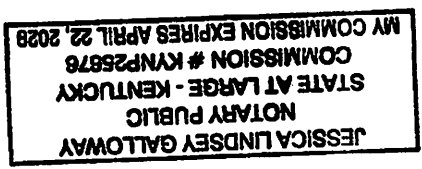
CHAIRMAN, MILBURN WATER DISTRICT

**STATE OF KENTUCKY
COUNTY OF CARLISLE**

Subscribed, sworn to and acknowledged before me, a Notary Public, by Keith Crider, Chairman of the Milburn Water District to be their free act and deed, on this the 16 day of January, 2026.

My Commission Expires:
4-22-29

Jessica Lindsey Galloway
Notary Public, State-at-Large



STATEMENT OF MILBURN WATER DISTRICT
IN SUPPORT OF PETITION FOR ENLARGEMENT OF TERRITORY

Milburn Water District (hereinafter “the District”), makes the following statement in support of its Petition to the Carlisle County Judge Executive to enlarge its territory to include an area to the West of the town of Milburn, Kentucky extending to the Carlisle County School campus.

The District is a water district organized pursuant to KRS Chapter 74. It is governed by a 5-member board of commissioners.

No water supplier currently provides water service to the area that the District seeks to annex, which is more particularly described as follows:

Beginning at County Road 1126 and heading in a westerly direction on Kentucky Hwy 1371 to Kentucky Hwy 1377 and on to the campus of the Carlisle County Schools.

At this time, the last property located in the current district area is located at 2940 State Route 1371.

Most residents in the area obtain their water from private wells. The Carlisle County School District is one of few remaining school districts in the Commonwealth that is not serviced by a water district. The residents of the area to be annexed have seemingly been in favor of the District extending its water services to their properties.

Carlisle County has secured funding to construct facilities in the proposed annexed territory that would be sufficient to fund construction in the annexed area. The District has received a grant for the construction of the facilities further described as follows:

The project shall include the extension of approximately 3.3 miles of new watermain along Hwy 1371 to serve the Carlisle County School Campus and surrounding areas in order to reach the Carlisle County School Campus. The enlargement of territory is necessary and in the public’s best interest.

If the petition for enlargement is approved, the District expects construction to begin in the Fall of 2026 and to be completed within eighteen (18) months.

The District has adequate capacity to provide reasonable water service at reasonable prices to persons residing in the area the District seeks to annex.

In summary, the District’s proposed enlargement of territories is in the public’s interest and should be approved. It is reasonably necessary for providing a clean, safe and reliable source of drinking water to residents in the area subject to the proposed territory enlargement by enabling the District to obtain an additional number of customers that will only strengthen the District’s financial position and allow the District to continue to enhance the quality and reliability of its service to

existing customers. The District requests that the Petition for Enlargement be approved without Amendment.

Respectfully Submitted,

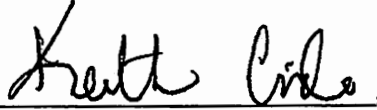
 , Chairman
Milburn Water District

EXHIBIT F

STATE OF KENTUCKY)

COUNTY OF CARLISLE)

AFFIDAVIT OF GREG TERRY

The affiant, Greg Terry, being first duly sworn, states as follows:

1. I currently serve as Judge Executive of Carlisle County, Kentucky and have personal knowledge of the information contained within this Affidavit and in the Joint Motion for A Stay of Proceedings Through June 30, 2027.

2. On August 8, 2024, I submitted a letter to the Public Service Commission in Case No. 2021-00341 regarding the Kentucky General Assembly’s appropriation of five million dollars to Carlisle County Fiscal Court (“Fiscal Court”) for the purpose of providing water mains and public water supply to Carlisle County schools. On January 24, 2025, I executed an affidavit in which I described Fiscal Court’s plans to achieve the appropriated funds’ designated purpose. My affidavit was attached to Milburn Water District (“Milburn District”) and Graves County Water District’s motion to continue the stay of proceedings in Case No. 2021-00341.

3. Since March 6, 2025, the following has occurred:

a. Bacon, Farmer, Workman Engineering and Testing, Inc. (“Engineer”) has designed a two-phase infrastructure improvement project (“the Project”) to be financed with appropriated funds. The Project’s first phase involves construction of approximately seven miles of new water main. The second phase involves the construction of a 75,000-gallon capacity elevated water storage tank near the Carlisle County School District’s (“School District”) campus.

b. The proposed plans for the Project’s first phase include the construction of approximately 35,843 linear feet of six-inch polyvinyl chloride (“PVC”) water line, 4,511 linear feet of eight-inch high density polyethylene (“HDPE”) water line, 116 linear feet of 4-inch PVC

water line, 217 linear feet of 3-inch PVC water line, an automatic control valve assembly, a new pressure reducing valve assembly, and new meters and service connections to 87 existing customers and one new customer (the School District). It also includes 41 new fire hydrant assemblies, replacing ten existing fire hydrants.

c. The plans provide for the replacement of an existing six-inch water main, constructed in approximately 1970 and running from the Graves District's existing master meter along Kentucky Highway 80 and Kentucky Highway 1371 for approximately 3.73 miles. From the existing water main's terminus, an additional 3.3 miles of water main will be constructed, running west and then north along Kentucky Highway 1371 and then west along Kentucky Highway 1377 to the School District's campus.

d. The Kentucky Division of Water ("KDOW") has reviewed and approved the plans and specifications and issued a permit for the Project's first phase.

e. The Engineer anticipates that an advertisement for bids for a contract to construct the Project's first phase will be published no later than January 29, 2026 and expects the bid opening to occur on February 19, 2026. A contract for construction of the Project's first phase will be awarded no later than February 28, 2026. Construction on the Project's first phase is expected to start in March 2026 and be completed in July 2027. Total estimated cost for the Project's first phase is \$3.25 million.

f. Fiscal Court has acquired most of the easements necessary for the proposed water main's route. Only a very small number remain to be acquired.

g. Fiscal Court will be the contracting entity for the construction contracts for the Project's first and second phases and will provide the funding for those contracts. It has previously contracted for the Engineer's services. While the Fiscal Court will provide the funding

for the construction contracts and engineering services, it is working closely with Milburn District on the Project.

h. The Engineer expects to prepare and submit to KDOW plans for the proposed 75,000-gallon capacity elevated water storage tank by March 2026. Construction on the proposed water storage facility is expected to begin in Summer 2026 and be completed in late 2027. Total estimated cost for construction of the proposed elevated water storage tank is \$1.0 million.

i. Fiscal Court has reached agreement for the purchase of a property situated approximately 1.89 miles to the southeast of the School District campus to serve as the site for the proposed 75,000-gallon capacity elevated water storage tank. The formal closing on the purchase of this property has not yet occurred.

j. Fiscal Court has retained the law firm of Wilson and Toombs of Mayfield, Kentucky, to assist with easement acquisition for the Project's first phase, site acquisition for the Project's second phase, and the legal proceedings necessary for the expansion of Milburn District's boundaries.

k. The proceedings to expand Milburn District's territorial boundaries have begun. On January 16, 2026, Milburn District petitioned the Carlisle County Judge Executive pursuant to KRS 74.110 to enlarge its territory to include the School District's campus and other unincorporated areas of Carlisle County. A hearing on the petition and a decision on Milburn District's petition is likely to occur by February 28, 2026.

4. The Project Engineer has agreed to provide Fiscal Court with quarterly status reports on the Project. Fiscal Court or its designated agent will submit these reports to the Public

Service Commission to permit the Commission to monitor the Project's progress. It has agreed to provide any information that the Commission finds necessary.

5. Proceeding with the merger investigation at this time creates an unnecessary distraction when the focus of Milburn District and Fiscal Court should be on constructing the proposed facilities and extending water service to the School District's campus. Careful consideration should, therefore, be given to the request to stay the merger investigation while the Project proceeds.

Further the affiant sayeth naught.



Greg Terry
Carlisle County Judge Executive

Subscribed, sworn to, and acknowledged before me on this 28 day of January, 2026 by Greg Terry.


Notary Public, State at Large

My commission expires: 4-22-29.

Notary ID No. KYNP25676